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4WD **CUSTOM** GUIDE

No.34

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SECRETS!

**WE INTERVIEW AUSTRALIA'S
TOP 4WD MECHANICS**



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COMPILED BY BRENDAN SEYMOUR

TRADE SECRETS!

You asked for it, we delivered – the hard-learned secrets from Australia's top 4WD mechanics





ALLAN GRAY – TERRAIN TAMER



There aren't many people in the industry today with as much experience working on 4WDs as Terrain Tamer's Allan Gray. He's rebuilt and modified just about every type of 4WD to ever hit the tracks. We caught up with him to get his take on vehicle servicing and maintenance.

4WDCG: Allan, thanks for talking with us mate! You definitely know your stuff. There's no way Roothy would ever let anyone touch Milo who didn't know what they were doing! You've been with Terrain Tamer for a long time, so let's talk spares and accessories. Over the last 20 years, how has the servicing of 4WDs changed, and what does it mean for the average 4WDer?

Allan Gray: Well 20 years ago, there were only a handful of 4WD specialist shops around, plus the dealers. The whole 4WD mechanic business was seen as a poor man's out-in-the-back-shed idea, but gradually people realised the earning potential of the 4WD workshops. That was when people started to throw more money into the workshops and equipment. The advantage they had was most people didn't want to service their 4WD themselves so they got their mechanic to do it. A big reason the 4WD shops were so successful was that 4WDers would talk to each other at group meetings and club runs.

4WDCG: What is the best advice you can offer readers at home to help keep their mechanic on side? What things boil your blood when it comes to working on 4WDs?

AG: It would have to be related to all the squeaks and clunks that you get in 4WDs. It is very important no matter how seemingly insignificant it is get it looked at by a mechanic, because if you keep putting it off it will just keep getting worse. And if it is a small tiny problem, leave a box of chocolates on the front seat! What annoys me most is these people that spend thousands of dollars on their stereo but won't go spend the money to get, for example, their brakes fixed.

4WDCG: What about the cost of spares? Have things gotten cheaper since you first picked up a spanner or more expensive?

AG: The cost of parts on popular vehicles hasn't gone up much until about five years ago, then the introduction of specialised items like lights, fancy trims and airbags came about. The damage when an airbag

goes off is astronomical and the money it costs to get it drivable again is huge. I think some items on a 4WD are hard to justify when it comes to cosmetics, some things are useless, but if it breaks it costs you big money to fix it.

4WDCG: It seems like half the time we drop into a workshop, there are vehicles there having mistakes rectified. What sort of typical mistakes do you see 4WDers make when they're servicing their vehicles?

AG: When people make mistakes it's not their fault, the reason they make the mistake is because they don't have the access to special tools or the new books and information. These days it is vital that you have the right tools to perform the work on your car. Many people don't have that and that's why we are always fixing people's mistakes.

4WDCG: All the parts in the world won't fix a 4WD if you don't have good quality tools. What are your thoughts on the general quality of tools these days?

AG: When it comes to tools, well, they are more expensive than ever and they are more readily available than ever.

4WDCG: No doubt you'd have heard a few of the more common myths about servicing 4WDs. Got any that you can put to bed once and for all?

AG: I reckon the biggest myth out there is that people think that all engine oil filters are easy to get to. Believe me when I say they aren't all that easy to get to.

