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**DIRT BIKE TESTS**



**HONDA XL500RC vs  
XT550J: Thumpers  
to Cape York!**

**YAMAHA XT200J vs  
HONDA XR200:  
Two-strokes beware!**

**SUZUKI DR250  
and HONDA XL250R:  
Market leaders  
analysed.**

**KAWASAKI KDX175  
and KLX250B2:  
Big Green's  
dirt runners.**

**YAMAHA IT250J  
and SUZUKI PE175:  
Enduro-winners  
both.**





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*Bruce Allard*

By the editors of  
TWO WHEELS Magazine.  
ARTIST — John Taylor

TWO WHEELS DIRT TESTS is published by The Federal Publishing Company Pty Limited, 140 Joynton Avenue, Waterloo, NSW 2017. Phone (02) 662-8888 Sydney. Printed by ESN - The Litho Centre, Sydney. Distributed by Gordon and Gotch Limited, Sydney. Cover price \$1.25 (maximum and recommended Australian retail price only). All material published in this magazine is copyright and cannot be reproduced, in part or in full, and by any means, electronic or mechanical, including photocopying, without the written permission of the publisher. All rights reserved.  
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*Dirt Test*

# SUZUKI'S TRAD TRAILSTER

Don't let the Full Floater suspension fool you. Suzuki's long-awaited DR250 has not joined the other quarter-litre trail bikes in the shift of emphasis to dirt performance. Instead, it offers the classic recipe — a light, agile, economical roadster which is also an adequate dirt playbike. If the market still wants this sort of bike, it will be a runaway success . . .



*The aftermath of that front cover shot!*

SUZUKI'S middleweight four-stroke trailster has been a long time coming. Early rumours suggested the DR was to be a you-beaut, serious off-road machine with Full-Floater rear suspension — just like Suzuki's RM motocrosser. Must admit we got pretty excited, and could hardly wait to throw a leg over one.

When the DR finally did surface we were a bit disappointed. It wasn't quite the ball-tearer we had expected, and

dreams of enduro competition quickly faded. However, they were soon replaced with a healthy respect for some of the DR's other attributes — namely its easygoing nature and its excellent commuter abilities.

The middleweight trail bike scene is the most fiercely contested market in Australian motorcycling. The companies pay particular attention to the likes and dislikes of consumers in this range, and are prepared to react swiftly to changes

fashion. And the last couple of years have seen a divergence away from the "middle-of-the-road" trailster epitomised by the early model XL Hondas, towards a more competition-oriented type of machine. Kawasaki began the off-road breakaway with its splendid KLX250. Honda and Yamaha took a little longer to depart from the established norm, but this year's XL and XT trailsters have a very heavy leaning towards the dirt.





So where does this put Suzuki's new baby? Well, even though the DR seems to be behind the others in off-road refinement, a statistic which has been bounced around this office for some time suggests that 80 percent of trail bikes rarely get dirty anyway. If you subscribe to this notion, then a less dirt-inclined, more asphalt-oriented scrambler such as the DR would be an attractive compromise.

### Engine and gearbox

With a bore and stroke of 72 x 61 mm the DR shares oversquare cylinder dimensions with Honda's XL and Yamaha's XT. The engine is able to rev freely to high speeds and yet maintain a reasonable piston speed. To take advantage of these characteristics the DR uses Suzuki's patented "Twin Swirl Combustion Chamber" (TSCC) and dual exhaust ports.

The TSCC design dictates that twin inlet and exhaust valves be used. Besides improving heat dissipation, twin valves allow a more efficient flow of gases than a single large valve. The TSCC design has been proven to give better breathing and combustion efficiency. This equates with increased power and economy. Feeding the powerplant is a 34 mm Mikuni constant velocity carburettor.

In an effort to reduce vibration and its corresponding rider and structure fatigue Suzuki has employed counterbalancing weights in the DR powerplant. Whereas most larger singles use chain drive, the counterbalancers on the DR are gear driven, making them essentially maintenance free. The DR250 retains the manual decompressor used on the DR500. To our way of thinking this design is the best available. Not only can the decompressor be used by the novice to make starting easier, but it's useful for clearing a flooded engine and provides variable engine braking for steep descents.

