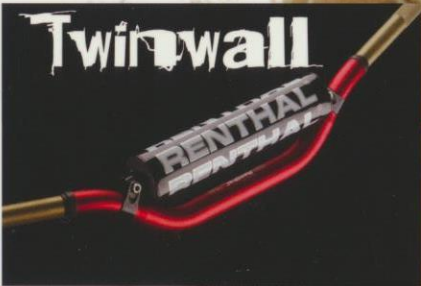




David Knight

In an extreme world  
It helps to be the strongest

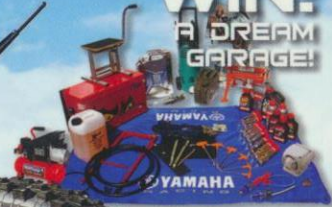


www.renthal.com



ELECTRIC SHOCK  
WE RIDE THE BLADE T-6

WIN!  
A DREAM GARAGE!



FUTURAMA  
IS THIS THE FUTURE OF DIRTBIKES?

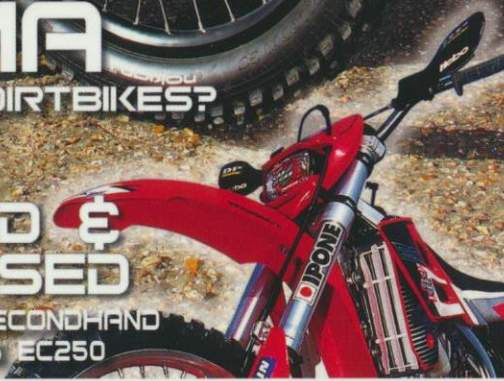
LAP OF THE GODS

LAPLAND TRAILS EXPLORED...



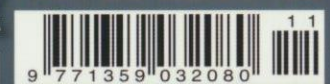
USED & ABUSED

BUYING A SECONDHAND GAS GAS EC250



Archives: Yamaha DT175MX  
Plus | TT-R250 | Greeves Scottish | Scott Trial

NOV 05 £2.95 123





# EDITORIAL

## Blade 'n' Races...

**Y**ou 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 Burhkas 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!

SI MELBER

Edited & produced by: Si Melber  
Deputy Editor: James Barnicoat  
Staff Writer: Mel Falconer  
Contributors: Mark Williams,  
Chris Evans, Jonty Edmunds,  
David Knight, Mike Rapley,  
Alex Hearn, Steve Plain, Si Pavey  
Designed by: Caleb Mason

ISSN 1359-0324

**TBM**

Editorial Address:  
TBM PO Box 9845  
London W13 9WP

Tel/Fax (10am-6pm Mon-Fri):  
020 8840 4760/5066

Subscriptions:  
Tel: 020 7903 3993

Advertising Manager:  
Natalie Watson  
01225 786815

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.

Company No. 3051747. All rights reserved.

All material appearing in TBM is copyright to Extreme Publishing Ltd and may not be reproduced in part or in full (including electronically), without the express permission of the publishers.

**6 PERSPECTIVE**  
Images capturing the essence of dirtbiking...  
**10 NEWS**  
All the latest from the world of dirt bikes...  
**14 TBM's ULTIMATE GARAGE GIVEAWAY**  
WIN yourself a Dream Garage...  
**20 RIGHT TO RIDE**  
Mark Williams ponders the recent NERC Bill...  
**26 LETTERS**  
The word from the street (and now the net) is...  
**36 HYDROGEN BOMB-SHELL**  
TBM investigates the hydrogen-powered ENV...  
**50 TALKING DIRTY**  
Home-spanner dampens Chris' spirits...  
**52 COMPLETELY RUTTED**  
Getting older, but not necessarily any wiser...  
**54 HACKED OFF**  
Trail riding, motorcycling's best kept secret...?  
**56 LAP OF THE GODS**  
Trail riding with the reindeer in Lapland...  
**70 BUYERS GUIDE - GAS GAS EC250**  
How to buy a secondhand Gas Gas EC250...

