



To Hel & Back

raising money for Alzheimer's Research Trust and Link Ethiopia

40 countries, 30,000 miles, 2 continents, 1 trip!



GRAND PLAN

IN A nutshell, we will travel from the UK to South Africa via the east African coast and then home via the west African coast. The turning point is Die Hel in Death Valley, just outside Cape Town. We expect to cross through 40 countries over 30,000 miles, almost three times the average yearly commute in the UK, and all in 11 months on the road.



Mountain roads in northern Ethiopia.



TO HEL & BACK

Two university graduates begin their overland journey to Die Hel, near Cape Town, in a 110

WHAT TO do next? A question that many of us ask ourselves on a regular basis. As Land Rover owners, the question may usually relate to the list of 1001 'do next' repair jobs, each one more crucial and more critical than the last.

For two men fresh out of university, blinking in the bright

by **Tom Picton and Carl James**

light of the real world after years of some study and boundless beer, that question needed answering. What to do next?

The real world beckoned, 'proper jobs and stuff'. How to delay that? We could do what everyone else our age does of course. Grab a backpack, get a round-world ticket to Asia and spend six months on a tour of Australia, New Zealand and Thailand, returning home with little more than third degree sunburn, tourist snapshots, embarrassing 'personal rashes' and an empty wallet.

We wanted to travel, but where? Along came 'Long Way Down' with Ewan McGregor and Charley Boorman entering our lives. For us, Africa beckoned.

The freedom, the vast expanses of each country, more jaw dropping scenery to be seen by road in one day than some might see in a year. The differing landscapes, the myriad of contrasting cultures and people and the chance to see Africa up close drew us to plan a

route which would take in the best of this stunning subcontinent.

So we wanted to do something to challenge ourselves, complete the trip of a lifetime before going back to 'proper' full-time jobs and help some good causes along the way. One thing was clear from the start however, if we were going to use up all of our savings for this trip we weren't just seeing half of Africa, we would do the whole thing.

For all those of you out there who have considered such a trip – and many people have proclaimed to us that they would love to do a trip 'like ours' – we are your guinea pigs. We aim to complete twice the distance of the mighty Long Way Down and at a fraction of the cost.

pre-drive decisions

If you are going to drive across the world's toughest terrain in the most inhospitable environments over a long period of time the choice is fairly simple; Toyota Landcruiser or Land Rover Defender. You can probably guess from the title of the

publication you are reading which one we went for. Everyone has their own reasons for vehicle choices but for us it was a mix of heart and head; the ease and cost of repair for Landys plus the unbridled love of the beast itself.

So what to do next? Like anyone with a new project, you head for a copy of The Trader, LRM and various online sites and forums hoping to spy your bargain. There are hundreds of adverts for £4,000 Defenders of approximately ten years old and 100,000 miles on the clock.

But what happens when you buy a 1997 Land Rover Defender 110 for half that price? Well we did, and as of yet, not much has gone catastrophically wrong. It would appear that a combination of patience and waiting for the right vehicle to come up, willingness to travel far to view and old fashioned haggling can reap great rewards.

We were told never to buy a Land Rover from a farmer. Ignoring this completely, we did and we found

mud. Lots of mud. A week's worth of pressure-washing has resulted in a Landy which you can now sit in without holding your nose. It had also deposited a decade's worth of old manure on both our drives.

With the mud off, we could give the old girl a much more thorough inspection. Ripped seats, broken door handles, broken locks, a hole in the footwell, rusted door panel falling off, doors which don't lock and swing open on left-handers into oncoming traffic and more leaks than a Welsh supermarket.

It goes without saying that none of the interior lights work. My first complaint, which may be the first of many, is concerning the build quality. Apparently these problems are all normal 'because it is a work vehicle.' I am baffled as to why Land Rover haven't adjusted the ruggedness of the interior when the Defender is clearly regularly subjected to this use and abuse.

