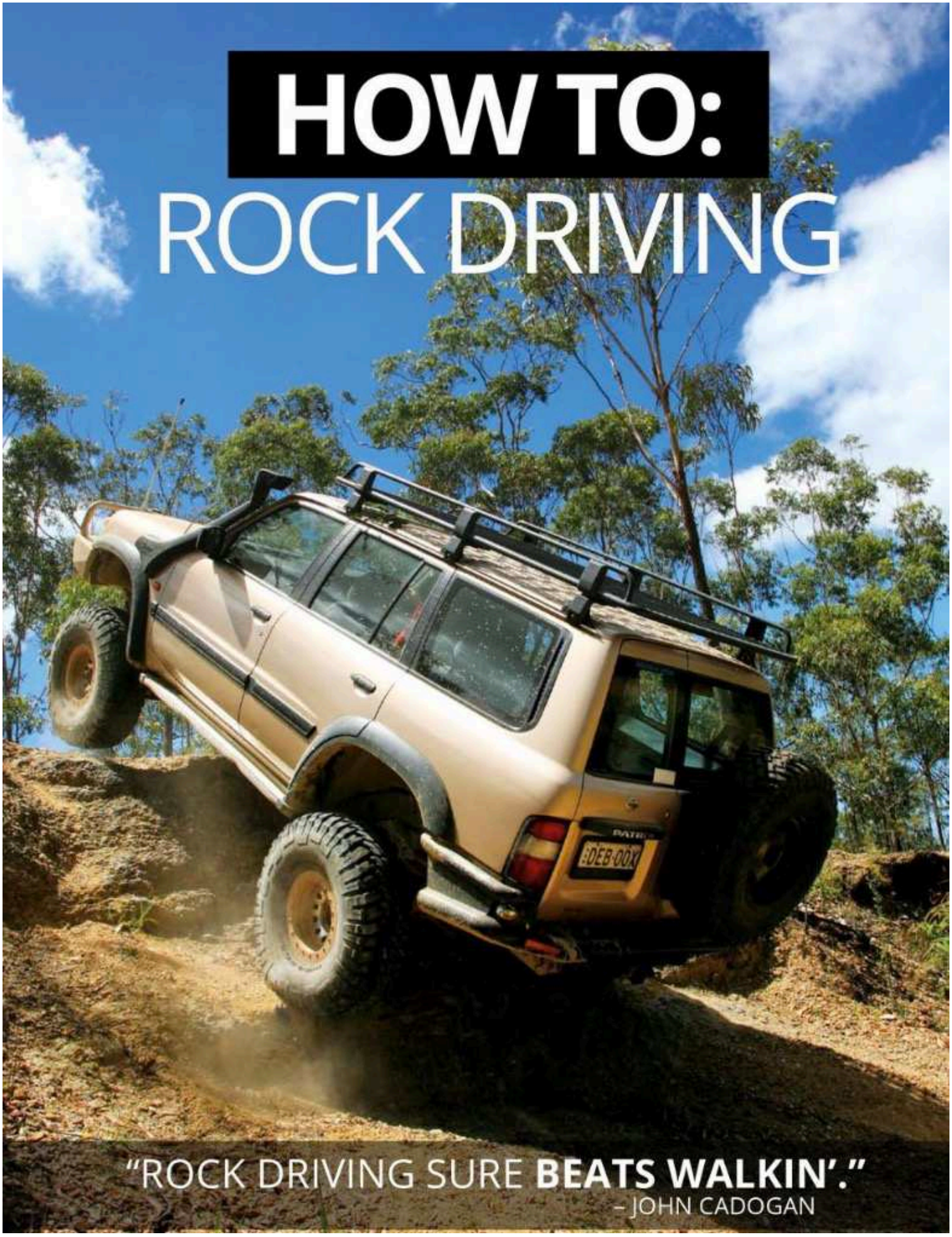

HOW TO:
ROCK DRIVING
"ROCK DRIVING SURE BEATS WALKIN'."
– JOHN CADOGAN

America has a wonderful environment they call slick rock, where there are massive flat rock shelves on the edge of the desert that are absolutely devoid of vegetation. This is one of the most high traction environments on Earth, and is great fun to drive on. Australia doesn't really have slick rock, except perhaps for a few lonesome granite boulders around the ACT region.