**74 ELECTRIC SHOCK!**  
TBM took a ride on the electric Blade T-6...  
**86 STAFF BIKES**  
The latest update on Mark's Yamaha TT-R250...  
**92 PLAIN & SIMPLE**  
Got a problem with your trailbike, ask away...  
**98 TRADE SECRETS**  
Adding straps to your bike...  
**100 TRICK BITS**  
More additions to your Christmas list...  
**102 FROM THE ARCHIVES**  
The history and virtues of the Yamaha DT175...  
**122 KNIGHT SPEED**  
Knighter scoops his first world championship...  
**124 '05 MAXXIS WORLD ENDURO CHAMPIONSHIP**  
Round 8: Serres, Greece, 9-10 Oct...  
**132 '05 MAXXIS WORLD ENDURO CHAMPIONSHIP**  
Round 9: GP Valle Bergamasche, Italy, 15-16 Nov...  
**138 THE 2005 SCOTT TRIAL**  
Report from this year's Scott Trial...  
**146 WHAT'S THE STORY**  
The Greeves Scottish...



# CONTENTS

NO.123

NOVEMBER 2005



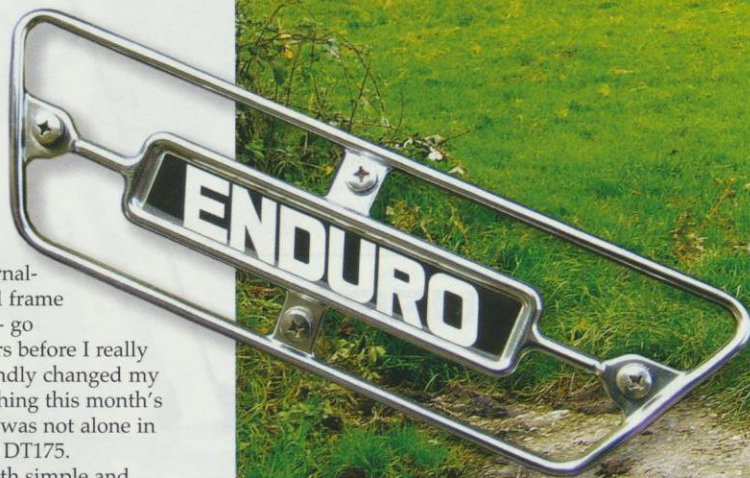
# Shock of the New

Mark Williams recounts the history and virtues of Yamaha's remarkable little DT175...

As many off-road luminaries have recalled over the past year in TBM's eponymous mini-feature in the News pages, your *first dirtbike* is often the one you remember most fondly, and the one that sets in train an entire vocation. And whilst that's true even of lowly journalists (my first bike was a rigid frame BSA Bantam with knobblies - go figure), it was a good 15 years before I really found a dirtbike that profoundly changed my riding habits. And in researching this month's Archives, I discovered that I was not alone in my admiration for Yamaha's DT175.

The reasons for this are both simple and numerous, so where shall I start? Well being in most respects physically identical to its smaller 125cc stablemate, it was a compact and lightweight machine, but with a significantly bigger power output, 16bhp in the case of the first series bikes of 1973-75, compared to 12hp for the eighth-litre jobbie. And 4bhp, plus a corresponding uplift in torque, makes a difference in a bike that weighs just 221lb.

But apart from the engine - which we'll deal with in more detail later - the rest of the bike borrowed heavily from its larger, 250cc sibling which was one of the most accomplished trailbikes of its era, and boasted a chassis that was more than competent both on- and off-road, and a generally sophisticated specification.



Battery driven electrics (albeit 6-volt), oil injection ('Autolube' as it was tagged by Yamaha in the early '70s), a biggish, comfy seat and twin dials were all part of the package. And although the DT175 never sold as well as the 125, it always outsold the 250, possibly because it was generally a good 25 percent cheaper and not much less of a blast to ride.

