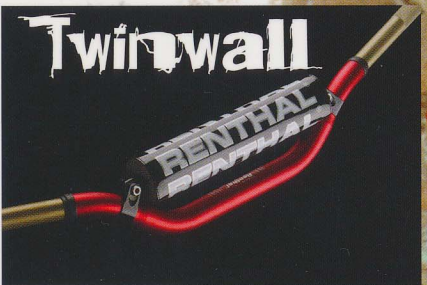


Renthal

David Knight

In an extreme world It helps to be the strongest

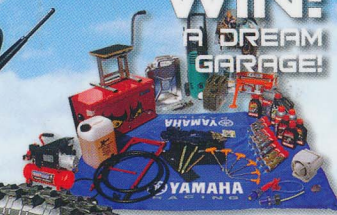


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EDITORIAL

Blade 'n' Races...

You wait ten years for an alternative-fuelled dirt bike to appear within the pages of TBM and then two come along in the same month. How weird is that?

Probably not all that weird given the socio-political climate in which we are living, here in Blair's Britain. A country where a number of privileged individuals called MPs claim to act for the majority, but in fact end up serving their own-, and the selected-interests, of a small number of well-funded, well organised and well-connected people at the expense of the hardworking proletariat.

Of course the removal of freedoms is all part of the price we pay for living in a Blairocracy where it's soon to become illegal to tell a certain type of religious joke for fear of invoking the spread of race hatred. No longer will you be able to say something like: two women in Burkas were walking along the road wearing rucksacks when one turned to the other and said: *'Does my bomb look big in this?'*

The late, great comedian Dave Allen must be spinning in his whiskey-lubed grave. Of course I'm assuming he was buried not cremated, given that smoking in public is also about to become another criminal offence in Blair's Britain.

So what's all this got to do with alternative-fuel dirt bikes? Well, only that the eco-terrorists appear to have formed an unholy alliance with Westminster's power-hungry legislators on the basis of some (unproveable) theory that global warming means the folk of Norfolk having to don their Speedos as a result of too many fat Americans in SUVs at drive-thru McDonalds.

Of course it suits these *suits* to ignore the well-documented historical, meteorological and geological record which indicates that regular fluctuations in Britain's climate and temperature - from near desert conditions to completely shrouded in ice - are commonplace during interglacial periods (which is what most geologists believe we are in now). But hey, as any journalist will tell you - never let the facts get in the way of a good story.

HYBRID BIKES!!! Yes, yes, I'm just coming onto that. Well the fact remains that like it or not the days of the internal combustion engine are numbered - politically. And not for any sound economic reason other than the fact that some woolly-headed 'mentalist has whispered into the ear of an MP that the burning of petrol vapour will lead to yet more earthquakes in Pakistan, Tsunamis in SE Asia, and probably Krakatoa erupting - sending spumes of molten lava into the offices of the European Parliament, destroying a year's worth of expense claims. And we can't have that happening, can we?

It may seem a long way off to you, and I don't pretend for one minute that it's going to happen tomorrow, but I do think that in the not-too-distant future we'll all be scooting around on electric and hybrid-fuelled dirt bikes and riding in clean 'n' green enduros. If only because they'll let us ride that much more stealthily - perhaps in places we shouldn't! Of course the benefit of these bikes being virtually silent is that it's going to be so much easier to sneak up on some poor unsuspecting MP or enviro-nazi and pummel 'em into the ground. Bring it on!

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ISSN 1359-0324

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Distributed by Seymour: Printed in England by:
020 7396 8000 Rowe The Printers

TBM is published on or around the first week of every month by Extreme Publishing Ltd, registered in England & Wales.

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NOVEMBER 2005



ELECTRIC

With ever tightening restrictions on where we can and can't ride, a silent dirtbike has huge potential. TBM took a ride on the stealthy electric-powered Blade T-6...