While we have plenty of rock, ours is usually a mixture of rock and dirt. You can find loose shaly rocks at places like Rocky Track in Victoria, sandstone escarpment like around Sydney, or the big rounded boulders and rocks that find their way into rivers and streams right across the continent. So usually, our rock is not just plain old rock, it can be mixed with sand, mud, water or dirt. And in this way, it's usually a little more challenging than plain old rock.

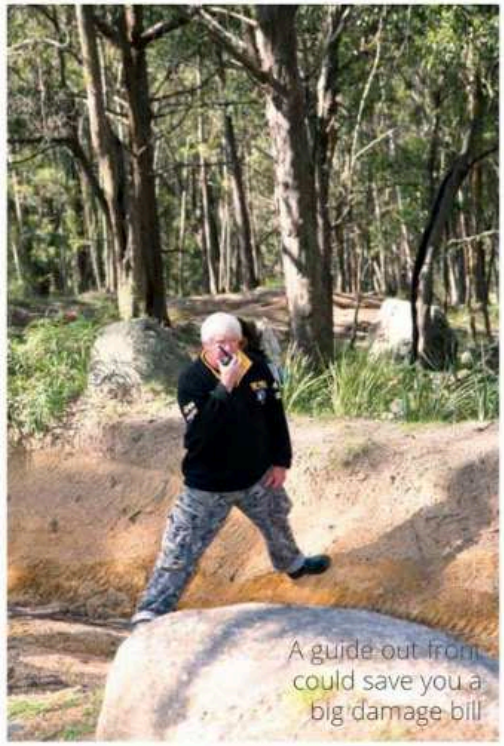
## ROCK DRIVING BASICS

- Lower tyre pressures
- Engage first-gear low range
- Use a guide in tough spots
- Know the location of your underbody components
- Use track-building rather than speed to get over obstacles

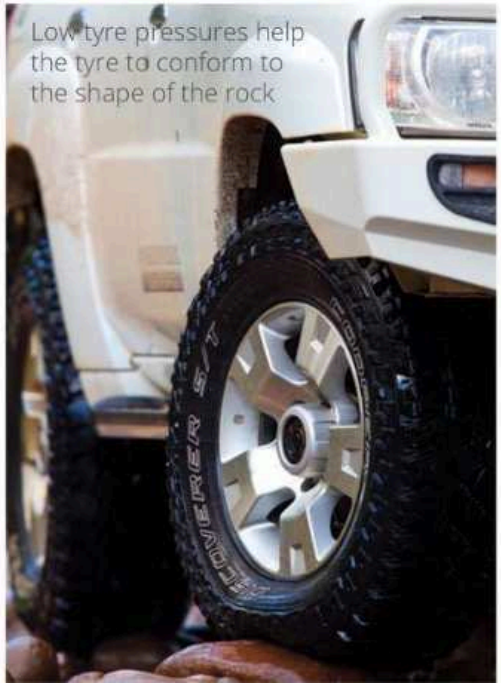
## ACCESSORIES

- Tyre deflators
- Tyre gauge
- Air compressor
- Recovery kit
- Winch





A guide out front could save you a big damage bill



Low tyre pressures help the tyre to conform to the shape of the rock

## ROCK PREP

Rock is no different to a lot of off-road environments – if you want to achieve maximum traction, you'll do well to let some air out of your tyres. Most beginners will quite sensibly question the logic of this, because surely when you let air out of your tyres, you lose ground clearance? And they're right – you do lose a small amount of clearance provided by the fully inflated tyres, but not so much that it matters.

Your far greater advantage is gained through allowing your tyre to mould to the rocks, grabbing each rock and holding onto it. In fact, in the recent sport of rock racing, many tyre companies like BFGoodrich have designed specific super-soft compound tyres that are extra flexible so they 'grab' the rocks better. The actual tyre pressure you will need is up to you, but if you've got a standard vehicle with standard-sized tyres, 16 to 18psi is a good starting point. Of course, this is strictly for low-range, first gear-type speeds.