But let's start at the beginning, and admit that the DT125 was around for a good two or three years before it spawned a bigger brother. From the get-go the smaller bike was a winner, its engine born from slicing in half a TD250 motor, the two-stroke twin that dominated road racing

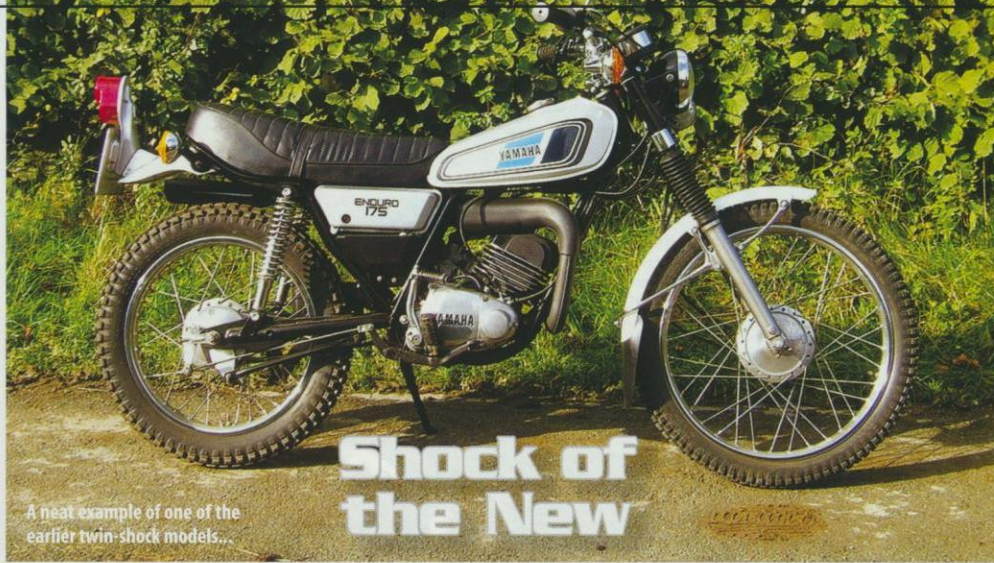


during the late '60s. Oversquare at 56 x 60mm and de-tuned to a 7.1:1 compression ratio, the DT125's engine was also a tough little blighter, which is why its bottom-end stayed intact when Yamaha punched it out to 66 x 50mm and created the 171.1cc top-end we soon learnt to love.

But what impressed most about this engine was its considerable, and almost linear low- and mid-range power delivery - essentially the product of reed-valve technology, which Yamaha trademarked as 'Torque Induction'. Now the problem with two-stroke engines (especially in those pre-powervalve days) is that asymmetrical inlet timing - ie controlled by the piston skirt

passing over the ports - is responsible for the shape of the powerband. And if you want to increase the top-end you have to get as much gas as possible into the crankcase, which means cutting as big a chunk as you can out of the piston skirt so that it'll draw the mixture down as early as possible in the combustion cycle. And in order to avoid blow-back of the charge on the exhaust stroke, the inlet port must close as soon as possible after combustion. But to minimise this, compromises have to be made in the length and shape of the piston skirt, which generally favour top-end performance at the expense of low- and mid-range.





A neat example of one of the earlier twin-shock models...

