

For most people, tyre pressures are something that might be thought of and checked on the odd occasion. However, if you own a 4WD and take it out of the city, tyre pressures are something you'd be far more aware of.

4WD tyre pressures are super important and need regular adjusting depending on what terrain you are driving on, how much weight you are carrying and how fast you are driving. When you actually stop and think about it, those round rubber things that your car runs on are very important. You've only got a small handprint size of rubber that makes your vehicle behave the way you want it to.

On bitumen, you'll have a tyre pressure that you normally run, and all you have to do is top it up as they go down over time. On bitumen, a 4WD is the same, but that's where the similarities end.



4WD tyre pressures are very important.

What's makes tyre pressures on a 4WD so important?

A bitumen road is rather forgiving when it comes to providing an easy, comfortable and safe surface to drive on. 4WD's are designed to go beyond the bitumen, where the tracks are rough, uneven, soft, muddy or full of bone chattering corrugations. The right tyre pressures go a long way to helping you safely drive through these conditions.



The wrong tyre pressures can get you stuck easily.

Traction - braking, steering, acceleration

When you're off-road, there's not a lot more important than good traction. No matter what motor you have, if you can't put the power down as traction, you aren't going anywhere. Traction is not just important for acceleration though; it's what you rely on for braking and steering too, and you want to be able to do this without any hindrances!

Once you leave a bitumen road, the level of traction you have deteriorates. On a good gravel road it might only be a little bit, but on a heavily corrugated road or muddy track your traction can be absolutely woeful. This is dangerous. To counter the lack of traction, you should be deflating air from your 4WD.

This increases the surface area of rubber touching the ground, and recovers some of the lost traction. It also spreads the load, making the vehicle float on top of the surface better.



Corrugations need the right pressures.

Reduced stress on your vehicle

Only when you've been down a really rough road can you appreciate how hard a 4WD works. If you haven't seen any slow-motion footage of a 4WD's suspension working on rough corrugations, check it out. By lowering air pressures, your tyres help to absorb a huge amount of the stress passed upwards from the track. This, in turn, means your suspension works less hard, and everything on your vehicle has an easier ride.

Everything from the nuts holding your wheels on to electrical connections, dashboard clips and body mounts take less abuse and will last significantly longer. If you want to see the huge difference it makes, don't lower your tyre pressures on really rough corrugations for a few km, and then deflate and see what it does. The difference is chalk and cheese. You notice it, and so does your vehicle!

Beyond the shock absorption, on soft surfaces, the correct 4WD tyre pressures make your motor work less hard. The number of people who overheat 4WD's on a soft beach is huge, and it's all because the motor is working harder than it needs to. Too high pressures mean 4WD tyres aren't floating on top of the sand, and the motor needs to push sand out the way to make progress.



How hard does your 4WD's suspension work?

Puncture resistance

4WD tyres today are much better than they've ever been, but punctures are still relatively common on 4WD tracks. In many cases, the puncture occurs when something sharp (a rock or stick for example) goes through the tread of your tyre. Sometimes this can be fixed on the tracks with a plug, but at the very least it's an inconvenience.

By deflating air out of your tyres, you allow them to mould around what they are driving on, and your chances of punctures through the tread are hugely reduced.



A good set of tyres makes a big difference.

Improved fuel economy and tyre wear

Fuel economy is directly related to how hard your 4WD has to work. If you have the wrong tyre pressures (even on the bitumen) you will use more fuel, or if they are too high you will wear your tyres out unevenly.

The right tyre pressures will give you good economy, whilst protecting your 4WD and doing a multitude of other things. On soft sand in particular, if you have tyre pressures that are too high, your fuel consumption will skyrocket as the vehicle has to work much harder to keep it moving.

If you aren't floating on top of the sand, your 4WD is working very hard to push through it, and that's not good.



Soft sand requires low tyre pressures.

Increase your capability

If you want a 4WD that will go further, learn how to adjust your tyre pressures well. The difference that correct tyre deflation makes in relation to how far you get up a hill climb before getting stuck is truly incredible.

