



CUSTOMER INFORMATION SHEET – NO. 23

PROLONGING TYRE LIFE

Prolonging Tyre Life on Trailers and Caravans...It's Not Just a Case of Poor Alignment!

It is important to understand that the wear patterns on caravans and trailers will be different to that found on cars and 4WD's.

To begin with, the loadings on caravan tyres are generally higher than on cars. Check with your supplier but it is usually recommended to fit Light Truck (LT) tyres on larger caravan and trailer applications.

On tandem applications the close proximity of the two axles does not allow all tyres to freely rotate when cornering. This means that some or all of the tyres will be trying to scrub sideways every time the van turns a corner.

This can best be seen in a video available on our YouTube page. Go to:

<https://www.youtube.com/c/cruisemastercountry>



The scrubbing effect will differ depending on many factors:

- The geometry of the van
- The effect of load levelling systems
- The weight distribution of the van
- The centre of gravity of the van
- The construction and design of the tyre
- Tyre pressures
- Chassis flex
- The geometry of the suspension
- The tread pattern and rubber compound

In general each vehicle will be different. The trend for customers to specify their own wheels and tyres further adds to the variances.

Sideways scrubbing can lead to increased wear as well as uneven wear across the tyre as the tyre tries to tuck under. This may look similar to camber wear as the tyre becomes worn on one edge.

Different suspensions provide varying means of adjustment from traditional beam axles with no facility, to independents with toe-in and sometimes camber adjustment. These settings will be set in a nominal position initially, with further adjustment to be made if required. Adjustment however is only fine tuning and cannot remove the effects of scrubbing completely.

The fitment of big block four wheel drive tyres designed for a motive axle may also give unusual characteristics on a trailer axle. Most manufacturers recommend these are rotated every 10,000 kms on 4WD's to balance out any uneven wear experienced.

As the effect of uneven tyre wear is likely to be more on a caravan than the rotation should take place more often say every 5000kms.

Some vehicles will have a combination of parameters that give little tyre wear and this will be the case in most instances. Occasionally a combination will arise that gives a more severe wear. It is up to the owner to monitor his tyre wear and determine when it is appropriate to perform a tyre rotation.

There is evidence to suggest that once a tyre has experienced a major wear pattern that rotation may not stop this wear profile.

The effect of tyre pressures both over and under inflation will exaggerate any tyre wear problem as pressure has a large effect on tyre footprint and sidewall support. The practice of lowering tyre pressures to improve performance in off-bitumen applications will most likely have an undesirable effect on tyre life especially if they are not returned to bitumen pressures immediately.

In most cases the combination of parameters will give a reasonable life particularly if attention is made to sensible tyre choice, regular tyre rotation, suspension servicing and correct pressures. These last three items are often neglected as it is only a trailer.

Suspension manufacturers such as Cruisemaster™ are continually working to understand these issues and improve product designs, however as can be seen from this article, there is more than just alignment that influences tyre wear on caravans and trailers.