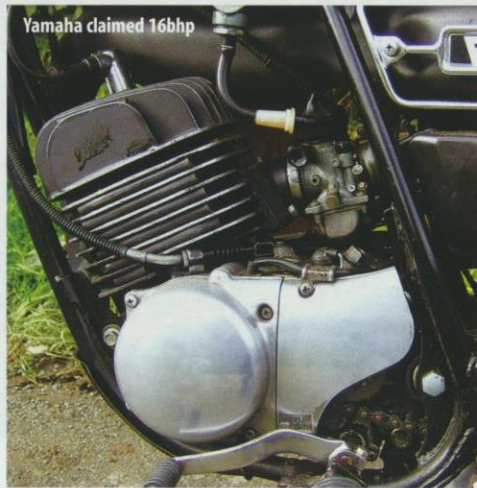
## Shock of the New

To reduce such concessions, the concept of a reed-valve is beguilingly simple. Place a uni-directional valve in the inlet tract, and blow-back is eliminated. But the valve must be able to respond instantaneously to the vacuum created beneath the rising piston whilst not stopping the flow of a fresh charge into the crankcase. It must stay open for as long as possible, closing just as the rise in pressure in the crankcase threatens to blow the charge back out through the inlet tract.

To help achieve this, crude reed valves were fitted to some small stationary engines and chainsaws built by the likes of Mercury and McCulloch as early as the 1950s. Indeed the German bike manufacturer, DKW, introduced the first reed-valve aspirated motorcycle in the late '40s, although they abandoned the design because the poor quality materials used meant the petals kept breaking.

But in comparison Yamaha's was quite sophisticated, with a triangular wedge of alloy to which were fixed four (later six) pairs of metal strips. Covering holes in the wedge, the inner strips were made of thin stainless steel which would snap open against a thicker, rigid strip as the charge was pulled down the inlet tract. As the vacuum dropped, the thin strip - sealed by a thin coating of neoprene - would close back over the holes, thus preventing any chance of blow-back.

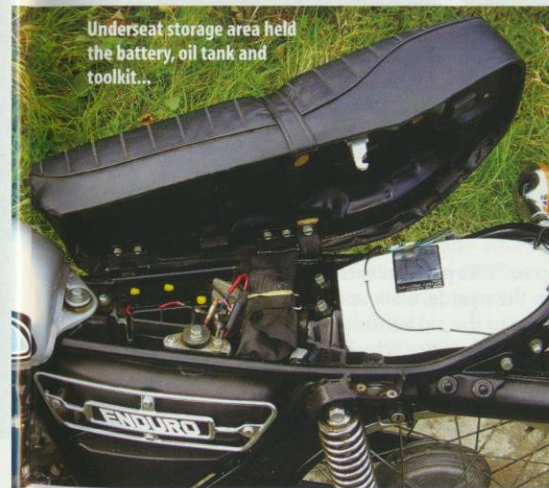
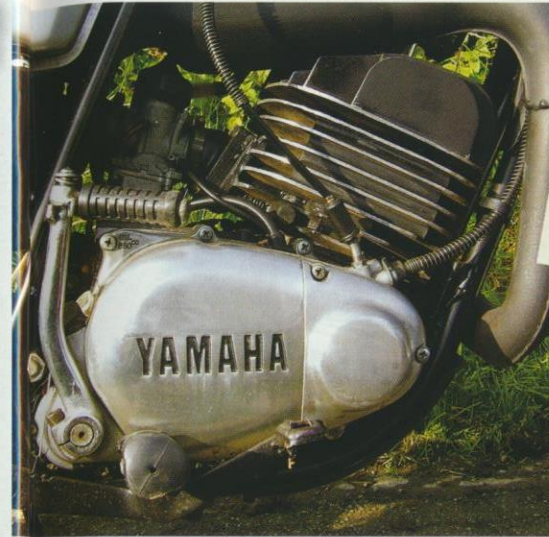
Without wishing to bamboozle you with any further techno-babble, suffice it to say that this system enabled Yamaha's engineers to revise both



Yamaha claimed 16bhp

the porting - actually adding extra inlets and transfers to a total of seven ports - and design the shape of the piston skirt to work as efficiently as it possibly could.

