

### 1: Off-road driving techniques - [www.enganchecubano.com](http://www.enganchecubano.com)

*4WD Driving Skills concentrates on the essential skills of four-wheel driving for every type of off-road terrain as well as sealed and unsealed roads. It explains what makes a four-wheel drive vehicle different, how to approach challenging situations, and shows what to do if things go wrong.*

**July Gear Changes** There is no simple rule for what gear you should use to negotiate any particular obstacle ie. But here are a few tips: **Ruts** Try to keep the vehicle as level as possible for better traction and comfort. If possible, straddle ruts in the road with a wheel each side. In wet conditions it may be safer to drive into the ruts to prevent skidding. **Climbing Hills** Choose a gear that will allow you to get to the top without having to change gear. **Descending Hills** Choose a gear that will allow you to descend at a reasonable pace without excessive use of brakes. **Mud** Try low range 2nd or 3rd gear to prevent excessive wheel spin. Attempt with normal tyre pressures first to bite into the mud to hopefully find the hard surface below. **Sand** You often need high speed and therefore high range 2nd, 3rd or 4th to avoid getting bogged down. Tyre pressures must be lowered so that the vehicle floats on the surface of the sand start with 20psi - you can go much lower if necessary. Clutch problems and loss of momentum can cause major dramas. Caused by driving in 4WD on bitumen or non-slip surfaces, the transmission locks and the vehicle will not move forward. It can also be caused by uneven rolling diameters of tyres. If you suspect transmission wind-up is starting, reverse and shift to high 4. You can also jack one wheel off the ground then shift to high 2. Always check that all four tyres either have the same pressures or at least even diameter heavy loads in rear often bulge tyres before engaging 4WD. One of the most common recovery situation in Australia is getting bogged in sand. Thankfully, its also one of the easiest to get out of. Always carry a good quality air compressor. These models usually run off the cigarette lighter plug and quickly burn out. Remember it takes about 30mins to inflate all 4 tyres after sand driving to acceptable levels for driving on bitumen. These compressors are only designed to inflate one tyre at a time handy for a slow leak. The larger capacity air compressors enable tyres to be inflated continuously without overheating and usually in half the time. If you get stuck in sand, firstly check that you have engaged your hubs and are in 4WD. Once stopped, first try reversing over your tracks. If you cannot get out of the bog in reverse in one try, get out and deflate tyres more. If the sand is particularly soft it sometimes helps to clear 4 tracks - one for each tyre. This is also a good method for reversing out of a bog. Select a gear that will get you out of the bog without digging yourself in further. Give it some revs to get out of the bog and onto a firmer patch. When driving on beaches never park on the wet section of sand. Vehicles have been known to sink into the sand and slip into the sea. Always park your vehicle with the nose pointing to the sea and if doing a u-turn always drive towards the waterline so that the turning tyres are in firmer sand than if you turned with the vehicle positioned nose uphill where the weight of the vehicle would weigh down the driving wheels in the soft sand. **Creek Crossings** You should never enter a water crossing without knowing its depth and possibly the type of creek bed. Is it rocky, muddy or sandy? Most people get out and walk the crossing first, checking for dips and holes and finding the shallowest path. Water crossings in northern Australia Far North Qld , Kimberley , Top End are often inhabited by crocodiles so its not advisable to walk these rivers. You can either follow a convoy or back track and find an alternative route. If the water level is above tyre height or axle deep you should not cross unless you have prepared your vehicle. A 4WD club can show you how to extend your diff breathers or you can this task done by a 4WD Servicing Mechanic, plus you should use a radiator blind. Essentially, this is a ground sheet wrapped around the front of the car under the bonnet to prevent water flowing back around the radiator and drowning the engine. You must not change gear whilst travelling through water. So always enter slowly in 4WD low range. Exits are often slippery and steep. Keep going until you are clear of the water and on higher ground. You should stop on your brakes to drain the car of excess water whilst it is still on a slope if possible. If you do stall and cannot immediately restart you must not continue trying. You will have to be winched out. Check no water has entered the air intake, which will fill the cylinders. For more information see our Snorkel article. Free tracking for Members. Nuts, bolts and screws, pipes etc can easily rattle loose in a short period of time. Many outback roads in Australia are heavily

