

Outback travelling

Fuel is available within 400 km intervals on most outback routes except in northern WA where there are a few 500–600 km gaps. A range of 700 km gives an adequate margin for the Birdsville, Oodnadatta, and Strzelecki tracks. Diesel is available from fuel stations, (some) homesteads and Aboriginal communities. Opal (petrol) is also available from most. For the Tanami Road (Halls Creek to Alice Springs) fuel is no longer available at Rabbit Flat but is at the Yuendumu Aboriginal community (just to the east of Rabbit Flat), and also at Tilmouth Roadhouse, about 220 km west of Alice Springs. There is a gap of about 500 km on the Plenty Highway but fuel is no longer available at Tobermory Station. For the Canning Stock route, seek up to date advice from tour operators (this track is definitely not feasible for any caravan and not that good an idea for heavy camper-trailers).

Diesel usage on dirt tends to be 10%-15% more than on bitumen roads. With petrol engines, however, fuel usage may double in soft going.

Fuel storage

Jerry cans are convenient but stowing them can be a problem. It is unsafe to carry fuel inside the vehicle, or have its weight on a roof rack two or three metres up. Consider having two tanks, each with its own filter/s. Include a changeover valve enabling the existing fuel gauge and pipes to be used for either.

Specialised servicing

Ensure your vehicle is mechanically sound before setting off. Advice on previous pages applies, but unless you really know what to look for, have your vehicle checked by a specialised 4WD service centre. Its staff is more likely to understand your needs than staff from manufacturers' city service stations.

Bull bars

Bull bars may help to protect a vehicle and its occupants in the event of hitting animals, and ease branches aside on narrow tracks. They are unlikely to protect occupants in a front-end crash because (in older vehicles particularly) they reduce the ability of the front end to crumple progressively. In such cases, the bull bar may protect the vehicle but increase the forces acting on its occupants.

A further concern is that a poorly designed bull bar may affect air bag triggering. You legally may not (and ethically should not) fit a non-approved bull bar to an air-bag equipped vehicle.

If using one, buy only from companies (such as ARB) specialising in this area as theirs are designed to minimise the severity of collisions with pedestrians.

Driving off-road

Until you are familiar with its capabilities and limitations, and that will need a full year or so to gain, do not travel on any soft or slippery surface in lower than third gear (low range) or second gear (high range) or in mud. Reserve 4WD for getting out of trouble - not further into it.

It is hard enough if your four-wheel-drive gets bogged, but if that happens whilst towing a caravan you will need to debog the tow vehicle and caravan separately.

Complete a government accredited off-road driving course taught by instructors experienced also with 4WD trucks (some teach bush fire brigade drivers). See also pages 76-77.

Some 4WD clubs run off-road driving courses, but not all have the different skills needed with big units, or caravans.



Reducing tyre pressures on part of the Canning Stock Route to enable progress on the soft track starting here. Pic: Caravan & Motorhome Books.

Driving in sand

Reduce tyre pressure (including a trailer's) to 170 kPa (25 psi). If towing, engage four-wheel-drive and lock the front hubs (if you have lockable hubs). Until you gain experience, limit speed to about 4 km/h.

If the sand softens, you will be audibly aware the engine is working harder. If, especially when towing, the engine starts to labour in third gear low range (until you are more experienced, or accompanied by someone who is), stop there and then. Walk the proposed route to check for firmness, or make a very wide turn (again, having checked that surface) and go back the way you came.

After you gain experience, you can drive in second gear drive (low range) but, if the engine begins to labour, you are generally close to becoming bogged. If the engine stalls or lacks power to go any further in second gear low range, do not even think of using first gear unless you are truly experienced.

If you do get to that second gear stalling point, stop and reduce all tyre pressures to about 18 psi (125 kPa) then dig away sand blocking the front tyres, and between the front and rear tyres - and also any close to the underside of the vehicle. Then seek a way of making a very wide radius turn. Walk that route to check the surface, very gently restart and remain (in first gear low range) until you are back on the track. Then return the way you came. If it is not possible to make that turn, check if there is a drivable path around the soft sand ahead. Unless that seems like the end of the soft stuff, make that turn and go back.

If you drive in sand as advised here, you are unlikely to get bogged. If you come to a halt, stop immediately. Spinning the wheels (novices always do) even for a quarter turn will inevitably bog you deeper.

Take reducing tyre pressure seriously. An overseas tourist died when her campervan became bogged about 20 km off the Oodnadatta track: the recovering police dropped the tyre pressures and drove out.

Debogging (snatch straps)

Debogging via another vehicle pulling, or a via a winch, is limited by the power and tyre grip of the tow vehicle or the power of the winch. The force required, however, is readily achieved by using a snatch strap to exploit the inertia (resistance to change) of an already moving vehicle. The strap greatly increases the pulling force.



