



OPERATION INVINCIBLE

Devon 4x4 needed a new daily driver to earn its corporate keep, but one that doubled up as a tough, top notch, expedition truck. The vehicle of choice? No, not a Land Rover as you might suspect, but a top spec Toyota Hilux pick-up, because that is where the heart of the West Country 4x4 specialist truly lies. We follow the, sometimes tricky, build... Words: Hils Everitt Photography: Devon 4x4

When the name of Devon 4x4 comes up in any conversation the focus tends to be on the company's specialist Land Rover builds and expedition conversions. In 4x4 Magazine we have also featured the team's superb conversions of Jeep Wranglers into competition vehicles in which owner Simon Buck has successfully competed in the UK and various other parts of the world. But it

is a little known fact that, when Simon and his wife Liz started Devon 4x4, their focus was almost entirely on Japanese vehicles. While they stocked and sold Land Rovers, Defenders were still relatively new back then and, as such, quite expensive to buy, modify and run in general.

"Although we sold most makes of Japanese 4x4, the Toyota Hilux was our mainstay and we regularly had a dozen or more for sale. Even in our early days

we used to modify them. One of our favoured modifications was to shorten the tub and fit steel transit wheelarches to allow us to fit much larger wheel/tyre combinations," explains Simon. Body modifications, along with suspension upgrades, transformed the trucks into very capable off-rovers. "For a good number of years the Hilux was not only my daily drive, but my favoured off-roader as well," he continues. Now that is a statement that will certainly surprise a few people.

Despite the fact that Devon 4x4 is perceived to be very Land Rover focused – "I suspect that this is a picture that we have inadvertently painted" – the team has continued to modify/build Japanese vehicles for its clients over the years. During 2013 it became apparent that another works/promotional vehicle was needed, and this provided the opportunity to create a showcase build at the same time. "With Defender builds well and truly covered, not to mention the model nearing the end of its life span, it presented an opportunity to look at an alternative vehicle, and what better than the Toyota



Top: The 'before modification' vehicle, a factory standard Invincible spec Toyota Hilux

Left: One of Devon 4x4's early Hilux builds, a lifted single cab from 1992



Hilux?" smiles Simon; a white Toyota Hilux Invincible to be precise. With the decision made to go with a Toyota, the team then had to decide which modifications were required. Although the vehicle needed to work for its keep, it was to double up as an expedition vehicle. Any modification had to be compatible with a daily driver. "Each member of the team was asked to build their perfect vehicle; we then took what we believe to be the best suggestions to create our perfect Hilux." As one of the leading off-road equipment brands, ARB's products were to form the backbone of the build. ARB is an Australian-based company supplying 4x4 products designed for coping with the Outback – therefore tough, reliable and tailormade. Once the team had decided the amount of load the truck would be carrying, the suspension specification was the first modification to be addressed. Simon continues: "It's always a bit of a balancing act specifying suspension. You don't want it to be too firm, but it has to be able to support a fully-loaded vehicle. The net

result is that the vehicle will stand slightly tall on the rear when empty. I should, at this point, mention that, even when empty, the truck rides very well and isn't at all bouncy or choppy." At the rear the set-up needed to be heavy-duty and cope with the team's need for a constant 400kgs. The whole system is based around Old Man Emu parts supplied by ARB. The list includes Prado Springs 4/03 ON-F, a Hilux 05ON Sport Strut, Packer Prado springs, two Hilux 2005 ON-HD springs, two Hilux 05 ON Sports shocks, two 2005 Hilux spring bush kits, four OME U bolts, washers and nuts, a Hilux 2005 grease-able shackle and Hilux 05 BPV relocation kit. The Nitrocharger Sports shocks are billed by ARB as, 'the most advanced and innovative 4x4 shocks on the market' and aim to provide the best control, durability and most comfortable ride on all terrain and are fully compatible with OME's range of springs, bushes and suspension hardware. The leaf springs require periodic lubrication to make sure they maintain a long life span. The OME greaseable shackles and pins take care



Top left: Heavy-duty rear ARB leaf-sprung suspension with Nitrocharge Sports shocks; can sustain up to 400kgs and offers quiet highway cruising

Above: Front suspension upgraded with ARB springs and Nitrocharger Sports shocks

Above left: New 8000lbs-rated Warn Zeon winch

Left: ARB Sahara front bar, based on the traditional Aussie bullbars, with Warn Zeon winch

