Caravan "*Tyre Placards*"

The "*Tyre Placard*" - which is usually incorporated in the "*Trailer Plate*" - is an important part of a caravan or camper-trailer.

The ***intent*** of affixing a *Tyre Placard* to a vehicle is to provide an ***Assurance*** from the Manufacturer - to a potential buyer that the selected tyre Size and Load Rating - along with the recommended Tyre Inflation Pressures - have been *professionally* determined, so as to provide the optimum caravan *handling* and *stability* performance, at both the *empty* and the *fully-loaded* conditions.

Sadly, for many caravans, this is clearly ***not*** the case.

The Tyre Placard ***must*** show at least the following information:

- Caravan manufacturer's recommended tyre size
- Tyre Load Rating
- Tyre Speed Rating
- Cold Inflation Pressures
- Statement:

> "The tyres fitted to this vehicle shall have a speed category not less than 'L' (120 km/h)", or if the recommended maximum vehicle operating speed is less than 120 km/h,
> "The tyres fitted to this vehicle shall have a speed category at least equal to the recommended maximum vehicle operating speed, '…' km/h", where '…' is the vehicle manufacturer's recommended maximum vehicle operating speed.

It is *not* permitted to state any specific tyre manufacturer's Name or Brand.

The Tyre Load Rating *must* be stated in kg.

The Tyre Inflation Pressures *must* be stated in kPa (*not* psi).

It is *essential* that caravan buyers fully understand ***all*** of the information that is provided by the Manufacturer on the Tyre Placard, *before* they accept the caravan, in order to avoid possible major problems in the future.

If you have any *questions* about any items on the Tyre Placard, it is important to have the Dealer provide a *concise* and *credible* explanation.

You can also ask a tyre specialist if you have any questions regarding the tyres *fitted* to your 'van, or if they would recommend a better selection.

All relevant ***tyre*** - and permitted ***wheel*** - specifications are listed in the ***Tyre and Rim Association of Australia's*** "Standards Manual":

www.tyreandrim.org.au

For *load-sharing* suspension systems, the *maximum* legal *individual* Tyre *Load* equals the GTM Rating *divided* by the Number of tyres fitted to the 'van.

The *individual* Tyre *Load* - when the 'van is *empty* - equals the (Tare Mass *minus* the Empty Ball-Loading) *divided* by the Number of tyres fitted to the 'van.

For ***non****-load-sharing* suspension systems (on tandem-axle 'vans), the front and rear tyres will have *different* loadings, if the 'van is not *level* (in a side view).

For maximum *traction* - and maximum tread *life* - the loading needs to be spread *evenly* across the *full width* of the tread.

This can *only* be achieved if the correct *inflation pressure* is used… so that the tread is at the same *temperature* across its full width.

A tyre *pyrometer* is really the only efficient way of checking this.

Problems with *incorrect* tyre inflation pressures:

***Under*-inflation**:

If a tyre is *not* inflated up to the *Pressure* that is required to match the actual tyre *Loading*, the tyre tread will *not* have *full* contact with the road surface, causing the *outer* portions of the tread to be subjected to increased loading, with subsequent increased temperatures and increased wear.

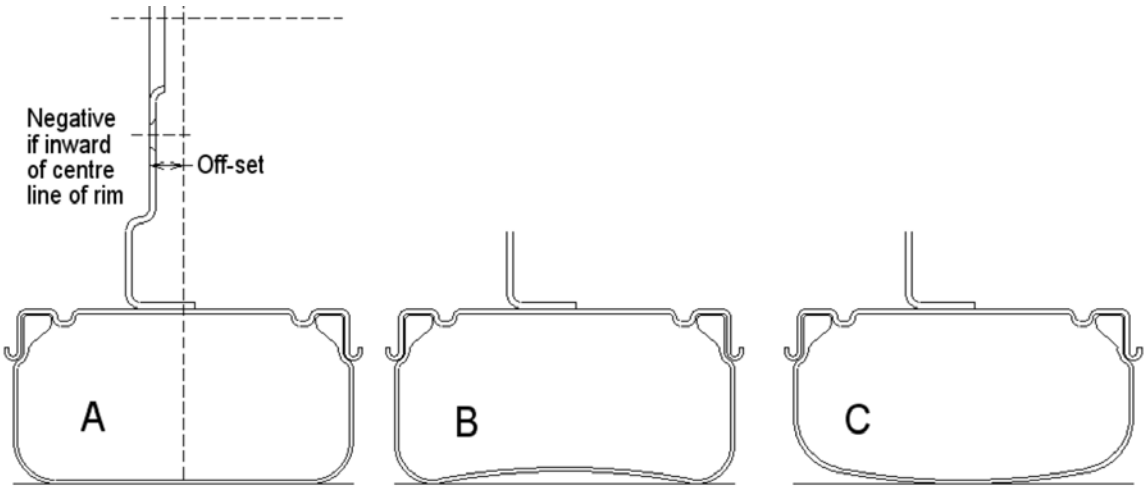
The *traction* between the tyre and the road surface will be *decreased*, and the sidewalls of the tyre will significantly *flex*, causing the 'van to *wallow* and *sway*.

***Over*-inflation**:

If a tyre is inflated *above* the *Pressure* that is required to match the actual tyre *Loading*, again the tyre tread will *not* have *full* contact with the road surface, this time causing the *centre* portion of the tread to be subjected to increased loading, with subsequent increased temperatures and increased wear.

Again, the *traction* between the tyre and the road surface will be *decreased*, causing the tyre to *bulge*, and the 'van to *bounce* and *skip*.

In *both* cases, the *handling* and *stability* of the 'van will be *impaired*, and the tyre *life* appreciably *reduced*. While *most* of the tread will have plenty of kilometres of travel remaining, the *outer* peripheries of an *under*-inflated tyre will be worn down to the Tread Wear Indicators, thus rendering the tyre *un-roadworthy*, while for an *over*-inflated tyre, the *inner* periphery will be worn down to a dangerous and illegal level.



Correct Pressure | *Under*-inflated Tyre | *Over*-inflated tyre

Also important… Tyre Pyrometer (Thermometer)

The most important tool… Pressure Gauge

Colin G Young [P.Eng.]

(Honorary Manager & Professional Automotive Engineer)

Caravan Council of Australia

www.caravancouncil.com.au

caravancouncil@optusnet.com.au