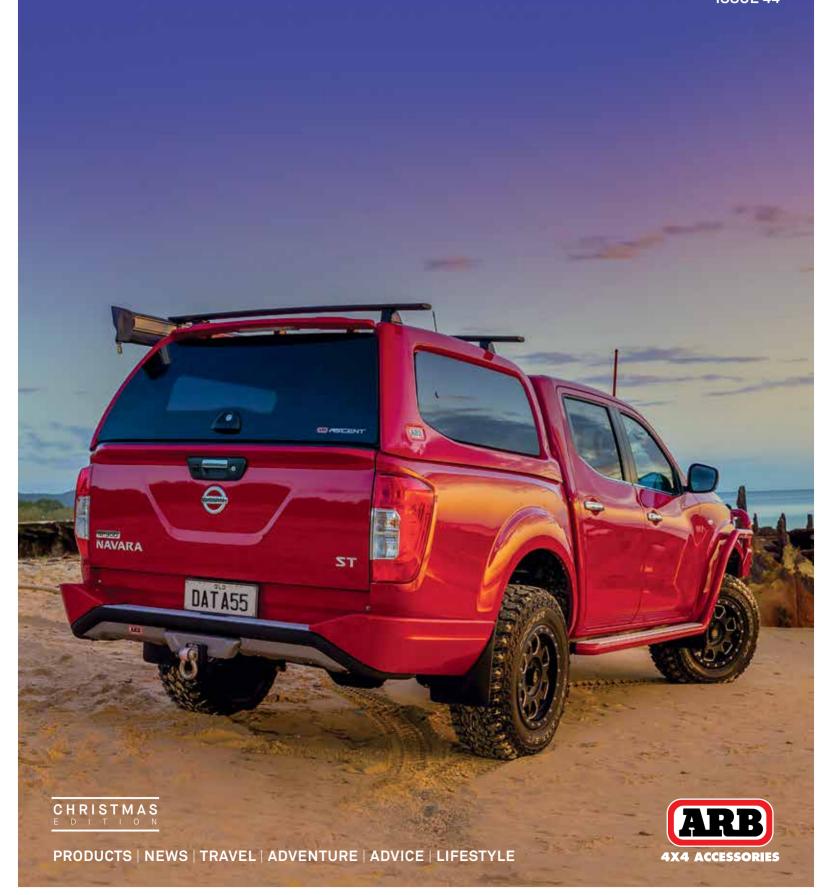
# 4X4ACTON



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Welcome to the final issue of ARB 4x4 Action for 2015. Far from winding down towards the end of the year, ARB is presently going through one of the busiest periods in the company's history. It would be fair to say that the car industry is currently experiencing an unprecedented level of new vehicle activity following the release of several models over the past few months. Popular 4x4s such as the Ford Ranger, Toyota HiLux, Nissan Navara, Mitsubishi Triton and Mazda BT-50 have all received major updates, necessitating the development of all new accessory lines. On top of that, ARB has also launched some major new lines over the past few months such as the Summit rear bar, BP-51 shocks and Sportguard ute tub protectors. In this issue of our mag, we're also pleased to introduce the new range of ARB Frontier long range fuel tanks.

Adequate fuel planning is a key aspect of any remote area trip preparation, and it's something that still catches many people out. Ordinarily, planning a trip from A to B is a simple matter of estimating the distance and knowing how far your vehicle can travel on a tank of fuel. Outback travel is a whole different ball game though, with several other factors to consider. For instance, a vehicle's fuel consumption can be significantly influenced by heavy loads and variable driving conditions. I witnessed this on a recent desert trip where some vehicles experienced fuel consumption rates of nearly double their typical highway usage. Another major factor is changing conditions, such as inclement weather that may result in Outback roads being closed, leading to lengthy detours.

Finally, it's commonly known that fuel stations can be few and far between in the Outback, but what catches many travellers out is arriving at a roadhouse only to find out that the site has run out of fuel.

To allow for this, seasoned Outback motorists generally outfit their 4x4s with jerry cans or auxiliary fuel tanks, both of which are typically manufactured out of steel. However, the release of the new Frontier tank now provides travellers with a lighter and more cost effective alternative in the form of a larger capacity polymer tank. Vehicle manufacturers have been using polymers for the construction of fuel tanks for years, so whilst the technology isn't new, ARB has adopted it's usual approach of over-engineering every aspect of the tank for harsh, Outback conditions. For example, features include a massive wall thickness of up to 9mm, robust fittings, and like many other ARB products, the tanks are built right here in Australia.

ARB's expertise in outfitting 4x4 vehicles spans over four decades and our story was recently captured by one of Australia's most experienced travel writers and photographers, Ric Williams.

Sadly, we have just learnt of Ric's passing, so the piece he wrote for the last edition of our magazine, was most likely his final word on a pastime and industry he loved so much.

I was only recently introduced to Ric by long term ARB employee and TV celebrity, Roger Vickery. Having worked around 4x4s for twenty odd years, I consider myself quite well versed on the industry, but Ric's knowledge was on a whole other level. He provided me with a fascinating insight into his involvement in the fledgling 4WD scene, which led him to start Australia's first 4x4 publication in the early seventies.

Ric Williams will be remembered as a visionary and passionate adventurer, and ARB is incredibly humbled and privileged that his final yarn appeared in our magazine.

RIC WILLIAMS WILL BE
REMEMBERED AS A
VISIONARY AND PASSIONATE
ADVENTURER



# GEAR UP

THE LATEST ARB PRODUCTS ARE HERE TO HELP YOU GET THE MOST OUT OF YOUR 4X4 TRAVELS.

### OME BP-51 VEST

## AR21 INTENSITY LED DRIVING LIGHT COVERS



### ARB 10-4 CAP



Made from a poly/elastane shell fabric, the OME BP-51 vest is a smart and comfortable fit, perfect for camping, 4WDing or just having a beer with your mates on those cooler nights. Available in stylish black, the vest features genuine YKK zippers and is bonded with an inner micro fleece. Finished with a bold embroidered Old Man Emu logo on the front and back, it also includes an OME logo zip pull to finish it off.

Part Number 217624 RRP \$100.00 Following the popularity of the AR21 Intensity LED driving light range, the team has just released a range of driving light covers. Manufactured from moulded polycarbonate and hard coated for scratch and UV resistance, the Intensity covers are available now in clear, amber, blue, red and solid black. These covers suit a range of driving conditions and customer's personal tastes, and deliver additional protection to the lens and bezel of the Intensity LED light.

Clear – Part Number AR10TC Solid Black – Part Number AR10SB Amber – Part Number AR10TA Blue – Part Number AR10TB Red – Part Number AR10TR

RRP \$69.00

The new ARB 10-4 cap is perfect for your next outdoor adventure. The back of the cap is made from mini-mesh polyester, with a felt front and peak. The cap is adjustable with a black snap clasp to ensure a comfortable fit and is finished with a black moulded ARB logo on the front.

Part Number 217630 Price: \$20.00

## JEEP CONTROL

## WITH DEVELOPMENT OF BP-51 HIGH PERFORMANCE BYPASS SHOCK ABSORBERS CONTINUING TO RAMP UP, WE'RE EXCITED TO RELEASE THE LATEST APPLICATION

- THE JEEP WRANGLER JK.



Specifically designed for Wranglers running larger lifts of 3.5 to 4.5 inches, 4 shocks and 2 fit kits have been developed to cater for both the LWB and SWB variants, for all models manufactured from 2006 onwards\*.

Front shock absorber options include a direct replacement for the Old Man Emu JK 4 inch kit, along with a longer travel application with 50mm of additional open length\*\*. The front fit kit includes all mounting hardware required to fit the shock absorber and reservoir. Additionally, a lower shock absorber

mount has been designed to reposition the shock and provide clearance between the shock body and the chassis rail.

The rear shock has been designed to fit within the factory mounts and includes a stone guard to protect the shaft from stones thrown by the front tyres. The rear fit kit consists of a reservoir piggy back clamp and mounting hardware.

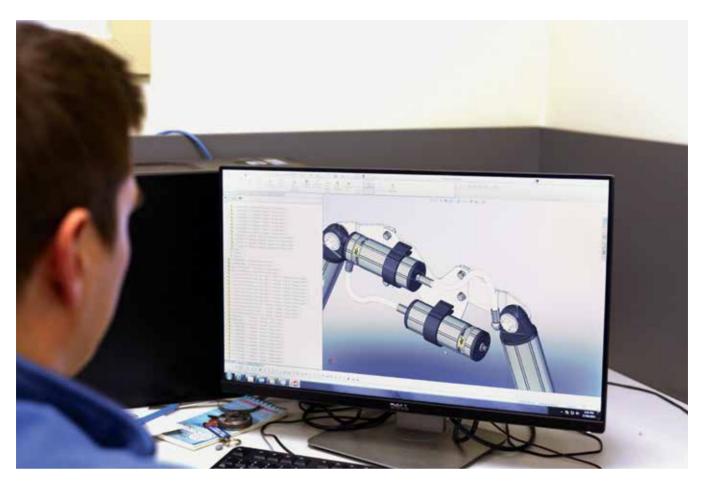
<sup>\*</sup> This application does not suit JKs fitted with more standard 2 inch suspension kits.

<sup>\*\*</sup> The longer travel shock absorber does not suit OME's JK 4 inch kit and additional modifications may be required during fitment.

# NEW MODEL FRENZY

THE AUSSIE 4WD MARKET
IS AWASH WITH NEW
MODELS AND THE ARB
PRODUCT DEVELOPMENT
TEAM HAVE BEEN
WORKING AROUND THE
CLOCK TO ENSURE A FULL
RANGE OF QUALITY GEAR
IS AVAILABLE TO SUIT
THESE NEW VEHICLES AS
SOON AS POSSIBLE.

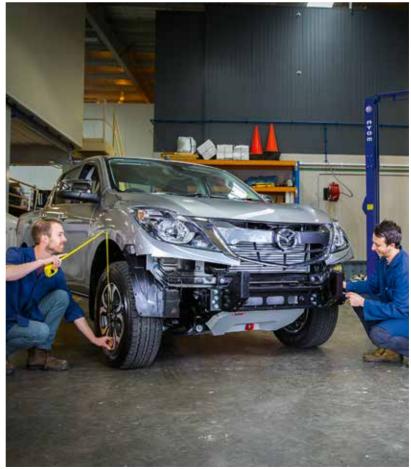




The second half of 2015 has proven to be a busy time in the four wheel drive market with a large number of new vehicle launches taking place. In October alone there were five completely new or significantly revised models landing on showroom floors.

While a couple of these vehicles are updates of existing models (Mazda BT-50 and Toyota LandCruiser 200 Series), one is an all-new version of an existing model (Toyota HiLux) and two are completely new to the Australian marketplace (Ford Everest and Toyota Fortuner).

If you're in the market for a new four wheel drive, and any of these vehicles are on your shopping list, rest assured that the engineers at ARB have been flat out designing and developing a range of top quality, new products to suit these four wheel drives, and are well on target to have offerings in store over the coming weeks and months.





## MAZDA BT-50

A restyled Mazda BT-50 hit the market in September and despite refreshed styling, the changes have only been minor and have not affected the current product offerings from ARB. That means the current Deluxe bull bar and Sahara bar will fit the revised BT-50, as will side rails, steps, rear step tow Bar, UVP (under vehicle protection) and recovery points.

The ARB engineers haven't been sitting idle, however; a new Summit rear step tow bar has been developed for the BT-50 and is available for all 2011-on models.

Other ARB gear for the BT-50 include the OME Nitrocharger Sport and BP-51 suspension systems, Classic and Ascent canopies, roof racks, Safari snorkels, Air Lockers, Frontier tanks, dual-battery kits and more.

## TOYOTA 200 SERIES LANDCRUISER

Finalising the product range for the restyled Toyota LandCruiser 200 Series has had to wait until ARB engineers could get their hands on an Australian-spec vehicle, but there are plenty of carry-over items that fit the new LandCruiser, as well as some new products on the way.

"In terms of the 200... the bull bar will be new, so we'll take the opportunity to develop a Summit bar for it," says Stephen Sampson, ARB Product Manager responsible for fabricated products. "We'll also develop the Sahara bar, Alloy bar, and change over the side rails to a Summit design."

At the time of writing, access to a pre-release 200 Series LandCruiser was not possible, so other products will roll out over the coming weeks. As Stephen Sampson explained prior to the vehicle's launch, "In regards to things like battery trays, we'll just have to wait and see what the car has in terms of space."

Keep an eye on the ARB website and Facebook page for new product details regarding the 200 Series LandCruiser.

## TOYOTA HILUX

Being an all-new model, a complete range of ARB accessories have been designed from scratch to suit the just released, eighth generation Toyota HiLux. As with most 4WD utes sold in Australia, the new HiLux is manufactured in Thailand, which gave ARB early vehicle access to begin development of new products well before the vehicle's Australian launch (ARB has a manufacturing facility in Thailand).

In order to develop the new range of protection equipment for the HiLux, ARB's engineers headed over to Thailand and performed 3D dimensional scanning of the vehicle. All the data was then sent back to the company's HQ in Melbourne. "We sent the engineers over to Thailand," says Stephen Sampson. "We did all the scanning first, and then we did all the CAD work here in Melbourne."

Once a bar had been designed and built here in Australia, the engineers returned to Thailand with it and mounted it to the HiLux, to ensure it was a perfect fit. As soon as the Aussiespec HiLux was released in Australia we confirmed fitment to make sure there weren't any differences between the two vehicles.

By the time you read this, there will be an impressive range of protection equipment available for the new HiLux, including Summit bar, side rails, steps and Summit rear step tow bar, for both the narrow body and wide body models. "There are going to be different front rails depending on whether it's wide or narrow,"

says Stephen Sampson, "and there are different step sections depending on whether it's a single cab or, dual cab/extra cab model." The Summit rear step tow bar will also be tailored depending on the body style of the HiLux, with specific press formed steel wings, dependent on whether it's to be fitted to a narrow body or wide body model.

As you'd expect with the all-new HiLux, the range of ARB products will be comprehensive. "In terms of the HiLux, we're doing the Summit range of protection equipment, Commercial bar, Alloy bar, battery tray, UVP, recovery points, cab rack roof mounts... everything that makes up the standard range of products for a complete ARB set up," says Stephen.

The ARB team that looks after canopies have also been busy working on the new HiLux. "We should have (the Classic canopy) stock in the first week of November," says Rhys Brown, ARB Product Manager. "The Classic canopy will be first up, and then we'll move on to the Ascent canopy shortly after that."

Other ARB HiLux products in the pipeline include a ute lid and Sportguard ute liner. Keep an eye out for launch dates for these two new products. Finally, Stuart Fooks, OME Lead Engineer, says his team has been busy developing a Nitrocharger Sport suspension package for the new HiLux that should be in stock this side of Christmas. A BP-51 suspension package is also in development and should follow a short time later.

## TOYOTA FORTUNER

At the time of writing, ARB's engineers had yet to get their hands on a new Toyota Fortuner, but they expect a lot of product developed for the new HiLux will also be suitable for fitment to this new utebased wagon.

"Because the Fortuner is based on the HiLux, some of the products will fit between the two vehicles, and some things will need a few tweaks," explains Stephen Sampson, "in which case we'll have separate products for the Fortuner compared to the HiLux."

Likewise, Stuart Fooks expects similarities in OME suspension packages between HiLux and Fortuner, at the front, anyway. The rear end will be unique as the Fortuner runs coil springs at the rear rather than the HiLux's leaf springs.

Again, keep an eye on the ARB website and Facebook page for product updates regarding the new Toyota Fortuner.

## FORD EVEREST

Just as the Toyota Fortuner is based on the HiLux, the new Ford Everest is essentially a wagon variant of the Ford Ranger ute. This means a lot of gear developed for the new Ranger should fit straight on to the Everest.

At the time of going to press, the Ford Everest had only just arrived at ARB in Melbourne, but it's expected a full range of product will become available over the next couple of months. "We'll be doing a Summit bar for the Everest, an Alloy bar, roof rail mounts and side rails and steps," says Stephen Sampson. "The time frame for products like recovery points and UVP's will depend on whether the ones from the Ranger will fit..."

"We sent engineers over to Thailand so we could look over the vehicles, but again we still need to wait for access to an Aussie-spec car just so we can confirm fitments, because there are sometimes minor changes between the two specs."

If you've bought a new Ford Everest, or you have one on order, you can rest assured that ARB will have a full range of top quality products to suit the vehicle as soon as possible.



#### SUMMIT RANGE

The new Ford Ranger has a restyled front end that sees it score a redesigned bumper, Ford signature trapezoidal grille and new headlight surrounds. Aware of these significant changes, ARB has been working feverishly on the Summit Bar to ensure correct fitment to the revised Ranger.