After a few sessions on Yamaha's mutha of an IT465, starting the DR was almost a pleasure. Starting under normal conditions never required more than two kicks, whilst breathing life back into a fallen machine was simply a matter of holding the decompressor on for a few swift prods on the kicklever, and then returning to the normal starting technique. Cold, the DR started first kick using the choke.

Throughout our test the five-speed gearbox operated without fault. The clutch was light and offered good feel, though several times when the engine was hot it tended to drag a little making neutral selection difficult when standing still. This clutch difficulty was alleviated

by readjustment of the take-up mechanism, but it still occurred more often than we would expect.

The final drive on the DR is from a 15-tooth countershaft sprocket to a 42-tooth rear, via a 520 roller chain. As neither sprocket is at the extremes of size limitation, the final drive ratio of the DR can be varied widely by interchanging sprockets. To protect the swinging arm from wear by the chain Suzuki has wrapped rubber sliding pads around the pivot. Wheel alignment marks have been dispensed with, which means owners will have to use the string-line or straight-edge methods to keep the rear in line.

### Frame and suspension

One of the major reasons why the new DR created so much interest and speculation was the news that it would feature Suzuki's Full-Floater rear suspension. Not a radical new concept, the design has seen a couple of years' service on the RM motocrossers, but its inclusion on the DR indicated a quantum leap forward for a trailster.

Basically the Full-Floater is true to name. The upper end of the shock absorber is mounted to an asymmetrical rocker while the lower mount is on the swinging arm, independent of the chassis. As the rear wheel rises the resultant force is transmitted upwards via two vertical struts to the rocker arm which pivots from the frame. The shorter end of this rocker arm bears down upon the shock unit transforming the load into a compression force in the spring/damper unit.

The result of this geometry is a system which creates a progressive resistance to compression as the magnitude of the load increases. This characteristic is known as "rising rate response" and forms the basis of the Full-Floater, Pro-Link and Uni-Trak designs. Previously, dual shock machines and Yamaha's Monoshock mimicked this action by using dual or multiple rate springs.

So what's so special about variable ratio or rising rate designs? Well, the major advantage is that the suspension can be dialled in to be soft and therefore responsive over small ripples, while also building up a progressive resistance to larger forces such as those generated when landing from a jump. Essentially the best of both worlds!

A further virtue of single shock designs such as the Full-Floater is that the unsprung mass of the suspension is lowered, while the centre of gravity is moved forward towards the centre of the bike making turning easier and reducing fore-aft pitching. By reducing the

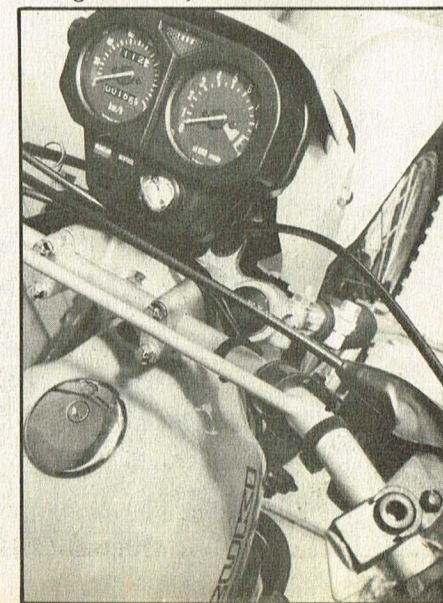
unsprung weight and hence inertia of the rear suspension the wheel is allowed greater independence from the chassis and so can follow the surface irregularities better. To the rider this translates into increased traction and smoother ride.

There are however, a few differences between the Full-Floater used on the DR and the set-up on the RM motocrossers. The RM uses an aluminium alloy for the Floater links and swinging arm whereas the DR uses steel cleverly disguised with Suzuki's "alloy-look" silver paint. Also, the leverage advantage offered by the rocker arm is not as great on the trailster. While the RM sports an aluminium-bodied damper with remote reservoir and four damping adjustments, the unit on the DR is substantially simpler (read cheaper).

