



# Do you ASSuMe your tyres are “ok”?

「 IF THEY'RE  
NOT TURNING  
THEY'RE NOT  
EARNING 」



**TRANSAFEWA**  
TRANSPORT.SAFETY.COMPLIANCE  
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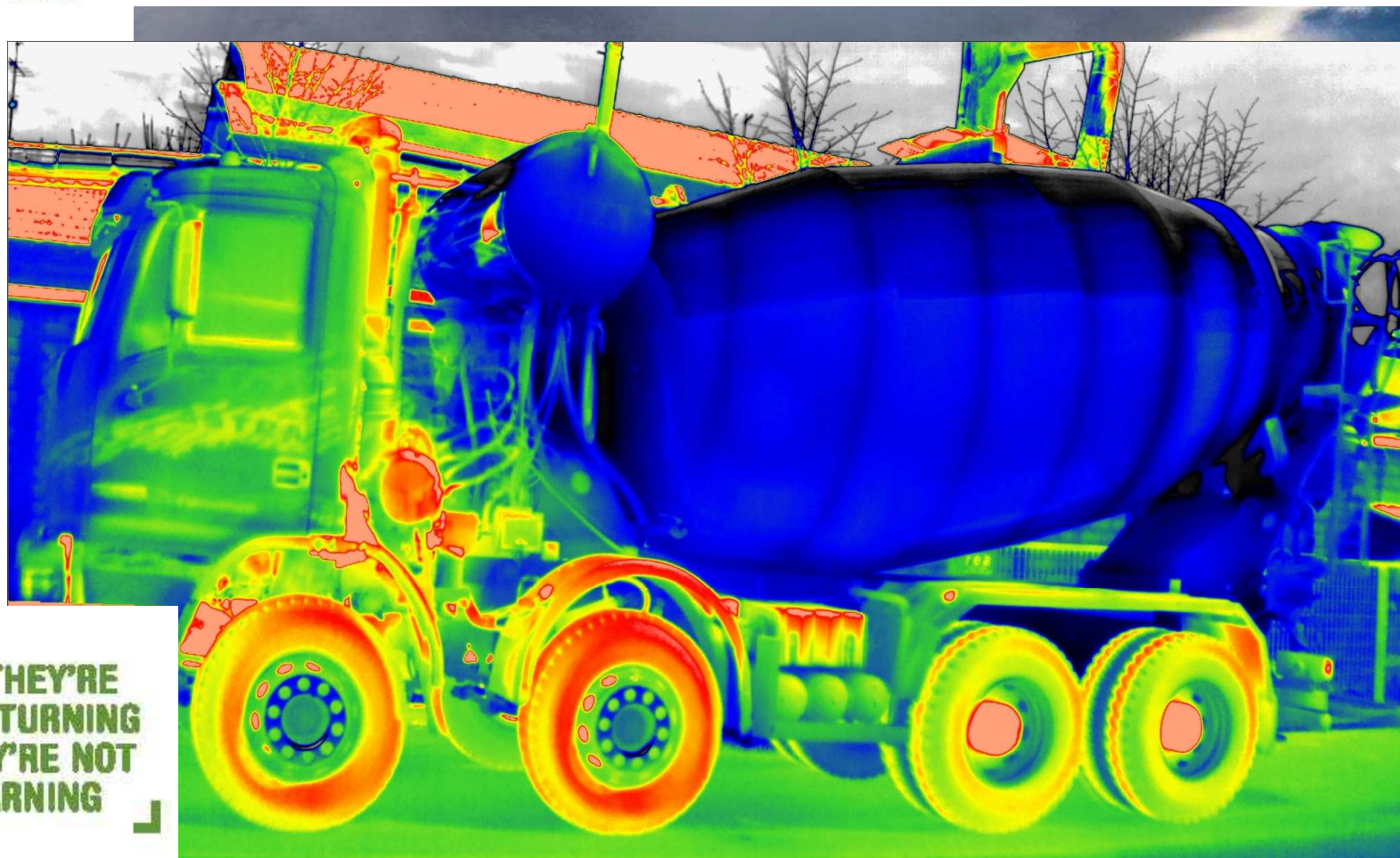
# Small events..... sometimes large consequences







**Why do you think that all the tyres on your rigs operate at the same pressure & temperature?**



**How do you know what the rear trailer tyres are doing?**

**Do all the tyres look like they are the same temperature?**

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# NTI Report 2019



IN DEPTH -

## MECHANICAL FAILURE

IN DEPTH -

## NON-IMPACT FIRE

Steer tyre failure losses > all other category losses

One mistake \$200,000 prime mover => \$3000 scrap metal.

