



Tech Sheet

‘Vehicle Weight’

We have a major issue that we, at *Berrima Diesel*, think needs raising to the 4WD scene. It's in regards to vehicle weight. This, I am sure, will be a scandalous issue for the accessory guys but one that I think urgently needs addressing for 4WD owners and other road users!

We usually see half a dozen 4WDs in here a day for tuning, performance problems or turbo charging. During the process of our work we weigh the vehicles as part of the final job. We do this as we have most vehicles coming in here for a power gain. It might end up with the power gain at the wheels, but it may not push the vehicle as thought! This is where the weighing process comes in, sometimes resulting in very raised eyebrows and surprised customers. A big problem that we see from the ever increasing weight of 4WD's is fuel consumption. Not enough is said of this. A standard 4WD diesel can start off with a happy consumption figure of around 10-12 litres/100km only to have it blow out to 16litres/100km once modified.

We utilise a modern electronic weighbridge that is accurate to within 10kg. A most recent surprise for an old friend of 4X4 Australia was with Ron Moon and his GU Patrol. I can remember his eyes when the digits went over 3 tonne!! And the vehicle wasn't what I would called super modified. Just the usual 'steel gear'!

Considering that the average 4WD wagon only has a payload capacity of just over half a tonne, it doesn't take long to swallow that up with 2 or 4 occupants, oils in the engine, diffs, gearbox, fuel in the tank/s, the normal accessories like bull bar, towbar, heavier suspension (big springs and shocks are literally heavier!!). Even different tyres can weigh substantially more than standard. Generally the big wagons have a maximum GVM (max loaded weight) of 2.9 tonne to 3.1 tonne. We see the average ones come in here weighing 2.9 tonne to 3 tonnes and they are certainly **not loaded** for a trip. When we get the accessorised big wagons in here they start to reach towards 3.2 tonnes and we have seen the odd 100 series in here, obviously with a lacking power problem!!, weighing in at 3.5 tonnes. When you talk troopies, they regularly weigh over their GVM as they are stacked up with all the heavy gear needed for the trip. Large steel fuel tanks not only carry a lot more fuel (weight) but weigh in surprisingly more than the factory poly or tin tank.

Tyre blowouts are common on a lot of trips and this is an area that weight can have a huge effect! Standard tyres are designed to work within the working parameters of the vehicle but once it is weighted up the tyres standard tyres are often working very close to their maximum weight limit. Throw in an extremely hot bitumen Australian road and the working weight of the tyre gets lower. When considering loading up next time, check the loaded weight of the vehicle and check the combined load rating of the tyres. Make sure you have a good percentage of difference between the tyres and the weight of the 4WD they are carrying. Eg- probably 20% to 30% less weight of the vehicle than the maximum tyre carrying load!

Wheel bearings are another thing to remember with overweight. Make sure that they are greased if you are carrying weight.

I am extremely concerned with what I see on a daily basis in regards to vehicles overweight and this issue needs addressing by somebody fast. Shocked faces are the 'norm' when I explain to customers that their vehicle is illegally overweight and is the main factor in the performance problem! I ask the owner how much they think their 4WD weighs and the general answer is 2.2 tonne or 2.4 tonne. When I explain that it weighs in at 3 tonne or more they have trouble believing it!! Add to this the 2 tonne trailer and you have, for example, a 3 litre Nissan trying to move a combined weight of 4.5 to 5 tonnes!!

There is already an issue with 4WD's on the road and I think that the insurance issue with overweight vehicles will not be far away. I think that a listed weight, initiated by the accessory manufacturer on accessories, would be of a great benefit to people!

A final note is the areas of weight that people don't suspect. Steel fridges, larger tyres, upgraded suspension also lends itself to more weight as well as thicker springs, storage drawers, roof racks, dual batteries, different seats, HF radios. **We usually need these for trips, but it's at least the knowledge of where the weight is coming from that can help with controlling it.**

Find a reputable weigh bridge or just turn into an RTA truck weigh bridge for free and get ready for a possible shock!