Trojan workhorse

Building the ultimate round-the-world off-road machine.

Steve Crombie and the XR650L – a bike that's gonna haul his arse more than halfway around the world.

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When you plan to ride through some of the most rugged, desolate and dangerous parts of the world, you need to be able to trust your bike, if nothing else, with your life.

During my forced stopover in Sydney since the beginning of the year, I've been planning the 100,000km-plus second stage of my attempt to become the youngest person to circumnavigate the world by land and sea by motorcycle, and the first to visit the seven natural wonders of the world.

The first leg, which took me right through the Americas, from Argentina to Alaska, cost me my trusted Honda NX650 Dominator. By the time I'd reached the Artic Circle, it was game over – the bike carked it, forcing me back home to get a new one sorted so I could complete the journey. After more than 700 days of punishment, four engine rebuilds, as well as comprising an article for the April 2006 issue of *ADB* (*Nine products that'll do 90,000km*), it was time to put the big girl out to graze, and to look for a fresh friend.

Now … which bike to choose? With time on my side – I'm still waiting for the ice caps in Siberia to melt – the plan has been to create the ultimate bulletproof, lightweight adventure machine; a bike that wouldn't pack it in, say, when you're strolling through the Middle East. With no race-team service truck or factory backing, I basically need to rely on whatever I can find along the way, so I needed a proven workhorse. Enter one Andy Wigan (*ADB*'s editor).

Knowing that big-arse XRs, NXs and XLs have been pounding just about every continent on Earth for the past 20 years, I hit Wigan up about trying to sort something out with Honda. Thirty seconds later, he shoves his phone in my face, saying, "Here ya go, Stevo, speak to this guy…" The end result: an XR650L. Let the fun begin!

For six months, I called upon the collective brains of the guys who've shaped off-road racing in Australia, gathering opinions on the perfect mods, with the intent of turning the XR into an indestructible weapon. Glenn Hoffmann (Team GHR Honda), Nick Dole (Teknik Motorsport) and Geoff Ballard (Ballard's Offroad) all threw their hats in the ring.

After busting our arses at the Teknik workshop, Dole and I have built one solid, reliable adventure bike – a workhorse that'll keep on truckin' no matter where you are. Here's what we did…

BUILD PHILOSOPHY

After punching out around 90,000km on a Honda NX650 over two years, through 26 countries, I learnt that reliability, mechanical simplicity and practicality are paramount. When modifying a bike for overland adventuring, you've got to bear in mind that you're going to need to rely on the parts 100 per cent; you only replace stock parts if it improves the bike and your chances of survival. When modifying my new XR650L, availability of parts, ease of maintenance, cost, and the ability to cover any terrain were all key factors, with durability, comfort and ultra reliability being the main focus. I was impressed by the XR's reliability even after a monkey like me wrestled with the engine. All the off-road experts agreed: the understated 650 is a detuned electric-start XR600R at heart. At its core, this bike is a lightweight bulletproof warrior with a tough ticker. Honda four-stroke engines would have to be one of the most reliable on Earth.

Australian bush is a piece of piss compared to wait lies ahead on Crombie's round-the-world adventure.

BRAKES

The stock braking is a little spongy. Add an extra 150kg, though, and you have a problem. We fitted a specially braided Goodridge brakeline (similar to a CRF450X's), which improved the braking power immensely, near-indestructible high-carbon steel Chain Gang brake discs and Silkolene Pro Race 2000 brake fluid. This combination will provide instant progressive braking on any trail, virtually ruling out the possibility of overheating, which regularly occurred in the Andes, where, on a 320kg-plus bike, the altitude dropped from 5000m to 1000m in four hours.

ENGINE

We removed the smog kit to create space, reduce weight and simplify the engine. The original paper air filter was substituted with an Australian-made Uni Filter model, and skins for better breathability, which can be removed to stave off air-filter maintenance in the middle of the jungle. We chucked in an XR600 carby, which is smaller, lighter, harder to break and easier to adjust when it comes to jetting changes at high and low altitudes and extreme shifts in temperature. We also bolted on an XR600 camshaft for improved mid- to top-end speed and comfort. Finally, we added a Staintune exhaust, which is lighter and adds torque through the curve, as well as being bloody hard to break.