The consequences of all this was to liberate a lot more usable power at the lower end of the spectrum. Hitherto most performance two-strokes produced most of their effective power in the top 20 percent of the rev range. However Yamaha's design enabled the powerband to kick in from the bottom 20-25 percent of the band, which meant 'stokers suddenly ceased to be the



Underseat storage area held the battery, oil tank and toolkit...

screaming, unpredictable monsters that had characterised early Japanese roadbikes and, indeed scramblers.

So when the first DTs appeared over here in the early '70s, they were an immediate hit. The Mikuni 24mm carb was actually the same as that of the DT125, but obviously re-jetted to suit the bigger engine and the gearing was slightly taller to make the best of the 175's extra power. Fifth gear was also strengthened, though I'm not sure why (probably to give journalists something else to write about).

## Shocking the competition rigid! Yamaha's DT175



The twin-shock, tubular swingarm and front forks were pretty bog-standard for their day, as was the single downtube frame with its duplex lower cradle, but as a package it worked well.

If anything, at 50.5in the wheelbase was a little on the short side, as was the 30in seat height, and one couldn't help but think that the early DTs were designed for oriental rather than occidental riders.

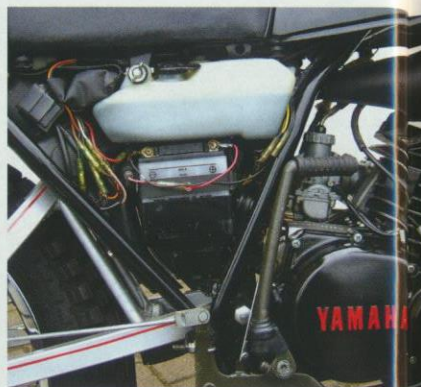
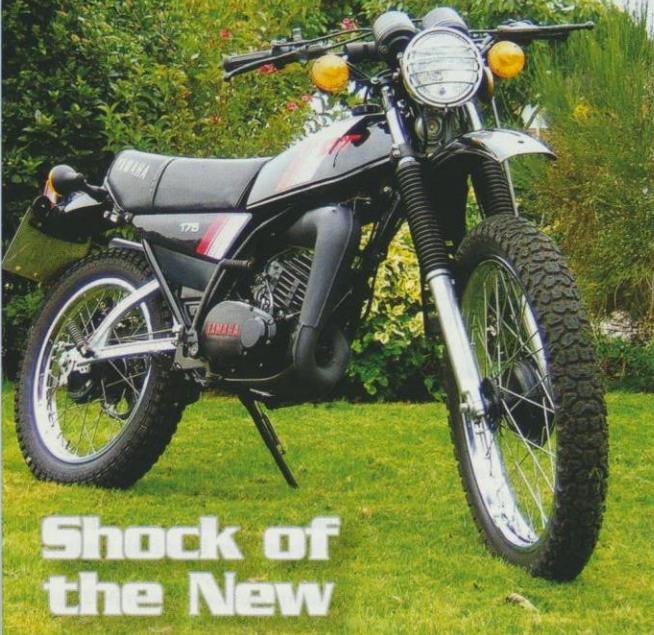
John Chappell's silver machine featured here is pretty typical of the first era of DT175s which lasted until the 1978 model year, and wore a steel tank, side panels, wheel rims and fenders (although it was still a relatively light bike for its day). John's bike - bought through the classified ads - has had only one previous owner in its 27 year existence and clocked up a mere 2200 miles in that time, a quite extraordinary figure but which its virtually showroom condition testifies as being kosher.

The small SLS drum brakes were amongst the more effective offerings then available and both they and the engine cases sported the usual polished alloy finish - that is before matt black became the order of the day. And unlike today's trailbikes, the early DTs were very user-friendly with deeply padded seats which hinged open to reveal a battery, air-box vent and toolkit - although along with their massive indicator lamps, twin dials and rubber covered footrests - clearly designed for a life of mainly road use.

