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Get Off Road with Phil

Sand driving techniques

This issue Phil gives us the lowdown on driving in sand.

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For many people the change from driving a four-wheel-drive vehicle on the bitumen to driving on sandy and muddy tracks is terrifying. A four-wheel drive can conquer most terrains; driver skills, or lack of skills, and confidence are most often the limiting factor.

Sand driving is most likely a scenario that will be faced by most four-wheel-drive owners. Firstly, and most importantly, you should not venture into sandy country or any off-road country without an air compressor; and please buy a quality one because you don't want it to fail and be stranded out in the back blocks because you skimmed on a few dollars would you?

The two key elements to safe sand driving are: low tyre pressure and keeping forward momentum.

Lowering tyre pressure scares many novice drivers because it seems unnatural and they fear punctures and tyres rolling off rims. Low tyre pressure increases traction and reduces the risk of sinking into the sand because the low pressure increases the tyre's footprint; it distributes the weight of the vehicle over a larger area; in the same way snow shoes do with a human's weight.

One incident that comes to my mind was during a trip out in the Great Sandy Desert. We were on a good track but it crossed three very big dunes. We decided to have morning tea near a nice grove of gums. Just as we broke out the flask we saw a vehicle approaching with an elderly chap driving. He charged at the dune and only got half way up so he reversed down and took a second try and he didn't get as far.

We suggested he lower his tyre pressure and offered help, but he thanked us and lowered them himself. Away he went again and nearly got to the top and after reversing down he lowered the pressure again and this time made it to the top. Once at the top he stopped and pumped his tyres up again because he thought he would get a puncture!

There are many lessons to be learned from this example:

Don't be afraid to reduce the pressure as low as 16 psi in tricky situations. I've gone as low as 8 psi, but once out of the difficulty I increased the pressure back to 20 psi.

That fellow should already have had his tyre pressure down to around 20 psi and left them at that pressure until he cleared the dune country.

The hard tyres caused track damage because the vehicle jumped and dug in when it almost stalled.

When driving in sandy terrain choose a gear, usually low range, at which the engine runs freely or purrs along. Do not leave it in a gear that has the engine labouring because you waste fuel and increase the risk of being bogged or having to reverse down a hill and try again. Stay as much as possible in existing wheel tracks as the sand is already compacted and the driving will be easier.

Should you need to negotiate a soft sandy dune, like when leaving the beach, select a gear; usually it will be third or fourth low. Don't change gears during the ascent because momentum will be lost and you won't make it over the top.

Don't go too fast because you could launch yourself over the top and cause vehicle damage and injure the passengers. Choosing the right gear and pace takes practice; however you will soon have the confidence to tackle most dunes.

Should you need to reverse down and try again, use low range reverse and avoid using the brakes. As you go slowly back down try and keep to the same wheel tracks that you made when you went up. Whatever you do don't reverse down a dune at an angle as there is a risk of roll over.

When driving down a very steep dune choose first low as this low gear enables you to slowly go down using the engine as a brake and keeping your foot off the clutch and brake pedals. Resist the temptation to drive down using higher gears and the brake pedal because the vehicle could run away and perhaps suffer brake failure with serious consequences.

Only one vehicle at a time should ascend or descend a steep dune and only when that vehicle is clear should the next vehicle be called over.

When driving on a beach avoid driving close to the waterline as the beach may look solid and

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firm, but there are often boggy or quicksand-like patches that will catch you out. Once bogged you could be at risk of catching the incoming tide, so endeavour to always drive above the high water mark. (Getting out of bogs will be discussed in a future article.)

When stopping on sand don't use the brakes to stop. Roll to a standstill as this reduces the risk of a mound of sand building up in front of each tyre making departure difficult. If stopping along a beach for a swim or to fish, be considerate of others and don't block the main track along the beach.

Other than a compressor and tyre deflator, other items of equipment you should have on board when driving in sandy areas are:

- Long-handled shovel
- Snatch strap (make sure you don't buy a tow strap in error)
- 4WD-rated recovery points. If you're uncertain about what you have, go to a reputable 4WD store and have them checked
- Rated bow shackles to connect your snatch strap to the recovery points
- MaxTrax-type recovery boards
- A sand flag so your vehicle can be spotted from over the top of a sand dune.

If you are going to try any of the techniques mentioned, please have at least one other vehicle along to provide assistance if necessary. If you don't have the confidence to try these techniques yourself, why not do a driver training course or join a four-wheel-drive club and learn in a group environment? See you in the bush. ❖



Clockwise from above:
Two key elements to safe sand driving are low tyre pressure and keeping forward momentum. ❖ Coastal driving at its best. ❖ Momentum is most important.