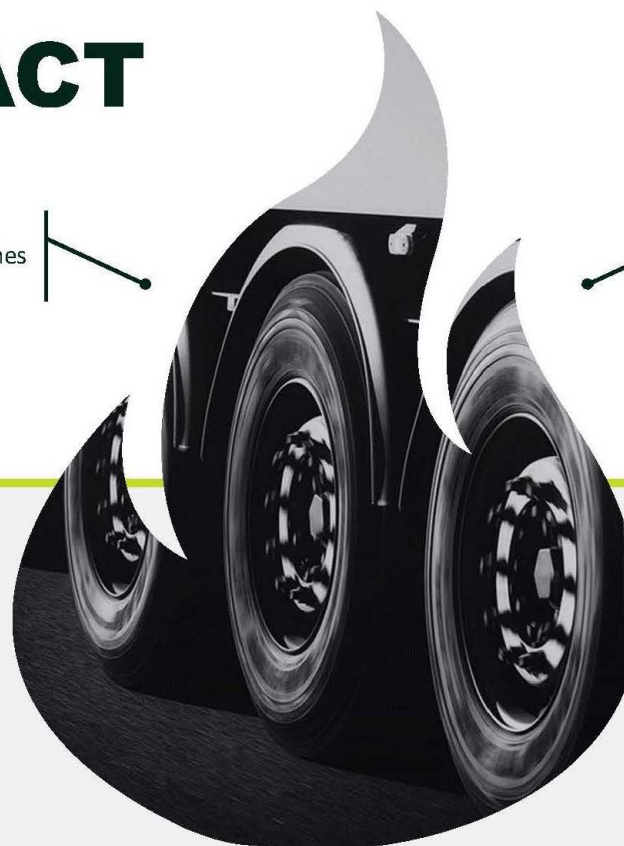
Fuel lines

Wheel bearings

50+ tonne vehicle

Starter power cables

Brake chambers





# VISUAL OBSERVATION OF TYRE PRESSURES

This is what it looks like as a sequence showing the tyre dropping as pressure decreases

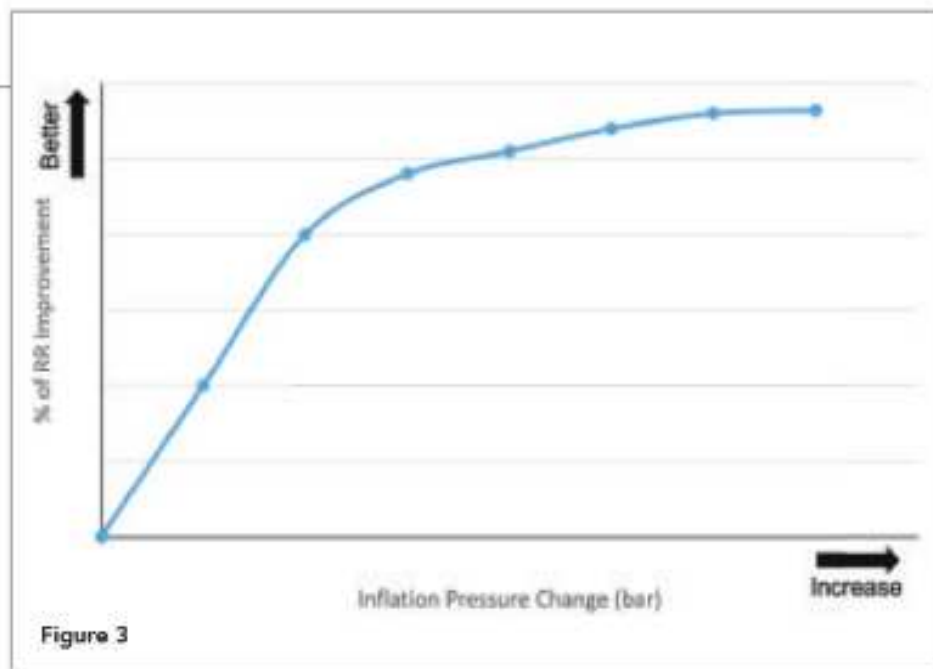


**“I can tell when my tyres are under pressure.”**

**So when is a tyre actually underinflated?**



# ROLLING RESISTANCE & TYRE PRESSURES



As inflation pressure increases so does tyre stiffness.

Stiffer tyres with lower deformation create less energy loss reducing rolling resistance (RR).