COCKPIT

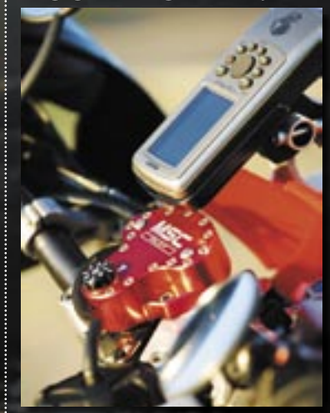
The addition of an MSC steering damper, with its eight settings, has made handling on dirt a piece of piss … well, almost. It reduces fatigue and, in the event of, say, sideswiping something, stabilises control, as well as making for a more comfortable ride. We threw on some Acerbis PHS tapered handlebars, which, I reckon, wouldn't break unless you fell off a cliff, and heated handgrips – cold hands equates to bad handling, plus they're heavenly when your balls are chattering like marbles in -20°C winds. As an absolute necessity, we added an Acerbis 21-litre tank, which will carry you almost 400km. We decided to keep the standard seat, given that my butt fits the shape.

EXTRAS

We threw on older-style XL600 lenses and inserted a Phillips Xenon/HDL H4 conversion kit, which helped stretch headlight visibility out to around 65m, and a custom extra-high screen. Finally, we added an Acerbis shock flap and fork boots, to protect the suspension, and a Roc Stompa fuel cap, to ensure the fuel cap could be removed after a potential tank expansion, or a contraction from an extreme change in temperature.

INSTRUMENTS

In the middle of Siberia with no one to ask for directions, let alone a road to guide you, you have to make sure you know where you're going. We added a Garmin GPS 76CX, with a removable "Micro SD" card for multiple mapping memory, which acts as an electronic compass and barometric altimeter – this lets you know when to change your jetting. We also replaced the standard dash functions with a Trail Tech endurance speedo, and installed a 12V plug, for charging electronic gear on the fly.



CHAIN & GEARING

We combined laser-cut Chain Gang sprockets with an RK 520 GXW chain and a Scottoiler MK7 universal kit (an automated chain oiler) to create a chain set-up that could potentially last three times longer than a conventional system. We also wrapped a Lube Tube chain-oil reservoir around the top of the fuse/battery box – minimising the need to check or adjust your chain for a few thousand kilometres, as well as providing flawless operation and maximum life expectancy. We have also added a tooth to the rear sprocket, shifting the ratio to 15/46, and will carry a spare 14-tooth front for tighter dirt sections. Staying close to the original gearing set-up helps to maintain the bike's overall economy.

PROTECTION

To provide the XR with some all-round protection, we added: Acerbis Multiplo touring handguards, to protect the levers and my hands; Roc Stompa Pro Stompa footpegs; an impenetrable Whipps bashplate; and, lastly, Ballard's XR headlight protectors, which are as tough as they come.

SUSPENSION & TYRES

The front-end was pretty soft, so the Teknik guys rebuilt the standard fork and rear shock to near-perfection for the 320kg-plus (no, I'm not that large) payload. These were modified because you'd have bugger-all chance of replacing them in the middle of Africa. The addition of heavy-duty springs – front and rear – and some serious revalving now has the XR handling perfectly down rocky trails without concern. We opted for Metzeler Karoo tyres and tubes. The tyres feature a light reinforced carcass structure that wears well on-road, allowing you to grip with ease, on sand or tar.

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REAL-LIFE PROBLEMS

DRIVE

This engine has origins from the mid-'80s, and in that time minimal changes have been made – a testament to its original design. If you had to name one weakness, though, it's the gearbox. With its tall road gearing, the abundance of torque at low rpm, delivered in pulses from the 100mm piston, and ample traction on tar roads, the gearbox can wear out prematurely. We fitted a rubber cush drive hub from the NX650 to help remove some of the road shock, and ended up going for 18-inch rims – it's easier to find tyres for 18s than 17s.

COCKPIT

When adventuring, comfort and functionality largely dictate cockpit design. Fitting a tall Safari-style 4mm Lexan screen lessened the buffering wind on long rides. The dash, which provides only basic functions, was removed. We used the original mount to hold a Trail Tech speedo, hardwired GPS and heated grip switch. The brakeline was wrapped under the front of the headlight and up the right side to ensure an un-obstructed view of the navigation equipment. We also added super-strong Acerbis Multiplo touring handguards and PHS tapered bars, which allows quick lateral hand release from the grips in the event of an emergency. Tank-wise, Robin Box from Aqualine Industries, who makes tanks for most modern dirt-bikes, has offered to experiment with a custom tank for the XR, hopefully with a 30-litre capacity, which would increase the range to more than 500km.

BRAKES

The XR650L has better brakes than any other production XR. Why? The NX650 255mm front disc is standard – 240mm is stock on every other XR. That said, it's still not up to the task of mountain descents in somewhere like the Andes with 320kg on board. The lack of feel at the lever comes from the rubber brake hose, which we replaced with ADR-compliant braided stainless-steel units from Goodridge. We also fitted long-wearing Chain Gang discs, while retaining stock Honda pads. Silkolene Pro Race 2000 fluid fills both ends. Why didn't we use bigger discs? They're vulnerable to crash damage, and if a disc is bent, it's easier to get your hands on NX650 discs.