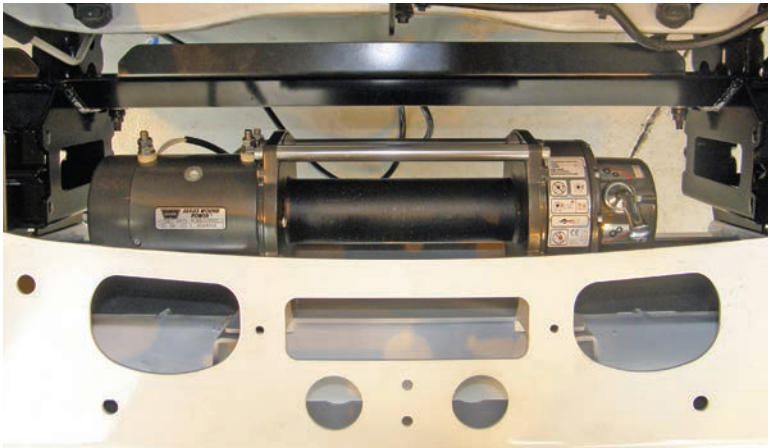
of this without the team having to remove the shackles, thereby saving time and effort. Each pin has two grease outlet holes to make sure there is the maximum grease coverage between the shackle pin and the spring bush. Satisfyingly, the fitting was very straightforward and all went to plan. Once the suspension had been dealt with it was time to address the up-front modifications. They chose the ARB Sahara front bar which they colour-coded white to match the truck. This unit shares many of the strength-related characteristics of a traditional ARB bull bar design. It includes various features, which make it one of the most technically advanced front protection bars available. The tapered wing design provides optimum strength and approach angle; the split pan design also increases strength and airflow to the engine; it includes secure mounting points for driving lights and CB antennas and an optional recess for fog lights. The Sahara bar would not only house a winch and offer additional protection, but also, crucially, allowed the team to fit slightly larger tyres which ➤

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Toyota Hilux build Part 1



offer a larger foot print and work more efficiently in soft conditions. The choice of bumper, however, threw up the first set of problems in this build. “Firstly, we wanted to fit the new Warn Zeon winch, a beautiful winch that takes winch quality to another level. It has a pull rating of 8000lbs, however, the winch is considerably larger than the former Warn winches and wouldn’t fit into the Sahara bar. So we originally fitted the Warn XP (9500lbs). Although this is a great winch it isn’t what I’d wanted, but as luck would have it the boys and girls at ARB had been beavering away and designed a new mount that would accept the Warn Zeon, so although it had all proved very time consuming, we removed the bumper and swapped winches so now

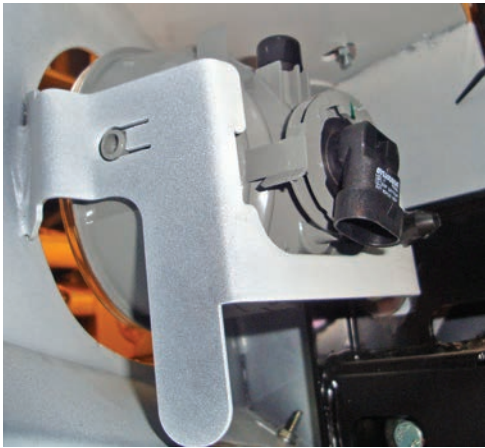
we have the Zeon fitted.” There were a couple of other issues with the front bumper. It was necessary to modify the skidplates that fit from the bumper to the body, as the chassis mounts vary between models. “We also had to modify the skidplate that protects the washer bottle. This is only applicable if you have headlamp wash. Also it seems that, here in Europe, we have a facelift model Hilux, which the Australians don’t, so when we came to the fog lights, they wouldn’t fit either,” says Simon. The solution didn’t prove too big a problem – apart from the extra £280 required – as they bought a set of the earlier spec lights from the local Toyota dealer. “ARB has since designed an upgrade kit which allows the fitting of our original lights. To top-off the lights



Top: Sahara front bar in situ; modification was required to fit the Warn Zeon winch

Left: Originally only the Warn XP would fit into the Sahara front bar until ARB designed a new mount to house the Zeon

Right : Fitting the very expensive fog lights. There wasn’t a conversion available, but good news is ARB now has a kit



