

## TYRE FAILURES.

In recent months, several members of the Knox Caravan & Camping Club Inc. have experienced catastrophic tyre failure on a caravan wheel. There has been lots of talk about tyres failing due to age, even though the tyres in question still had plenty of tread, and appeared to be in good condition. We have tended to assume that age was probably the cause, but was it?

Over and over, whilst researching this article, I have heard “Most tyre failures are due to excessive heat build-up caused by under-inflation. Now, we can't control aging, but tyre inflation can be easily handled in the garage, at home, before the trip starts. **ALWAYS** measure tyre pressure when the tyre is cold.

The next step is to decide how much pressure is enough?

1. Put your van, when fully loaded for a trip, over a weighbridge, with only the van wheels on the platform, not the jockey wheel, and obtain a reading. (Say 1500kg)
2. Divide that reading by the number of van wheels. (1500/2 = 750kg for single axle, or 1500/4 = 375kg for a dual axle.)  
This tells you the **Actual Tyre Load** which must be carried by each tyre.

3. On the wall of one of the tyres to be used, find the Load/Inflation rating for the tyre.  
The example I checked showed the following: Single (Axle) 850kg at 450kpa (65psi) **COLD**  
Dual (Axle) 800kg at 450kpa (65psi) **COLD**

This gives us the **Maximum Tyre Load** which these tyres can safely carry, and this figure **MUST** be greater than the **Actual Tyre load** calculated in Step 2 above for that tyre to be suitable (SAFE) for this van.

4. If the **Actual Tyre Load** is 80% or more of the **Maximum Tyre Load**, use the tyre pressure as indicated on the tyre wall. See Step 3 above. For less than 80%, the pressure may be reduced, perhaps on the advice of a Tyre Technician.

Other factors which may affect the tyre's safe life include exposure to ultraviolet light, including sunlight, spilled solvents, and ozone, e.g. emitted by electric motors/generators or arc welders.



To determine the age of a tyre, refer to the manufacturers date code engraved on each tyre.

In this photograph of a tyre sidewall, the manufacturing date code shown is 0612.

The 06 stands for the 6<sup>th</sup> week of the year and the 12 stands for the year of manufacture, 2012.

If any tyre is six years old or more, it may suffer from the natural aging process of rubber, and replacement should be considered, even if the tread depth is still legal. If the date code has only 3 digits, its build date is pre 2000 and probably should be binned.

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