Until recently, my interest in electric vehicles extended to... well, it didn't extend anywhere at all. I had absolutely no interest in them whatsoever. Because as far as I was concerned they came in three tedious forms: 'industrial' machines such as milk-floats and forklifts; weirdy-beardy inventions like the Sinclair C5 and the simply abhorrent Segway; and then, worst of all, ponderous eco-vehicles which are almost as objectionable as the hypocritical film stars and green 'activists' who drive them. Heck, if they could harness their own smugness to generate power, they'd solve an energy crisis in one fell swoop.

But then, back in issue 121, we reported on Electric Moto's Blade T-6, the first battery-powered dirtbike I'd ever come across, and I have to say that it looked pretty interesting.

As a self-confessed 'petrol-head' the technology itself wasn't what grabbed my attention, rather the potential to open up huge areas to ride thanks to its 'silent running'. And like it or not, if dirtbiking is to survive in any way, shape or form, we're gonna have to start pandering more and more to the politically correct muesli-munchers.

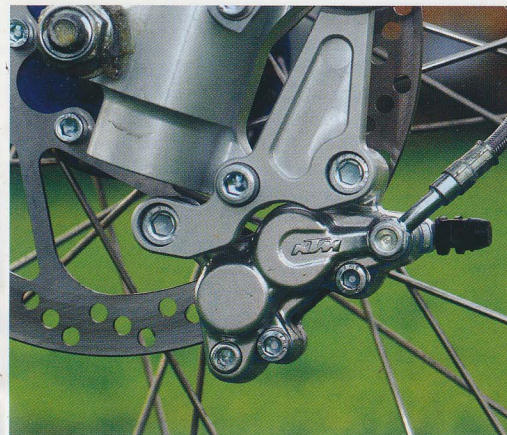
Electric Field

Thankfully, the UK's Blade importer, Stuart Rutter, isn't the kind of tree-hugging liberal who would sooner eat his own Birkenstocks than drive a 4x4. He's a regular dirtbiker like you and I, who happens to appreciate that noise is a big issue in modern day dirtbiking - as do the guys in the States who developed the bike.



It may look odd, but it works
and it's absolutely silent.
MTB trails here we come...

ELECTRIC SHOCK!



The fast charger costs more but speeds up the all important recharge time



Electric motor claimed to be good for about 18hp...

owner was forced to erect a 25ft high noise barrier out of straw bales, and only run bikes on a Saturday, when the population of the nearby village are all out at Ikea or deafened by their own lawnmowers.

For now, only low-flying fighter jets and the hum of a far away Massey Ferguson broke the rural silence as two Blades sat on paddock stands, their batteries being charged from the power supply in a nearby workshop. And I've got to say they looked pretty purposeful. There's very little 'meat' on the bike - they're pared down to only the basic components with just a small

Electric Moto's CEO, Ely Schless, may have built electric vehicles (including many for use in the Hollywood film industry) for much of his working life, but way before that, when he was still in short trousers, he was riding around on a street legal 650 Bonneville dirt-tracker, with open megaphone exhausts. So he knows a loud dirtbike when he hears one!

The company evolved from building electric bicycles, as Denali Cycles, into producing the Blade as Electric Moto Corporation, and the bikes are put together using parts from around the globe. It's a relatively small concern, though as you'd expect of such a project, the team are clearly passionate about their work.

Electric Start

For our test, we met Stuart at Washbrook Farm MX track in Cambridgeshire. Washbrook was particularly apt as a test venue for the Blade, as it is beset with noise issues - to the point that the

section of alloy bodywork and an Acerbis headlight. Although this wasn't wired up, a working light is something the company are looking into for the bikes to further reinforce the Blade's 'motorcycle' pretensions.

Despite the lack of a petrol engine and the associated gubbins, and unlike the ENV elsewhere in this issue, the T-6 is immediately recognisable as a dirtbike - albeit much of the componentry is a cross-over between mountain bike, junior MX and regular off-road clobber.

The frame is powdercoated chro-moly steel, with a removable sub-frame holding a Yamaha YZ seat. Now, before the rest of the spec, it's worth stopping here to mention just how low the Blade T-6 really is. At around 310mm, ground clearance is a little under what you'd expect of an enduro bike, and the seat sits at just 840mm. That's just 20mm taller than a Serow's perch and 100mm lower than you'd expect on a KTM EXC. So even the most vertically-challenged rider

Ride it like a dirtbike
and the Blade T-6
handles brilliantly...