The Summit bar incorporates unique design features such as a 30mm edge radius on the wings and centre pan, wider press-formed cover straps, big 60.3mm top tubing, two-piece polyethylene buffers and stylised fog light surrounds. The Summit bar is without a doubt the most visually impressive frontal protection system on the market, and is perfectly suited to the new Ford PX MkII Ranger.

For complete vehicle protection, Summit side rails, steps and rear step towbar are also available for the Ranger.

## OME SUSPENSION AND AIR LOCKER

ARB offers a full range of suspension options for the Ford PX MkII Ranger, as well as a front Air Locker to complement the factory rear diff lock.

Suspension options for the Ford Ranger include upgraded Old Man Emu front coil springs and Nitrocharger Sport struts, as well as rear leaf springs and Nitrocharger Sport shocks, customised to suit your vehicle, depending on the equipment fitted to the vehicle and the load it carries. An OME Nitrocharger Sport suspension kit gives a vehicle lift of around 50mm at the front and rear.

For the ultimate in ride and suspension adjustability, BP-51 suspension is also available for the Ford Ranger. BP-51 incorporates bypass technology that uses variable damping force depending on the position of the piston within the shock absorber's body - resulting in the smoothest possible ride. This prevents that harsh feeling when the shock absorber reaches full compression or extension over uneven terrain. BP-51 is also fully adjustable, so you can quickly and easily tailor the suspension to suit road and load conditions.

Although several models in the Ford Ranger line-up come standard with a locking rear differential, for the ultimate in traction, in challenging off road terrain you need to be able to lock the front diff as well. The fitment of an ARB Air Locker in the front of your Ford Ranger will not only improve its off road capability but also make it easier to drive in challenging conditions, as well as minimising stress and wear on driveline components. For models without a factory rear diff lock, an ARB Air Locker is a must-have traction aid.

## CANOPIES, SPORT LIDS, DRAWERS AND MORE

ARB offers both Ascent and Classic canopies to suit the new Ford Ranger, as well as ute lids and Outback Solutions modular drawer systems, so you can set up your vehicle to perfectly suit your requirements.

The Ascent canopy features fully integrated remote central locking, push button window operation, rear-mounted spoiler with LED brake light, tinted and tempered safety glass, a unique and attractive over rail design, and a vent to keep dust out.

The Classic canopy is a tough and proven design that allows you to maximise the space in the tub of your Ranger. As well as keeping gear dry, dust free and secure, the ARB ute lid is ideal for those who don't require the internal volume of a canopy but who want better security and durability than a standard tonneau cover.

With a sleek, modern design and high quality components that can be tailored to your individual needs, the Outback Solutions range reduces redundant areas whilst providing increased storage.

Modular Outback Solution drawer systems are also available for the PX MkII Ranger and can be configured in a number of ways to suit your requirements.

For those who simply want the ultimate protection for the tub of their Ranger, the ARB Sportguard ute liner is the ideal solution, while retaining access to the vehicle's factory load tie-down points.



# CONTINUING OUR LONG TRADITION OF INNOVATION, ARB HAS DEVELOPED A RANGE OF POLYMER LONG RANGE DIESEL TANKS FOR MANY POPULAR FOUR WHEEL DRIVES.

Manufactured from a specially formulated polymer, the Frontier long range diesel tank provides vehicles with a significant increase in fuel carrying capacity, while offering excellent impact resistance and UV stability.

Vehicle manufacturers have been using polymer fuel tanks for many years, and this material has significant advantages over steel: it is lighter, it doesn't rust and its one piece construction means that there are no welds or seams where leaks can occur.

The Frontier tank is rotomoulded from a specially formulated cross-linked polymer material. The rotomoulding process allows for single piece construction that's contoured to the shape and form of the underside of specific vehicle models.

The design process is very hands on and begins with a block of foam that is handcrafted on the underside of each vehicle model. The final design is produced using CAD, and then a Finite Element Analysis (FEA) is performed.

Despite the extensive use of computers in the design process, there's nothing quite like handcrafting a foam model to iron out any potential issues. "We can judge clearances with a solid model sitting on the vehicle," explains Stewart Thompson, ARB Product Manager for the Frontier Tank. "You can physically check for tolerances around moving parts, allowing for full travel of the diff, suspension, sway bars and tail shaft. If you're just doing CAD drawings, sometimes you can't necessarily do that, so that's why you need a physical model installed to the vehicle."

Once the design has been finalised, Frontier tanks are manufactured in a state-of-the-art facility in South Australia. Tank wall thickness of up to 9mm ensures all Frontier tanks are extremely strong and robust, yet this material is lighter than steel.







"Frontier tanks offer a significant weight saving over a metal tank, a saving of between 30 and 60 per cent," says Stewart. The result is a dry tank weight of 20kg+, helping keep vehicle weight to a minimum.

Every tank is pressure tested during construction and is supplied with fittings assembled on the tank where applicable. Fitment of the Frontier tank is via mounting straps, the same method used by OE manufacturers. "We don't have rigid mount points so we allow for movement within the chassis," says Stewart. "So, if you're looking at other tanks that use rigid mount points, when the chassis moves and flexes you'll get movement on those mount points... that stress has to go somewhere and generally it goes through the tank. Because we're using straps and we're using the original mount points, everything can flex, so we don't face any of those issues."

The Frontier tank features a CNC machined metal plate that accommodates a positive fitment of the fuel pump module, and in most applications the vehicle's OE fuel-pump module is retained.

Frontier Tanks are available to suit seven diesel vehicle applications, and development is underway on nine other vehicle models.

## FRONTIER TANK APPLICATIONS

#### Available now:

 Toyota HiLux 2015+
 145L

 Ford Ranger 2012+
 140L

 Mazda BT-50 2012+
 140L

 Holden Colorado auto 2012+
 130L

 Isuzu D-MAX auto 2012+
 130L

 Isuzu MU-X 2014+
 112L

 Toyota LC79 Dual Cab
 180L

#### Available soon:

VW Amorok 2011+
Mitsubishi Pajero 2000+
Toyota LC200 2007+
Nissan NP300/D40 Navara
Mitsubishi Triton 2006+
Toyota HiLux 2015+
Holden Colorado 7



Last issue we told you about the extensive range of ARB accessories already available for the stylish Nissan NP300 Navara. Since then the range has expanded considerably.

With its stylish design, powerful turbodiesel engine, high equipment levels and comfortable coil spring suspension, Nissan's all-new NP300 Navara is set to become a favourite with recreational four wheel drivers, and ARB has been quick to market, with a wide range of accessories to suit this new ute.

In the last issue of 4x4 Action, we revealed the newly developed gear for the NP300 which included Summit protection equipment, Alloy and Commercial bull bars, under vehicle protection, recovery points, Air Lockers and the Classic canopy.

Since then the ARB engineers have been busy complementing the NP300 Navara accessory range with a bunch of stylish and well engineered products.

### **ASCENT CANOPY**

The ARB engineering team faced a number of challenges when developing the new Ascent canopy for the Nissan NP300 Navara, most notably due to the vehicle's unique tailgate spoiler design, which meant a new way to seal and support the rear door glass had to be developed. The solution has come in the form of an aluminium extrusion that mounts to the topside of the tailgate, as well as tailgate corner seal brackets, which helps to minimise the possibility of dust and water ingress.

The NP300 Ascent canopy encompasses a unique shell that complements the styling of the vehicle. Features include an overtub, vanishing edge design, unique spoiler that

aids airflow over the rear door, frameless windows and a double-curved rear door. A sliding clear glass front window gives access to the canopy via the NP300's rear power window.

The Ascent canopy is compatible with the NP300 Navara's remote central locking. It offers one handed door opening via a switch housed in the rear door grip, and pop-up side windows that are opened via a conveniently located switch at the front edge of the canopy. Other features include a slimline vent to positively pressurise the canopy to prevent dust ingress, LED lighting and optional roof load systems.



### **AIR LOCKERS**

For the ultimate in off road traction and to minimise wear and tear on driveline components, ARB has developed new front and rear Air Lockers to suit the Nissan NP300 Navara.

The new model has increased towing capacity over its predecessors, and as such has been fitted with revised axles front and rear (with higher spline count) and a larger rear differential. ARB has developed an Air Locker to suit the rear diff of all NP300 models, and an Air Locker to suit the front diff on models with a ratio 3.54 and down (covering dual cab RX auto and manual, ST auto and ST-X auto models). An Air Locker to suit the front of dual cab ST manual and ST-X manual models is currently under development.

## ALLOY BAR AND COMMERCIAL BAR

Joining the Summit bar for the NP300 Navara, ARB has now released an Alloy bar and a Commercial bar to suit Nissan's stylish new ute.

The Alloy bar not only offers a significant weight saving, it retains the strength expected of an ARB bull bar through the use of clever design and specific grades of aluminium alloy. The chassis mounts are the same as those developed for the Summit bar, ensuring secure mounting and retention of crush rate characteristics for correct deployment of the vehicle's air bag system. Design elements include a 30mm edge radius on the wings and centre pan, 60mm outer tube, 48mm centre cross tube, separate bolt-in winch mount, press formed top pan with pressed winch cover,

buffers and a centre two piece grille. ARB's 51W fog light is available as an optional extra.

The NP300 Navara Commercial bar has a number of design features not usually found on this model, including ARB LED clearance lights and turn signals, centre and under wing panels, ARB's traditional fog light surround and an increase in outer tube diameter to 60.3mm to allow fitment of Summit side rails and steps. Other features include driving light mounts, antenna mounts and Hi-Lift jacking points.

# FULL COVER



ARB has developed a range of products to protect and enhance the all-new Mitsubishi MQ Triton, including Summit protection equipment and Classic canopies.



You'd be forgiven for thinking that the new Mitsubishi Triton has had a little more than updated styling from the previous model, but under that slightly familiar sheet metal hides an all-new vehicle. Because of this, the engineers at ARB have had to hunker down and develop a new range of products, and a number of these items are now available.

## SUMMIT BAR, SIDE RAILS AND STEPS

The new Summit bar not only offers the ultimate in protection for the MQ Triton, it also provides the ultimate in aesthetic appeal. To get an early start on the design and development of the Summit bar, ARB imported an MQ Triton from Thailand, but when the Australian-spec MQ Triton was launched it was found to have significantly different chassis ends.

Rather than simply adapting Thai specification chassis mounts to suit, the ARB engineering team started afresh and designed and tested bull bar chassis mounts specifically for the Aussie-spec Triton. ARB recovery points and under vehicle protection (not shown) were developed at the same time so that all three components work as a complete protection package.

The steel construction of the Summit bar offers maximum protection and features

ARB's renowned multi-fold upswept and tapered wing design for optimum strength and approach angle. To assist with airflow to the MQ Triton's radiator and intercooler, the split pan features a two piece grille for an integrated, OE style appearance. There's also a swing out door in the grille that allows access to the winch clutch handle. The Summit bar has been designed to accommodate a range of Warn, Smittybilt and Bushranger winches.

Summit side rails and steps have also been developed for the MQ Triton and they feature the same 60.3mm diameter tube as the Summit bar, for seamless design integration. The side rails connect to the Summit bar via a neat attachment system that features a tidy, reinforced 30% nylon plastic cover, moulded with the ARB logo. For vehicles not fitted with a Summit bar, a front rail return has been developed so that Summit protection steps can still be fitted to the Triton. A silver anodised extruded aluminium section sits atop the tube of the side rails and steps to make it easy to step in and out of the vehicle.

#### **CLASSIC CANOPY**

ARB has developed a Classic canopy to suit MQ Triton dual cab models. The vehicle's tub design features high sides, a low front centre pan, a curved canopy mounting surface and lower tailgate height, all of which presented various challenges when

it came to designing and developing the new canopy. Nevertheless, ARB engineers overcame these challenges and have now finalised the design of the Classic canopy, which is manufactured from tough and durable co-extruded ABS plastic.

To complement the vehicle's styling, the canopy features a curved glass door made from tinted and tempered safety glass, and due to the low tailgate design, additional seals have been added at the rear corners of the vehicle tub to minimise water and dust ingress. The canopy can be ordered in a number of configurations, with a smooth or textured finish, painted or unpainted, with sliding or lift-up windows (or a combination of both) and with optional accessories such as vents, internal frame and roof racks. Importantly, it can also be fitted with an over-rail tub liner if the need arises.

#### SPORTGUARD UTE LINER

For those who want the ultimate protection for their MQ Triton's tub, the new ARB Sportguard ute liner is now available. The five-piece design allows for simple snap-in installation with no drilling required, and the Sportguard features an anti-slip floor, the retention of the OE tie down points and compatibility with ARB ute lids and OE sport bars.

## ON GUARD



# THE ARB SPORTGUARD SETS THE STANDARD FOR UTE LINERS THROUGH THE USE OF INNOVATIVE DESIGN AND NEW MATERIALS.



ARB has developed an innovative new ute liner with a number of standout features that make it the clear choice for those who want the ultimate protection for their vehicle, while retaining the maximum amount of cargo space.

The Sportguard ute liner has a special anti-slip floor and its fitment allows for the retention of the vehicle's OE tie-down points, helping to stop your cargo from sliding around, even when driving in challenging off road conditions.

Unlike traditional ute liners, which consist of a one piece moulded tub section and a tailgate liner, the Sportguard is a five piece design, which allows for the use of a non-slip material on the floor section. "The floor has a rubbery feel to it, while the sides, headboard and tailgate liner have a similar feel to traditional ute liners," explains Rhys Brown, ARB Product Manager.

An inherent problem with traditional one piece ute liner designs is that, in many cases, they can be quite difficult to fit. "In a lot of cases, you need assistance from another person to get them in, because you almost need to fold them in half," says Rhys Brown. "Because the Sportguard is a five-piece design, it's a lot easier to fit, which also allows for a more contoured design. The shape basically hugs the contour of the ute tub itself, and the main benefit is that you maximise the cargo area."

The simple snap-fit installation of the Sportguard ute liner also means that no drilling is required; addition to special fasteners, the vehicle's OE tie-down points are utilised to keep the liner in place.

The unique floor design of the Sportguard incorporates gutter channels to accommodate

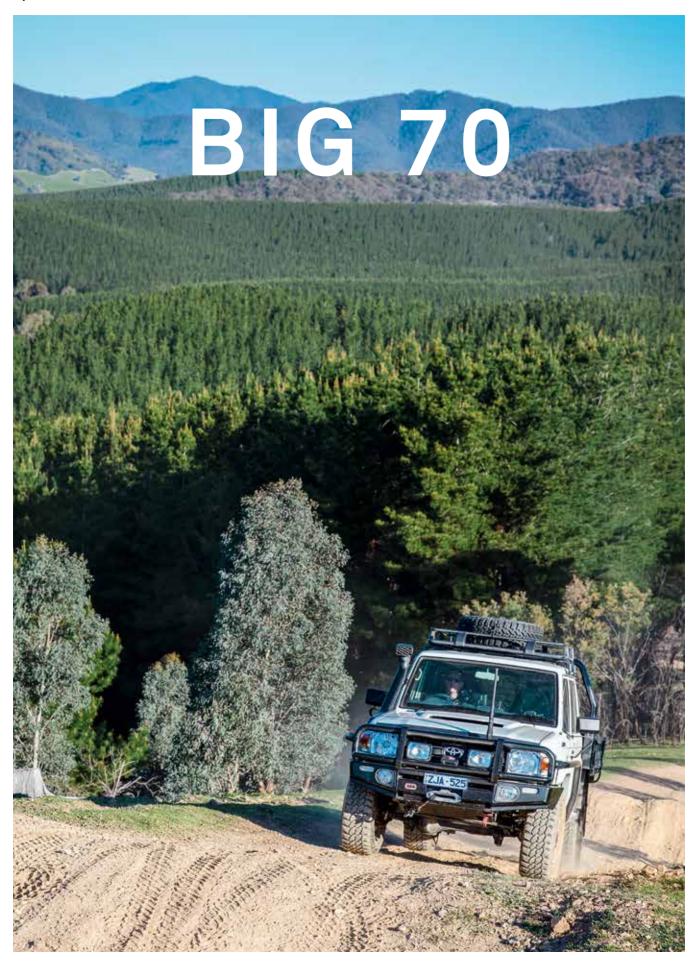
placement of the vertical panels at the headboard and sides of the vehicle's tub. Importantly, these channels allow water to drain away at the vehicle's tailgate area. Also, the design of the floor does not interfere with the drain ports located at the front of the vehicle's tub area. The shape of the floor section also allows for good airflow between the Sportguard and the vehicle's tub to prevent moisture retention, so the Sportguard is suited to vehicles without the weather protection, afforded by a tonneau cover or canopy.