Although the DR offers a reasonable 190 mm of rear wheel travel, the actual distance travelled by the damper piston is considerably less. Unfortunately Suzuki hasn't bothered to fit the RM or the DR with grease nipples on the Floater links or pivots so preventive maintenance will be a time-consuming process.

Although the front suspension is not as up-to-the-minute it is by no means inferior. Bolted into alloy triple clamps, the leading-axle forks offer 195 mm of front wheel travel. Air caps on the forks allow the versatility needed in preload, whilst rubber fork gaiters protect the seals from damage.

By using the engine as a stressed frame member Suzuki has been able to keep the weight of the DR down to 119 kg, similar to Honda's XR250. The frame uses a single front downtube and a box-section upper backbone tied together by a number of smaller tubes. The gusseting around the steering head and suspension pivots seems healthy enough, but only the test of time will



show whether the DR lives up to its appearance.

### Off road

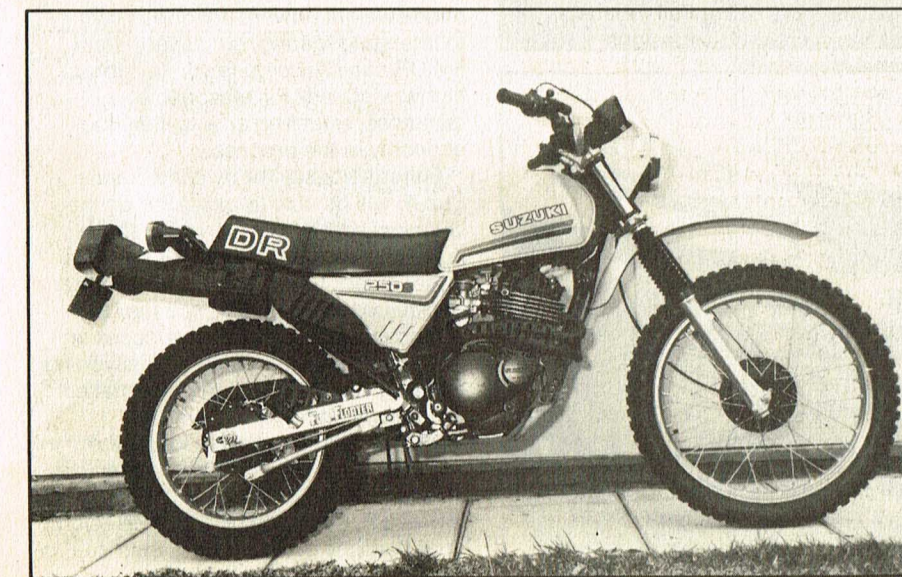
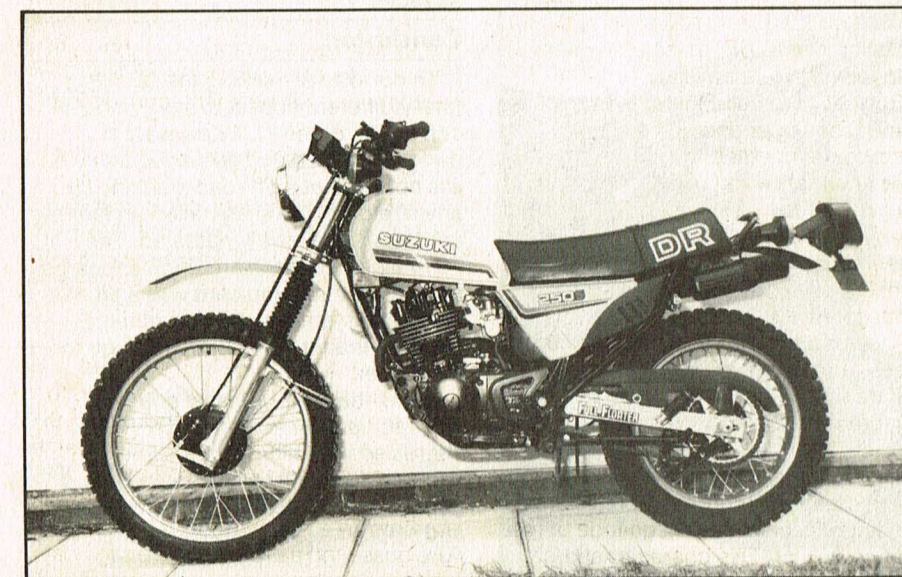
Single-shock rear suspensions, particularly the Full-Floater design, have many virtues. But we must admit that the Full-Floater offered on the DR is nowhere near the quality package sported by its RM stablemates. In many respects the rear suspension on the DR offers no tangible improvement over dual shock systems.