That all changed with the 1978 model year when a cantilever rear end - already a feature of the company's YZ125 motocrosser - appeared on the fittingly re-christened DT175MX, along with some other revisions that suddenly made the bike a serious proposition to the clubman enduroist, never mind the recreational trailrider. The new suspension provided eight, as opposed to seven, inches of travel and this was damped by a single



Later bikes utilised Yamaha's lovely cantilever rear end...



gas/oil De-Carbon shock which was nice and progressive and didn't cook its innards too easily. The spring load of which was easily adjustable by removing the seat and applying a C-spanner to the shock.

New, thicker front forks also offered an extra inch of travel, although not quite as well controlled as that at the back-end, this could be remedied by pre-compressing the fork springs and upping the weight of the oil. Needless to say a lot of us did exactly that - and by 'us' I mean those that actually bought the little darlings, of which I was one. It was also possible to add an extra two inches of travel at the rear end with a kit supplied by Essex dealer, Dave Rayner, and engine tuners were soon offering mods to bump up the power to 17, 19 and as much as 24bhp from the meagre 15bhp that was now the standard output. I say 'meagre' because despite knocking the compression ratio up to 8:1, that was actually a whole pony less than the previous twin-shock model and you had to pull the revs

up to 7000rpm - an extra 500rpm - to get at it. On the upside, a six-speed gearbox had now come to the aid of the party - a first on a bike of this capacity - which certainly made the most of the slightly reduced power output, giving it an indicated top speed of 70mph. A CDI ignition system was now standard, and although still abetted by a puny 6-volt system, the engine would usually crack into life first kick.

This state of affairs was partly a consequence of US emissions regulations which strangled the combustion process, although the DTs nevertheless managed to offer a little more bottom-end than their competitors which was useful in the nadgery stuff or when clawing your way up a particularly annoying hill. But simply replacing the Yamaha reed valve with one from Messrs Boyeson instantly improved torque throughout the range and if you were really serious about your off-roading, some judicious porting, after-market exhaust systems and re-jetting would improve matters even further.

The new cantilever chassis made the wheelbase longer by a couple of inches, obliging a revision of the steering geometry which provided an excellent compromise between stability and manoeuvrability both on- and off-road. But for those people weaned on twin-shock machinery, the front-end dive associated with these early mono-shockers took a little getting used to. (And it was actually a lot worse on the pukka IT175 and 250 enduro models which Yamaha never officially imported to the UK, but whose motors shared many components). Although still with a steel tank and wheelrims, the side panels and fenders were now plastic - the front one ventilated to allow maximum air (and gunge of course) to get to the now radially finned cylinder head - while one less shock absorber and a few other mods brought the weight down to 217lbs.

And of course junking the battery, mirrors and indicators, fitting alloy rims and abandoning a few other niceties would bring the dry weight down to nearly 200lbs. And if you were really serious about racing your DT, you could ditch the entire Autolobe system - which included a neat little oil tank that swung out from behind a side-panel for easy filling - and run the thing on a petrol mix.

The only thing that really let the DT down as a clubman racer were its brakes. Still weeny and no longer full-width drums, they didn't really imbue confidence when tearing along forestry tracks on your hopped-up 175, especially after you'd got 'em wet. EBC offered improved shoes though, and ones that shed moisture pretty quickly, so that's what we all fitted.

When I tested the first MX-er for Which Bike? magazine I concluded that 'this bike is the best 175cc Japanese trailbike I've yet ridden. By far.' And it was an opinion I never had to revise... though possibly because the 175cc class petered out a few years afterwards! After a succession of heavy, unreliable British four-strokes and heavy, unreliable British two-strokes plus the odd flightily Italian number, this was a bike that could be ridden hard on the pipe if you so wanted, but was very forgiving when it needed to be and would bumble along and enjoy the view if that's all you asked of it. Being Japanese and designed for mechanical nincompoops, it was of course utterly reliable and being bigger in every physical dimension than its predecessor, it was also easy and comfortable to pilot for a lanky lad like me. In short, it changed the way I judged trailbikes for ever and ever, amen.