Rocks are one terrain where the slowest speed is the best speed. In most cases, you'll want to keep momentum to a minimum, as the grip offered should most often be sufficient to get you through an obstacle. And keeping your speeds low will minimise damage. You see, rocks rarely budge, so if you hit them too hard, expect something to break. The underbodies of most four-wheel drives are relatively well tucked to minimise this sort of damage, but continual pounding can create havoc. Vulnerable parts can include fuel tanks, low-slung radiators, and soft metal exhaust pipes. Solid moulded mud flaps are another bugbear of mine, as their lack of flexibility means they snap off at the first minor obstacle.

Get to know the undercarriage of your four-wheel drive before you go and do any serious rock driving. Look for any vulnerable parts that could get damaged. And while you're there, try to create a mental picture in your head of your 4X4's underbody. Every vehicle has its peculiarities. For example, your diff pumpkin (the bulbous bit hanging down between your wheels) may sit to the left of centre. With this knowledge, you might be able to manoeuvre around that rock in the middle of the track. You might have a V8 with massively expensive mufflers hanging very low, ready to get a mouthful of rock.

There are countless examples of things that can get damaged, but if you know where yours are, you'll do a better job of keeping them protected. Popping your vehicle up on a mechanic's hoist is ideal, but if that's not available, slipping it up onto a gutter for a look will do just fine. As long as you can have a good scratch around, you'll be fine. And while you're there, keep an eye out for any rust traps or oil leaks!

## ECOTIPS

Track building is a great way to preserve the track and preserve your 4X4 by making the drive easier. Just remember to only use materials from the track itself. For example, don't go scurrying off into the bush to find the perfect rock or tree limb. Chances are you'll find what you need on the track without disturbing the nearby environment.

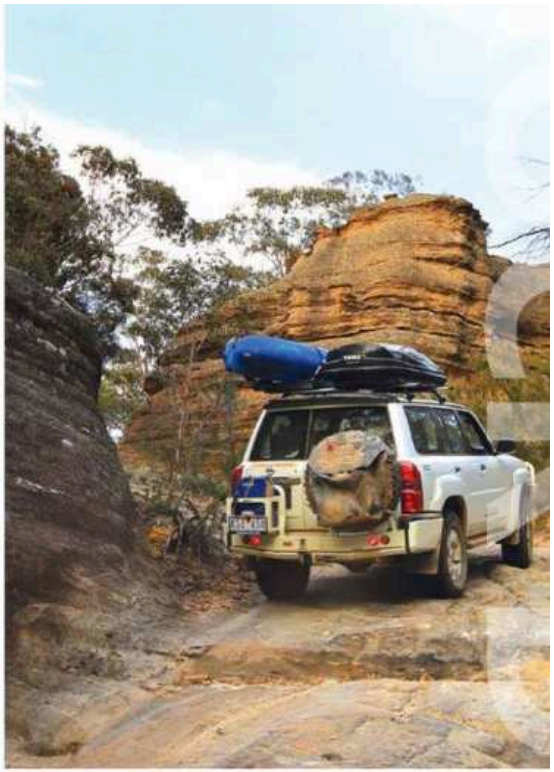
## COMMON MISTAKES

Too much speed can lead to punctured sumps, bent steering arms, and cracked diff housings.

CV joints are the final and weakest link between the wheel and the engine. Like most joints, they work best in a straight line, but some four-wheel drivers tend to 'saw' left and right on the steering wheel in an attempt to get traction – this is when CVs break. They make a costly trackside repair, and that's only if you're carrying a new replacement.









This is why you might like to have a guide out front to show you the way, and let you know if you're in any trouble. Not only can this save you plenty in damage bills, it can also be good fun to get others involved out there on the track. The guide can either use hand movements to show the way, or better still, use a CB radio to guide the driver through.

Yet, sometimes even a great guide out front may not get you through a difficult section, so you might need to do some rock packing. Rather than continually spinning wheels and belting your vehicle up against an obstacle, modifying the track should be one of the first options you take. Just grab a nearby rock or some fallen timber and slip it into the section where you've lost traction. You'll be amazed at how easy the track seems after that.

As far as traction aids are concerned, accessories like differential locks do work great in the rocks, especially in Australia where the rocks are mixed with other low-grip surfaces like mud. I like to use a rear diff lock first, and then go for a front diff lock later on when the obstacle is seriously tough. The front locker also limits your ability to steer, so keep this in mind if you have to weave in and out of obstacles.

As challenging as rock driving can be, when you get it right, it's one of the most rewarding experiences you can have off-road.