Adding to the versatility of its design, the Sportguard can be integrated with a wide range of tub accessories including ARB ute lids and OE sportbars. With minimal modification, it can also be fitted in conjunction with ARB canopies. Unique spacers are included in the Sportguard fitting kits for compatibility with ARB Ascent canopies, to ensure hard-point mounting is maintained at the canopy bracket fasteners.

The Sportguard can be washed down with water or high-pressure cleaned, and once debris has been cleared from the gutter area water will drain away, as intended.

The Sportguard features an ARB branded nameplate on the right-hand sidewall, which also includes instructions regarding the filling of fuel containers.

At this stage the Sportguard ute liner is available to suit a range of dual-cab utes including Toyota HiLux, Ford Ranger, Volkswagen Amarok, Mazda BT-50, Isuzu D-MAX, Holden Colorado and Mitsubishi Triton, with more applications to follow in the coming months.



The growing popularity of the ARB Intensity LED driving lights, and the recent introduction of ARB's new fog light and fog light surrounds, has given ARB's engineers an opportunity to revamp the range of bull bars for the popular Toyota 70 Series.

Two Deluxe bull bars have been redesigned for the 70 Series post 2007 models with specific applications to the 70 Series flared models only.

## New Deluxe bull bar for Toyota 70 Series models.

New driving light mounts have been introduced across the bull bar range for the 70 Series to allow fitment of the ARB Intensity LED lights, including pinning holes. This mount has a larger footprint to allow the entire ARB Intensity LED light range to be supported by the bar. Additional chassis packers have also been included to allow for variances in the chassis ends. This allows for greater clamping force, useful for vehicles used in extreme off road conditions.

#### **Key Features:**

The new Deluxe bull bar for the 70 Series is made from a durable steel construction for maximum protection and incorporates ARB's renowned multi-fold upswept and tapered wing design for optimum strength and approach angle. Cover straps are attached to the uprights of the bar to ensure there are no exposed edges, while the split pan design is used for additional strength and maximum airflow.

The bar's air bag compatible mounting system secures to the chassis via high tensile bolts, while continuous uprights are utilised through the bumper section of the bar to strengthen the outer frame. Winch and non-winch variants of the bar are available and will accommodate Warn, Magnum, Bushranger and Smittybilt low mount electric winches.

The bar utilises twin Hi-Lift jacking points, provision for optional ARB fog lights and two aerial brackets which are located on the top frame of the bar. The bar retains the original equipment tow point, provision for fitment of an optional radiator stone guard and is finished in a hard wearing satin black powder coat with the added option of colour coding to individual vehicles.

## Larger tube Deluxe bull bar for the Toyota 70 Series flared models only.

A large tube Deluxe winch bar for the 70 Series has been designed and developed to fit flared models of the popular 4WD. Built with a durable steel construction for maximum strength, the new Deluxe bar for the 70 Series uses a 60.3mm outer tube and a 47.6mm lower cross tube and incorporates ARB's renowned multi-fold upswept and tapered wing design for optimum strength and approach angle.

#### **Key Features:**

A number of key design changes are shared with the recent 70 Series bar expansion, including larger driving light tabs (including pinning holes for fitment of ARB Intensity LED driving lights), additional chassis packers (to allow for variance in chassis ends), ARB's new style fog light and surround, as well as the inclusion of ARB's LED clearance light/turn signal assembly.

50mm cover straps are attached to the uprights of the bar to ensure there are no exposed edges, while the bar utilises a split pan design for maximum strength and airflow. Continuous uprights through the bumper section of the bar assist in strengthening the outer frame, while an air bag compatible mounting system secures to the chassis via high tensile bolts.

The bar contains two aerial brackets, an original tow point, provisions for fitment of an optional radiator stone guard, twin Hi-Lift jacking points and accommodates a range of winches including Warn, Magnum, Bushranger and Smittybilt low mount electric models.

The bar is finished in a hard wearing satin black powder coat with the added option of colour coding to individual vehicles.





Every Australian four wheel driver is undoubtedly familiar with the name Hema, the company that for more than 30 years has been producing the most comprehensive mapping coverage of this vast and extreme continent. But what you might not know is that Hema literally drives every road and track in Australia to ensure that its maps provide the most accurate and up to date information possible. To achieve this, the Hema field teams require a vehicle that is not only jam packed with state-of-the-art mapping equipment, but one that's also very capable off road, extremely reliable and able to be self sufficient for long periods of time in very remote areas.

The latest in a long line of Map Patrols, as Hema calls these vehicles, is this Toyota 70 Series double cab, and despite its somewhat agricultural appearance.

in many ways this Cruiser has got to be one of the most technologically impressive vehicles you'll ever lay eyes

The role of this heavily modified Cruiser is pretty straightforward: to enable an unsupported field team to collect data in remote areas. So, as well as capable, it needs to be self-sufficient. Fortunately, the Hema team has plenty of experience when it comes to mapping

some of Australia's most remote and challenging off road locations... and in properly equipping vehicles to do the job.

"We've been setting up Map Patrols since the first one in 1996 when we initially started getting out with a GPS and a laptop and doing what we do," explains Rob Boegheim, Hema's Managing Director. "We sat down with this one and asked: what do we need this vehicle to do, where do we need it to go, what kind of equipment do we need to carry, what kind of fuel, people and mapping gear? The whole build has taken nine months to get to this point."

It might have taken the best part of a year to get here, but from the very beginning Hema knew which companies it needed to partner with to make sure the Cruiser would be up to the demands placed upon it. "It's like when you're planning a big adventure, and you're choosing who you're going to go with," says Rob. "You choose some good mates, people who in a tricky situation you can rely on and depend on, and that's how we've chosen the companies involved with this Map Patrol. They've got to have bulletproof products, bulletproof reputations, fantastic support and back up." It's little wonder then that Hema has been partnering with ARB ever since it started doing Map Patrols.

Most recently, Hema had been using Nissan Patrols to perform mapping duties, but the demise of the 4.2 litre diesel engine saw the company look elsewhere. The 70 Series LandCruiser ticked many boxes – powerful turbo diesel V8, strong live-axle driveline, good payload, dual cab body, bush proven design and Australia wide parts and service back up - but it also had a few shortcomings, such as the narrow rear wheel track and long rear overhang. Both of these shortcomings were remedied at the start of this Map Patrol project, with an ARB Old Man Emu GVM upgrade fitted prior to the vehicle being registered, widening of the rear

> track by 105mm (to match the front track) and extension of the chassis by 200mm to lengthen the wheelbase for better load carrying ability and weight distribution.

> "Setting up this new Map Patrol weight, the less stress on the

vehicle, and the further down a track or a mud hole it can get, because it's not overburdened with all the stuff that isn't needed."

took a huge amount of work," says Rob. "We look at the GVM right from the outset. It's critical to manage the weight in a vehicle like this because that adds to the safety and reliability of the vehicle while out there. The less

Hema sends this vehicle further down tracks and mud holes than most other vehicles will ever travel. "Our goal has always been to explore every publicly accessible road or track and put that on a map," says Rob. "We ask the mapping teams to push the boundaries on where they go. We want them to go down roads that we've never been down before, go and find out where tracks take us, and sometimes that means getting into difficult technical situations or getting stuck, and you need the ability to get out. And predominantly you travel solo, so it needs to be fully self-sufficient, with a lot of food and water, and carrying the gear needed."

With the Map Patrol carrying a lot of sensitive gear over very rough terrain for 10-12 hours a day, the right suspension system is of critical importance, and the fitment of OME upgraded springs and BP-51 shock absorbers ensure this LandCruiser keeps its occupants both safe and comfortable. "The BP-51's



from ARB are just fantastic," enthuses Rob. "It's the best suspension I've driven on in all my 25 years of mapping out there." And it's little wonder Rob would think this, as BP-51's employ bypass technology as used in racing shock absorbers, to ensure a smooth ride by eliminating harshness at each end of the shock stroke.

The amount of complex gear in this vehicle is amazing. Sitting behind a fibreglass shroud on the ARB roof rack is the all-important GPS antenna. Signals from the antenna are processed by a DGPS, which is mounted in a roof console. The DGPS provides half-metre accuracy, ensuring that Hema's products are as precise as possible. "You don't need that accuracy for a printed product where the width of a millimeter on a map could be hundreds of metres or half a kilometre on the ground," says Rob, "but as soon as you're getting into a full-blown navigation system where you're doing voice guidance, then everything's got to be in exactly the right spot."

Location information from the GPS is then fed into a laptop computer, mounted in front of the passenger, who then tags information to each plot or point. If that point is an accommodation location, for example, information could include the address, type of accommodation, permits required and facilities available, as well as photos of the area.

Below the laptop sits an iPad that's preloaded with information prior to heading into the field that can be used for referencing, while a second rearmounted iPad is used for purposes such as uploading information on conditions for other travellers to see.

The centre console houses a satphone handset and a detachable satphone dock, as well as a 3G mobile phone cradle and iPhone, while the glovebox houses an RDX storage device and a multi-format SD card reader. On the driver's side of the roof console is a UHF transceiver.

There are so many switches, gauges and fuse panels in the cabin of the Map Patrol that it almost resembles the flight deck of a plane. There are switches for various lights, fuel tanks, batteries, trailer brakes, audio streaming, inverters and more, while gauges cover the usual things as well as boost, EGT, voltage of main and auxiliary systems and amps, warning lights and alarms alert occupants to any potential issues with low coolant or canopy doors ajar.

The cabin power system, installed by Global Sat, is an electrical work of art. It's located behind the rear seat and incorporates a Redarc 300W pure sine wave inverter, RDX power supply, four 240V outlets, and super-neat fuse blocks and circuit breakers. There are a number of USB and other 12V outlets scattered throughout the cabin.

On the safety front, there's a PLB (Personal Locator Beacon) in case there's an issue with the satphones, a SPOT tracker for daily check-ins with the office, a fire extinguisher by the passenger seat and another in the canopy at the rear of the vehicle.

Down the back, the Metalink canopy is essentially split into two main areas: the driver's side houses all the business stuff, while the passenger side provides access to water and kitchen facilities. Of

LEFT Dash mounted iPad is preloaded with information used whilst mapping.
RIGHT Hema's chief explorer, Rob Boegheim takes photos for identifying a landmark.







more importance, however, is all of the electrical gear, again expertly installed by Global Sat. While there's a dual-battery set up under the bonnet of the Cruiser, the canopy is home to its own Redarc battery management system with two 150A Lithium batteries. Power management components include a 1,000W pure sine wave inverter, 240V outlets, master switch and circuit breakers, various lighting systems, numerous 12V power outlets, solar input, Canon battery chargers, handheld UHF chargers, RDX data storage and more.

Two drawers are situated in the cargo area of the driver's side of the canopy, one containing camera gear and the other housing tools, a tyre repair kit and spare parts. There's also a toolbox behind the rear wheel that holds ARB recovery gear such as straps and shackles. On the kitchen side of the canopy there's a 75L water tank, an 85L upright fridge, dual-fuel stove, washing tub and extendable table and drawers. The toolbox on this side houses the ARB air compressor and associated equipment, as well as some additional recovery gear.

The rear of the canopy is home to two spare tyres, between which there's a ladder to access the rack up top. The Cruiser runs Cooper ST Maxx tyres. "We've been running Cooper tyres ever since I started mapping in 1996," says Rob, "and these new ST Maxx tyres are just phenomenal; I'm starting to forget the last time I changed a tyre, just because these things are so reliable."

With so much high-tech gear on board, ensuring the Cruiser and its occupants are protected is paramount, which is why it's fitted with an ARB bull bar, side rails and side steps, as well as a Warn Zeon 12,000lb winch and ARB underbody protection system. "When the Map Patrol team is out there, it's their safety and productivity that's paramount in difficult terrain, and that's where ARB comes in," says Rob. "So that's why, for the last 20 years, we've chosen ARB to properly equip our vehicles, protect our people and bring them home safely.

"We're a pretty close-knit team at Hema and whenever any of our guys go out on map patrol we want to make sure that they've got the right equipment, they're supported, they've got the right comms gear, we've got 24/7 satellite tracking on the vehicle and we're ready to swing into action at any point."

Despite the extreme terrain and the remote locations that this Map Patrol faces day in and day out, we reckon it's unlikely to ever need to call for help. This is one of the best planned, best set up and most fantastically executed off-roaders you're ever likely to lay your eyes on.

TOP LEFT Hema Map
Patrol fitted with
ARB Deluxe bar, side
rails & steps and
Intensity LED driving
lights. BOTTOM LEFT
Hema Map Patrol
always ready for
anything with two
rear mounted Cooper
ST Maxx tyres. TOP
RIGHT Mapping new
tracks in the Hema
Map Patrols.



# I C O N S

## IN THE MAKING

WORDS BY DEAN MELLOR

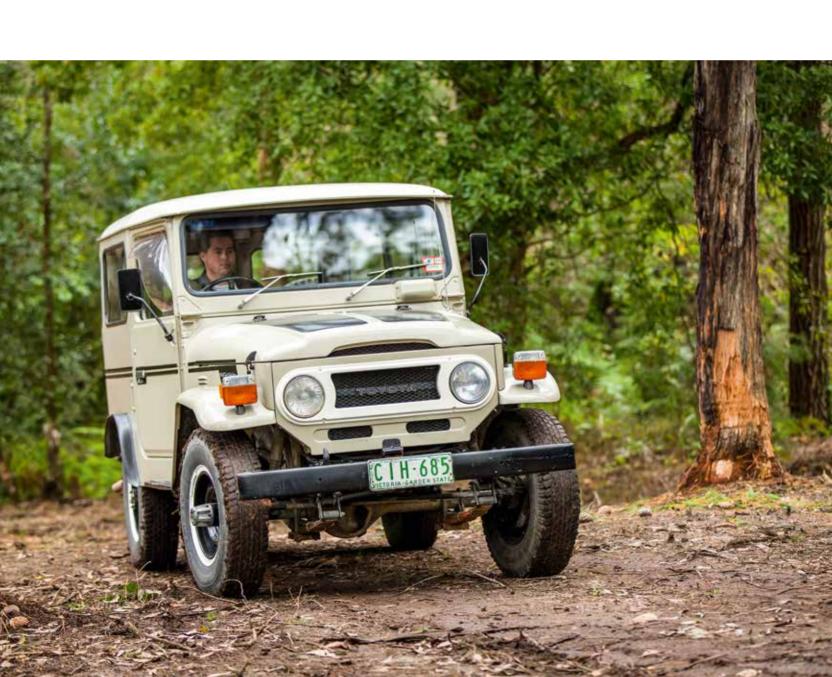


WORK IS WELL UNDERWAY ON ARB OFF ROAD ICONS. RESTORING THE TOYOTA LANDCRUISER 40 SERIES, NISSAN GQ PATROL, LAND ROVER DEFENDER, TOYOTA HILUX AND JEEP TJ WRANGLER BACK TO THEIR FORMER GLORY, AND KITTING THEM OUT TO TAKE TO THE SIMPSON DESERT.





"WHEN YOU LOOK AT THE LIST OF AVAILABLE ACCESSORIES FOR THIS VEHICLE, IT'S AMAZING TO SEE JUST HOW MUCH GEAR ARB HAS FOR OLDER MODEL FOUR WHEEL DRIVES."



# TOYOTA 40 SERIES LANDCRUISER

Finding a suitable 40 Series for the Off Road Icons project was easier than you might think; it belonged to an ARB Kilsyth customer who had heard about the project when he was in the store to buy a new bull bar for another vehicle. One thing led to another and soon his Shorty 40 was purchased by ARB, destined to become Off Road Icon #1.

"It's all in pretty good nick," explains ARB Marketing Communications Manager, Sam Boden. "It's got some racing stripes across the bonnet and the roof that we'll get rid of, so at this stage we're planning on respraying it back to the original colour. But body-wise, it's all in really good nick."

"All the badges are in A1 condition, all the inside, all the dials and everything are in really good nick, which is all that nice detail stuff to have just right".

Not bad for a vehicle that first saw the light of day back in 1976. The 40 Series' first duty was to appear on the stand at the Explore Australia Expo back in May 2015, and then it was off for a photo and video shoot (which you can check out at icons.arb.com.au).

It was then handed over to trusted mechanic and former ARB workshop manager lan Bailey, who is in the process of ensuring it'll be fit and ready to tackle the Simpson Desert, along with the other Off Road Icons.

While aesthetically sound, the 40 Series certainly needs a bit of mechanical work to bring it up to scratch. Ian has pulled the diffs apart and replaced all worn components before fitting ARB Air Lockers, and then he got to work on the gearbox and the transfer case. "It needed a new main shaft in the gearbox," explains Ian, "and the transfer case gears had chips in them, so I'm replacing those as well."

