

The old adage 'there's not a lot of money *can't* buy' is none so true as in the world of four wheel driving.

If you have the dollars to splash around, you can virtually buy yourself the key to go anywhere in any weather. From the showroom floor, a Mercedes G-Wagen for just on \$40,000 or the latest Range Rover for nearly \$30,000 are the best money can buy, while in the aftermarket arena — the sky's virtually the limit.

However, if you're smart and use your money wisely you can follow the example of one of Victoria's newest 4WD centres, Luxon's in Heidelberg, and go for the highly-modified Toyota Landcruiser Wagon — which for around \$32,000 — can leave the G-Wagens and Range Rovers for dead.

The key to spending money wisely is knowing the existing limitations of a factory 4WD and then filling in the weak spots with the best from the aftermarket arena. In the case of the LWB Cruiser, weaknesses are not common and sales show there's not a lot wrong with the standard vehicle. However, suspension travel can do with some attention, power in the diesel version is worth looking at and to get into the ranks of the G-Wagen's traction abilities, aftermarket diff locks must be a consideration.

These three areas are exactly where Peter Luxon poured the dollars in. First he bought a current model Landcruiser diesel wagon and went to work on the suspension.

After many hours of testing, Peter decided on a Long Travel Suspension kit based on the highly-effective Ultimate kit from Ken O'Keefe's workshop in Sydney.

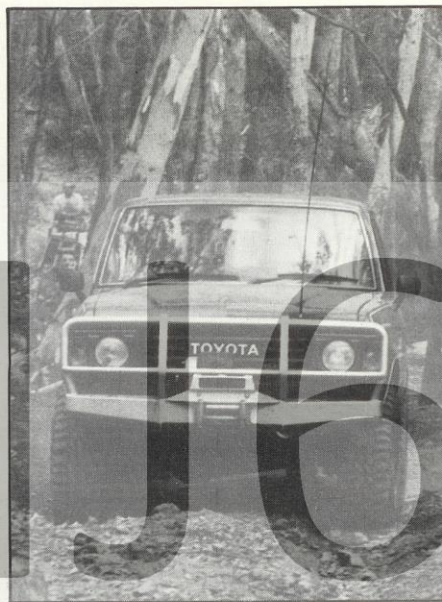
The modified Long Travel kit utilises seven leaves in the rear and six in the front and on Peter's diesel HJ60, Baja Rider shockers are used, although DeCarbons are optional.

With this system a bump stop clearance of nine inches is obtained when you measure the shockers fully compressed as against at full travel. In simple terms this means an overall bump stop clearance in an unladen vehicle of six inches at the rear and 3.75 inches at the front. The installation is a fairly simple one and bump stop clearance can be altered to suit particular needs. So in this way, you get what you ask for. As far as price goes, the kit is not the cheapest in the marketplace, but as we'll discuss later — it sure as hell does the required job. On Peter's diesel Cruiser, the suspension work cost \$1190. For further improvements to ride, Luxon has available dual shock mounts, which for extra money, make tough off-roading more possible and less expensive in the long run with less chance of suspension failure.

To set this suspension conversion off, Luxon decided on a completely new wheel and tyre set-up throughout the Cruiser. He chose 8x15 Armalite wheels, setting him back a cool \$105 each and the big mothers of

the off-road tyre scene — 12R15 Goodrich Mud Terrain tyres. As you can see in the pictures, this set up with the new wheels and tyres and raised suspension leads to a pretty mean-looking rig — and we can assure you it all performs beautifully off-road. However, this sort of tyre arrangement sets you back another \$199 per tyre — so all up, with suspension, wheels and tyres — you're up for \$2500 before you leave the workshop. However, you're halfway towards the 'ultimate' Cruiser.

Next Peter picked on the diesel power — or rather lack of power.



Simon Hammond examines what can be done to a diesel HJ60 for around \$32,000 all-up.