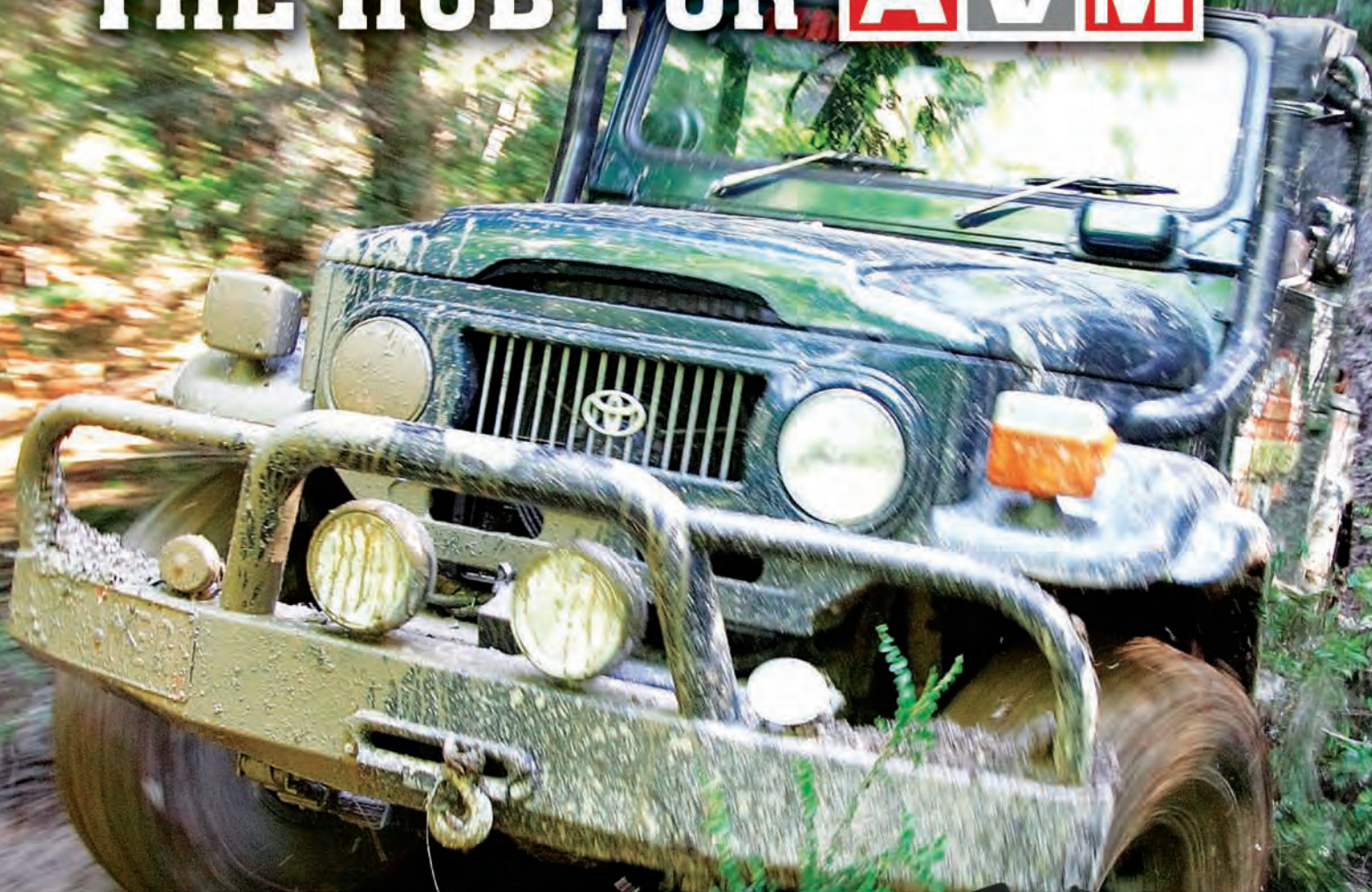
4WDCG: What do you think of the influx of cheap Chinese spare parts and accessories that are coming onto the scene?

AG: We all know it's not good for Australia, but a lot of them are good quality and in reality most people are going for the price of parts and not the outright quality.

TERRAIN TAMER 4WD PARTS

Web: terraintamer.com.au
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**For expert advice call our Parts Interpreters
on 1300 888 444 or visit terraintamer.com**





WORDS BY DEX FULTON PHOTOGRAPHY BY BRETT SHEARER

WHILE YOU'RE THERE...

Not sure what you need to finish that upgrade? We ask the professionals what some of the overlooked items are when making common modifications to your truck





We've all been there. You've got your daily driver all torn down ready to throw in that new upgrade, and you get that sinking feeling in your stomach as you realise you forgot to get that extra little item needed to finish the job. With a heavy heart, you jump on the kid's bike and start pedalling your way to the local auto parts store.

It's a common story: you grenaded a CV joint on the trail over the weekend and you manage to limp home in 2WD. You get a replacement, pull the wheel off and attack the swivel hub.