**OUT NOW**  
**"DAWN TO DUSK 2005"**  
**THE MOVIE**

Also available  
**Dawn to Dusk 2004**  
**Hafren Enduro 2005**



13 Michaels Close  
 Lewisham  
 London SE13 5BP  
 Tel: 07973 132746

Return this order form to address above

- Quantity @ £19.95 + £2 P&P Each
- Dawn to Dusk 05
- Dawn to Dusk 04
- Hafren Enduro 05

Cheques Made Payable to  
 Enduroxtreme Video Ltd.

Name:.....

Address: .....

.....

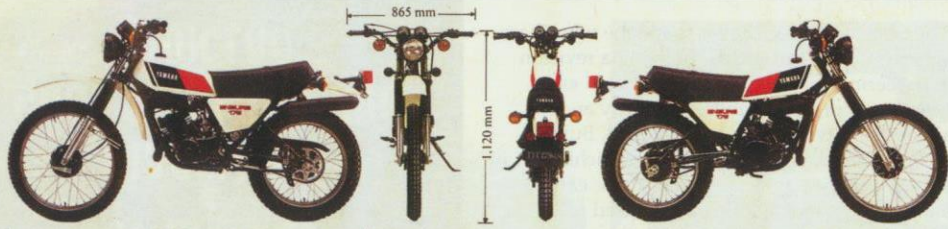
.....

Phone:.....

Please allow 14 days for delivery.



# FROM THE ARCHIVES



Despite its age the venerable DT175MX still makes a passable trailie today...

The cantilever MX version continued on unchanged save for different livery and a few changes to cycle parts - a plastic headlamp was a nice touch - for a further three years, but in 1981 Yamaha took things a stage further, probably to stay a jump ahead of an opposition who were also starting to toy with single shock rear ends.

Although the front half of the chassis was unchanged, the cantilever arrangement was now fashioned in box-section tubing, painted silver to not-very-convincingly give the impression of aluminium. In fact there were no advantages in terms of travel or damping performance proffered by the new rear end, but it did look nice, didn't it? (Well actually not as far as I was concerned, by which time I was on my second 'old' style 175MX).

The black bike owned by Paul Truckle and featured here - white was the other option for 1981 - is in immaculate condition and looked pretty damn tempting when I went to photograph it last month. Like John Chappell's twin-shocker, this is a remarkably low-mileage machine - its 9700 miles justified by pristine paintwork and unblemished decals, the only non-standard feature being a Gianelli muffler. Paul bought the bike because he 'couldn't resist it', although he already owned a grey import DT200 which he uses (instead of his Porsche 911) for commuting. At the time of writing, he's decided to sell the smaller bike as his garage is just getting too cluttered, but is reluctant to let it go for less than £1200 - top money for a late model DT, but then it is in top nick.

And it's also even rarer than the earlier MX version with just 24 months of model life before Mitsui Machinery Sales - the UK importer - introduced the liquid-cooled DT125 which spelt the end of the road for the air-cooled 175... at least as far as this country was concerned.

In fact the model soldiered on for two more decades, built in increasingly smaller numbers and primarily for the Australian market where it was fitted with sturdy racks at either end and is

beloved of the sheep farming fraternity. When I visited Oz a couple of years ago dealers were selling them at the equivalent of under two grand sterling, and I must admit I was mighty tempted. However the realities of shipping one home and going through the registration process rather dampened my ardour. Then again, my brief encounters with both John and Paul's bikes have somewhat fired it up again. You never know...