ELECTRIC
SHOCK!



shouldn't be daunted by the size of the bike.

Up-front, the fairly thin USD Ohlins appear even skinnier due to the lack of forkguards, whilst the piggyback Ohlins shock looks pretty big 'n' beefy mounted linkless, and upside-down to the swingarm (slotted between the batteries).

The wheels employ bespoke hubs laced to 24in Ringle downhill mountain bike rims, wearing chunky MTB tyres. Slowing these are discs from Italian company Formula, using the Brembo front caliper and master cylinder from KTM's school-boy motocross 85SX and a Formula rear stopper.

Naturally the front brake lever resides on the right-hand side of the braceless bars, though the left side is bereft of anything but the grip. There's no clutch with the single-speed electric motor, and the rear brake is exactly where you'd expect it to be: under your right boot.

Electric Organ

The powerplant is a brush-type neodymium, pancake motor, which could be alien technology for all I know, though Stuart explained that it was essentially an off-the-shelf, 19.2kW, industrial motor. Four sealed lead-acid batteries (two on each side of the frame) provide 16.7amp-hours of oomph, with drive to the rear wheel first being fed through a belt to the front sprocket, and then through a non o-ring chain to the rear sprocket. In time, this system (necessary to ensure the correct gearing and to mount the sprocket at the swingarm pivot) may give way to a chain-drive

running direct from the motor to the rear wheel.

Nestling between the front frame rails is the control box for the throttle. The regular twistgrip operates a cable, which in turn works a controller within the box, regulating how much power the batteries supply to the motor. Plug your laptop into the box and, using software which comes with the bike, you can program the level of throttle response you require, in a similar manner to a programmable ignition on an internal combustion engine. As well as this adjustability, a toggle switch on the front of the box allows you to drop to 50 percent of the available power, should you wish to go everywhere half as quickly..! Though this does also have the affect of doubling the 'charge-life' of the batteries, to give almost an hour of riding time.

Yep, at present the Blade will only run on normal power for a

little under half-an-hour, though as battery technology progresses (and apparently it's moving pretty rapidly), so the riding time will increase.

Spark Plug

Before we hit the track, Stuart unplugged the charger from the batteries and re-connected it to the control box. A loud 'crack' could be heard as a spark arced between the two plugs, located just behind the headstock at the front of the seat. The bike was then 'live'. No noise, no starting procedure, no fumes, nothing. But tweak the throttle and, Stuart assured us, the bike would take off. And after a brief ride around the car park to get used to the 'workings' of the Blade, I could see why. The control box was set to give good hard throttle response, and the merest tweak of the twistgrip had the bike surging forward like a green protestor at a bulldozer. With no engine noise, no bark from an exhaust and nothing in the way of vibes, it was initially quite hard to grasp what the motor was doing.

With a petrol-engined bike, you have to worry about being at the right revs, in the right gear, and then dialling in the requisite amount of throttle. On the Blade you have no such worries. As previously mentioned, there's no gears - it's simply twist and go. And 'go' you most certainly do, because although the bike only puts out a claimed 18bhp at the rear wheel, electric motors are able to deliver maximum torque from zero rpm. What this means in riding terms is that the



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slow-speed response is simply phenomenal and with such a lightweight machine (around 80kg) the initial acceleration is quite surprising. With only 18bhp, this burst of acceleration soon subsides, and the bike will only pull something like 40mph. But on a tight course, through the trees or on the trail this shouldn't be an issue.