HELP FROM FRIENDS...

NICK DOLE

Nick Dole, the proprietor of Teknik Motorsport in Sydney, can list Team Honda and Yamaha among his customers for their Australian Safari efforts. He was able to guide the XR project and give sound reasons for modifying, replacing or leaving stock parts alone.

"When *ADB* asked if I wanted to be part of this project, it stirred my interest, as Crombie did the first leg [*of the trip – 100,000km*] unsupported," says Dole. "So it's a unique opportunity to help someone build a bike that can be repaired economically on the road. Assisting him in his endeavour to raise awareness for youth suicide is certainly a world away from our Pro Lites race team, and from the suspension tuning core of the business. It's a great cause."

NEXT STAGE

The subframe will be reinforced, and we're making racks for the two 49-litre panniers, which will basically house my life for the next couple of years. The indestructible XR650L will then roll me through the next 80 countries on the trip, which you can follow on the Lost On Earth website (www.loston.com). Special thanks to Honda and the *ADB* crew for organising the bike and believing in the Lost On Earth dream – to raise awareness for Youth Insearch and to help me become the youngest person to circumnavigate the globe by land and sea, via the seven natural wonders of the world. ■

PROJECT HONDA XR650L BATTLE BIKE – SHOPPING LIST

BRAND	PRODUCT	RRP	DISTRIBUTOR	PHONE
Honda	XR600 carburettor	$500 (approx.)	Honda MPE	(03) 9270 1111
Honda	XR600 cam shaft	$350 (approx.)	Honda MPE	(03) 9270 1111
Honda	NX650 cush drive	$900 (approx.)	Honda MPE	(03) 9270 1111
Honda	XL500 lens	$100 (approx.)	Silverwater Spares	(03) 9270 1111
Teknik	Rebuilt fork	$609	Teknik Motorsport	(02) 4732 2626
Teknik	Rebuild shock	$375	Teknik Motorsport	(02) 4732 2626
Staintune	Exhaust system (muffler/header)	$595/$275	Staintune	(02) 4871 3188
MSC	Steering damper	$685	MSC Products	(02) 4374 1655
Garmin	GPS-MAP 76CX with "Micro SD" Card	$849	GME	(02) 9879 8888
Goodridge	Brakeline (front/rear)	$148.50/$126.50	John Stamnas	(07) 5447 7411
Scottoiler	Automated chain oiler/lube tube	$220/$60	Australian Italian Imp.	(03) 9602 4400
RK	520 GXW chain	$199	Link International	(07) 3382 5000
Chain Gang	Sprockets (front/rear)	$45/$125	Chain Gang	1800 806 857
Chain Gang	Brake disc	$160	Chain Gang	1800 806 857
Acerbis	21-litre fuel tank	$499	Off Road Imports	(02) 4577 7022
Acerbis	PHS tapered handlebars	$299	Off Road Imports	(02) 4577 7022
Acerbis	Suspension guard	$34.95	Off Road Imports	(02) 4577 7022
Acerbis	Multiplo touring handguards	$139.95	Off Road Imports	(02) 4577 7022
Acerbis	Tapered mount kit for Multiplo HG	$69.95	Off Road Imports	(02) 4577 7022
Pro Grip	Fork boots	$34.70/pair	Off Road Imports	(02) 4577 7022
Roc Stompa	Footpegs	$289/pair	Roc Stompa	1300 851 114
Roc Stompa	Fuel cap	$109	Roc Stompa	1300 851 114
Trail Tech	Endurance speedometer	$189	Ballard's Offroad	(02) 4731 1210
Uni Filter	Air filter (plus two layers)	$80	Uni Filter Aust.	(02) 9482 1792
Silkoline	Pro Race 2000 brake oil	$36.75	John Warrion Ent.	(02) 3279 4500
Whipp's	Bashplate	$196	Whipp's Alloy	(02) 6585 0944
Metzeler	MCE Karoo 90-21 (front)	$129	Galvin Imports	(02) 8811 1444
Metzeler	MCE Karoo 140-18 (rear)	$239	Galvin Imports	(02) 8811 1444
Metzeler	Heavy-duty "true rubber" tubes	$29 (each)	Galvin Imports	(02) 8811 1444
Ballards	Headlight protector	$149	Ballard's Offroad	(02) 4731 1210
World's Best	Dual-star mirror	$39.95	Ballard's Offroad	(02) 4731 1210
EMX	Folding mirror	$14.95	Ballard's Offroad	(02) 4731 1210
EMX	Heated grips	$54	Ballard's Offroad	(02) 4731 1210
				TOTAL COST: $8876