

Tyres and Wheels

LIGHT TRUCK TYRES

Utes and some base-model, 'working' 4x4 wagons have the advantage over plusher vehicles in that they leave the factory on stronger wheels and tougher tyres. These tyre sizes are also more readily available in the bush.

The tyres most often seen on heavy duty 4x4 utes with split rims are tubed 7.50R16s or 235/85R16s. Only a few base-model utes stay with tubed tyres these days, because the puncture-resistance of tubeless tyres has improved dramatically in recent years and the advent of easily-inserted, temporary plugs can make a tubeless tyre bush repair very quick.



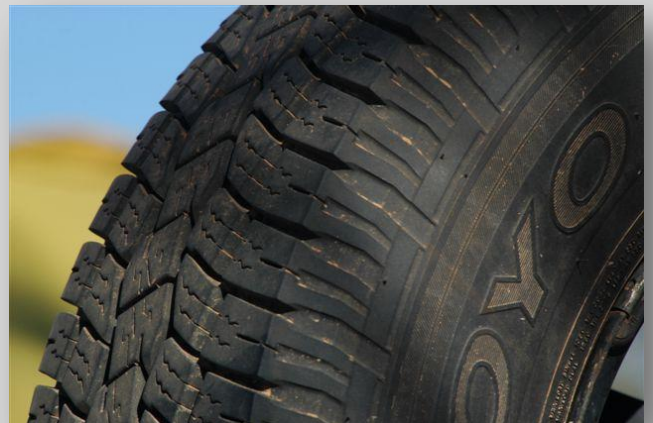
The tubeless tyres fitted to most 4x4 utes at the factory are in 16-inch sizes from 205 up to 265 sections. Replacement tyres for utes are most commonly in 16-inch and 17-inch sizes from 205 up to 295 sections.

Some die-hard bush travellers insist on 16-inch and 17.5-inch 'all-steel' tyres with carcass and tread construction that are designed primarily for forward-control light trucks, such as the Canter and Isuzu's N Series.

Even in low-profile sizes the tread appearance of an LT tyre is the first giveaway: usually much deeper grooves than a passenger-car tyre and often with a more chunky tread pattern.

Less obvious is heavier internal construction: lift one and you'll get the message! The tread belts are made from heavy-gauge wire and the sidewall plies are made from thick textile fibre, or steel strands and sometimes have triple-ply rather than double or single ply layers.

The best LT 4x4 tyres have nylon belts between the steel tread plies and the tread rubber. Nylon increases puncture resistance.





Light truck tyres are rated for much higher inflation pressures than lighter-constructed tyres, often as high as 560kPa (80psi). The load index – a pair of numbers that indicate the tyre’s load capacity as a single tyre and as a dual-fitment - is also higher and the speed rating is lower than for a passenger-wagon 4x4 tyre.

Naturally, there are trade-offs for the greater strength, load carrying capacity and puncture resistance of LT 4x4 tyres. Light truck tyres have stiffer casings, so they resist flex more than passenger-wagon 4x4 tyres do, and this resistance contributes to a firmer ride and more heat build-up in the tyre at high speeds.

All-steel-carcass tyres are particularly hard-riding.

When the Original Tyres Wear Out

When the originals wear out it’s time to choose replacement rubber and most ute owners opt for rubber other than the original fitment. The criteria they use aren’t always the factors they should be considering.

It’s important that you buy what you really need, not what looks fashionable

It’s a well known fact that tyres are purchased mainly on the basis of their looks and that’s why tyre makers go to great lengths to make their products look attractive. However, all our on and off road testing over the past 30 years indicates that appearances can be quite deceiving.

A classic example is Cooper Tires’ ST vs S/T-C. These tyres look identical, sharing the same tread pattern, but the rubber compounds are different. The ST is a high-mileage, hard-compound tyre that suits people who do long distances on smooth dirt or bitumen surfaces en route to off road destinations. The S/T-C won’t deliver the same mileage on smooth surfaces, but is designed to resist cutting and chipping on roads with large stones, such as the Tanami Road and the Gunbarrel Highway.

Another very important tyre factor is the tread belt design, because most punctures are through the tread, not through the sidewall. A nylon protective tread belt reduces the incidence of punctures.

When you swap the original tyres it’s important that you buy what you really need, not what looks fashionable. A set of mud tyres looks macho, but widely-spaced tread blocks are usually noisy on-road and soon develop 'heel and toe' wear that causes vibration.

Fuel economy also suffers.