Other than a rear main seal, the engine needs little attention, and lan reckons he'll have the 40 Series ready to roll as soon as he gets his hands on the parts required to put it all back together.

The vehicle will then head back to ARB HQ, where a number of items have already been ordered, to transform it into a (relatively) comfortable and capable outback tourer. First up, it'll be fitted with Old Man Emu suspension, consisting of new springs, shocks, U-bolts and shackles, before it's fitted with an ARB winch bar and a Warn M8274-50 8,000lb winch, the latter ensuring super-fast recovery if the Shorty 40 ever gets into strife. The bar will also be home to a pair of ARB Intensity LED driving lights (one spot and one flood beam), while the headlights will be upgraded too.

Providing air to the front and rear Air Lockers, as well as performing airing-up duties, will be an ARB twin compressor with air tank. AVM free-wheeling hubs will be fitted up front, and a Safari snorkel and diff-breather kit will make sure water crossings are handled without a problem. To keep everything moving smoothly, Cooper Tires are supplying each vehicle with the rubber that will get them there and back.

Down the back, the 40 Series will sport a new rear bar with wheel carrier and Hi-Lift jack holder, while a pair of Outback Solutions drawers will safely hold items inside the cabin. Helping to drag this 40 Series into the 21st Century (and improving safety) will be a reversing camera. Three 52mm gauges will monitor vital components such as voltage and amperage, oil pressure and oil and water temperature.

Finally, a dual-battery system with a Redarc charger will keep all the accessories powered up and make sure there's always plenty of charge in the starting battery to get going in the morning.

When you look at the list of available accessories for this vehicle, it's amazing to see just how much gear ARB has for older model four wheel drives, as well as those that are new to the market. We can't wait to see how this Off Road Icon looks when it's finally ready to take on the Simpson Desert.







## NISSAN GQ PATROL

Tasked with sourcing and restoring Off Road Icon #2 is Lee Darcy from ARB Moorebank, who found a solid December 1990 built Nissan GQ Patrol in NSW's Central West

"It was found in Orange," explains Lee. "It looks like it's been a one owner vehicle. The gentleman that had it passed away and his wife decided to pass it on."

The Patrol is in remarkable condition considering it's 25 years old and has 338,000km showing on the odometer. "It looks like it's been re-sprayed recently, say in the last five years, but it still has a few dints and scratches on it, which we're going to be fixing up shortly."

"It won't be getting a full spray job; we're going to do it in house with our own paint crew, so we're going to try and get dints and scratches removed ourselves. The biggest one we have is in the rear quarter panel, there's quite a big dint just above the brake light, which we're going to sort out ourselves, so the whole job is done by the NSW ARB crew."

Other than a few minor niggles, the GQ is mechanically sound. "There's a small issue with the power steering and there's a small engine leak somewhere," says Lee. "It isn't too bad at the moment, but we will be fixing it all up before we put all the accessories on the vehicle. I did notice that the thermostat hardly moved, so we're going to look at that next. We're doing the paint and bodywork first, and then we're going into the mechanical side of it."

Part of that mechanical work will include the installation of a Safari turbo kit, which will give the currently lethargic diesel Patrol a serious boost in the performance department.

"We'll put front and rear Air Lockers in it as well, but pretty much the driveline seems to be good from what we've looked at," says Lee. "It's a good vehicle. They're tough, they flex quite well and they're hard to break."

As you'd expect, the ARB catalogue is chock-full of accessories to suit the GQ Patrol, and this example will be loaded with just about everything available. "Front and rear lockers, onboard compressor..." says Lee. "I've spoken with GME, who are going to help us out, we're getting a Kaymar rear bar with twin swingers, ARB front bar with side rails and steps, I think we're going to put Intensity lights on the front, it'll get a Warn winch... pretty much anything we can put on it."

But wait, there's more..."ARB roof rack, awning, Cooper tyres, we've spoken to Bushranger about coming to the party with some LED light bars, front and rear, and I've also spoken to Recaro, who said they'll put some seats in it as well."

By the time Lee and the ARB crew in NSW have finished with this mighty GQ Patrol, we reckon it's going to be one of the best examples of this venerable off road wagon you'll ever lay eyes on.

## JEEP TJ WRANGLER

Paying homage to one of ARB's earliest and most important export markets, and the fact that ARB's North American fans made it very clear that a Jeep needed to be included in this project, an additional Off Road Icon has been added to the line-up: a TJ Wrangler.

The team at ARB USA have been charged with sourcing a suitable example, as well as restoring and kitting it out with ARB accessories.

"We'll be building it here," explains Matt Glass, ARB USA's Marketing Specialist (PR and Media), who is based in Seattle. "We'll do some shakedown runs, get it out on to the trails here in the northwest, test it out and make sure everything's in good working condition, put it under some stress, then we'll be putting it in a container and shipping it over to the Melbourne office (ARB HQ) where it will join the other quys."

Matt reckons the hunt to find the right TJ Wrangler was a long one. "We spent several weeks trying to find a good example that checked all the boxes," he says. "Finally one popped up that was being sold by a young lady who was being transferred from one military base to another, and was looking to sell it with a few days notice. We basically met her at the mall parking lot at lunchtime, took a look at it and decided it was exactly what we needed."

The vehicle in question is a bright red 2004 model

Wrangler, powered by Jeep's 4.0 litre inline six cylinder engine mated to an automatic transmission.

"It has 98,000 miles on it," says Matt. "It's got pretty much no other aftermarket additions to it; a small coil spacer lift, someone maybe wired in some additional fog lights at some point... but other than that it looks exceptionally clean for what it is. It's kind of hard to find TJ's that are left in unmodified condition."

Work has not yet begun on the vehicle, but Matt knows exactly how it will be modified to tackle Australia's iconic Simpson Desert. "We have a big pallet of parts waiting for it at this point," he says. "We'll do an OME suspension system, front bumper, Warn winch, our rock sliders, our rear bumper with swing-out and we'll be loading up the axles with Air Lockers. We might be replacing the rear axle with one of the Dana 44 models... given the conditions we're taking this truck out into, we don't want to be the folks losing an axle shaft with the wheel alongside of it on the trail, so the Dana 44 is a better option."

We're sure that when the ARB USA crew has finished with this TJ Wrangler, it'll be well and truly up to the challenge of taking on Australia's mighty Simpson Desert.













### TOYOTA HILUX

The second Toyota in the ARB Off Road Icons line-up is the fifth generation HiLux; the last of the breed to sport live axles front and rear.

Finding a nice, clean example of what is essentially a 20 year old commercial vehicle was no easy task, but Sam Hockey, ARB Queensland's Stockist Rep, says that they lucked upon a great example in Brisbane.

"We bought it off a local man who'd owned it for a number of years and it's just a very, very tidy car," says Sam. "Trying to find any dedicated work vehicle of that age like a HiLux, in good condition, is near impossible, so we were very lucky."

The vehicle, a 1994 model HiLux with a 2.8 litre diesel engine mated to a five-speed gearbox, was pretty much factory standard when ARB Queensland took delivery." I can't really think of any aftermarket gear it had on it," says Sam. "It's got the factory vinyl seats, standard steel rims and it even had the standard bumper on it, which is pretty hard to find on a vehicle that's over 20 years old, especially a four wheel drive like the HiLux... she's been a well loved car, that one." Mechanically, the HiLux is in good shape. It has more than 300,000km showing on the odometer, but it's been well looked after and well maintained. The engine, gearbox and transfer case are all in tip-top condition and all of the driveline components will get a thorough refresh if required, prior to tackling the Simpson Desert. The diffs, which will be equipped with ARB Air Lockers, will also be given new seals and bearings as required. When new, the HiLux's 2.8 litre diesel donk could only muster a claimed 60kW of power and 183Nm of torque, so it was fortunate that the ARB crew managed to locate a Safari turbo system for this Off Road Icon. "We dug it up out the back of the shed somewhere," says Sam. "It's newold stock, so it's a brand new turbo kit, but of course they haven't made or sold one of them in quite a while." Complementing the Safari turbo system, a Safari snorkel will also be fitted, along with a new exhaust system.

The HiLux will be fitted with a full complement of ARB protection equipment, including bull bar, side rails and a rear step tow bar. In addition, it will get a Warn winch, ARB Intensity LED driving lights, Cooper tyres, wheel arch flares and roof rack, as well as a refurbished ARB canopy. "We've managed to find an original ARB canopy for it," says Sam. "ARB doesn't have the moulds for the canopy for these anymore, so we found a guy selling a canopy... we stripped it back to the bare shell, sandblasted it, and it'll be painted and then rebuilt, so it will look like a brand new canopy."

Like all of the ARB staff involved in the Off Road loons project, Sam Hockey finds it hard to hide his enthusiasm. "It's great to show to our customers that ARB just loves four wheel drives," he says. "You often hear this opinion that it's all about new cars, so I'm a big fan of this project because it shows that we've got a big love for these older vehicles."

### LAND ROVER DEFENDER

Regardless of your stance on Land Rovers, there's no way that the ARB Off Road Icons line-up would have been complete without the inclusion of a Defender, undoubtedly one of the most iconic of all four wheel drives. The task of finding the right example to take part in this project was entrusted to the crew at ARB Canning Vale, in Western Australia.

"We found this one on Carsales," explains Aaron Nott, ARB Canning Vale's Retail Manager. "We had a bit of a hard time finding it; we were running short on our deadline and this one popped up... we went out and had a look and it seemed to be pretty good, so, for the price and the condition, we made an offer." The vehicle purchased is a 1995 model Defender powered by Land Rover's economical four cylinder direct injection turbo diesel engine, with a very reasonable 250,000km showing on the odometer.

"It's red in colour with the decals down the side and a white roof," says Aaron. "The interior is in pretty good condition; there are obviously a few marks down the back with the way that Defenders are set up with no carpet.

"It has aftermarket Sunraysias on it, after the original rims were buckled by the previous owner, and it's got a little ding on the right hand side rear.

"At the moment we're doing a little bit of mechanical work on it to get it into a safer condition driving wise, but apart from that she's pretty straight. There are a few of the usual Defender gremlins there, which obviously require a bit of work," admits Aaron.

Gremlins? Does that mean it's leaking oil all over the workshop floor? "Actually, no," laughs Aaron.

"Surprisingly this one's not too bad; it's got a little bit of a leak around the gearbox which can be fixed with a seal."

As well as the gearbox seal, the boys are keen to give the engine a bit of a freshen up, so the cylinder head will be sent away for treatment, and the brakes need a bit of attention, with a new vacuum pump and brake booster ready to go into it.

You might think that with an aluminium body, rust would never be too much of an issue with a Defender, but there are plenty of steel components that occasionally need attention such as the chassis and bulkhead. "The chassis is pretty good," says Aaron, "but it's got the usual floor-pan issue; we can replace these for \$110 each.

Most of the repair work on the Defender will be performed in house, including a re-spray if it's deemed necessary, although Aaron is hoping they'll get away with a decent polish to bring back the lustre.

As for loading the Defender up with ARB gear, Aaron says they're going to throw the whole catalogue at it. "We'll start with an ARB bull bar, we'll do a headlight upgrade, Cooper Tires have kindly offered to supply tyres," he says. "It's going to need a suspension lift, a Warn Zeon winch, a rack, a new snorkel, a roof console, a long range tank... we're thinking about Air Lockers too; we'll at least throw one in the rear, for Big Red, to get the old girl over the hill."

Aaron says the team at ARB Canning Vale is really getting behind the Off Road Icons Defender build. "Most of the staff here were unaware of what was going on," he says, "but now they've really taken to it."









### WONDERWALES

THE CHALLENGE WAS SIMPLE.

FIND SOME OF THE MOST SCENIC

OFF ROAD MILES WALES HAS TO OFFER.

WORDS BY PATRICK CRUYWAGEN
PHOTOGRAPHY BY ALISON COLE



- THE DRIVE HERE WAS NOTHING SHORT OF SPECTACULAR.

Noone likes that uncomfortable, out-of-control feeling, which is exactly what I am experiencing right now. The front right and rear left wheels of my Freelander 2 are making contact with the earth; as for the other two they seem to be enjoying a little airtime. The slightest movement of my body makes the Freelander rock back and forth. Isaac, my 22 month old son, thinks it's all part of a fun game, and he has a giggling fit each time I turn around and face him.

We are on what is known as the Golf Links byway in Powys, our first off road track of the day, which is situated just to the outside of the mid-Wales town of Rhyader. With us, in a Discovery 2, is local guide and general nice guy lan Hulme, who is a Wales & Wye Laning Group (WWL) club member. In the Freelander 1 behind me is Christian Harvey, also a WWL club member. Both do volunteer work for the conservation minded 4x4 group Tread Lightly, so I could not be in better hands.

In my rear view mirror I can see Christian rummaging about in the back of his Freelander. He walks over with a pair of waffle boards. Somebody once told me that when driving these sorts of lanes in a standard Freelander, a pair of waffle boards is a must. Please don't take this statement as knocking the Freelander as they will kick a Nissan X-Trail and BMW X3's butt. It's just that sometimes they need a little help from a piece of off road equipment. Christian quickly puts them in the appropriate place and I gently ease the Freelander on to the newly-laid tracks. I get down the long, steep descent without any further dramas.

"This is the toughest lane of the day so you should

be able to get through the rest of it no problem," says lan as he puts away the waffle boards.

My journey began in my hometown of Oakley, Bedfordshire, which is about 60 miles north of a little place called London. From here I headed towards North Wales and more specifically Snowdon, the highest peak in all of Wales.

My initial plan was to hike to the top of Snowdon and then camp at the farm campsite, but a recent knee injury put a stop to that physical challenge. I did however allow myself a short walk up the southern slopes of this impressive mountain. I took the Watkin Path; each year over 80,000 tourists use this eight mile return track to get to the top of Snowdonia. I was already making plans to come back here in the summer to do just that. While on the track I see one of the only seven in the world prototype, fully electric Defenders. One of the local farms is testing it on behalf of Land Rover.

During my research, I was told that not many people know the off road tracks of Wales better than John Askew, and it was he who plotted my 200 mile horseshoe-shaped trek around this friendly and spectacular country. John too is a Tread Lightly ambassador for several Welsh counties, and is also the founder of WWL group. Just like some of the myths surrounding Top Gear's Stig, some say that John has driven about 80 per cent of the best and most sustainable off road tracks in this 4x4 utopia.

After my short visit to Snowdonia, it's time to head south to take in some of these tracks and see just how







capable this Freelander really is. John has arranged for me to meet up with Adam Hearne, a WWL member and Tread Lightly volunteer in Ponterwyd, mid Wales. Adam hails from Llanelli in South Wales and had taken a day out to show me some of the best lanes around Ponterwyd.

To get to Adam from Snowdonia I took the A487, a pure driving delight, another of those Welsh roads that has you contemplating a permanent move here. This road eventually spat us out in Aberystwyth, which lies on the edge of Cardigan Bay. The real stars of the town are the bottlenose dolphins: here you'll find the biggest population of them in Europe offshore.

We met Adam at the Bwlch Nant yr Arian Forest Visitor Centre. The nearby woodlands and lake make this the perfect place to mountain bike, hike or drive your 4x4 of course. We would only have time to fit in half a dozen or so off road tracks for the day as this was the middle of winter and the daylight hours were few. All the lanes lay to the north of the A44 between Ponterwyd and Goginan. Our first track started right here at the visitors centre and took us in a northeasterly direction. A useful tip is that if you are near the visitors' centre around lunchtime, do attend the red kite feeding session at 2pm.

The lane started off gently enough but soon ruts with a rather high centre section appeared, forcing me to slow down. There was a little bit of excitement when we had a technical rocky descent, which Adam expertly guided me down. Our track started with a bit of a gentle climb near Lyn Blaenmelindwr. Soon it felt as if we were on the top of the world with great views all the way towards Cardigan Bay and Aberystwyth on the coast. There was a tight descent on this lane and I had to really take it slowly. I have to admit that the absence of low range makes handling the Freelander a whole lot trickier than expected. I engaged the HDC and nailed my left foot to the floor so that it would not touch the clutch. At times it still felt a little too quick for my liking and I had to feather the brakes. I suppose there are not too many people that do this type of driving in a brand new Freelander 2, so why increase its cost with a low box?