As the pressure increases, tyres will reach a saturation level ..... That's why it is always recommended operate the tyres as guided by the manufacturers. It is estimated 7 psi increased inflation can improve RR by 7 – 10%.

Reduced RR

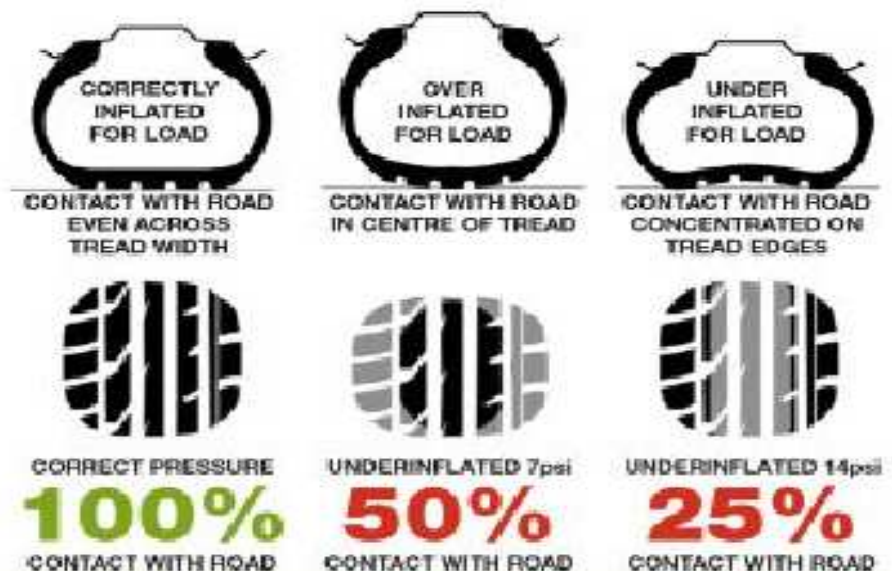
=> reduced fuel burn rates

=> reduced costs

=> improved profits



# TYRE PRESSURES & YOUR POCKET



**Tyres underinflated by 6psi increase fuel consumption by 3%**

Research suggests as many as 57% of car and van tyres are underinflated meaning Britain's drivers could be spending £600 million on unnecessary fuel bills

Source;  
Tyresafe UK (charity for improvement of tyre safety)



# WON'T HAPPEN TO ME







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Steer tyre failure; the driver saved the truck. Lost time 6 hours, cost ~ \$40k.  
The tyre was underinflated/overloaded and so failed catastrophically.  
A lucky escape by a highly experienced driver.



## Fuel tanker explodes in outback Queensland on way to help flood relief effort

By [Aneeta Bhole](#)

<https://www.abc.net.au/news/2019-02-18/fuel-tanker-explodes-outback-queensland-on-way-with-flood-relief/10820708>

A tanker truck carrying fuel into flood-ravaged north western Queensland has exploded on the Landsborough Highway, west of Barcaldine in the state's central-west — but the driver survived unscathed.

Police were called just after 5:30am and have cordoned off part of the highway to motorists, which will be closed for several hours.

Inspector Julia Cook said the explosion was possibly the result of a blown-out tyre. "It is fairly unusual that it would turn into the blaze," she said.

"Unfortunately that's what happened today. You just never know what's going to happen when you have a tyre blow out when you've got such a flammable load. The best way to clear it is for the firies to wait for it to burn out and then hopefully we'll be able to clean the scene up."

Inspector Cook said the driver of the vehicle escaped unharmed.



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# RESULTS OF UNDER INFLATION