Hell, while you're here you may as well grease the wheel bearing and make sure it's nice and tight, eh? So you check it out, and while wiping some of the excess grease away from the bearing, it collapses into a dozen pieces in your hand. Bigger. Where did the kids leave that bloody bike?

After more than a few embarrassing and heart palpitatingly long trips on the bicycle ourselves, we thought we'd get together a bit of a list of extra parts you should invest in while doing common upgrades and modifications to your truck. Most of the time it's simple things like gaskets, seals and bearings

that get overlooked. Quite often there are brand-specific items that unless you've done the job before, you just wouldn't know about. So, before spending a cent on upgrading your new vehicle, it's a good idea to invest in a workshop manual to save on potential "d'oh!" moments.

We went down to our local Terrain Tamer store and had a chat with the boys about what to buy when performing popular upgrades and maintenance duties, and asked them what some of the commonly overlooked items are. After all, once you're elbow deep in grease and oil, you may as well do the job right while you're there. **Custom**

1 Bolting on a larger tyre and wheel combo is one of the most satisfying things you can do to your 4WD. Nothing gives a truck a tougher look than some dirty great slabs of aggressive rubber and the off-road benefits are even more gratifying. However, there are a number of issues associated with bolting on bigger rubber, largely dependant on what vehicle you're modifying. Rims with more negative offset or wheel spacers place more stress on wheel bearings and various steering components. The guys at Terrain Tamer recommend running a second set of tyres for playing off-road, because bigger-diameter rubber affects speedometer readings and can change handling in an emergency situation for the worse. Besides, if you have a one-truck-does-everything 4WD, then most of your time will be spent on the blacktop, so if viable, a road-oriented set of tyres makes a lot of sense

2 When swapping out your leaf springs for newer lifted replacements, the Terrain Tamer guys recommend checking out the condition of the shackle pins and plates as they are known for wearing over the years. Likewise, spring and shackle bushes should be monitored as part of your maintenance schedule and replaced when needed. Depending on the hardness of the bushes, they can either crack or tear, especially when the vehicle is driven off-road on a regular basis. The other thing to look at is spring plates and U-bolts. U-bolts should be replaced regardless when swapping springs, even if the old ones look okay. The new bolts should have any excess length trimmed and their tension rechecked after 500km of driving. The spring and clamping plates should be closely inspected and new ones put in if there are any cracks or obvious deformations



AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE





3

3 When replacing coils, the process is usually fairly simple, but it's always worthwhile to check the coil seats and towers for signs of fatigue or stress fractures. All control arms, suspension linkages, and bushes should be closely inspected for wear and obvious signs of stress. If you're lifting your vehicle over 3in, then it's mandatory to invest in some form of castor correction, like these offset bushes. There are a few different options here, so be sure to do your research and consult your local suspension experts



4

4 When installing shocks, it really pays to know your vehicle and how its suspension is set up. Some shocks really benefit from the fitment of rubber bushes over the polyurethane ones they come with. While you're under your truck, it often pays to inspect the shock mounting points for stress cracks, as well as the swivel hubs and brake line fittings. An ounce of prevention is worth a pound of cure after all



5

5 Installing a turbocharger on your diesel is a great way to get a sizable increase in power and economy; however, there are many things that can go wrong if done improperly. Your engine should be in good condition and not suffering from any problems such as excessive smokiness or hard starting. You will also need to have your fuel pump adjusted and tuned, and your injectors inspected and replaced if necessary with replacement like the ones pictured. A new exhaust manifold or a manifold adapter will also have to be fitted. Once the turbo is securely in place, fresh oil should be added and all filters replaced



6

6 Replacing a radiator or any cooling system component such as a thermostat will have to be done from time to time. It's a great opportunity to swap out all the old hoses and hose clamps for new ones at the same time. A good quality coolant that's right for your vehicle should be run in your cooling system to ensure optimum results



7

7 Upgrading brake components can be tricky work, but is always worth it. The braking system should be closely monitored, as they are arguably the most important safety feature your truck has. Bigger brakes and higher-spec callipers can make a huge difference in your 4WDing experience. When swapping things over, it's also a good idea to swap out your brake lines for new items and throw in a fresh set of pads too

8 Snorkel kits generally come with all the fitting instructions, templates, and fixtures you need. You'll only need a hole saw and step drill to fit it. If you're making your own snorkel, though, you'll need to be a bit more circumspect and measure carefully before taking to your guard with the drill.