It was 14:33hrs by the time we started our final track, which Adam said would take us the best part of an hour to do. Fast moving grey clouds had set in and the temperature seemed to be in freefall. Adam had saved the best for last, as this lane seemed a world away from civilisation, which probably explains why John

WELSH PEOPLE ARE SOME
OF THE FRIENDLIEST IN
THE WORLD, WE HARDLY
HAD TO BUY A DRINK IN
THE PUB THAT NIGHT

said this is one of his favourite off roading areas not all that far from where he used to live. Once again he had to guide me over some of the tricky rocky descents and ascents, but by now I was starting to get used to off roading in the Freelander and it seemed to be going a little better. I don't like off roading in the dark and so at the halfway point of the track we decided to call it a day. The short day and long breakfast had caught us out, though we had done most of what he had planned to do. We said our goodbyes to Adam and headed for the warmth and sanctuary of the George Borrow Hotel in Ponterwyd. Welsh people are some of the friendliest in the world, we hardly had to buy a drink in the pub that night. Maybe that was because I am South African and my wife is Northern Irish. If we told them we were English maybe we would've had to buy them drinks? While icy sleet fell outside we stood by the roaring fire while our hosts entertained us.

We met lan and Christian for our second day of off roading. At the beginning of this article I elaborated on the first track of our second day out, which was one of the best of the whole trip. Our second track of the day was Newbridge on Wye, along the River Wye which took us to our third track, Giants Grave. Doctor's Pool started with a climb and then a long descent into the valley. Once again the views were just incredible. The ruts were deep and the grass on the centre section tickled the Freelander's official ground clearance figure of 210mm. It certainly didn't feel that way right now.

By the time we got to our final track, Glasbury, it was almost dark. Once again it was very scenic and the white sheep seemed to stand out against an ever darkening hilly background. I cursed the short winter days as I was enjoying my day out. It was time to retire to the bustling town of Abergavenny for the night. Situated on the eastern edge of Brecon Beacons National Park. It's definitely a favourite amongst adventure seekers.

As we needed a few more miles to make up our magical 200 miles, we allowed ourselves a drive along the B4560 the next morning, which bisects the park and showcases the best of the park's scenery.

As we clocked up our 200th mile it was time to head east towards England. I bet I am not the first Land Rover fan to get the blues after seeing the Welcome to England sign on a Sunday afternoon, after what can only be described as a magical weekend in Wales.









Welcome to Iceland. It's 7pm. The temperature is starting to plummet to around four degrees Celsius and I am in a small, cramped four-seater plane which has definitely seen better days—but who cares? As we start to taxi and accelerate, I can feel the excitement building. I've been in Iceland for two hours and I'm taking to the skies to photograph some of the most amazing wilderness on the planet.

In the next nine days the challenge is to circumnavigate Iceland, including the remote northern fjords. I have a not so trusty camper van (more on that later) and my good buddy, and assistant, Mark for company. We have a small plane, a zodiac and a helicopter at our disposal, at different locations around the island, in a bid to get as far off the beaten track as possible.

The last ten days have been crazy. I've been in San Francisco speaking at a TEDx conference, before heading to the Pilbara to run some photographic workshops, and now I am in Iceland. I should be exhausted, but I'm inspired and energised.

It's June and the temperature will peak at an almost balmy twelve degrees, but more importantly there are twenty-four hours of daylight. It's time to make the most of the long days ahead.

We fly out of Reykjavik across the northern mountains. The evening light lingers and is perfect for capturing the vast beauty of the northern river deltas and mountains. The textures and colours are crazy—like nothing I have seen before. Shooting out of a small plane has lots of advantages, and a couple of disadvantages. The main downside is that you have to crank the plane on its side to get the best shots. Think of it like acrobatics, without flying upside down.

After an hour or so of this, I look in the back and Mark has turned green—sick bag in hand. Uh Oh! In most countries it would be a major project to find somewhere to land, but this is Iceland. I turn to Haraldur, our Pilot, and ask if we can land somewhere and he responds with a flourish of his hand. 'Sure. It's Iceland. Anywhere you want.'

A green paddock does the job and about thirty minutes later, the colour has returned to Mark's face and we take to the skies to capture the last minutes of full sunlight, lighting the snow-capped mountains.

We land back in Reykjavik at 11pm. Where else in the world can you photograph from a plane at this time of night? What a great first day.



### **ICELAND FACTS**

- If you get lost in the forest, stand up! There are very few trees in Iceland.
- There is no border control when you arrive at Iceland; you just walk off the plane and out of the airport.
- The population is only 329,100 making it the most sparsely-populated country in Europe.
- The coldest temperature recorded was -39.7 degrees Celsius.
- On stormy days the average wind speed is 180km per hour.





We camp that night about an hour east of Reykjavik, and to say it's cold is an understatement. It is bone chilling. The memories of the warmth of the Pilbara from only a few days before fade.

The next morning we are woken by fifteen Icelandic horses that surround the campervan. They are beautiful animals, very friendly and one of the few animals that can survive the harsh Icelandic winter.

It's time to head for one of the remote lava fields. These are barren, desolate places. Nothing grows out here and the wind is freezing as it comes down from the mountains. Interestingly the black bleakness is strangely beautiful.

We set our course for Jokulsarlon Lake, a well-known glacial lake about 400km from the capital on the southern coast. However, the campervan decides that after a few hours on the lava fields it's had enough and dies a sudden death. Where's my trusty troopie when I need it? So here we are on a lava field a few hundred kilometres from anywhere with a dead vehicle. One good thing about breaking down in a campervan

is that you have a kitchen stocked with food and somewhere to sleep.

It takes most of the day to send a mechanic to tell us it has died a terminal death and can't be fixed on the side of the road. A few hours later someone shows up to transport us to the lake. I had arranged a zodiac to photograph some of the glacier and wildlife that day, however by the time we arrive everything is closed.

After a bit of hunting we find Ingvar, the owner of the zodiac business, who kindly agrees to take us out himself—something that rarely happens. I am starting to love the 'can do' attitude of the Icelandic people.

Ingvar has spent years exploring this glacier and lake, and knows the area incredibly well. Some of the ice formations are just as good as what I experienced when I was in Antarctica a few years ago. Some friendly local seals show up to greet us. What started out as a crappy day stuck on the side of the road, turned out to be a fantastic experience.



I HAVE THE DOOR OFF,
AND I'M HANGING OUT OF
A HELICOPTER CLOSE TO
MIDNIGHT IN ICELAND. I
AM ONE FROZEN, BUT VERY
HAPPY CAMPER!

If the van hadn't broken down I wouldn't have spent time with Ingvar, and definitely wouldn't have gotten the best possible tour of the lake, and some really nice photographs. Sometimes good comes out of frustrating or unforseen circumstances.

The next couple of days we work our way around the coast and head north towards Modrudalur, where I have an appointment with a helicopter. There is only one operating on this side of the island because it's the most remote area in Iceland. The formula of less people and more wilderness equals unique photographs and incredible experiences.

There are days in life that you will never forget and today is one of those for me. The northern deltas and glacial mountains are spectacular. The light is as good as it gets. I have the door off, and I'm hanging out of a helicopter close to midnight in Iceland. I am one frozen, but very happy camper!

The richness of the colours is incredible. From vibrant blue glacial rivers, to mud brown deltas, to the purest white snow mountains and vibrant black



## THERE ARE DAYS IN LIFE THAT YOU WILL NEVER FORGET AND TODAY IS ONE OF THOSE FOR ME.

lava fields—the colour contrast is simply breathtaking. After four hours and a fuel stop we finally land back at Modrudalur, which brings with it a sense of euphoria.

I regularly get up before the sun, sleep in the rough conditions and spend months each year trying to capture moments in the wilderness. This is one of those days that make me feel truly alive.

The next day the replacement camper van and its two occupants are starting to get a bit ripe and it's definitely time to freshen up. It's best to go to a local swimming pool as they have great facilities and are cheap – which is rare. Iceland is expensive. A couple of hours down the road we find a small village with a pool. In Iceland the pools are heated to around 23 degrees—warm enough without being hot. The one we stop at also has a large hot tub warmed to 39 degrees. Oh yeah!

I spot an ice pool and I figure it's time to introduce Mark to the Polar Plunge, but not until he is a little frozen from the waterslide. Strangely, no one else is interested in using the slide, only us crazy Aussies. Everyone else is happy to watch the comedy show from the comfort of the hot tub.

The Polar Plunge involves total submersion in the ice pool. Ice floats on the surface above your head. To say it's cold is one of life's understatements. We stay under for as long as we can—only a few seconds—then run like mad men from the ice bath to the hot tub.

It's a fine line between pleasure and pain and I think I just crossed over. My skin feels like it's being stuck with a pin all over, but when the warmth finally kicks in, it's all worthwhile. I can't make out much of what

the locals are saying about us, but I did pick up 'crazy' and 'Aussie'. At least we give them a good laugh.

The trip across the top of the island is a beautiful mixture of small fishing villages, and hundreds of stunning waterfalls and mountain passes. Our final destination is the loop off the main highway into the northern peninsula and the famous fjords.

To visualise this area think of Milford Sound in New Zealand, then imagine forty of them—all unbelievably spectacular. The area is home to one of the most beautiful waterfalls in Iceland, Dynjandi falls. This waterfall has around eight levels and the very top level is unlike anything I have seen. The mist from the falls is guaranteed to soak you as you get within a few hundred metres of it. If you bring your camera make sure you cover it up or it will get drenched.

After making camp at the bottom of the falls for the night, we wake up to a perfect, beautiful blue-sky fjord. It is quintessentially Iceland.

It is time to start the journey south, back to the airport, and an appointment with another flight to the start of another adventure. Iceland is starting to get under my skin and one visit is never going to be long enough to truly experience this wonderland. It's been everything I hoped for.

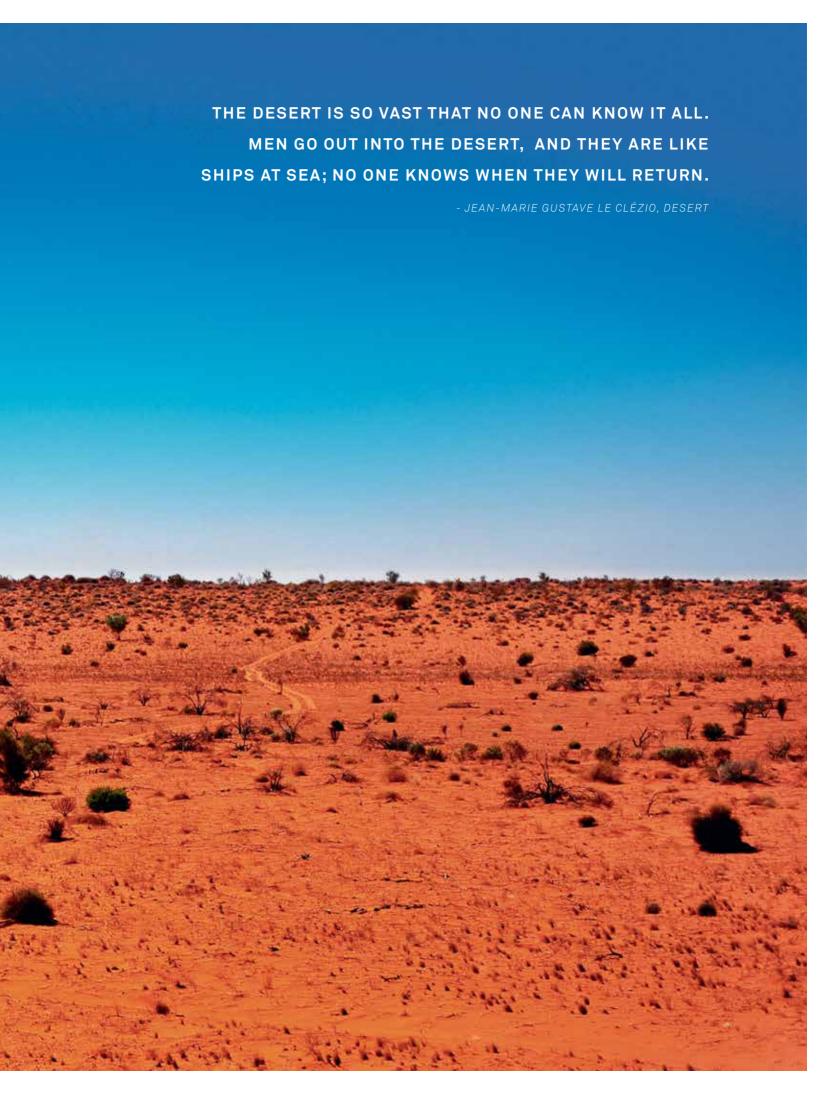
Iceland has delivered vast, barren, stunningly beautiful landscapes, warm, wonderful people and one of life's great adventures. If you have a bucket list and you've been thinking about a trip to this northern wilderness, don't put it off. You will be captivated by one of the planet's most remote and unique habitats.

# THE MADIGAN LINE

PART 1

WORDS AND PHOTOGRAPHY
BY CARLISLE ROGERS





I went to the desert to find peace. I went into a barren wasteland without water or shade, without the trappings of civilisation, without lines on a map, content to forge a path through hardship toward the distant goal of nothing more than the end of the desert. A goal which had to be worth every sacrifice, every sore muscle and adversity.

But I didn't head into the desert to find the end of the desert. That would be a goal that could be measured on maps. It's what couldn't be measured on any map that I was after. Push the body hard enough and the soul will follow. Against the emptiness of the desert things become clear. The gradual process of learning to see begins with the milky way setting over the red dunes as bright as the moon, and solidifies with the realisation that you are no longer bored by the absence of the spectacular.

The journey across the Simpson Desert can take as many days as you have in your schedule. The French Line usually takes three to five days. I had given myself five to six to cross the Simpson Desert via a circuitous route that would see me heading north from the QAA Line and intercepting Madigan's route across the desert, in the park's far northern frontier. It would mean more fuel, more food and more preparation. I might not meet another traveller for the whole time, and the distances were proving challenging to fit into my schedule.

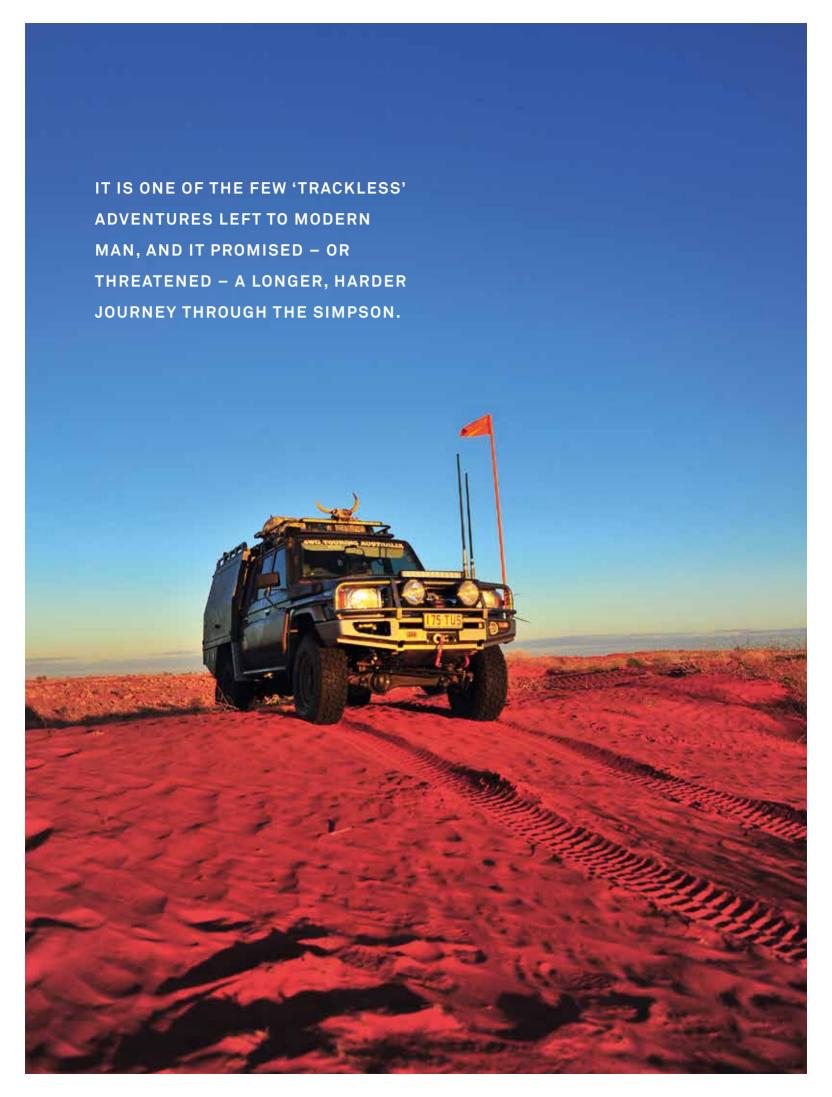
I spent a day in Birdsville filling up jerry cans, checking knots and repacking the truck. I cable-tied the obligatory sand flag to the bull bar and Ghost was ready to go.