**Special thanks to John Chappell whose rare and immaculate 1977/8 model is for sale at £1650 (ovno: johnchappell20@ntlworld.com); and Paul Truckle who is also selling his 1981 machine, and is looking for less (tel: 07746 032259). Finally a big box of chocs to RH, who helped with invaluable research at the 11th hour.**

## YAMAHA DT175MX (1981)

**Price:**  
**Value now:**

**Engine:**

**Bore & stroke:**  
**Displacement:**  
**Comp ratio:**  
**Max power:**  
**Transmission:**  
**Chassis:**

**Front susp:**  
**Rear susp:**

**Brakes:**  
**Wheels:**

**Wheelbase:**  
**Seat height:**  
**Ground clear:**  
**Fuel capacity:**  
**Dry weight:**

£749 (1981)  
£800-1700 (depending on model year and condition)  
Air-cooled, 7-port 2-stroke with reed-valve induction  
66 x 50mm  
171cc  
8:1  
15bhp@7000rpm (claimed)  
6-speed  
Single down tube, duplex subframe  
Hydraulic forks, 8in travel  
Cantilever gas/oil monoshock  
8in travel  
Front & rear SLS 5in drum  
Front 3.00 x 21in,  
Rear 4.00 x 18in  
53.1in  
33.3in  
10in  
1.5gals  
219lbs (claimed)

## WillPOWER racing

Specialising in ENGINE PERFORMANCE

**SUTER**  
THE ULTIMATE SLIPPER CLUTCH, AND EASY TO FIT.  
will fit: YZF 250 - YZF 450 - HUSABERG - KTM  
HUSQVARNA and many more - Call for details  
Price - from £520.00 including VAT

**MICRON EXHAUSTS**  
STAINLESS STEEL OR TITANIUM  
Recommended by WILLPOWER RACING  
will fit: YZF 250 YZF 450 CRF 250 CRF 450  
RAPTOR 650 YZF 450 TRX 450  
Price - from £295.00 including VAT

**COVERS**  
WILLPOWER RACING COVERS  
GOLD FINISH  
will fit: YZF 250 YZF 450  
Price - £85.00 including VAT

Tel: 01531 650605 Email: Clayton@willpower-racing.co.uk  
or visit our web site: [www.willpower-racing.co.uk](http://www.willpower-racing.co.uk)

28970

## Wulf Sport

WULFSPORT INTERNATIONAL  
JOSEPH NOBLE ROAD • LILLYHALL EAST • CUMBRIA CA14 4JX  
Tel: 01900 873456 • Fax: 01900 870663

[www.wulfsport.com](http://www.wulfsport.com)



**Cub Raid Jacket £39.95**

**Kid's Race Shirt £15.99**

**Kid's Race Pants £49.95**

**Raid Jacket**

**Kids £39.95 Adults £49.95**

Available for 4 year olds to XXL Adult. Zip out sleeves and trail pockets

## SEWARD RACING

**SHERCO**  
**Beta**

### Passionate about trials

- Independent supplier of any new off road motorcycle
- Largest stockist of off road clothing in South West
- Full workshop facilities for repairs and servicing
- Mail order spares and accessories

Trethurgy Garage, St Austell, Cornwall  
Tel: 01726 851733 [www.sewardracing.com](http://www.sewardracing.com)

**AFRICA BIKE TOURS**  
Join us on an adventurous motorbike tour in Namibia (Southern Africa)  
Visit [www.africabiketours.com](http://www.africabiketours.com) for more info

**GREEN MOUNTAIN**  
Fully-Guided Off Road Tours in Limousin Rural France  
2 or 3 Day Breaks @ £150 per day  
All Accommodation/Food/Drink/Kit incl.  
• NEW HONDAS/GAS-GAS •  
You fly out - we look after the rest!  
Tours led by English/French Speaking Guides on lush green, deserted trails!  
Booking now for October '05 onward  
Flights available from various UK airports to Limoges where we collect you  
Tel: 01785 713699 (UK)  
or 0033 555 784926 (Fr)  
info@greenmountain.org.uk  
[www.greenmountain.org.uk](http://www.greenmountain.org.uk)