corrugated but there are two things that will ease the comfort factor. Tyre Pressure To ease the comfort of the ride and to aid in traction on particularly bad corrugations such as the Gibb River Road or the Development Track to Cape York it is best to reduce tyre pressures about 4 to 6 psi lower than what you run on the bitumen. Very rough and stony country such as the Birdsville Track can handle even softer tyre pressures. This may not seem to make sense at first, but if you consider that your tyre is just like a balloon being bounced over sharp objects then you can see how the higher pressure would make it more prone to "popping". You will find that you can "ride" over the worst of the corrugations at this pace. Any faster can be dangerous, slower and the corrugations may shake you and your vehicle to pieces. There is no perfect tyre or tyre pressure and a combination of luck, speed and driver skill will be the secret to minimising flat tyres and maximising tyre wear. Suspension One of the main reasons you would consider altering the suspension on your 4WD vehicle is improved ride. Adding a few inches of suspension will not only feel more comfortable to the driver and passengers, but it will improve general handling of the vehicle which is a valid safety consideration. For a more detailed discussion on the need for suspension adjustment, see our Suspension article. Bulldust Bulldust is a fine talcum powder-like dust that is very common on outback Australian tracks. It often occurs in areas where the track gets wet then dries and breaks up into fine dust. It is particularly prevalent in areas in the far north where it is boggy in the wet season and bone dry in the dry when the majority of traffic breaks up the track. Bulldust is very deceptive. Looking out your front windscreen it looks like smooth hard patches but in fact it usually is a fine covering of dust over a deep hole. Driving through bulldust at speed is very dangerous - try to avoid bulldust at all times. It can cause damage if sucked into engines too, so in very dusty areas you should have a filter on your air intake and check it regularly. For more information, see our Snorkel article. If the tyres are not inflated correctly, or are the wrong type, the stability and ride of the car and trailer combination can be severely effected. Tyre pressures are best checked when cool, hot tyres give an incorrect reading. See related trailers articles: Most, but not all, clubs offer driver training courses. Driver training is designed to give you confidence in both your vehicle and your own capabilities and limitations. Most courses will also teach you recovery skills such as winching, using a snatch strap, sand driving techniques and can provide opportunities to gain experience in small trips organised by other club members. Look out for driver training offerings prior to joining. Clubs are designed to provide this kind of confidence. See our list of active 4WD clubs Australiawide. Driver Training courses are often structured by skill type, beginning with an introductory course which should cover theoretical concepts such as the mechanics of 4WD transmission, driving techniques for various terrains, plus recovery techniques, and an overview of various equipment and tools that you should have in your vehicle at all times when travelling offroad. Your introductory course should include some some driving practise on bush tracks so that you can attempt your first river crossing, hill climb, steep descent, and rock steps in the company of an experienced trainer. The advantage of watching other vehicles on course is enormous. There is much to be learned about 4WDing techniques through observance. You will find it fascinating to see how various makes and models handle obstacles quite differently and being out of your vehicle whilst another is driving past gives you a great vantage point to clearly see things like the importance of wheel placement which you cannot appreciate when sitting behind your own steering wheel. Recently there has been a swing towards these courses being accredited. This benefits you because it ensures a consistent standard is taught to drivers including terminology, concepts and actual driving techniques. So make sure that if you are paying for a course, you get an accredited one!