Pressure Outpoints Pattern

Our extensive tyre testing has shown that patterns known as 'A/T' or all-terrain are the best choice for most ute owners. We've measured these tyres against aggressive block patterns and in almost all off-road conditions the pressure inside the different tyres has been a more significant factor than the tread patterns.

You don't have to pump up lightly-laden ute tyres to the maximum written on the sidewalls – your target contact-patch size for legal-speed bitumen running is about 250mm long.

Most off-roaders don't drop pressures when they drive off the bitumen onto dirt, but we always do, along with a drop in speed. Our testing has shown conclusively that reduced pressures – down around 15 percent from cold highway pressures – and a cruising speed around 80km/h reduces the chance of punctures on dirt roads to almost zero. On trails and on sand it's the same story: a pressure drop to make a contact patch about 300mm long increases tractive ability.

Things That Go Wrong

By far the most common source of bush trip trouble is tyres. Even the best-prepared machine can suffer tyre troubles, so it's vital you're confident about what to do when deflated.



The starting point is an examination of your tyres. Tyres need to be checked visually for nails in the tread and any signs of cutting, tearing and sidewall damage. Tyres that have been fitted with temporary repair plugs need to be professionally examined and repaired with internally-fitted patches. Repaired or retreaded tyres are best kept as spares.

Tyres that are more than half-worn aren't ideal for a long trip that takes in stony roads such as those in Cape York, the Kimberley, the Pilbara and Central Australia. Tread depth is one of the best defences against through-tread punctures, because deep grooves prevent stones 'drilling' into the tyre casing. Worn tyres aren't such a problem in sandy destinations such as the Simpson Desert, but you'll need to be cautious on the access roads.



If you're planning a long trip it's best to fit a tyre pressure monitoring system or take more than one spare tyre – preferably mounted on a wheel. A demounted extra spare tyre is fine if your vehicle is fitted with split-rim wheels.

Irregular wear on any of your tyres is a warning sign that all is not right with alignment, suspension or wheel bearings – or a combination of these. A tyre wear check is a good indicator of trouble in these areas.

If your tyres check out OK, move to the wheels and wheel nuts. It's a good idea to remove all your wheels, clean any dried mud from the reverse faces and replace them. This sounds like a simple enough job, but if the wheels have been put on with an over-torqued rattle gun it can be anything but simple.

Over-tight wheel nuts stem from the old tradition that they're not tight if they don't 'squeal'. No-one uses a tension wrench to set wheel nuts, but that's the ideal situation. Using average strength with the toolkit wheel brace is tight enough. You're going to check them for tightness after 50 kilometres aren't you?

Aluminium wheels need careful examination, because knocks and deep scratches can turn into cracks. Many bush travellers have town tyres mounted on aluminium wheels and bush tyres mounted on steel wheels, and do the swap before going Outback.

Another pre-trip exercise is to assume that your vehicle jack isn't working and use your auxiliary jacking system to raise the vehicle - high-lift jack, second hydraulic jack or bull bag. That way, you'll be familiar with your back-up jack and the procedure you need to follow. Better to find out now what you need to do than on the edge of a slippery track in the dark.

It's a good idea to swap one of the wheels you take off with your spare wheel, because that'll check the operation of your spare-retaining system. Under-body spares are notorious for falling off, so an auxiliary restraining strap or rope isn't a bad idea.

You'd be amazed how many owners of 4x4s that have rear-door-mounted spare wheels go bush without the keys that works the locking nuts.

Most people don't change tyres in the bush these days, but if you've got split-rim wheels you need to demount the tyre to patch the tube. Doing the job at home before you go will show you if your bead breaker works properly and what tool you need to unlock the ring - a large screwdriver works well.



You can spare yourself the agony of demounting and reseating a tubeless tyre, but at least go through a 'dry run' of fitting a tyre plug into a tyre. We don't suggest you try to force a plug into a perfectly good tyre, but you should brush up on the instruction manual that came with the plug set, or, better still, get hold of an old tyre and whack some practice plugs into it.



On a long bush trip you need an electric air pump. A cheap foot pump won't last forever, but it makes a handy backup for an electric pump. Deflating and inflating a tyre is the best way to check an air pump's condition.

Tyre-repair tools need a thorough check, as do the spare valves and the inner tube you're taking. Tyre levers, the tyre bead breaker and your plug kit need to be A1.

Tyre and tube patches have a long shelf life, but rubber glue doesn't. You're better off with a few small tubes of rubber glue – get 'em from a bicycle shop – rather than a big tube. Don't trust any opened tube, because rubber solution 'goes off' rapidly.