**“I can**

**essure.”**



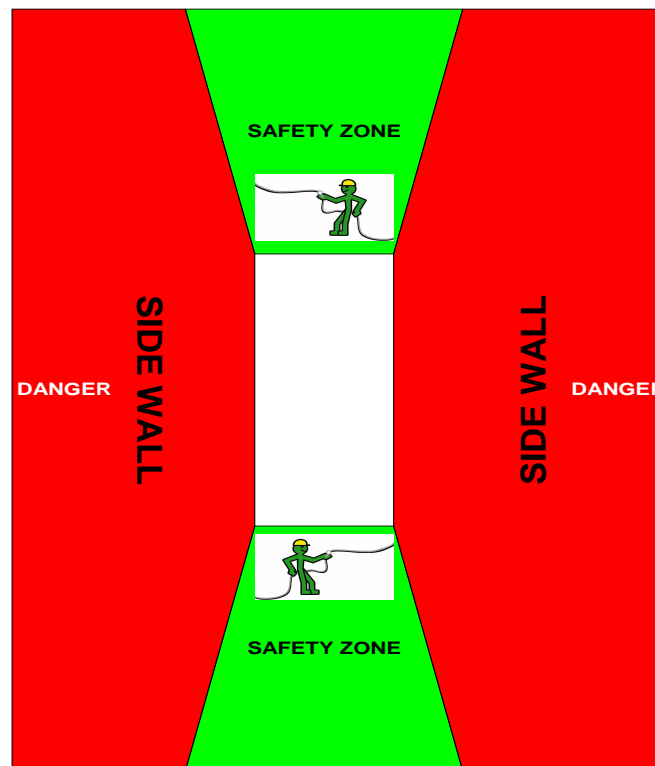
# RESULTS OF UNDER INFLATION







# HAZARD RECOGNITION





# The 5M Rule

## Measure

## Monitor

## Maintain

## Manage

## MAKE \$\$

Do you operate your trucks with engine temperature and oil pressure gauges?

YES

NO you what?

Do your drivers understand and monitor their personal fatigue?

YES

NO really?

Is real time coms used (ie radio/phone/messaging?) in your operation?

YES

NO

How do you ascertain the load on your trucks and trailers? Onboard weighing?

YES

NO

Has your operation installed GPS real time tracking?

YES

NO

What are the top 3 operating expenses for your fleet

Fuel

Brakes

Body & Chassis Maintenance

Administration

Suspension

Steering

Engine servicing

Labour

Tyres

1. Fuel

2. Tyres

3. Labour

So how do you monitor your tyres? With a hammer or a wish?



# TYRE PRESSURE MONITORING SYSTEMS (TPMS)



mandated in  
USA from 2008  
European Union 2012  
Korea & Taiwan 2013  
China 2014



TPMS is recognised as a legitimate road safety tool  
but it is also a great tool for tyre management

Real time tyre pressures in real time will increase vehicle safety  
& provide positive economic returns.



# MONITOR MEASURE MAINTAIN MANAGE MAKE \$\$



Monitor tyres pressures  
from the drivers seat

Positive safety device

A steer tyre failure? A  
drivers worst nightmare!

Why throw your profits away by  
ignoring the foundation of the vehicle  
the humble tyre?