### 2: 4WD Driving Skills: A Manual for On and Off Road Travel - Vic Widman - Google Books

*Driving and Towing - 4WD Driving Skills In this section we cover correct, safe, legal driving and towing practices - on and off road in great detail, to help you have happy and successful bush adventures.*

Actually, as far as its geographical features are concerned, it is a magic land with many certain regional elements, including highland and lowland, deserts, plains, gobi, swamps, lakes, rivers, streams, wetlands, coastal and tidal flats. Therefore, to thread through complex Australian continent at ease, I am afraid that your positive picking up a good driving skills for off-road is inevitable even you are always under the illumination of good quality 4wd driving lights. Basic structure understanding First of all, every driver should be familiar with their own 4x4 off-road vehicle, fully understand the structural features of automobile parts, such as tires, transfer, transmission, steering, suspension, clearance from the ground, the brake, whose functional characteristics should be worth of your Primary focus. And whether you make a driving off-road vehicle could have great something to do with some relative abilities, like controlling the speed for engine and driving, mastering the time to shift and into the bending Angle. Undoubtedly, handling the skills tends to not only help you out of the obstacles quickly but also lead you to enjoy the pleasure of cross-country challenges in complex terrain. As you know, there are differences in the nature of 4wd and the ordinary vehicle, which is the pattern of displacement mode, the former has 2 and 4 displacement mode while the latter only owns the displacement mode of 2. Generally, the 2 displacement mode is operated in dry highway, ordinary highway. While the 4 displacement mode get accustomed to be used in either rain snow weather or wet roads, because both front and rear wheels of the latter, as the power output wheels, are able to prevent the sideslip phenomenon resulting from uneven distribution of kinetic energy, which guarantees the stability and safety in high speed driving.

Driving recipe for 4wd Here we will take the topic to off-road driving skills in several typical terrain conditions. And slow down to avoid the collision of chassis and stone when you 4wd is threading through the stones or dry wash. Generally, Setting the transfer case with 4 L gearbox, 4wd can run over rocks 20 cm below. The stones unable to run over, get out of the 4wd and shed it in hand, but if the stone is so big that small stones can be made best use by placing in front of the big one to Combine a temporary step. And you need to make sure that other end of the big stone is placed stones as well, otherwise, the front chassis will meet rocks. Generally speaking, long wheelbase is better than short one with 4 L hanging up before entering slope. Then, star the gearbox with the first gear, then go into second gear, keep the vehicle constant speed with a certain throttle, in order to avoid the wheels skid. To be honest, the primary requirement for a qualified 4x4 driver in the incline, would turn out to be not slipping and not shutting down. On your way to the slopes, your had better must meet slopes, not in lateral riding. If the 4wd is too underpowered to go forward halfway, immediately can you stop to hang the reverse, by means of using the engine of pulling resistance, cooperating snub, keep the steering wheel straight, you would be capable of slowly backing to the slope. In the narrow mountain path, it is the most important to correctly grasp the steering wheel. In steep slope with transfer case 4 L is a good way to control the speed. When meeting the corner, you? And of course, just make slow brakes if necessary. In the mud, transfer case 4h, gearbox with second or third degree and fixed throttle can cooperate to make you succeed in passing. Need to remind you whenever you encountered a glade with marsh mud more than one feet, be careful and once vehicles carelessly enter, the vehicle is slowly sinking no matter how great trouble you cost in trassimision, only looking for help and drag the poor 4wd off quickly. In the mud road of hard bottum, go forward with transfer case 4 h or 4 l. All you need is to have a psychological preparation. When coming across wheels sinking slightly in mud with the soft foundation, you can have transfer case with L4, gearbox with a second gear and steer wheel slowly in order to go forward. In soft-mud advance, ground subsidence aside, make body tilt and unable to quickly pass. You can sort it out by several steps: Unless the distacce of the mud road is short, it is necessary to keep a certain velocity potential. Slope mud frequently make vehicle skid, and you can improve sectional situation by adding anti-skid chains. The feeling of catching the wind in fast 4 x4 in broad beaches, only happen on you when you are indeed in that occasion. If 4wd is steering in sand and its tire has a little bit down in the sand, which is slightly. Usually 4wd can be unimpeded