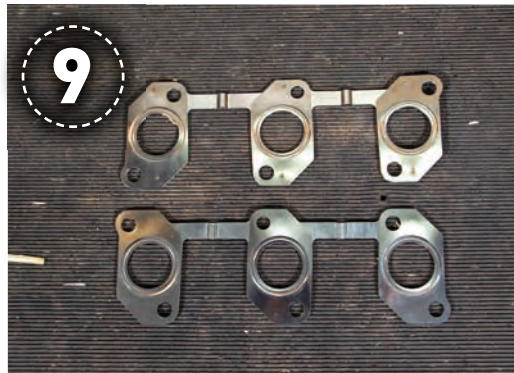
It's a good idea to wipe the inside of the airbox and guard with a lightly oiled rag to make sure you remove any swarf from drilling and replace the air filter while you're there. Always use new hose clamps on your joins, and don't forget to mask the area where you're drilling with tape to reduce scratches. Give the hole the once-over with a file and some touch-up paint to prevent rust. Fitting a new filter at the same time is common



9 Fitting a new, free-flowing exhaust is a great way to get a few more herbs from your engine and a marginal increase in economy. When installing your new system, spend the extra few bucks and replace the manifold gasket and any other gaskets wherever there is a join. It's also beneficial to use new hanger rubbers as they can perish over time. Heat wrap on your headers has been shown to reduce underbonnet temperatures, but must be carefully monitored and replaced when needed, as it can trap moisture and cause rust to form if left unattended for too long

10 Lockers are commonly considered to be the best mod you can do to an off-road vehicle, and very few additions to a truck offer the same increase in capability. When doing diff locks on a 4WD that has a few kilometres under its chassis, it's wise to replace all the seals and bearings from end to end at the same time. It's another case of 'money spent now saves a lot of pain later'. A diff is very easy to set up wrong, though, so if you're not that confident, it may be better to palm this one off to the experts

11 No matter what you're replacing, fixing, modifying, or bolting on to your car, unless you are a walking talking automotive encyclopaedia, you will need a workshop manual. They can be picked up cheaply and are worth their weight in titanium suspension links to the home mechanic, covering topics from oil filter changing to full engine rebuilds. If you plan on doing anything in, on, or under your 4WD, you really should get one



BEARING AND SEALS ARE WORTH THE LITTLE EXTRA



TERRAIN TAMER HISTORY

Terrain Tamer was founded by an Australian automotive company first formed in 1969 in response to the demand for a range of parts and accessories capable of handling the harsh conditions of the Australian outback.

Delivering quality products requires extensive research and development, and each part provided by the company was designed and tested with extensive product standards in mind. As such, people with established industry experience have grown Terrain Tamer to become one of the most trusted brands in the 4WD market.

Since its inception, Terrain Tamer has grown significantly, yet every part it produces is still subjected to the same research and testing that makes its products work and last so well.

With warehouses opened in each major Australian city and beyond, as far as Alice Springs

and even abroad in places such as Fiji and France, the Terrain Tamer name continues to grow. The parts interpreters who work for the company are generally into 4WDing and the lifestyle we all love so much, and have specialist knowledge when it comes to getting you the right part for your vehicle in a hurry.

With the range now including over 40,000 different parts, there is a good chance that the guys will have what you're looking for. Bearing kits, suspension, recovery gear, and one of the world's largest range of hard parts all point to the fact that they can probably source whatever it is you're looking for.

And with all parts being designed and tested using over 40 years experience, and being manufactured by some world-leading companies to exacting specifications, you know your 4WD is in good hands.



CHECK THIS OUT!

Allan Gray is Head Mechanic at Terrain Tamer and an icon of the 4WDing industry. With over 60 years experience, he even worked on the first LandCruiser to arrive in Australia! You've seen him in the Terrain Tamer workshop working with Roothy, now you have the opportunity for Allan to bring his advice

directly to you! Yep, Terrain Tamer is offering to send Allan straight to your place to work on your 4WD!

All you need to do to enter is head to www.terraitamer.com.au, follow the competition links, and tell them in 25 words or less what your ultimate 4WDing trip would be. How easy is that!



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