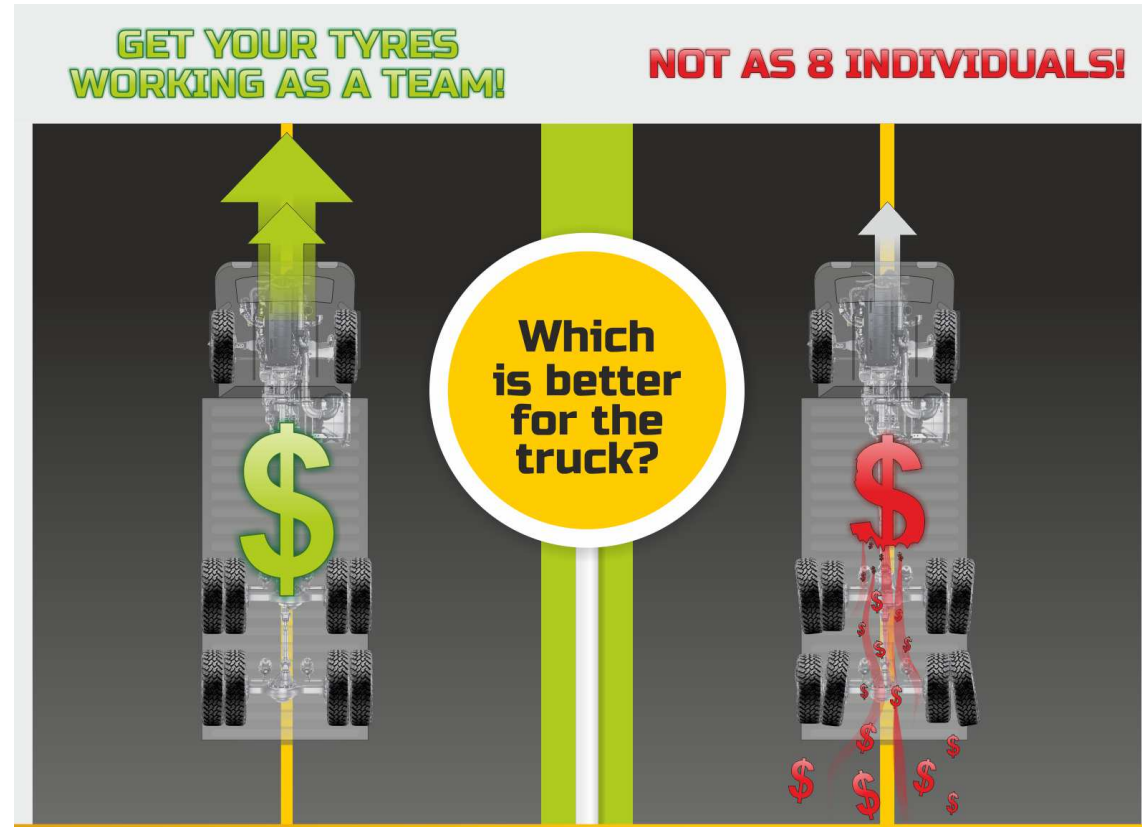


# TYRES AS A TEAM

Think 8 drive tyres, all slightly different sizes due to pressure delta of 14 psi which equates to a difference of 25 mm rolling circumference.

What is the expected result for the truck & driver?

What do you think the effect of having tyres heading in different directions would be on the fuel burn rate?



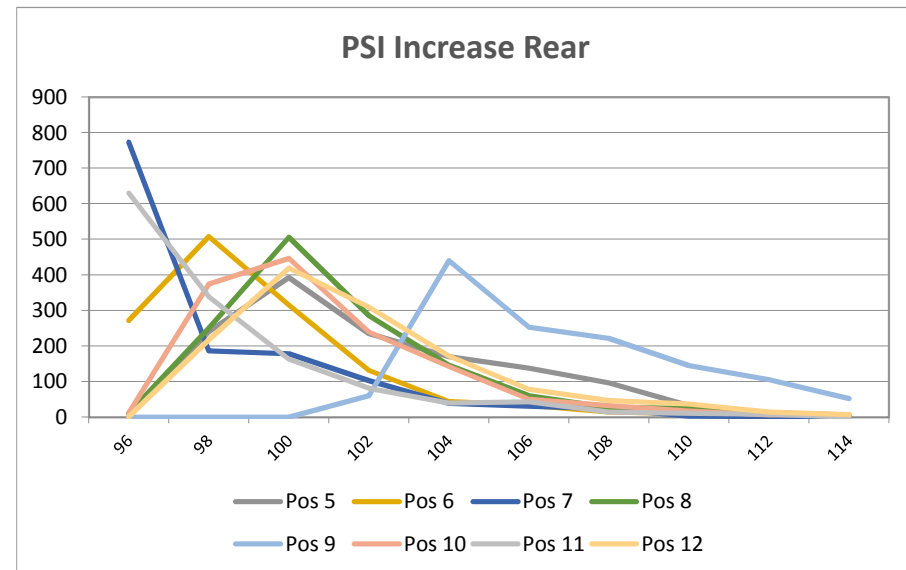
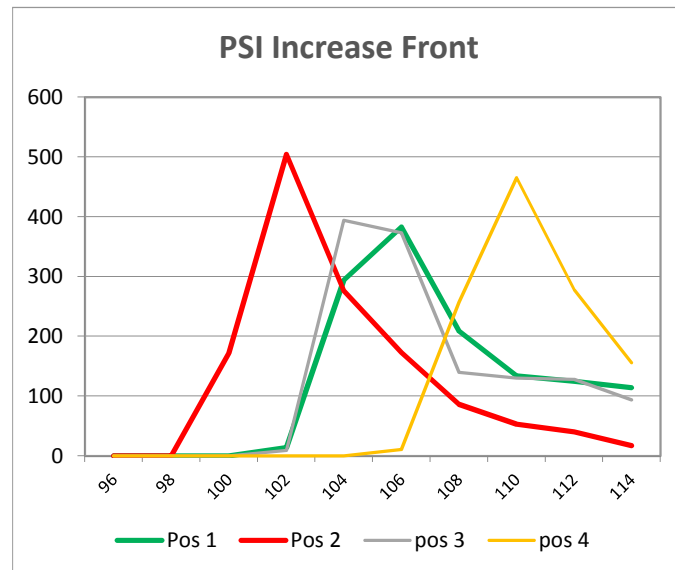
When all members give their best in every situation — whether they are carrying the ball or clearing the way for someone else — the team wins, and so does each individual member of it.