You get to know all of the locals in a town like this in several hours, less if you walk everywhere. A friendly hello turns into a conversation that can go anywhere: life history, quantum physics or the secret to happiness. Birdsville is a place of beginnings and endings, but the desert is pure liminality.











Impatient to disembark, I set out along the road, graded runway flat, that runs out to Big Red, the eastern boundary marker for the Simpson Desert, a safety orange dune that stands out against the flat plain, a gauntlet against interlopers.

The redness of Big Red stands as a psychological challenge. Is it redder than the dunes west of here, or does one simply become accustomed to the hue, deadening it in the mind?

This is the first of over 1,100 dunes marching westward over 320km. It is one of the tallest, at 40m, affording a glimpse at the rolling sets of dunes ahead. And it is just like paddling out. The eastern faces of the dunes are the lee side, with an angle around 35 degrees, each one the face of a red wave that must be clawed up and surmounted.

From the top I watch the sun set out over the ocean of sand that lies ahead, nothing but scraggly mulga trees and spinifex breaking the orange monotony. This is the beginning of the QAA/French Line, the shortest and straightest cut through the desert. I won't stay on it long. My path takes me further north, to follow as closely as I can, the footsteps of one of Australia's least-sung explorers, Cecil Thomas Madigan.

His arching track through the desert in 1939 is marked on the Hema Map by a series of GPS points, but there is no track there. It is one of the few 'trackless' adventures left to modern man, and it promised – or threatened – a longer, harder journey through the Simpson. In a week of travelling I did not encounter a single soul travelling east. Nor, of course, did Madigan and his team of men and camels that set out from the opposite end of the desert toward Birdsville, in what was notably the first scientific expedition into the desert.

The QAA/French Line is brutal, particularly in the eastern third of the desert, thanks to tall dunes

and the insistence of many travellers retaining pressures suited to highway driving in their tyres. The bouncing scallops on the faces of the dunes a testament to idiotic bravery. Like corrugations, these malformations of the track enforce a slow approach by each successive traveller, making the problem worse.

I camped just west of Big Red, the first night with a small pile of gidgee wood radiating its dense red heat and the million stars overhead radiating light as old as our galaxy down on me.

It's cold out here. Really cold. There is no moisture in the atmosphere to trap the radiant heat that rises off the sand. During the day the sand is hot enough to scald bare skin, but as soon as the sun goes down, so does the mercury.

I reflected on the day. Big Red was windy, too windy. The cameras were gritty now, full of small oxidised grains of sand that were once mountains. The wind and rain had decimated a mountain range, and now the sand was slowly eroding my cameras, in a grand geological dance.

The sun painted the dunes red in one direction, yellow in the other, a subtle light play that caused the desert to become a chameleon, depending upon which direction you were looking, and what time of the day it was.

The stars came out and it was like nothing I've ever seen before. The waning moon was rising later now, affording a few hours of blackness, against which the teeming millions glistened. I watched stars set, like ultraviolet sunsets, one at a time, straight into the horizon while others rose behind me.

Part 2 of Carlisle's Madigan Line journey will continue in Issue 45.



### COME WALK A WHILE



WORDS AND PHOTOGRAPHY BY KEN DUNCAN

In my youth, the main thing that inspired me to follow my dream as a photographer was my Dad's old black and white photos. Those pictures were taken during the 'golden days' when my parents had truly been pursuing their own vision, working with Indigenous people in the remote Kimberley region. Back in the late 1940s, Mum and Dad helped to equip Indigenous people with skills that would provide greater opportunities for their future. In addition, many of the present day Kimberley cowboys are descendants of men my father mentored.

My wonderful parents instilled in me a heart for the outback and for Aboriginal people. I got lost for a while in the big smoke, pursuing what I thought to be the 'great Australian dream' of success, but eventually the lure of the land and adventure was too strong. In the early 1980's my Dad was returning to the Kimberley to visit his friends and those old black and white photos enticed me to go with him. My photographic journey really started on that trip with my dad. His Indigenous friends and their descendants helped me understand the importance of connecting with the land. I will never forget a precious key to life that an Indigenous elder shared with me. He said, "If you really want to know a person or place, you need to 'walk a while' with that person, or in that place, and then mysteries will be revealed."

It was in 2000 – many, many kilometers, locations, people and images later – that I first visited the remote Ikuntji community, nestled within the spectacular West MacDonnell Ranges, near Haasts Bluff, in Central Australia. It was a life-changing encounter, and over the years I have made many friends there and in other surrounding communities. I soon realised that many of these people – especially the youth – had little access to the technology most artists take for granted.

Wanting to help, I launched an initiative called 'Walk a While'. The primary objective of the Walk a While Foundation is to walk alongside the Indigenous people in remote Australian communities, using the creative arts as common ground, to provide youth with equipment and skills to tell their stories and to provide them with meaningful employment opportunities for the future.

Initially, Walk a While focused on photography, videography and music, and with assistance from some of Australia's finest artists, the project quickly gained momentum. Central to the plan is to show our Indigenous friends how they can make a living from the arts. This way, they will begin to see wider choices for their future and free themselves from the cycle of government aid, which erodes identity and self-respect.

Until now, Walk a While teams have taken their own equipment when visiting the community. But when a team leaves, so does the technology. We realised we needed a permanent base – a Creative Arts & Technologies Centre – to house instructors and equipment and to provide space for training in many creative arts, including; photography, cinematography, music, website development and design.

For years we have been seeking permission to operate from a building in Haast's Bluff. Finally, with persistence



and assistance from State and Federal Government Ministers and officials, we have recently received great news. We have been granted access to that building. So as soon as the paperwork is finalised, we will have an ongoing presence in this remote community. With the help of generous suppliers and supporters, we will equip the centre with the latest technology and software.

This Walk a While centre will also become a hub for creating tourism related employment for the local people, and the entire community is excited about the opportunities it will open up. Other artists and people will be invited to come 'walk a while' with them, in their breathtaking tribal lands.







PREVIOUS PAGE
Mitchell Falls,
Kimberley, WA. TOP
LEFT Jim Duncan,
Kunmunya, Kimberley,
WA, 1948. TOP RIGHT
Kimberley Elders
1948. BOTTOM
Western MacDonald
Ranges, NT.

It's funny how life often moves in circles. In June 2016 we have been asked to take the 'Walk a While' team to work with some remote Kimberley communities, where my parents worked so many years ago.

Many people like to go to remote areas and "take" photos, but I think it's important to consider what we put back – especially into disadvantaged areas. To really know a person or a place takes time. If we spend time getting to know the people in these remote places, and perhaps trying to see how we can help them, it can be a truly worthwhile experience for all concerned as we learn from each other.

Walk a While can receive tax-deductible donations for its core objects. So far, the Foundation has been privately funded by individuals and companies

who have a heart to help our remote indigenous communities. I would like to thank ARB, as they have been one of our greatest supporters to date.

The 'Walk a While' concept is not for that one community alone. Once we get this first Creative Technology Centre working well, the model could be rolled out into other remote communities. The key that will help open the doors of opportunity is for us all to learn to 'Walk a While' together.

If this article has touched a chord within you, please visit our website www.walkawhile.org.au and come 'Walk a While' with us.

Ken Duncan OAM





# A NUMBER CAN CARRY SIGNIFICANT MEANING, NONE MORE SO THAN A MILLION. THE TOYOTA HILUX, WHICH HAS BEEN A FLAGSHIP IN THE SOUTH AFRICAN 4X4 PICKUP MARKET, CAN NOW PROUDLY ATTACH ITS NAME TO THE WORD MILLION.

As a testament to the South African public's love, respect and trust for the iconic 'Bakkie', South African sales of the HiLux eclipsed the one million mark in July this year.

To celebrate this significant milestone and proud from its unparalleled success as a competition vehicle, Toyota South Africa Motorsport built a one-of-a-kind Toyota HiLux, powered by the eight-cylinder engine from the Lexus IS-F which is also used in race vehicles. This very special one-off HiLux, known as the Toyota HiLux Racing Experience, is a celebration of the South African public's love for this vehicle.

With more than 335kW of power available at 6,000rpm, this is most likely the most powerful Toyota HiLux ever built. However, the HiLux Racing Experience is much more than just a Toyota HiLux with a big engine – it is a finely crafted machine that embraces the type of technology used in Toyota SA Motorsport's HiLux race vehicles.

A new alternator and power steering pump has been fitted, together with a new air conditioning compressor. The entire wiring harness has been upgraded to Dakar spec, a full exhaust system has been installed, and modifications made to the transmission's bell housing, in order to match the gearbox to the IS-F engine.

Naturally, the suspension system has also been upgraded with none other than our very own Old Man Emu BP-51 high performance bypass shock absorbers, in both the front and

rear, and the ride height lowered by 50mm over the production version. To top it off, the steering ratio has been increased for faster movement and large 18-inch wheels have been fitted.

Deon Venteer, managing director of 4x4 Mega World and exclusive distributor of ARB products for the Sub-Saharan African region, recommended our top of the range OME BP-51 bypass shock absorbers to Toyota SA Motorsport. Deon's experience in off road racing had him adjusting the shocks in both rebound and compression, in order to deliver the ultimate in bypass ride control for this unique street-legal HiLux Racing Experience. The result was the epitome of suspension performance, considerable ride comfort around town with significant amounts of end-zone damping for exceptional chassis control and handling off road. Deon's recommendation of BP-51 to Toyota Motorsport SA is a true testament to what is possibly the most advanced shock absorber on the market.

The end result is a well-balanced pickup that offers supreme performance, without compromising handling – in essence, a road-going Toyota HiLux injected with motorsport DNA, which offers the driver the very essence of Toyota SA Motorsport's race vehicles.

### JUNGLE FEVER

### WORDS AND PHOTOGRAPHY BY FRED M KRIJGSMAN

The Jakarta-Surabaya OffRoad Xpedition is undoubtedly one of the toughest jungle adventures on earth. A 900km epic journey from Indonesia's West Java to East Java, some of the most inhospitable terrain imaginable. This year, 91 vehicles and around 270 competitors lined up at Monumen Nasional (The National Monument), a 132m tower in the centre of Merdeka Square, Central Jakarta, to take on this incredible off road challenge.

Teams from all over Indonesia transported their vehicles to the starting point for this once-in-a-lifetime adventure. Competitors were hailed from the island of Java itself, as well as Bali, Sumatra and Kalimantan, there was even a team from Vietnam and Thailand (which included yours truly), taking on the Xpedition in a locally rented vehicle.

As competitors gathered for the start, there was time to look over their well prepared and stunning vehicles. Knowing there would be little time to take a breather until we reached the finish line at Heroes Monument in Surabaya, this was also a chance to take care of final preparations for the journey ahead; fuelling up the vehicles, stocking up on water and packing enough food to survive 16 days deep in the jungle.

The Jakarta-Surabaya OffRoad Xpedition is unlike most off road events as you can see from the photos, all of the competitors decided to paint their rigs orange for this year's event. Another unique aspect of the Jakarta-Surabaya OffRoad Xpedition is that all competitors in the convoy share all of the costs, from making the road book, T-shirts and stickers, to paying for the hotels at the halfway point and at the end of the trip. Oh, and there's no one winner of the expedition; everyone finishes equally. Where else in the world will you find an event like this?!

I teamed up with my usual expedition partners – Herman Harsoyo and Ero Kebo Ireng – both of whom I've travelled with previously (in the 2012 Borneo Safari, as well as last year's jungle expedition in Sumatra). Our rented vehicle for 2015 was a well-prepared Toyota Fortuner with the starting number 120, plastered in 'Official Media Team' stickers. Other competitors were in a range of different vehicles including Jeep's, Suzuki's and LandCruiser's, as well as an array of Land Rover's, Range Rover's and Discovery's. All vehicles were equipped with Warn's fastest winch, the M8274, which would not only cop plenty of use overcoming the slippery mud and deep water crossings, but also see use in fixing old broken log bridges.



THE 2015 JAKARTASURABAYA OFFROAD
XPEDITION IS A 900KM
JUNGLE ADVENTURE
THROUGH SOME OF THE
TOUGHEST TERRAIN
IMAGINABLE.

**TOP** This 40 Series is a happy pig in mud **BOTTOM** Jeep JK during pedestrian peak hour







WE WOULD SPEND
THE NEXT 21 HOURS
TRYING TO CONQUER
THAT HILL.

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### READY, SET, GO...

Although the temperatures were soaring, the rain had held off over the first two days (which was a little unusual as this was the monsoon season), allowing us to get used to the jungle tracks, a few river crossings and some steep hill climbs. Nevertheless, the teams were working around the clock, with co-drivers guiding their teammates over tracks and running winch cables in and out

On day three, the real work started. Our media car was in a group of 16 vehicles at the front of the convoy and as soon as we crossed a major river, we had to then tackle a steep 3km incline that didn't offer any anchor points to winch off. This meant that each vehicle on the hill became the anchor point for the vehicle behind... and it was so steep that a single-cable pull was of no use – we needed two snatch blocks to get enough pulling power to make the climb. We ended up camping here and after a good nights rest we resumed our battle. With winch cables stretched to the max, double-line and triple-line pulls, deep, sticky mud and hot and humid weather, we would spend the next 21 hours trying to conquer that hill before we succumbed and took a three hour rest.

Some competitors slept on banana leaves, while others crashed out in their vehicles. Then, after the three hour hiatus, we hooked into some muesli bars for breakfast and resumed the attack. By late afternoon we finally reached Kamong, a small village at the top of the hill. It had taken our group of 16 vehicles and 45 men, three whole days to make the summit. We were fortunate... I found out later that another group spent eight days on that same hill, and they had experienced broken shafts, broken axles, overheated winch motors and even an engine explosion with fire! The convoy leader suggested an alternate route for the following groups.

By the end of the first week the entire convoy had regrouped, and each and every competitor had his own jungle experience to share, of broken axles, overheated engines and rollovers.

#### PRESSING ON

After a delightful rest at the Ibis Hotel in Semerang, we were back into action on Monday morning, with eight days to go before we'd reach Surabaya. There were some changes to the convoy, with some broken vehicles having to pull out and head back to Jakarta, while others suffering mechanical woes would continue the journey, but via sealed roads to Surabaya. Our media truck would head back into the jungle, and it wouldn't be long before my jungle boots were once again covered in the sticky mud.

We continued east from Semarang, tackling some amazing jungle tracks; there were overgrown sections, steep hills and muddy river crossings that saw teams struggle to make progress, with lots of wheel spin, roaring engines and stretched winch cables. Campsites were set up in the jungle near little streams, with tarps stretched between vehicles to keep us dry at night. Cooking was a basic set-up but the food was fantastic, to be honest, I would come to Indonesia for the food alone.

Prior to our arrival in Surabaya, our last base camp in the jungle was in a wide, clear space where the entire convoy could regroup. But we had to wait for other groups to overcome the trying conditions; some had to back-track and find alternative routes to this base camp due to landslides, while heavy rainfall meant that other groups had to find their way around now impossible river crossings.

Eventually, everyone made it to the campsite and the following morning we were ready to tackle the busy sealed road into Surabaya; jammed with cars, trucks, buses and mopeds, this was a jungle challenge of a different kind. As we rolled into town we were given a warm welcome by several hundred enthusiastic 4X4 fans that had assembled at the Heroes Monument. We could finally celebrate the completion of this once-in-a-lifetime jungle expedition. It really was a fantastic experience, and despite the challenges and the obstacles (and how exhausted everyone was), I'm happy to report that everyone made it through safely in the end.

TOP LEFT A Jeep CJ getting down and dirty. TOP RIGHT Our little cheer squad from the local primary school. BOTTOM This Jeep TJ has a sinking feeling.

# BIG RED BASH

Words by Roger Chestney
Photography by Tourism & Events Queensland

THE BIG RED BASH IS AUSTRALIA'S MOST REMOTE MAJOR MUSIC FESTIVAL SET AT THE BIG RED DUNE 35KM WEST OF BIRDSVILLE ON THE EASTERN EDGE OF THE SIMPSON DESERT. ROGER CHESTNEY FROM ARB HQ RECOUNTS HIS EXPERIENCE ATTENDING THIS ONCE IN A LIFETIME EVENT.



The first Sunday and Monday in July was the Birdsville Big Red Bash, proudly supported by ARB, Redarc and Pat Callinan.