Having only been a Land Rover owner for the grand total of four weeks we have been very

impressed with many other features of the vehicle. Firstly the engine is great and whoever said to us that the 300Tdi is a classic was absolutely right; by no means fast but super smooth and has bags of torque. Additionally the power steering is a dream; the car turns on a sixpence using just fingertips and steers and brakes in a straight line.

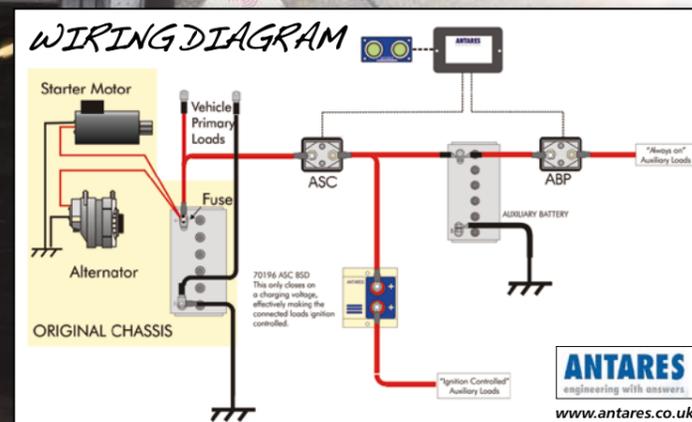
So now we have the route, we have the car, we have the enthusiasm and we have a ten-mill spanner. So it was time for the hefty prep stage.

ensuring success

The 'Africa Overland' by Bradt Guides, has been so helpful and told us pretty much everything we wanted to know. That book is certainly going in the SentrySafe along with passports and money while on the road – it really is that helpful.

With a bit of reading and help from Graham Goodyer 4x4 taking care of the complex





YOU CAN FOLLOW TOM AND CARL'S EPIC JOURNEY AT WWW.TOHELANDBACK.ORG.UK AND IN FUTURE ISSUES OF LRM.

TO HEL & BACK POWER BUDGET

■ 'Engine on' loads:

- Standard vehicle loads (ECUs, radio, wipers, headlights etc)15A
- Inverter: 10A
- GPS Receiver.....1A
- Additional cooling fan6A
- Additional driving lights (occasional night time use only).....25A
- Total.....32A (57A Night time)

Defenders come with a factory

fitted 65A alternator, which under normal (daytime) driving conditions provides almost double what is required to run our equipment, and if the vehicle is being driven after dark, the alternator can still support the loads.

■ 'Engine off' loads:

- Fridge.....7.2A
- Rear work light5A



mechanical jobs, we can have the vehicle expedition-ready from the mechanical side but we needed to make it into a home. For 11 months on the road, we will fit a washing machine, fridge, hi-fi, lights, computer, cooker and comfortable beds. Now remember we really aren't Ewan and Charley take two.

Admittedly, the washing machine will comprise a coolbox half filled with water and detergent which will sit on the roof and bounce as we wind our way across the African continent. Not quite a Zanussi but should be good enough.

Lights will be the latest offerings from Hella, providing stunning brightness for next to no electrical load. Beds come courtesy of a piece of sponge, apparently passed down through generations of our families although we're not sure it was done with this purpose in mind.

The cooker will be a reasonably priced dual hob Trangia gas burner while the temperamental old laptop should take care of our on-road articles. Finally one area we shall have to spend a fair chunk of our hard earned money on is a fridge. Ideally a dual fuel version to lower the electrical

Above: The bus in all her beauty. Even ex-farm vehicles can scrub up well with the correct amount of love.

Below: Carl puts his charity face on – the boys are hoping to raise £10,000 for Alzheimer's Research UK and Link Ethiopia.



load but a necessity if we are to preserve food for days on end in equatorial regions and the Sahara.

Once the GPS, worklight and additional cooling fan are added, the electrical demands become considerable and we feared more than our old battery would be able to provide. A few sleepless nights thinking about trying to push start our two-and-a-half tonne Defender away from an approaching pride of lions quickly made us realise we needed to think about how to power everything properly and prevent us becoming dinner.

power struggle

We came across Antares, a local company who solve these problems every day and provide electrical systems for individuals with high electrical demands in their vehicle (like ourselves and those using a winch for long periods). Obviously, the most important rule of any battery based electrical system; 'What comes out must go back in'. Realising we didn't really have much of a clue, Antares took control and guided us through the process.