**A good football team relies more on harmonious coordination of effort than individual skill.**

Teamwork is a “cooperative effort by the members of a team to achieve a common goal



# TYRES AS A TEAM



Do the tyres on your rigs work as a team, or as a series of individuals?

If the tyres all worked at the same levels there would be only 2 traces showing on these charts. Yes, it is possible but requires the 5M rule to be applied



# RESULTS OF INFLATION DIFFERENCES

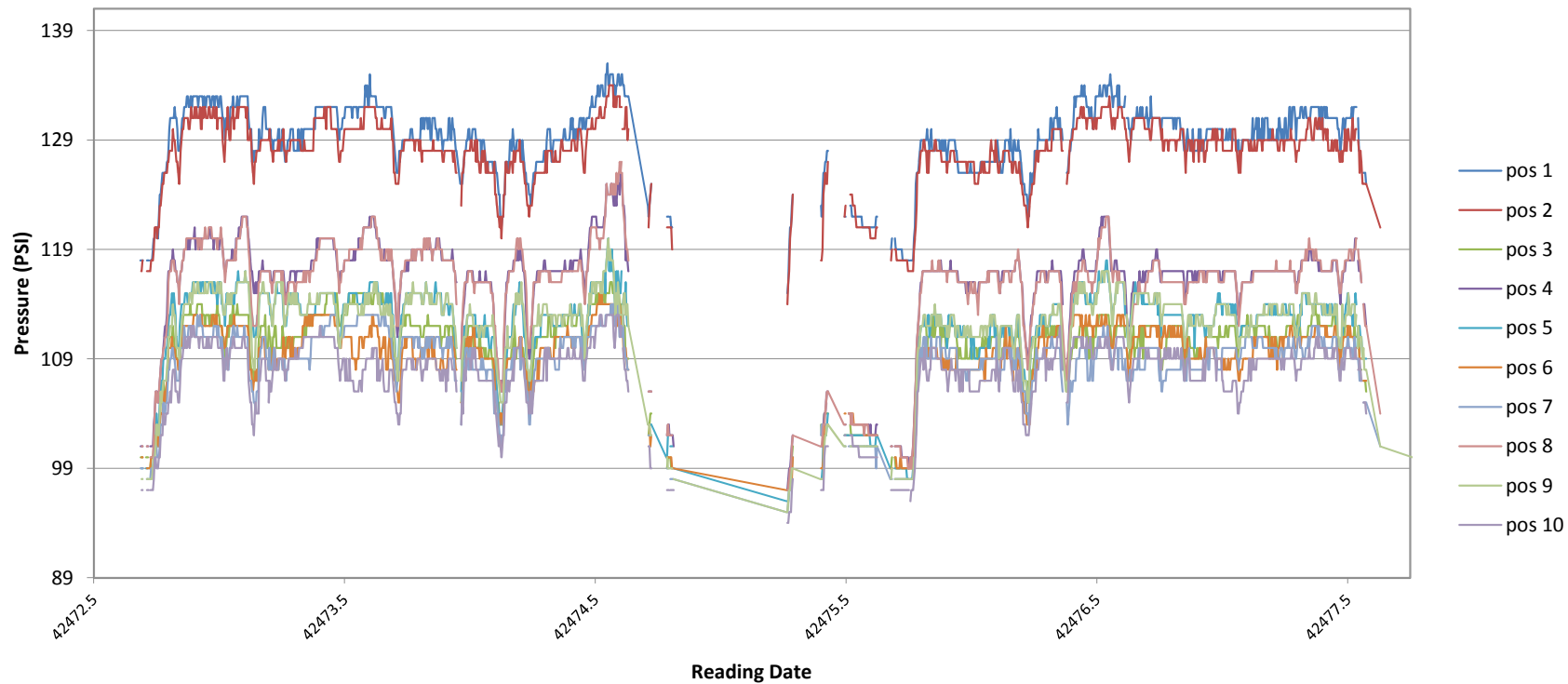




# TPMS data



Pressure Chart



In this example there were at times only 4 of the 8 drive tyres still in full contact with the pavement. These 4 tyres were supporting higher loads whilst the smaller tyres were wearing out faster. Why throw your profits away?





# Pressure Check



This is our test bench; represents a twin steer tandem drive prime mover with 5 tri axle trailers, 1 tandem with a missing sensor for illustration purposes



## Brand Highway crash: Two killed in head-on collision after truck 'blew tyre'

9:04pm Apr 18, 2018

Major Crash Detectives are investigating after a head-on crash killed two people near Badgingarra, 205 km north of Perth.





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