Electric Storm

Out on the sand and shale of the Washbrook MX track, the Blade required a bit of a revision in riding styles. With the abrupt transition from 'no throttle' to 'a little throttle' a deft touch was needed through the slow corners and

to prevent the front-end from washing-out. So after a couple of laps of 'thrupenny-bitting' the turns, I decided it would be easier, and to be honest a whole lot more fun, to square them off and then 'gas' it out. The problem is - if it was a problem - that the Blade has no engine braking. We're not talking 'no engine braking' in the same way that a small-bore stroker has 'no engine braking', rather none whatsoever. Not one iota. Zip, zilch, nada. Close the throttle on the Blade and it just keeps rolling - it's the same effect as pulling in the clutch on a regular bike. So where you'd ordinarily bang down through the gearbox and back a bike into the corners, on the Blade you have to do this *entirely* on the rear brake. But it's no trouble, and with the wide braceless bars and low seat it's amazingly easy to chuck around. In fact, in this respect, the Blade is more like a bicycle

ELECTRIC SHOCK!



than a motorcycle. And although the company want to keep the rear brake near the right peg to emphasise that the Blade *is* a dirtbike, I'd sooner see the lever fitted up on the bars. No hassle, say Electric Moto, a bar-mounted rear brake lever is on the options list, to keep those from an MTB background happy.

Rather than use the razor sharp geometry of a mountain bike, which would've been far too twitchy on such a machine, the T-6 is set-up very much like an enduro machine. It's stable, yet precise (thanks to a wheelbase marginally longer than a Honda XR250) and despite having employed a 'point and squirt' technique for much of the ride, the Blade can still scythe (groan) through the turns with ease. With very little bulk to haul and no heavy crank revolving beneath

you, flicking the bike from side-to-side is phenomenally easy, far more so than on a 125 even. Throw in that low, flat seat, which allows you to get right forward and over where the tank would normally sit, and you can dominate the Blade like no other 'powered two-wheeler'.

This lack of fuel tank, or protruding radiators, means that the T-6 is particularly slim. Mid-way along the length of the seat, the metal bodywork flares downwards slightly to cover the tops of the batteries and this is the widest point on the bike.

Here it's perhaps *slightly* wider than an enduro bike, though you only really notice it because a crease in the bodywork catches on the tops of your boots - something the factory are planning to change. From this point forward, the bike narrows considerably, making foot-out cornering so



Second Opinion: Si Melber

Occasionally a dirt bike comes along which is so outside your normal testing parameters, that you really don't know what to make of it. The Blade T-6 is one such bike.

Is it a dirt bike at all you may ask? Yes I believe it is, but not the sort of dirt bike we've all been used to thus far.

The truth is it's a whole new breed of dirtbike - one which makes the crossover from mountain bike to motorcycle and blurs the distinction between the two disciplines.

Obviously it's expensive - though there are people out there who don't think twice about spending this sort of money on a high-end MTB, and having ridden it I just cannot get over how well it just eats up the terrain.

For me the biggest drawback is the running time, because riding the T-6 is just so damn addictive you'll want to spend all day just zooming around, jumping, wheelying and powersliding the thing out of corners - all completely silently of course.

And imagine the fun you could have with a bunch of mates at an indoor Karting track remodelled to be like one of the indoor enduros. Las Vegas or Barcelona, anyone?

My verdict? It's quietly brilliant... **SM**

much easier. In fact, without any rads to splay your leg outwards, it actually feels a little odd!

Similarly, the peg-to-seat distance felt a little shorter than I'm used to, but when standing there wasn't the stretch to the bars usually associated with low seat height bikes, and in all other respects the riding position was quite roomy.

Shock Tactics

With great handling came great suspension, and there's no doubt that the Ohlins units had been well set-up. Particularly plush, they handled our modest jumping with ease, and gave great feedback on the loose, unpredictable track.

Bigger, heavier forks would've been wasted on the Blade, and with plenty of adjustability available finding settings to suit shouldn't be a problem. In fact, for a small fee, the factory will up-rate the springs and damping should you be heading for the supercross track.

There was certainly no issue with the front brake overwhelming the forks either, as the available braking power is just about on the lower limit of what you'd want. And with the lack of engine braking, the brakes do get quite a work-out, so a bigger, thicker disc would be a welcome addition, and no doubt more reliable than the MTB-esque part currently used. No such worries with the rear though, it's plenty powerful without being snatchy.