The event, now in its third year, raises much needed money to support Type 1 Diabetes research. It boasts an impressive line up of talent including, Jimmy Barnes, Jon Stevens, Diesel, Frankie J Holden, Wilbur Wilde and more, playing with the famous "Big Red" dune at the end of the Simpson Desert as the backdrop. It was a privilege to attend this wonderful event with around 3,000 other people.

Escaping from my normal role as the OH&S Manager for ARB, I headed off on a two-week journey into the "Corner Country" with my wife Tracey and four other good friends. Setting off from Melbourne with campers in tow, our planned trip was to take us up through Broken Hill, Packsaddle, and then out to the Dog Fence on the NSW/SA border, onto Cameron Corner, Innamicka, and then through to Birdsville for the Bash.

Just before leaving I had the new Old Man Emu BP-51 bypass shock absorbers fitted to my 200 Series. BP-51's have created a great deal of interest, comment and hype; and now I would have the opportunity to see what difference they would really make to my 4WD. When you speak to the OME engineers who designed this product, they all grin with excitement like kids

in a lolly shop. Have they designed a product that lives up to the hype? Are they worth the money? Well you'll have to read on to find out.

Although I have visited many areas of our fabulous country by 4WD, I had never been to this location. People always comment about the beauty and the vastness of this place, but it is an area you really must travel to yourself, to get a true appreciation. A couple of weeks prior to our adventure, the land had been soaked by unseasonal rain. This meant that several tracks were still closed to vehicles, which caused alterations to our plans, as we traversed around muddy sections of tracks. It did however allow us to see the magnificence of the desert wild flowers starting to bloom. July is a fantastic time to visit the outback.

After leaving the main highway behind us, near Packsaddle, we followed the path of one of our greatest early explorers, Charles Sturt. He had based his camp in this area for six weeks in 1844 under incredible hardship, surviving only with the assistance of the local aboriginal population. His exploits led to the opening up of the corner country to farming, and later to mining. Currently there are many gas wells through the corner country, however the current lower fuel prices have seen many of these wells close and many people losing their jobs.



The plague of rabbits in the 1890's saw the construction of the longest structure on earth, a fence that was over 5,000km's long and supposedly impervious to rabbits. Whilst maybe not as physically impressive as the Great Wall of China, it did help delay the spread of rabbits, and has since been used to prevent the movement of dingoes. Consequently it was renamed as the "Dog Fence". Along the fence we were quite surprised by the number of feral cats, using the fence to prevent the escape of their prey. Once rounded up, the native wildlife has little chance to escape. Maybe it should now be known as The Cat Fence?

Our early settlers were also under pressure to make a living in these hostile desert climates that were so different to Europe. Over the years many of these ventures into sheep, cattle, and farming have failed and the region has had many homesteads left to go to ruin, often leaving behind the graves of many who did not survive the unforgiving environment.

The scenery often looks endless, but as soon as you pass over the horizon the landscape can totally transform with gibber plains, rolling sand dunes, vast dry lake beds, or tree lined creeks and water holes. The time of day also has a powerful effect on the view, with magnificent colours that are soaked over the landscape during sunset and sunrise, to the intensity of light under the midday sun. This area has a powerful impression on one's visual senses.

Anyway, back to the Bash. We moved into the camp area for the event on the Saturday afternoon. It was like a pop up township with many hundreds of 4WDs, with campers and caravans in tow, buses, and even a coffee shop and a wood fired pizza vendor setting up. The breakfast pizza was sensational; a must try if you attend the 2016 Big Red Bash. As well as us 80s music fans, it was good to see large numbers of families attending, with many kids having fun with their boogie boards

on Big Red. Many big kids were also having fun trying to get their 4WDs up the dune!

The concert ran over two afternoons and evenings, finishing at a reasonable hour each night for us oldies to get our beauty sleep. The performances were all top notch, high energy and great entertainment. A proper stage had been constructed, with a great sound system and lighting. It even had the mosh pit of screaming girls, or should I say 'middle age' women; especially when their heart-throb Jon Stevens came on. A congratulations must be given to the organisers for putting on a superb event.

I'm sure many will return next year with the event gaining a lot of momentum, pumping much needed funds into Diabetes Type 1 research and the Birdsville economy. This is what would have to be called a 'bucket list' event, so don't miss the opportunity to attend in 2016.

How did the BP-51s fare I hear you ask? After 4,500km of mud, sand, rocks, corrugations, and bitumen, I must say that I'm extremely impressed. Now I'm the one with a smile like a kid in a lolly shop. The main changes to the vehicle are that it sits flatter and feels a lot more stable through the corners, the rear end doesn't wallow around with a couple of hundred kilos ball weight, and there is no more trying to find a speed sweet spot on corrugations. The Old Man Emu engineers have certainly designed a product that would have to be considered the industry benchmark!

The 2016 Big Red Bash will be held on the 5th and 6th of July and the lineup includes; Jimmy Barnes, Paul Kelly, Glenn Shorrock and Brian Cadd. Tickets go on sale in November and numbers will be capped, for more information visit www.bigredbash.com.au.



### ONTO A WINNER



Celebrating the creativity and diversity of catalogues as a marketing channel, the 24th Annual Australasian Catalogue Awards took place on Friday, August 21.

Referred to as the 'Catalogies', the event was held at the Palladium, Crown Casino, in Melbourne and was attended by over 670 agency partners and national retailers, including David Jones, Myer, Officeworks and Dan Murphy's.

In a year where over 700 catalogues were entered, across more than 40 categories, we were proud to have our latest catalogue selected as 'Catalogue of the Year' in the hotly contested 'Automotive Vehicles & Parts' category.

"The award is a significant achievement and is wonderful recognition for all of the work invested by a huge number of people across the business" says Sam Boden, ARB's Marketing Communications Manager.

"Whether it be fitting products at the last minute for a photoshoot, providing access to interstate fleet vehicles, advising on shoot locations, providing local staff to assist, or simply offering feedback on product features and specifications, it has very much been a team effort."

Packed full of amazing images, product information and ARB history, the ARB catalogue is a must read for anyone looking to prepare their vehicle for adventure.

Available in-store or online at www.arb.com.au

### COMING TO AMERICA



AS ARB CELEBRATES ITS 40TH
ANNIVERSARY AS A GLOBAL
INDUSTRY LEADER IN THE
DEVELOPMENT AND MANUFACTURE
OF 4WD ACCESSORIES FOR THE
AUTOMOTIVE AFTERMARKET
INDUSTRY, WE REMINISCE ON
OUR NEAR THREE-DECADE LONG
REPUTATION FOR EXPORTING
AND DISTRIBUTING HIGH QUALITY
DESIGNS AND GROUND-BREAKING
PRODUCTS TO THE USA.

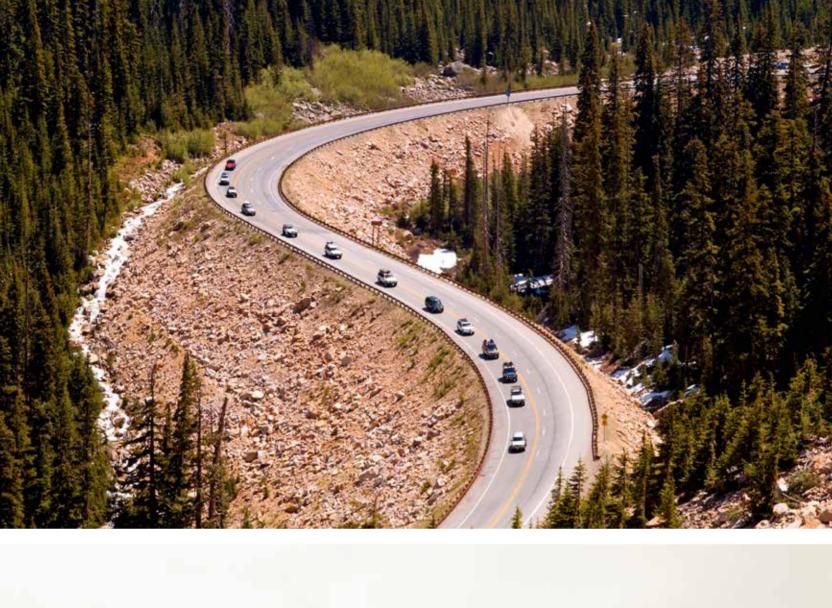


ARB's history in the USA began in 1987, the same year ARB Corporation listed on the Australian Stock Exchange. Back then, ARB Corporation had just raised enough capital to buy the rights to the Roberts Differential Locker; the revolutionary traction aid was compressed-air operated, and only three vehicle applications were offered. ARB envisioned the incredible potential that lay untapped with this product, redesigned the manufacturing process, and the ARB Air Locker was born. The first ever Air Lockers sold were for the Toyota HiLux, LandCruiser and Range Rover with the range of applications now far exceeding the hundreds. The high-grade castings are designed and machined in Australia and every unit is thoroughly tested before making the long journey overseas. With its revolutionary technology, compact size and shelfready packaging, it wasn't long until ARB decided to introduce it to the world.

In November of 1987, Roger Brown, ARB's Managing Director at the time, exhibited at the Specialty Equipment Market Association or SEMA Show in Las Vegas, Nevada. Every year, the SEMA Show is a must-attend event for the industry's brightest minds and hottest products, as Las Vegas transforms into a mecca of aftermarket modified cars. The annual closed-to-the-public show is an automotive trade event and centre stage for hundreds of lifted trucks, engine swapped muscle cars and nothing short of the industry's best new products. Just about every automaker and accessory dealer doing business in the United States has some sort of presence at SEMA and there's a specific focus on performance and innovation.

Amidst the jaw-dropping array of international products on display at SEMA each year, it's hard to believe that in 1989 we would go on to win Best 4WD/ Off Road Product for the ARB Air Locker. By that time, the public had spoken and the ARB name had spread like wildfire, with orders for the Air Locker flooding in on the back of the event, which helped kick start the export business. Air Locker was an overnight sensation and really cemented ARB's reputation as a market leader, taking the ARB name to the world's stage, with the USA quickly becoming ARB's second largest market.

In February 1989, Jim Jackson, who had been in the automotive aftermarket accessories industry for several years and went on to become the ARB USA president for the next 23 years, joined the ARB team and helped setup the first US base of operations. ARB's initial approach was to export products from









Australia to its various wholesale customers in the US, however long lead times were halting expansion and growth, ARB therefore rented its first office and warehouse space on the ground floor of a residential building in downtown Seattle, establishing its own sales presence by 1991. Since a construction company already had ARB as a business name in Washington state, the company was officially opened as Air Locker Inc. but most know it as ARB USA.

Over the years, ARB and its product range expanded from the hugely successful Air Locker line-up, to include the range of fully integrated Old Man Emu 4x4 suspension systems, US vehicle-specific bull bars, roof racks, ARB recovery gear and a host of smaller accessories. Today, the ARB USA office and warehouse in Seattle continues to stock the full range of ARB products, in addition to being the home for the ARB USA sales, marketing and technical staff now operating from its upgraded 25,000 square foot facility.

In line with the continuing growth of the company within the USA, in 2010 ARB appointed Lachlan McCann, current International Business Development Manager, to oversee all export operations and tasked him with the mission of expanding ARB in the America's. Lachlan wasted no time and by August 2012 had appointed Doug Pettis in the role of President of ARB USA. In addition to his sales and marketing background, Doug brought with him a strong industry knowledge and a true passion for everything four wheeling. With Doug and Lachlan at the helm orders fired up quickly and the rest, as they say, is history.

In 2014, ARB opened a second US distribution centre in Jacksonville, Florida, allowing ARB to service east coast US customers as well as the Latin American market. The expansion was a direct result of the strong market growth of the ARB brand of products in North, Central and South America. Along with the Seattle distribution centre, the east coast base gives ARB the capacity to efficiently distribute products across the US in a timely manner.

Today, ARB is Australia's largest manufacturer and distributor of 4×4 accessories and is known worldwide for high quality products that are tried and tested in some of the world's harshest environments. The US market is a significant market opportunity and we continue to develop and manufacture new products, from bull bars and suspension for the Ford F-Series, Chevy and Dodge brands to a range of accessories for the upcoming 2016 Toyota Tacoma (the US equivalent of our HiLux).





# LIGHTS. CAMERA. ACTION.

Just like the improvements in our 4x4 vehicles, photography has had more than its fair share of benefits with advancements in technology. There is no doubt about it, technology plays a huge part in the life of a photographer these days. Now if you know how to utilise this technology, your creativity will advance in leaps and bounds.

I'm proud to say that I grew up with film. It was a rollercoaster ride as I tried to expand my knowledge in various techniques. Trying something new was continually hindered by the lengthy film processing time.

The days of needing to write everything down as you try different apertures and shutter speeds, just to see what would happen, are long gone. This data is now contained in the image reference information, available well after the shot is captured.

The image opposite illustrates perfectly the benefits of advanced technology. Although this could have been captured years ago on film, the ability to 'get creative with light' is far easier now than ever before. Capturing an action shot of a subject in good light can be quite simple, however, when you begin mixing light, things start to get a little tricky.

This image was captured before sunrise, on a private property, under controlled conditions, in outback New South Wales. Planning a shot like this can often be let down by inaccurate driving. Fortunately, Dean Mellor and I have worked together on some of my most important photoshoots. He knows the importance of getting it right, so we map out the exact movement of the vehicle. Whilst I plan to use the ambient light to capture the colors in the sky, I will also utilise

artificial light to illuminate the vehicle which is effectively facing away from the natural light source. Two Elinchrom Ranger portable studio packs (flash units) with radio trigger remotes, are set at an extremely fast flash sync to allow me to freeze the motion. I combined this with shaping tools or dishes that are specifically setup to cast the light across the vehicle and the dust. The lights were really close to the track and therefore the driver's ability to get this right was of the utmost concern.

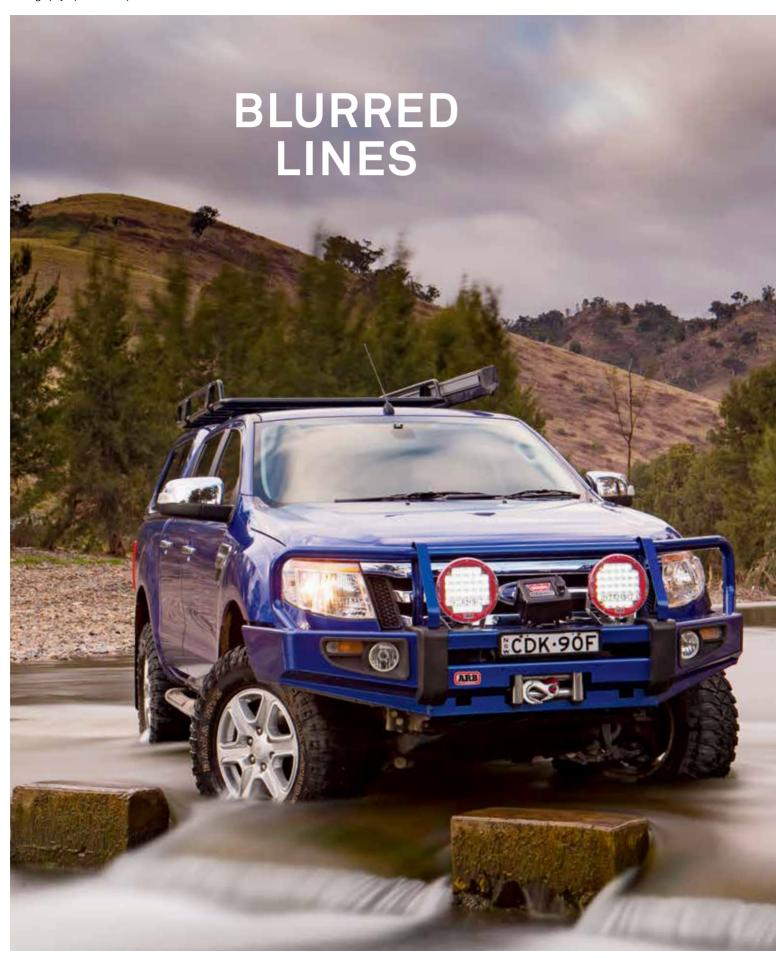
Knowing that a smaller aperture will encourage starbursts in these intense light sources, the results will be awesome if we can mix the lighting correctly. The difficulty here is adapting to the constantly changing ambient light source, and adjusting both the exposure and artificial light to suit. If you look at the lighting, it's easy to see where it is generated from.