In simple terms, he saw the problems in the diesel to do with its low down torque capabilities, highway abilities and also in areas involving heavy towing. The standard Toyota six-cylinder diesel engine in its standard form develops maximum power of 72 kW at 3500 rpm and at 4000 rpm drops to a poor 45 kW of power. This is a major problem in power output of the diesel engine, while its torque capabilities in standard form are developed to the maximum at a high 2500 rpm — then developing only 219 Nm of torque. As you'll see later, the turbocharged conversion drastically improves this situation and aims to change the low down pulling abilities of the vehicle in torque, while increasing its power abilities on long highway runs.

The turbocharger system Peter chose for the Cruiser was developed by AIT in conjunction with Luxon. AIT's David Inall used Luxon's 4WD knowledge to develop just the right system for practical off-road use, while maintaining good performance on the highway.

The turbo system uses a split pulse cast iron exhaust manifold and a Donaldson air cleaner with a 2.5 inch turbo exhaust system. The actual turbo used is a split pulse Garrett model.

Luxon now sells these turbo conversions for Cruisers, Nissan Patrol diesels and Toyota Hilux diesels.

On the Cruiser the turbocharged conversion set him back a hefty \$2390, taking the price of the Cruiser facelift so far, to \$4890.

Next, Peter went to work on improving the traction of the vehicle so that all the extra torque and power, coupled to the excellent wheels and tyres and suspension system, could be put to use through all four wheels. For this job, Luxon sought the services of Victorian diff specialist, Tony Roberts of Altair Aviation. He sought two diff locks — one up front and one on the rear — so maximum traction could be gained in all situations.

For those who have forgotten the art of diff locks — they simply stop loss of traction by locking the diffs. With the diffs locked, the power output transfers to the opposite wheels to those losing traction. Thus if you pick up a wheel and it starts spinning, by engaging the relevant diff lock, power transfers from the spinning and useless wheel on to the wheel still on terra firma.

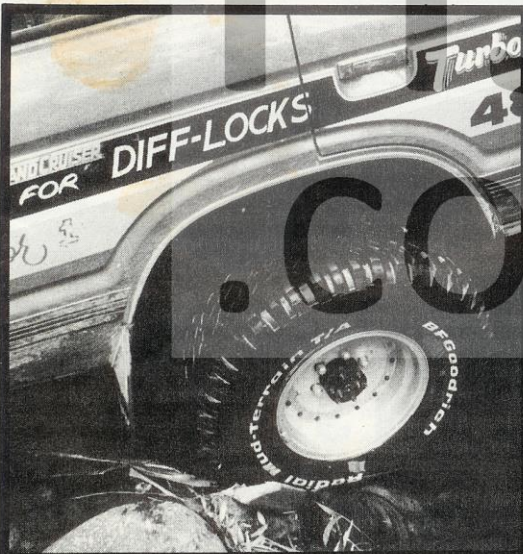
The beauty with the Roberts diff locks is that they can be engaged and disengaged with a simple flick of a switch. There is a slight delay, especially on the front wheels, while the locks disengage, but generally they work beautifully. The benefit with this system is that you get easy-to-handle, light steering for the majority of the time, while still having diff locks on hand when things get really tough. The cost of the diff locks are \$785 each.

Last of all Luxon turned to the final touches on this very special 'go-anywhere' Cruiser. He added a Fairey Overdrive, which we have reviewed before in this magazine and which we believe to be one of the most practical and effective improvements for a Cruiser on the aftermarket. Especially with the diesel engine, the Fairey system provides double the amount of gear ratios available to the driver and makes highway cruising a breeze. On top of this, an ARB bull bar is added and an 8000 lb Warn winch on the bar. Finally, dual batteries are added under the bonnet just to make life at the campsite a little better — so you can have the power all night and still have a live battery in the morning.

These last few alterations set Peter back an extra \$2730 but now the vehicle is complete.