There are a few other little niggles which need addressing on the T-6, though they are really just minor detail changes and additions. The lack of a killswitch, for instance, is something which needs to be sorted as we'd hate to see what'd happen in the unlikely event that the throttle stuck open.

You'd have to hope the brakes would stop you (dubious); attempt to separate the power connector behind the headstock (unlikely); or simply jump off (painful, and doubtless expensive as your bike hurtles serenely (and silently) into the distance, before slamming unannounced into something immovable).

Likewise, a switch to disable the bike in the paddock, rather than just splitting the two connectors, would prevent small boys and inquisitive idiots tweaking the throttle and being run over by a rider-less Blade.

Forkguards would be a welcome addition too, whilst at the same time the front brake hose needs to be re-routed. And having passed these comments on to Stuart, subsequent Blades may well be subject to these mods. Because there is no 'model year' with the T-6, if something requires changing then it gets changed. That's not to say that the customer does the development work, far from it, but with small-scale production the factory can effect changes almost at will.

Shock and Awe

It's clear that the Blade is a competent, well-engineered machine and great fun to boot. And whilst the riding experience is clearly a little different to your regular dirtbike, it's not alien. Well, other than the fact that apart from the rumble of the mountain bike tyres (which worked well, incidentally) it's completely silent, allowing you to waft along listening to the chatter of small woodland creatures, or sneak up on annoying ramblers..!

But is it the perfect alternative to a petrol-engined dirtbike? Well, whilst it may develop into a replacement for your 'gas guzzler' there are first some issues which need to be addressed. And the biggest problem, from an enduro standpoint especially, is the running time. Twenty five minutes of play really isn't that long (unless you're a motocross

rider, in which case you'll probably find all your riding kit has gone out of fashion in that time), and even using the optional (at £300) 'quick' charger, the batteries require over 40 minutes to fully 'recuperate'.

To use the Blade in an event, say a hare 'n' hounds, you'd want at least a couple of hours worth of 'high speed' running time, and the ability to quickly swap out drained batteries for a fully charged set would be advantageous.

Hopefully the technology to allow longer running time won't be too far off, but for now you'll need to take a generator out with your bike.

Then comes the cost. At present, a Blade T-6 will stand you in at £4000.

For that you get the bike, the software to fiddle



ELECTRIC SHOCK!



Is the sun setting on conventional dirtbikes? Well no, not yet, but bikes like the Blade could well become more common in the future...

with the control box and an overnight charger to top up the batteries. Or alternatively for the same outlay, you could pick up a year old enduro bike, already road registered (which the Blade isn't, and for the short term at least, won't be) - and a regular dirt bike will run for as long as you put fuel in the tank and has a ready resale value. Mmmm, tough choice. Eventually, Electric Moto will be looking to produce road-legal machines, but for now the bike is definitely 'closed course only'. Shame.

And whilst we were assured that the bike could cope with puddles and jet washing (without giving you a jolt from the batteries), would a stream crossing send it into meltdown? We're assured not.

Whilst we see these as problems (and not insurmountable ones, either), the bigger picture is that the Blade T-6 is a politically correct, eco-friendly(ish) dirtbike. It's not some pie-in-the-sky idea, it's the beginnings of a viable alternative which delivers the same kinda kicks as the dirtbike in your shed. And we can just imagine the fantastic fun you could have with a whole bunch of mates all mounted on T-6s on a 'backyard' enduro track.

The lack of noise and relatively small 'foot-print' from the mountain bike tyres may well open up the use of MTB trails and other land currently closed to dirtbikers (whether legally

or illegally!), whilst the greens will see the lack of emissions as a definite bonus (even if the electricity used to charge the batteries came from a fossil-fired, whale-murdering, newt-squashing, radioactive powerstation).

I couldn't really give a flying treefrog about hybrid cars, Segways or milk-floats(!). But the Blade T-6 certainly came as an (electric) shock to the system...

Thanks to Stuart Rutter and also to Washbrook Farm MX (01354 740442) washbrookfarmmx.co.uk. For more info go to goblade.co.uk.

ELECTRIC MOTO BLADE T-6

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