Even though it has the advantage of a rising rate response, the compression springs are much too soft for most riders. While the rear wheel is very responsive to small undulations the DR often bottoms out on larger ruts or jumps. Adjusting the five available preload settings is an awkward procedure because of the inaccessible location of the cam. Another weakness of the rear unit is its inadequate rebound

damping. The replacement of the spring/damper unit with a better quality item would probably improve the rear suspension markedly.

By way of contrast the action of the front end was substantially cleaner. We found about four psi in the front forks to be optimum for most conditions. Although we did not change the fork oil we believe a slightly heavier oil, say 20-weight, might be worth investigating.

An important consideration with an off-road machine is durability. Since stepping-off is an accepted part of the game a good machine should be resilient to the misadventures of the trail. To this end the DR has excellent rubber-mounted blinkers, folding gearlever and footpegs, and a protective cowling around the instruments. Nevertheless, the DR does have a few vulnerable areas such as the head and tail lights, foot brake lever and the steel fuel tank.



Hillclimbing on the bike presents no major difficulties unless the ground is muddy. In this case the closely spaced knobs on the tyres become packed with mud, affording little traction. By letting some air out of both tyres traction is improved slightly, but as the DR has no front rimlock and only a single one on the rear, riders must be careful not to risk tearing the valves out by under-inflating the tyres. On dry surfaces the bike climbs reasonably well. A combination of low gearing, tractable power and low seat height make hillclimbing rewarding for both experts and novices. However, a rather large ratio jump between first and second often makes it difficult to pick up speed on steep inclines.

Water crossings of reasonable depth did not seem to adversely affect the DR250 as the air intake is fairly high on the bike and the CDI ignition unit appears to be water resistant. Likewise the water did not seem to dampen the action of the brakes.

At 260 mm, the ground clearance is not fantastic but proves sufficient for most obstacles encountered while play-riding. Protecting the soft underbelly of the engine is a steel bashplate which appears to be made from squashed jam tins coated with the infamous Suzuki "alloy-look" paint. Unfortunately this bashplate does not provide sufficient protection to the sides of the engine.

Overall the DR steers and handles in a fashion typical of most dual-purpose trailsters. By keeping the rider's weight well forward the bike can be induced to slide, though going hard in tight terrain is not its forte. Generally the DR is fairly predictable, and if not pushed too hard will return an enjoyable ride.

### On road

The DR250 might not be a race winner off road but its on-road manners make it an amiable commuter. In fact, in this role the bike performed best during our test. At suburban speeds it purrs along smoothly, with scarcely a hint of vibration except for the slight blurring of the mirrors at higher speeds.

Actually in many respects it is more fun to ride around town than many of the larger, heavier road machines. The combination of light weight and low centre of gravity makes it easy to throw about when manoeuvring in city traffic. Changing lines midway through a corner — no worries. At pain of employing an associate's gauche connotation, we would say the DR was very "chuckable."

Although the rear brake is a little savage at times, the stoppers work adequately at normal suburban speeds,



though in most instances the tyre adhesion was the limiting variable for stopping distances. Around town the bike returned a very respectable 27 km/l — a welcome analgesic for the hip pocket nerve. Given the DR's good fuel economy the 9.5 litre tank should easily allow a range approaching 250 km before the need to refuel would become urgent. Any further and the rider's stamina would be the determining factor.