Cruiser with the lot...to go



Cruiser with the lot...to go

More power and torque, better traction through suspension, tyres, wheels and diff locks. A better ratioed transfer case and improved highway cruising ability through the overdrive and all the added safety features needed for tough off-road work — all for around \$32,000.

When Peter finished the rig he rang us to ask if we would like to see it and check out what could be done for the price of a more exotic rig. We simply loved the idea and set about an adequate test for the Cruiser.

Naturally, we headed for Wonangatta via Heyfield and Licola and took a diversion into the Caledonia River area. It was during the long steep run into the valley down the Dingo Hill track that the modified Cruiser first showed its real colors. On some tight hairpins, the Cruiser needed to do a three-point turn to get around, often with little room to spare and at times with one wheel losing traction. No problems for this little beast as the rear diff lock was engaged and we proceeded on. Engine retardation was not affected by the turbo and the diesel engine still worked beautifully in keeping the rig steady. The overdrive system enhanced its descent abilities in that either first overdrive or second gear could be used for most of the descent while first gear could be sought when things got really steep.

We only witnessed fairly minor hills at this stage but even on these, the turbocharged diesel engine showed its true torque characteristics as the more load put on the engine, the more power was produced from the split pulse turbo. This particular design of turbo is naturally suited to off-roading as it works on the principle of load. The more load put

on the engine and the more the turbo steps in to help out.

Deep, dry ruts were fairly common at this stage and the modified Cruiser had no trouble with excellent approach and departure angles and hardly any chance of bottoming out with the suspension fitted. Traversing a tricky river crossing with a two feet wall of stone on the other side really put the Cruiser's extra running gear to the test. While the other vehicles in the convoy opted for an alternative route (by the way, we had a SWB Cruiser, a standard LWB HJ60 and a LWB Patrol) Peter tested his vehicles limits. The rock ledge required maximum wheel and suspension travel to avoid bottoming out on the ledge and virtually see-sawing on the vehicle's chassis. However, from any angle, the rock face wasn't enough to stop the Cruiser. The full travel of the suspension was used beautifully and both diff locks kept

maximum traction to the wheels that most needed attention. On the worst part of the rock face the Cruiser looked contorted and twisted — but totally functional. Finally the power was adequate to keep the rig moving constantly over the ledge and out of danger. This had been a perfect test of the aftermarket modifications. The suspension, wheels and tyres had passed with flying colors — providing more wheel travel than we had ever seen before. The diff locks worked well and never once did the rig need help. Ground clearance over the ledge was good and the turbocharged diesel power made no doubt about the power situation.

The following day we drove out of the Caledonia River area and headed for Wonangatta Station via the Zeta Creek Track. Once again, the area was dry and easily passable, but very badly rutted. There was also a couple of challenging steep climbs, which would've been a lot of fun in the wet. In this section we took the opportunity to compare vehicles' rides over the bad ruts and

Below: Note the long wheel travel courtesy of the revised suspension.



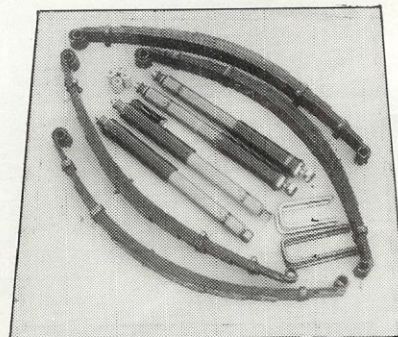
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found the modified Cruiser so far ahead of the rest in comfort. It was honestly very similar to the ride in the Range Rover over bad ruts. There was no bottoming out of the suspension and the 26 leaves took the harshness out of the track. One problem was a little disconcerting however, especially when you began putting the vehicle through corners fairly vigorously. Like the Range Rover, the modified Cruiser suffered from a lot of body roll — simply because we were sitting higher courtesy of the suspension and tyres. The sensation of rolling in the body as the vehicle steadily plotted its way around a corner was a little off-putting at first, but in time we got used to the feeling. Personally I would rather the body roll without bottoming on the bump stops on severe corners, as bottoming out can lead to loss of control.