A couple of coffee and clipboard filled meetings later and we had

ourselves a 'power budget' (see above) defining the electrical equipment we intend to run and its power requirements. This included if we intended to run the equipment with the engine on or off, and for how long.

For the 'engine off' loads, the alternator is not spinning, so the battery is not being replenished. Therefore the length of time each of these devices are used for becomes paramount. Experienced overlanders will know that fridges are best run overnight as they are incapable of cooling sufficiently in the high daytime African ambient temperatures. Thus ours will run for 16 hours a night, between the eight hours of expected driving most days. The work light is expected to be used for one hour per night.

crunching the numbers

Antares tapped all of this into their supercomputer and told us the energy needed to run the fridge overnight (the 16 hours the vehicle is not being driven) is 7.2 x 16 = 115Amps per hour. The energy needed to run the lamp for one hour is 5A x 1 hour = 5Ah resulting in a total energy storage required

each night of 120Ah. This is the important figure.

Charlie McClelland, Sales Director at Antares explains: "In order to allow for variation in run time, and prolong battery life, we would then divide by 0.7 to give a minimum recommended battery bank size. 120 ÷ 0.7 = 170Ah. The available battery sizes result in a battery bank consisting of 2x 100Ah batteries giving a total battery bank of 200Ah."

So that takes care of supplying the power to everything, now to make it work, day in day out.

For sustainability, recharging must exceed the power budget. Charlie continued: "The maximum average charge current that the battery will take from a charger is ten percent of the battery capacity. In this case that is 20A, so to put 120Ah back into the battery bank would be 120Ah ÷ 20A = 6 hours. Carl and Tom have told us they expect to drive for eight hours a day, so this is good – the battery bank should be "well filled" each night."

"These calculations show the system should be sustainable, and based on that usage pattern, the vehicle can be used every day, and the electrical system will

run the loads. As a rule, up-rated alternators and reducing the load are far better than carrying lots of lead."

Following a wander around the Antares factory and lots of finger pointing coupled with shouting "What's that?", we found ourselves with a couple of additional fancy gadgets. I know which button to press but once again it's best left to Charlie to explain; "On Tom and Carl's system the batteries are connected by a voltage sensitive intelligent split charge system. This takes into account the condition of the batteries and capacity of the alternator. Additionally a battery monitor will indicate current into and out of the battery. This means they can make informed decisions about the way they use the energy stored in their batteries."

Perfect, so hopefully an Antares a day keeps the lions at bay. Poetry is probably best kept away from this but for us, the peace of mind that electrically we are sound is a huge relief. We realised electrical loading would be a major obstacle to tackle but with a bit of help from local experts and some simple maths we seem to have it covered.

Top left: Wiring diagram for To Hel And Back including clever cut-off gizmos.

Top right: Top tip: if wheel chocks aren't available, just use Tom's legs.

Above right: The highway to Hel.

Below: The dangers of ten years worth of cowpats on your exhaust.



All too often overlanders seem to run close to the wire (excuse the pun) with what they want and what the car can provide and when a winch is also thrown into the mix it becomes all the tighter. Hopefully for us this is one less area which could be our downfall.

a few more toys

Finally, we are fitting all new EBC disc brakes and EBC 4000 brake pads to the Land Rover this week, which will hopefully inspire a bit more confidence in stopping ability. All the brakes are high-compound and will help to reduce dust from the brakes, as well as improving braking while the brakes are at high temperature, which will be essential in the Sahara.

The winch we are using comes from Goodwinch and, due to the vehicle's end weight being over three tonnes, we have plumped for a 12,000lbs TDS Goodwinch. Many thanks must go to David from Goodwinch, who looked after us superbly.

This was an introduction to our trip, a bit of tech for now and more to come next time including roofrack, rooftop, suspension and tyre choices amongst other things.