How to use a snatch strap safely. <http://li.yimg.com/vi/QiddiULJVHQ/maxresdefault.jpg>

hurl half tonne rocks over 100 metres

A snatch strap's downside is that it is as potentially dangerous as those catapults because many non-technical people, grossly underestimating the forces involved, hook the pulling loop over the tow ball. The forces are so high that the tow ball can be torn off and hurled for over half a kilometre: sometimes via the windscreen and rear window of the bogged vehicle.

Take this very seriously. Drivers of bogged vehicles have been killed this way.

That strap must only be attached to both vehicles via shackles officially rated at twice that strap's breaking strength. Non-rated shackles sold by hardware stores are of unknown strength.

The shackles must be attached to both vehicles by equally strong engineered eye bolts, or by a method that can be relied upon to be very much stronger than that strap and shackles.

Ideally have a certified engineer design and arrange to fit suitable attaching points for the snatch straps on the front and rear of your tow vehicle.

A snatch strap is a length of semi-elastic webbing with a typical breaking strength of 12 or so tonne. It is attached to the rear of the recovery vehicle and to the front of the bogged vehicle - with about two metres left free.

The recovery vehicle is driven away at a brisk walking pace. As it does the elastic strap stores and then releases the kinetic energy of the accelerating vehicle - resulting in a pulling force massively greater than a direct pull. It works as did Roman catapult 'siege engines' that could

Using a snatch strap

Dig away any banked up sand, or do what you can to ease movement of the bogged vehicle then:

1. Ensure no-one is within 400 metres of the bogged vehicle's rear. Place someone whose absolute priority is to keep people at least 10 metres to the side, and children 50 metres, and carefully watched.
2. Have the two vehicles in a totally straight line, with their front wheels pointing straight ahead, and such that a two metre length of snatch strap is left lying in a loose 'S' shape about a metre or so across.
3. Place a heavy blanket, or one of the devices made for this purpose, folded over the centre of the strap. This dampens some of the force should the snatch strap break.
4. Start both engines. Select the bogged vehicle's first gear with clutch depressed, or 'Drive' if automatic.
5. Release the hand brake of the bogged vehicle.
6. Drive the recovery vehicle away in a straight line at a brisk walking pace in first gear. The moment the bogged vehicle begins to move accelerate that vehicle gently.

If this fails, see if anything can be done to free up the bogged vehicle and try again - but do not exceed a brisk walking pace or there is a probability (not just possibility), of breaking the snatch strap or tearing off the attachments. Renew snatch straps after ten uses.

By far the best way to learn to do this with minimum risk is to enrol in one of the accredited off-road training courses run by TAFE and some 4WD clubs. Ensure they *are* accredited.

Debogging (general)

If snatching out is not an option, lower all tyre pressures to 110 kPa (16 psi). For a solo vehicle dig a clear flat channel for the tyres some metres to the rear and between the front and rear tyres. Ensure (manual) front hubs are locked and four-wheel-drive really is engaged and have the front wheels pointing totally straight ahead. Then attempt to gently reverse out.

If towing a trailer it is better to uncouple the trailer and cautiously find a path to take the tow vehicle to the trailer's rear. Do whatever you can to rotate the trailer such that it can be recoupled - and return the way you came. Another technique is to have a second tow hitch receiver at the tow vehicle's front - enabling it be dragged by the tow vehicle in reverse.

In soft going drive in as straight a line as possible. If you absolutely *have* to turn, do so at the widest possible radius and at walking speed. Avoid tight turns as there is a risk of rolling a tyre off its rim. Once clear reinflate tyres, or do not exceed 20 km/h until you do.

There is a good case for lowering tyre pressures by about 25% and engaging four-wheel-drive in all soft going. It reduces tyre wear, eases the load on the transmission, and (by reducing drag), eases fuel usage.

Beach driving

The best advice is don't drive on beaches - particularly if pulling a trailer. If you really must, stay mostly high up the beach. To turn, drive down toward the sea and gradually edge back up in a wide gentle curve.

If caught on an incoming tide, use everything possible under the tyres. This includes door mats and carpets, boot linings, mattresses, even cupboard doors if they can be torn off. Be prepared to sacrifice anything like this. On a rising tide there is no other way of getting out - except for another vehicle and a long snatch strap.

Having seen over ten 4WDs lost on Cable Beach north of Broome (where there is a 10 metre tide) I strongly advise it is better to park the rig and walk.

Debogging in mud

This is hard enough with a single vehicle. If it happens when towing, uncouple the caravan and seek help as there is a real risk of bogging both. If that happens with a heavy motor home only a tractor or a heavy vehicle with a winch or snatch strap will get you out.



My OKA bogged in a salt-bed creek. It was pulled out via a snatch strap by a Toyota Landcruiser!