On the steep inclines at this stage, the extra torque and power once again shone through. We were in fact developing around 275 Nm at only 1000 rpm, which explained the ease at which we climbed the hills slowly and steadily. The vehicle simply hung on and continued building power, even as the incline worsened.

In the standard diesel Cruiser, maximum torque is developed at 2500 rpm and that is only a meagre 219 Nm. We were getting 275 at 1000 revs and developing a maximum torque of an amazing 335 Nm at 2500 rpm. This sort of performance is worth every penny of the conversion when you're climbing a breath-taking rocky hill in second gear low and the vehicle is still gaining power. The other beauty on this sort of hill came from the overdrive system.

We were able to swap between overdrive first, normal second and overdrive second up these sort of inclines as the ratios were perfectly suited for just enough addition or reduction in revs.

Once into Wonangatta, we were faced with some mud and water for the vehicle to frolic in and it was here that we really tested its abilities in the worst of traction situations.

Generally, the modified Cruiser would go through any reasonable bog hole and any amount of water within reason. The diff locks in the bogs were invaluable and of course the wheel travel was good.

Water and mud didn't affect the turbo unit or cause it any problems at all — as of course predicted by AIT and Luxon. In some bad bog holes and severe muddy ruts, the body roll once again proved quite alarming — but was deceiving in that all four wheels were always firmly entrenched on the ground.

Out of Wonangatta we took the Zeta Spur Track — a wild little mother and totally impassable in the wetter months. Its real beauty is its steepness, its cutaways and its general quality. The turbo diesel Cruiser simply loved it, never needing anything below second gear with the only problems being its length on some of the tighter hairpins.



Above: In deep bog holes the rear diff lock saves the day with ease.

Right: The long travel suspension put to the ultimate test over these tricky rocks.



Back on the highway is where we concluded our opinion on the modified beast by putting the overdrive through some more testing, checking the turbocharger's capabilities out and finally having a closer look at that body roll.

As with our previous test on the Fairey system, we found no faults with it apart from that well-known rattle from the overdrive lever. Like the Range Rover transmission, the Fairey system tends to be a little noisy — but that's not too much to put up with when you get such a drastic difference in fuel economy and performance.

The diesel powerplant loves the Fairey as it provides the diesel with twice the amount of ratio options for different types of driving. Approaching long sweeping hills and all that's needed halfway up is a quick flick out of overdrive to get those all important extra horses up the hill.

The turbocharger tends to quieten things down on the highway and makes cruising on 120-130 km/h a breeze — even for a diesel Cruiser.

Finally, the body roll is once again alarming on the highway — with a definite Range Rover feel to the vehicle. Stabiliser bars are being designed to help this situation

out, but as far as we were concerned, it's just a matter of getting used to the roll inside the cabin — as outside everything is hunky dory.

In the final conclusion on this very special Land Cruiser, it would be a great temptation to compare it to the Range Rover and G-Wagen, saying for the price it is better value for money. Maybe it is — and certainly you get that all-important individual choice when spending your money this way. In other words you don't have to put up with what comes out of the factory for your \$30,000 worth. You can pick and choose and get the best around and the equipment most suited to your needs. This in fact is the crux of the matter. We have proved that a modified Cruiser to the price of a Range Rover and well under that of a G-Wagen, is just as good a vehicle as anything around. But its real beauty is that it is your own creation and it can be totally individual.

The choice is yours: A Range Rover for \$28,000, a Cruiser equivalent for around \$32,000 or the G-Wagen for \$40,000. Maybe it comes down to whether you want good pose material or a totally functional vehicle that you know has the right gear on it for your particular needs.

Good luck and good shopping.