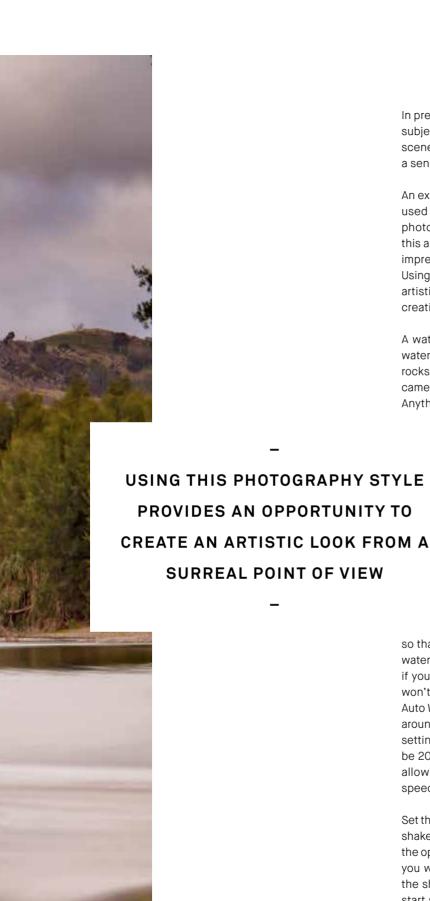
Most importantly, the technique used here was assisted by improvements in technology. Although this image could have been captured on film, the quality and accuracy would be lacking somewhat... but most importantly, you wouldn't be 100 percent confident that the result is exactly what you wanted.

With all the advances in technology, who knows how we will produce imagery in the future. But I know in years to come, just like people are enjoying the old "Icon" 4x4s, I will enjoy knowing this image was captured well for all to enjoy in the future, and therefore becoming one of my favourite iconic shots.

Onya Deano... great driving mate.

Michael Ellem, Offroad Images





In previous articles we have covered the art of photographing a subject in motion and freezing it in time as it moves through a scene. I often get asked about the technique used in capturing a sense of movement when photographing landscapes.

An extremely iconic image that utilised this technique, and one used extensively by ARB is the Ford Ranger Intensity series, photographed in 2012 (pictured opposite). Specifically with this approach, we wanted to provide the viewer with a different impression to how he or she would see the scene in real time. Using this photography style provides an opportunity to create an artistic look from a surreal point of view, it also works well when creating a contrast between the subject and its background.

A waterfall can be captured as we would usually see it, with water droplets and the water's movement standing out from the rocks in stark contrast. We can create motion blur by fixing the camera's position and capturing the image over a period of time. Anything that reflects light will provide more exposure to the

sensor than that which absorbs light, so the movement of hundreds of water droplets being bright, will provide exposure for each and every movement combined. This in turn will mean that wherever these droplets of water move, the image sensor in the camera will pick up the movement and blend them all into what ends up as a soft image of the water's movement.

These results can be achieved with no special equipment. You are best off trying this out in lower light, early in the morning or late in the afternoon. This will ensure that you can actually perform the longer exposures required for this image. Mount the camera on a tripod, position the camera on a sturdy surface

so that it wont move during the exposure. Set the focus on the waterfall and lock the lens to manual focus. This will mean that if you are shooting in the afternoon and as it gets darker, you won't have the autofocus system chasing focus. You can select Auto White Balance for the moment, just until you get your head around what's happening. Set your ISO to the minimum available setting. This will most likely be 100 ISO for Canon users but might be 200 ISO on others. Set the camera mode to "M" or Manual allowing you to set the aperture of the lens and the shutter speed for the image.

Set the camera's self timer to around 2 seconds to reduce camera shake. You want to set a small aperture for this, which will reduce the opening of the lens, allowing less light to enter and providing you with the ability to run a longer shutter speed (or keeping the shutter open for longer). My recommendation would be to start somewhere around aperture f22 and set a shutter speed which provides you with an accurate exposure, dependent on the light available.

Hopefully, if it's dark enough, the exposure will take place over a number of seconds. Try different exposure times and apertures until you find the look that works for you. By working through this exercise, you should be able to discover how you can adapt this method to any water movement.

Specialist filters can be utilised to assist in this style of photography. Today, one of the only filter types that I use in my kit are a variety of Neutral Density filters. ND filters are used to reduce the light passing through the lens, meaning that you can either run bigger apertures, or can allow more time for the light to pass through the lens. This creates the opportunity in slowing the exposure down to create this style of imagery.

You can purchase ND filters in various levels of light reduction and attachment types. To get started, I would recommend the screw on filters, as you will find them easier to manage. Simply clean the filter, screw it on and you are good to go.

If this is a look that you like, I would recommend trying your hand at photographing seascapes. This can be some of the most rewarding photography that you will get into and can be quite addictive. Use the same method, but you will need to time the exposure with the incoming wave, and tune the exposure to suit the look you are after. Every wave is different, but you will find it exciting when you see the wave work its way over a rock platform and you find yourself predicting the result before it's even finished the exposure.

When performing night photography across a water course, these long exposures can build the reflections to become a mirror image of what's on the horizon. So the ripples become one as the water moves. The average of the flickering light as a combined reflection, will result in a potential mirror image, when provided enough time in the exposure.

#### Michael Ellem - Offroad Images







## ARB has Christmas all wrapped up



#### ARB Fridge Freezers

Save \$100 on all ARB Fridge Freezers and receive a FREE transit bag

## ARB Compressors



20%
Off
CKMP12 Portable
High Output
Compressors



15%
Off
CKMTP12
Portable Twin
Compressors

## ARB Intensity LED Lights



\$200 on a pair of AR32 Intensity LED lights



\$150 on a pair of AR21 Intensity LED lights



#### **ARB Awnings**



**20% Off** 2000x2500mm and 1250x2100mm ARB Awnings

## **ARB Tyre Accessories**

### **Save 20%**



ARB Speedy Seal Puncture Repair Kits



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### Up to 25% off



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ARB 12V Fluoro Lights



## ARB Water Crossing Covers



20% off ARB Water Crossing Covers

## Fourby & Ariel Kids Swags

## Fourby & Ariel Plush Toys



20% off
Fourby and Ariel Kids Swags



35% off
Fourby and Ariel Plush Toys

### Bushranger Christmas Specials

## DV-9th Package

## Seal 9.5th Package

## DV-12th Package













Buy 1 Bushranger SEAL 9.5th winch and receive a set of Bushranger Night Hawk LED lights.



Buy 1 Bushranger DV-12th winch and receive a set of Bushranger Night Hawk LED lights.

### Bushranger New Products

#### Max Air Special

#### Bushranger X-Bar

#### Bushranger Quick Step







Bushranger Max Air 3 - \$299, was \$350

The Bushranger X-bar is a universal light installation solution for the front of any vehicle.

#### Features:

- · ADR compliant
- Universal fit for all licence plate sizes
- Aluminium alloy available in anodised & black powder coat finishes
- 5 year warranty

The Bushranger Quick Step gives quick and easy access to your vehicle's roof area for loading or unloading of roof racks or roof baskets.

#### Features:

- Simple to use, just unfold and hang over the wheel
- Velcro straps keep step together for carrying storage
- Quickly folds flat to store in your vehicle
- Use on a rear mounted spare wheel to climb to your roof racks
- Three adjustable settings for both height and width
- Strong and durable powder coated steel

### NEW THULE PRODUCTS



#### NEW THULE MOTION TITAN AEROSKIN LIMITED EDITION

There's no doubt that a roof box offers a practical solution to re-organising your vehicle's interior by placing excess luggage within a secure waterproof storage system on top of the vehicle.

Thule has a new addition to the ever expanding range of load carrying solutions, in particular, lockable roof box options.

The new Thule Motion Titan is a derivative of the immensely popular Thule Motion and comes with same premium features normally found on Thule's top model boxes, but rather than maintain the glossy appearance of the existing Motion range, the new Motion Titan features durable AeroSkin material.

The AeroSkin finish is perfect for off road application as it is an easy to maintain hard wearing material designed to cope with the rigors of knocking about in the bush.

That's not to say that roof boxes are indestructible, simply put, the AeroSkin

finish offers a greater resistance to scratching than a glossy finish.

The new Thule Titan is optimised for space, style and efficiency. Boasting a usable volume of 410 litres, load capacity of 75 kilograms for the Motion Titan 200 or upgrade to the larger Motion Titan 800, which offers 460 litres.

Both models feature the pre-installed Power-Click mounting system with integrated torque indicator. This feature has been adapted from the premium range and guarantees quick, safe and simple installation of the Motion Titan roof box to the load carrier.

For convenience the Motion Titan features dual side opening, which makes for easy cargo loading and unloading. Thule's patented central locking system ensures the key can only be removed when all locking points are securely closed.



#### 1 NEW THULE ATMOS X4 IPHONE COVERS

Thule's new addition to mobile phone covers offers StratoShield technology.

StratoShield guards against impacts, scratches, glare and fingerprints whilst maintaining touch screen responsiveness.

This patent pending bi-component armour provides exceptional protection, ideal for the outdoor enthusiast.

#### 2 NEW THULE VELOCOMPACT

When it comes to transporting bikes on the back of your vehicle there are numerous options available. The new VeloCompact bike carrier from Thule stands out from the crowd.

#### Features:

- Can increase its capacity from three bikes to four bikes with the purchase of an adapter.
- Supports a load capacity of up to 60 kilograms.
- Accommodates large wheelbase bikes thanks to extendable wheel holders with incorporated pump-style buckles that secure the wheels tightly in place.
- VeloCompact's foot operated tilting mechanism folds the bike carrier, providing access to stored luggage items within the rear of the vehicle.
- Bike locks are a standard feature, locking to the tow ball.

#### NEW THULE HULL-A-PORT AERO 838

Those of you in the market for a kayak carrier should consider Thule's latest offering, the all new Hull-a-Port Aero.

The spring loaded hub system makes it easy to reach and fold down, improving aerodynamics and undercover car park access.

The SureGrip padding on both the base and mast provides for strong support, reduces the risk of slippage and protects kayaks up to 34 kilograms.

Installation is simple and includes locks to secure the carrier to the roof bars.

Bow/stern tie-downs are included in the package for added security by providing an alternative anchor point to resist the effects of high winds during transportation.



### **SMARTBAR**

COMING SOON

NISSAN NAVARA NP300 AND MITSUBISHI TRITON MQ

A wholly Australian initiated and owned company; SmartBar was established in 1996 and has since become the industry leader in polyethylene bull bars, revolutionising frontal protection systems.

SmartBar continues to design and develop innovative products in response to a growing market need in vehicle frontal protection systems and at the same time, proudly continues to defy trends by manufacturing in South Australia.

Contact us for more information and full product and price lists.

08 8384 0292 | info@smartbar.com.au | www.smartbar.com.au

### REDARC READY

### REDARC TOW-PRO ELITE



REDARC is proud to release the next generation of its award-winning electronic brake controller Tow-Pro. Introducing Tow-Pro Elite, now with Active Calibration. Once it's installed you are ready to roll.

Like the previous generation Tow-Pro, the Tow-Pro Elite, provides users with the ability to swap between an Automatic mode (inertia sensing) for highway driving conditions and user controlled mode for off road driving.

Active Calibration constantly monitors the direction of travel removing the need for an initial calibration process, the unit will even calibrate without a trailer attached whilst still maintaining the ability to mount in any orientation.

The unit is still able to operate both electric and electric/hydraulic trailer brakes without manual selection and will operate from either 12 or 24 volt vehicle systems without the need for extra components or wiring. The unit is also ADR21 compliant when installed as directed.

### 30A CIRCUIT BREAKER KIT



To coincide with the launch of the Tow-Pro Elite, REDARC are releasing a circuit breaker wiring kit designed to meet their stringent quality standards and make installing a brake controller easier.

The kit features a sealed 30A circuit breaker with wiring and connections to suit up to a 3-axle electric trailer brake controller setup and most of the work is already done for you!

The battery connection wire features robust protective conduit, heat shrink and crimp already attached whilst the brake controller connection

is pre-crimped with heat shrink meaning both wires simply need to be fastened to the circuit breaker using the nuts provided.

For connecting to the brake controller a butt-splice crimp and heat shrink are provided. REDARC recommend soldering the joint after crimping to ensure a good electrical connection.

The kit also contains a detailed wiring diagram explaining the installation, and features a protective boot to cover the circuit breaker and protect against accidental shorting of the terminals.



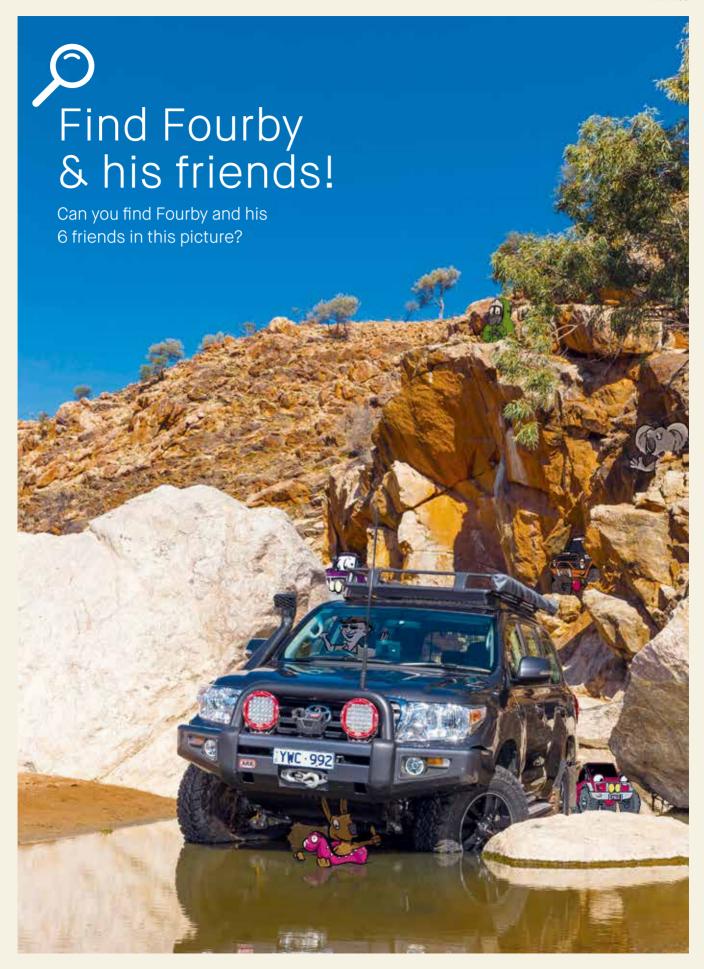










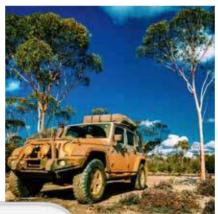
















#### Instagram ARB Bragging Rights

### Got a mad setup on your fourby?

Heading off road for a trip of a lifetime? Or is it Friday arvo and you're already around the campfire with mates? If you've got something to brag about, send a pic to instagram@arb.com.au and we'll share the best on our page.



#### **ARB STORES**

VICTORIA		NEW SOUTH WALES		NORTHERN TERRITORY		TASMANIA		
Kilsyth	(03) 9761 6622	Moorebank	(02) 9821 3633	Darwin	(08) 8947 2262	Burnie	(03) 6431 4494	
Brighton	(03) 9557 1888	Artarmon	(02) 9438 4484	Alice Springs	(08) 8953 0572	Launceston	(03) 6331 4190	
Dandenong	(03) 9793 0002	St Peters	(02) 9565 2455	QUEENSLAND		Hobart	(03) 6228 6822	
Hoppers Crossing	(03) 9749 5905	Wentworthville	(02) 9631 7889	Nundah	(07) 3266 3255			
Keilor Park	(03) 9331 7333	Albury	(02) 6021 2477	Capalaba	(07) 3823 5900	HEAD OFFICE:		
Pakenham 	(03) 5940 5500	Broken Hill	(08) 8087 9250	Coopers Plains	(07) 3277 2020	ARB 4X4 ACCESSORIES 42-44 Garden Street, Kilsyth Victoria 3137 Australia		
Thomastown	(03) 9460 9988	Dubbo	(02) 6885 5777	Biggera Waters	(07) 5537 8800			
Bairnsdale	(03) 5152 1226	Newcastle	(02) 4953 9555	Bundaberg	(07) 4153 2929			
Ballarat	(03) 5331 7078	Orange	(02) 6369 0700	Burleigh Heads	(07) 5535 9223	Tel: (03) 976	1 6622	
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Traralgon	(03) 5174 9190	Port Macquarie	(02) 6581 2500	Cairns	(07) 4035 3350	Email: sales@a	rb.com.au	
SOUTH AUSTRALIA		Tamworth	(02) 6762 0541	Caloundra	(07) 5491 4500	Web: www.arl	b.com.au	
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Morphett Vale	(08) 8186 6101	WESTERN AUSTRALIA		Maroochydore	(07) 5475 4011			
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