

Caravan Jacks

Caravan Jacks **must**:

- Be *Approved* to the *Australian Standard*
- Have the **top positively located** - by a mating *locating recess* - to prevent any *horizontal* slippage
- Be operational for when the caravan is both empty, and fully-loaded
- Be positioned on a firm base
- Have a sufficient **Load Rating**
- Have a sufficient length of **Travel**

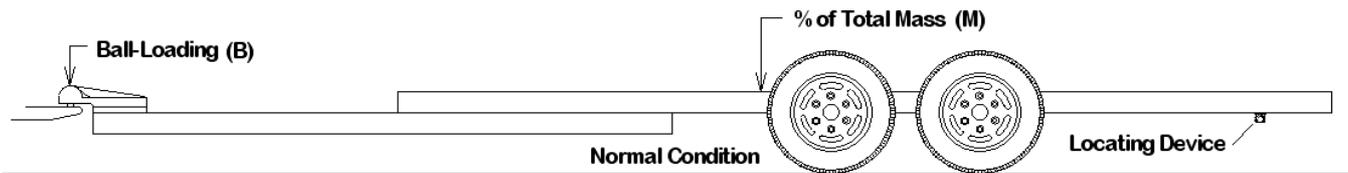
A Caravan Jack **must**:

- When on a firm base, be *low* enough to engage a *locating recess*, when *any* tyre is *fully-deflated*
- Have sufficient *travel*, to enable a *fully-inflated* tyre to replace that tyre

Allowance must be made for the suspension “**droop**” when the caravan is raised.

Allowance must be made for the probability that the tyres(s) on one side of the caravan will be loaded greater than on the other side. *Typically*, this *may* be around 10%.

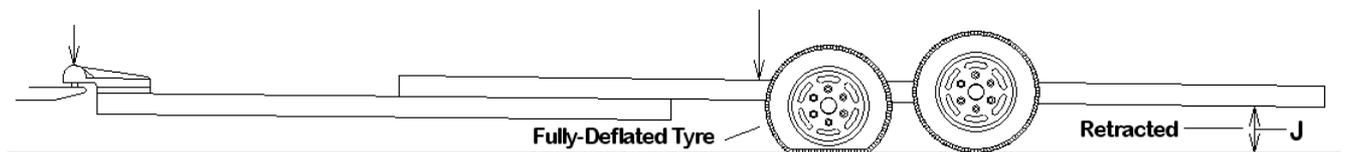
A *conservative* assumption must be made on the *actual* Ball-Loading. It is of course much more preferable to have had the Ball-Loading *measured*, for the particular loading of the caravan. While a *typical* caravan may have a Ball-Loading of around 10% of the *actual* mass of the loaded caravan, the *actual* Ball-Loading *may* only be around 5%.



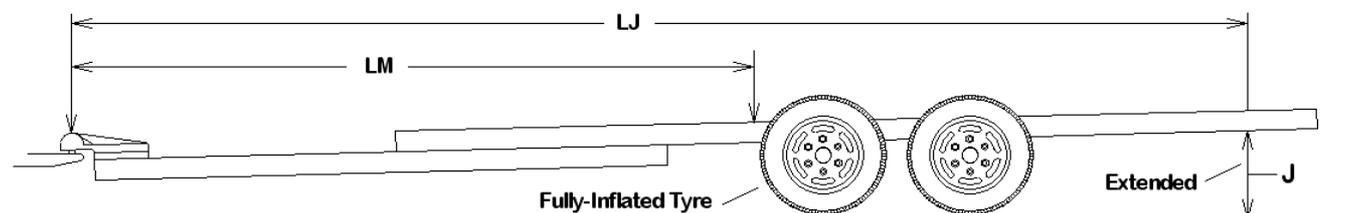
The relationship between a jack’s **Load** (lifting force) and its **Travel**, is a basic physics topic of **Moments**... which is Force X Distance.

With the Ball as the pivot, it is a “*balance*” or a “*compromise*” – for any given effective Load (M) times *its* Distance (LM) from the pivot – and the jack’s available Force (J) times *its* Distance (LJ) from the pivot.

The jack’s available **Travel** (Extended Length minus Retracted Length) **must** be sufficient to enable a tyre to be safely replaced. **M x LM = J x LJ**



The *greater* the **LJ** Distance, the *lesser* the **J** Force can be... and vice-versa.



Caution:

Never rely on a jack... **tragic** accidents have occurred when a jack has **failed**, or has **slipped**.

It is most important to **practise** changing a wheel/ tyre **before** heading off on a trip, so that you know **exactly** what to do if you have the misfortune to have a punctured tyre on your travels.

- Do you know where *everything* you will need, is stored... and how to *use* everything?
- Does the Wheel-Brace *fit* the wheel-nuts, and do you have the *strength* to loosen tightened nuts?
- Does the *top* of the jack correctly suit the *jacking points* on the underside of the chassis rails?
- Does the jack have sufficient *lifting capacity* (Load Rating)?
- Does the jack have sufficient *travel*... and is the *minimum height* low enough?

Always carefully read the **Warning Notice** and **Operating Instructions** supplied with the jack. If something is *not* clear to you, contact the Manufacturer for clarification.

Typical (Conservative) Example:

“All-Up Mass” of caravan: 2,000 kg

Ball-Loading: 100 kg (5% of All-Up Mass)

Therefore *effective* Load = 1,900 kg

Heavier side of caravan **M**: 1,000 kg

Lighter side of caravan: 900 kg

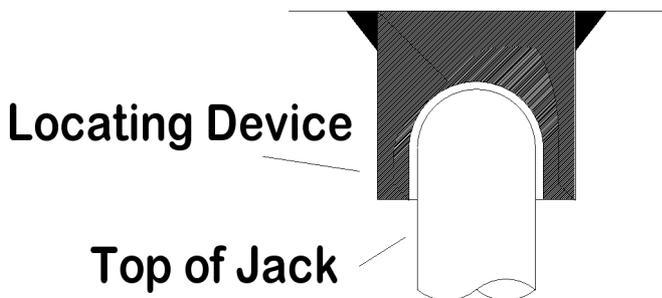
LM = 2.00 m

Therefore **M** x **LM** = **2,000** kg.m

Therefore **J** x **LJ** must equal (or exceed) **2,000** kg.m

If **LJ** is 3.0 m, **J** must exceed **667** kg

If **LJ** is 4.0 m, **J** must exceed **500** kg



Typical Locating Device... **Positively** locates the top of the Jack, to prevent it slipping in any **horizontal** direction