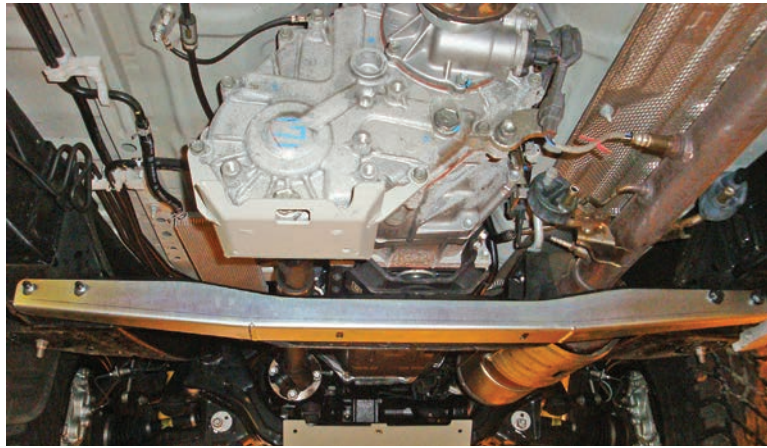
we fitted a T16 Lazer lamp along the top of the bumper; the light that this produces is almost beyond belief and the unit itself is very unobtrusive,” explains a highly impressed Simon. Moving to the rear, the Toyota was fitted with an ARB rear step and tow bar, designed specifically for the Hilux and other pick-ups – or ‘Utes’ as the Aussies prefer – which will help to protect the rear of the truck from damage and offer a heavy-duty towing system. That includes towing eyes and a tread plate step plus a removable hitch for the best departure angle when

off-road. It is made from steel with a vehicle-specific mounting system and finished in a durable powder coat with a colour code option – in this case white, of course. As for the side steps, they are factory-fit: “We’ve retained them for now and only time will tell if this was a wise decision.” As an expedition truck, the Hilux needs other suitable modifications for tough terrain. ARB recently introduced its own range of underbody protection from pressed and folded 3mm laser-cut steel, with optimum strength-to-weight ratio, bolted to the Invincible’s chassis.

All steel components are zinc-plated and powder-coated in a silver textured finish. The kit supplied includes sump, transmission and transfer box guards. But, again, this was designed to fit the previous model Hilux. “We were actually fitting the very first set ever to arrive in the UK, so it only became apparent at the time of fitment that the mounting points vary slightly. We were able to modify the guards in-house for use on our truck.” Another solution found but, to address the problem in future, ARB is now manufacturing an upgrade to suit European trucks. Holding up the multi-tasking truck is now a set of 265/75 R16 Cooper Discoverer S/T Maxx tyres that the team has fitted to black Bindo wheels. The new tyres replaced a set of Bridgestone Dueller H/T 265/65 R17s. “The S/T Maxx is a great tyre that offers relatively quiet motorway running while giving good grip off-road, so it’s a perfect combination for this project.” Tyre choice is one aspect in creating a capable and impressive expedition off-roading machine. The team wanted its Hilux to achieve its full potential and the ultimate in traction, therefore: “we fitted ARB air diff lockers front and rear. The rear, what I call a traditional Banjo diff, is relatively easy to fit if you know what you are doing. But the front, which ➤



Top: Standard rear bar replaced by ARB step and tow bar with towing eyes and removable tow bar



Left: ARB front recovery point. A solid bit of kit, however it’s not that easy to access if stuck

Below left: One of the mounting points for the underbody guards which bolts to the transmission crossmember

Above right: Comprehensive underbody protection in place

Right: Bridgestone Duellers replaced by 16in Cooper Discoverer S/T Maxx on smart black Bindo wheels



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◀ is a clam shell design, is much more complicated. Unless you have a high degree of skill this is one job best left to the experts." Included in the kit were a heavy-duty air-line hose kit, manifold kit, air tank, pump-up kit and inflator. Running those lockers is a 12-volt ARB twin compressor which is coupled to an air tank, thereby speeding up tyre inflation when necessary.

Apart from a lot of tricky problems dealing with the spec differences between the new Hilux and the Aussie parts designed around earlier models, the Hilux daily driver/top notch expedition truck is progressing nicely. Next month we turn our attention to the exterior – the loadbed and canopy mods – plus the interior, switchgear, accommodation and storage systems. **4x4**

Top: Air-locking diffs fitted both front and rear to achieve ultimate off-road performance

Top inset: About to drill the pilot hole for the ARB diff locker air supply

Right middle: Heavy-duty airline for the ARB diff lock feed, the axle breather pipe and ABS sensor wires

Right bottom: Stripping the front diff. The item being removed is the actuator for front four-wheel drive system

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