

That Spare Tyre

Tyres under slung or over hung

A spare is a basic necessity for any motor vehicle travel no matter what the distance intended. However when we venture out in our modern multi axle vehicle exploring the remote and “uncharted” beach and bush areas we may soon come to realise just how important the second spare is to the success of a 4WD trip.

Some would like to believe that one is unlikely to have a flat tyre, however the facts suggest 2-5 flat tyres are possible on some longer journeys. So a second spare is essential as is a repair kit and tubes.

A spare tyre weighs about 36- 42kg for those who have had the pleasure of lifting one. The weight of the item has considerable effect on the position that you might choose to mount your spare.

Mounting the tyre on the bull bar is an unwise position. This is due to the counterbalance effect placing unnecessary strain on the pivot point of the bar. Imagine how the effect is magnified when a vehicle is hitting potholes or ruts on the road at even moderate speed. Few bull bars are built to handle these downward forces, and none are mounted with these forces in mind.

The older Land Rovers had the spare mounted on the bonnet. This was a very good spot to put the spare. The weight was right over the front axle and the tyre was out of harms way. The additional advantage of engine security with the extra weight on the bonnet meant that anyone wishing to tamper with your engine would need to be as strong as an ox. That is why in those days the ladies could not be expected to check oil and water levels.

The later vehicles have opted to mount the spare at the rear. Toyota generally prefers to mount the spare under the vehicle at the rear. Chrysler Jeep like inside the vehicle and the Nissan, Pajero, Discovery and Jackeroo like theirs on the reinforced rear doors.

Mounting the spare inside the vehicle may be very nice and tidy for around town but this spare tyre position becomes somewhat of a protrusion into your valuable cargo space. If the driver is as light as I am the combined weight on that side may be as much as 135kg. Yes, surprisingly spare tyres are very heavy.

Locating the spare under the body behind the rear axle has the 40kg of necessity centrally mounted and up close to the axle. The counterbalance effect on the front axle is low to nil and the centre of gravity is as low as you can go.

The under-body position for the spare however leaves your valuable spare tyre hanging down with the weakest part of the tyre exposed (the side wall) and when you want your spare you could find it flat and irreparable. Removing and replacing the spare tyre can also be a difficult physical task, necessitating a crawl in the dust to remove and replace.

The easiest position that a spare can be retrieved from is the back door location. The only major problem with this is the need to lift the 40kg up onto the mounting position.

Carrying your spare wheels up on the roof rack is another solution. The effects of the higher centre of gravity will be noticeable and must be taken into account when cornering, ascending or descending. Securing the tyre with tie down ratchet straps is the only sure way of preventing the spares coming off the rack. However, when loading or unloading the height of the rack presents problems in getting the tyre up that high. The tyre should never be rolled off the roof as the rebound can

That Spare Tyre

- damage the vehicle,
- injure an onlooker
- take off down a hill.

Storing a spare in any position requires consideration as to where the valve stem is located. If the valve stem has an extension protruding outside the tyre rim, laying the tyre flat onto a surface can snap off the stem. Remember also, locating the stem in a difficult position to reach can prevent ease of access when checking the pressures.

All of your tyres should be fitted with valve stem caps. The caps prevent sand, grit and mud from being pushed into the valve seat during the inflation process.

All spares should be pressurised to about 5-10 psi of air more than the pressures you are running in the tyres on your vehicle. The reason for this being that weather conditions will affect the tyre pressure in the unused spare tyre. When required the spare can be used without having to be pumped up before use, just deflated a few lbs.

Carrying one spare tyre and rim is not sufficient for remote area or long-distance travel. When a tyre becomes flat at high speed the tyre will be destroyed by the time the vehicle can be safely slowed and brought to a halt. Suddenly you no longer have a spare?? Even if the spare is repairable will you

- Have the necessary tools and repair kits
- Have the know how and be capable of repairing it.

That second spare

There are two ways that a *second* spare can be carried, the most obvious is on a rim inflated. This is the most convenient, however when space and weight is at a premium then the tyre case may be carried without the rim. This is recommended with steel rims only. A high-speed flat tyre on rough roads can destroy alloy rims. The weight saving with alloy wheels is beneficial, but the space problem still exists; here the roof rack is king.

If a tyre *case* is the elected method for the second spare, a few hours should be spent removing a tyre from a rim and then inflating it with your vehicle compressor. You will benefit considerably with this practical experience.

Prepare to fit the spare

Removing and replacing wheels out on the road without an air wrench means your wheel nuts should have a non-seize product and the nuts should not be over tensioned. Best to undo the wheel nuts yourself prior to a longer trip and apply the anti-seize and re-tension them with the wheel brace that you will be taking with you on the trip (to make it easier).

All in all, the usual saying, “an ounce of prevention is worth more than a ton of cure”, takes precedence.