Lower tyre pressures give you more traction, which in turn means your vehicle has an easier job climbing over rocks or up a slippery hill climb. No doubt you've probably seen a 4WD

stuck or struggling on the beach before? In almost all cases, this comes from incorrect tyre pressures.

If your 4WD is having a hard time on the beach, hop out and let some more air out of your tyres, and you'll be back to cruising down even very soft beaches without much difficulty at all.



Struggling up a soft hill climb.

When should you adjust your tyre pressures?

Tyre pressures should be adjusted for each terrain that you are driving on. If you are just doing a short, great condition gravel road you can get away without hopping out, deflating and then reinflating at the end, but if you are going to be on gravel for some time, or the road is rough, soft or slippery you should be adjusting your tyre pressures.

It is super easy to be lazy and not get out to let your tyres down, but so often it comes back to bite you in damage done to your 4WD, lack of safety or you get stuck. You don't need the perfect 4WD tyre pressures either; adjusting them every time you drive through a bog hole, or a patch of soft sand would just be tiring and impossible.



Let your tyres down properly.

Matching speed and tyre pressures

The major thing that needs to be thought of in relation to tyre pressures is speed. As you reduce the air pressure in a 4WD tyre, you should also be reducing the speed that you drive at. This is done primarily due to heat build-up, and the increased chance of a tyre rolling off the wheel.

On very rough roads, we've mentioned that your tyre takes a lot of the shock. It does this by allowing the sidewall of the tyre to flex up and down. This constant movement (in the thousands of times an hour) creates heat, which warms the air up inside your tyre. If you allow too much heat to build up, the tyre starts to deteriorate and fall apart from the inside out. Drive too long like this, and it will literally blow up into a lot of pieces. Not something you want, as it's expensive and extremely unsafe.



A tyre repair kit and compressor is imperative.

Paying attention to how warm your tyres are getting is very important, and you can do this by just putting your hand on the sidewall after driving off-road for some time. If it's more than just a little warm, you might need to slow down.

As a result of this, you should be driving at a slower speed with reduced tyre pressures, wherever you are. For very low tyre pressures like you'd have on a soft beach (10 – 20PSI) you shouldn't be going fast at all. The general expectation is around double to triple the tyre pressure in speed. For example, if you have 25 PSI in your tyres, you shouldn't be doing more than 50 – 75km/h. The lower your tyre pressures, the more likely a tyre is to walk off the wheel, and you'll come to a very quick stop.

Particularly on soft beaches, avoid turning quickly and sharply, and keep your speed down. If you go around a corner quickly on the beach with your tyres down at anything lower than



20PSI, expect a tyre to come off. In some situations, this also results in your 4WD digging in and rolling, so play it safe.



Down to 10 PSI to get up this hill.

What's the right 4WD tyre pressures?

There are so many variables here that it's almost impossible to give a guide. However, let's work with percentages (and remember this is general advice!). On the tyre placard, it will give you the recommended tyre pressure, which is a good starting point. Let's say that's 35 PSI.



Tyre Pressure Guidelines to help you work out if you're tyres are properly inflated

1. Dirt roads

For dirt roads, you should be lowering your pressures by about 30%. That would mean around 24 – 25 PSI.

2. Soft sand

For soft sand, around 50% is a good starting point, which means 17 – 18 PSI.

3. Mud and rocks

Mud and rocks are generally a little higher than this, but it does hugely depend on your individual setup.



Find your tyre placard on the driver's door pillar.

Tyre pressures change

Lastly, be aware that tyre pressures change! As your tyres get warm, the air pressure increases. If you start off in the morning on a soft beach with 16 PSI in your tyres, and it gets to be very warm in the afternoon you may find your tyre pressures have increased to around 20 – 24 PSI. It might not seem like much, but it's the difference between sinking like a rock and having no issues floating on the top.

4WD tyre pressures are super important for many reasons, so next time you head off-road have a good think about them and set them correctly. See you out on the tracks!

Have you ever got yourself into a tricky spot because of the wrong tyre pressures?