in the flat sand, by setting 4h transfer case gearbox second or three gears. After the current wheel reach to the sand dunes, the rise of head stock will make the center of gravity fall onto the rear wheel, both sides of rear wheel should be touch the ground with the same weight at this time and the body does not tilt. Otherwise, whether it is a transfer case H4 or L4, all elements above can result to back idler wheels sandblast phenomenon. If continue to trample accelerator in such situation, only turn out to be still round back idling, may also be got in deeper and deeper. Now it is time to use the winch or calling for a car to help. And with transfer case L4 and transmission gear, you ensure the friction of the wheel rotates make hard objects forward. According to the theory, it is not comen for 4 x4 to be stuck in sand, but there is a special case, when 4x4 drives into the sand in two wheel drive,? Once starup again after parking and use two wheel drive, fierce at two times, which is expected to more than half of the two transmissing wheels sinking in the sand. At this point, of course, the last resort would be the transfer case for L4, and if the situation of sinking in the sand is not deep, there is indeed a opportunity to climb up. Otherwise, even the other two will also turn in the deep. At this point, the friction forward of wheels under the pad hard objects, might as well be a solution to get rid of hardship,or you can get outside for help. As the setting position of the electric system, air intake and exhaust system are higher, 4wd has better ability of wading,the general 4x4 wading capacity has something to do with the tire height. Wading before driving needs probing depth, but it is no easy to master the uneven bottom of the riverbed. The water depth difference between the head street and the tail street sometimes is great. And please pay attention to control the speed, it is frequent situation that splashing wet circuit and bring out shutting down. When the depth of the water may flood the exhaust pipe of the terrain,setting the transfer case with L4,making gearbox with a second gear or one gear, holding the throttle to keep the engine high speed and avoiding the shift in water,are all the ways to make the exhaust pressure greater than the water pressure in case of inflowing water,And the wading depth is up to be 20 cm higher than exhaust pipe mouth. In the jet stream, Vehicles have to prevent jet impact. Crossing the river in 45 degrees of the current direction is a rather safe way. Undoubtedly, some drivers with fewer Wading experience would be afriad of flameout in the water, once flameout happens in the deep water, you should immediatly shut down all car circuit and not attempt to start the car. Otherwise, the simple behaviour would lead to significant damage due to water drawing into cylinde. It is best to research for other vehicles to pull out this 4wd. Conclusion As conclusion,successful off-road driving skills should be a perfect combination of wisdom and courage. Only relying on more practices, repeated experience and frequent summarizing, you,as a 4wd driver, can gradually improve the level of off-road driving.

### 3: 4WD Driving Skills & Rules @ ExplorOz Articles

*The Leadership Skills Instructor's Manual is a companion book to use with the Leadership Skills Training Manual by the same author. The Instructor's Manual includes answer keys for review questions, worksheets, quizzes, and application activities.*

### 4: 4WD Driving Course | XDrive 4wd Training | Sunshine Coast and Brisbane

*4WD Driving Skills & Rules 4WD vehicles are designed to drive through obstacles that conventional (2WD) vehicles would not be able to overcome. Many places in the Australian bush are not negotiable without a 4WD however simply owning such a vehicle does not mean that you can drive it safely.*

### 5: How to Improve Your Driving Skills: 9 Steps (with Pictures)

*Modern four-wheel drive vehicles are powerful and sophisticated machines, able to travel almost anywhere. Given their growing popularity with recreational drivers, there is an even more pressing need for adequate training.*

### 6: On the Road Driving @ ExplorOz Articles

## 4WD DRIVING SKILLS pdf

*Get this from a library! 4WD driving skills: a manual for on and off road travel. [Vic Widman] -- Modern four wheel drive vehicles are powerful and sophisticated machines, able to travel almost anywhere.*

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