Riding two-up presents no major hassles though the extra weight has a noticeable effect upon the DR's performance. Seat comfort remains essentially uncompromised for both rider and pillion while the low pillion pegs aid two-up stability.

In the absence of the conventional twin shock units Suzuki has fitted aluminium protective guards near the pillion pegs to reduce the risk of the passenger sticking a foot into the rear

wheel. The DR is one of the few trailsters which can be kicked over whilst the pillion peg remains folded down.

### General

In Australia the DR should be available in the normal Suzuki blues, reds and yellows, while a very appealing black should be in high demand. The only thing loud about our test DR was its bright yellow finish. Engine and exhaust noise is at a minimum, and standing in the presence of other bikes it's sometimes hard to tell whether the DR is running without squirting the throttle. In keeping with its unobtrusive manner the horn (buzzer) on the DR isn't likely to offend old ladies, nor adequately express one's feelings towards the irresponsible motorist who just tried to clean you up!

By trail bike standards the DR250 casts a brilliant light upon the rider's

destiny. The 35/35 watt incandescent headlight actually glows white, not the shades of yellow or gold exhibited by some. Protected to some degree by the headlight cowl the instrument console includes speedo, tachometer, ignition switch and the obligatory neutral, turn and high beam indicators. The instruments were stable and easy to read, the speedo incorporating a resettable tripmeter.

Although the DR has a helmet lock and toolbox mounted under the rear left hand blinker, our test bike contained no tools or owner's manual. The standard rubber fitted to the DR reflects the nature of the bike itself — a compromise favouring on-road use. The Bridgestone Trailwings have a somewhat rounded profile with no knobs extending from the edges essentially representing a smooth transition from shoulder to sidewalls — hence the DR is less likely to lose traction when cornering hard on road surfaces.

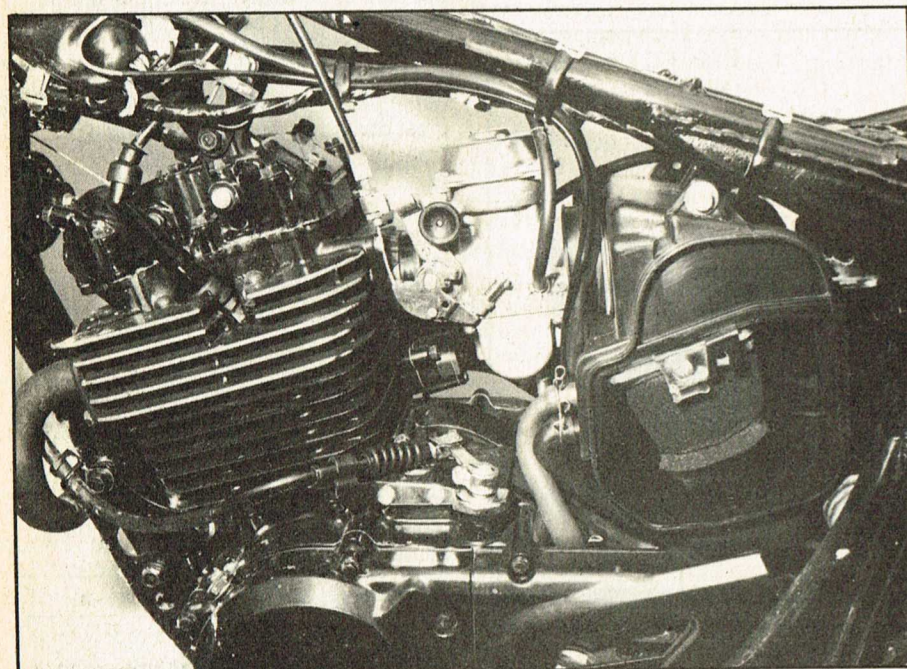
### Conclusion

To our way of thinking the DR has a totally different appeal to say Honda's current XL or the KLX Kawasaki. It performs most dirty tasks adequately but it is not a serious off-road machine by any stretch of the imagination. In fact by contrast it's relatively outdated. The Full-Floater suspension which appeared to be Suzuki's trump card was a bit of a disappointment, being more of a gimmick than a major breakthrough for the model.

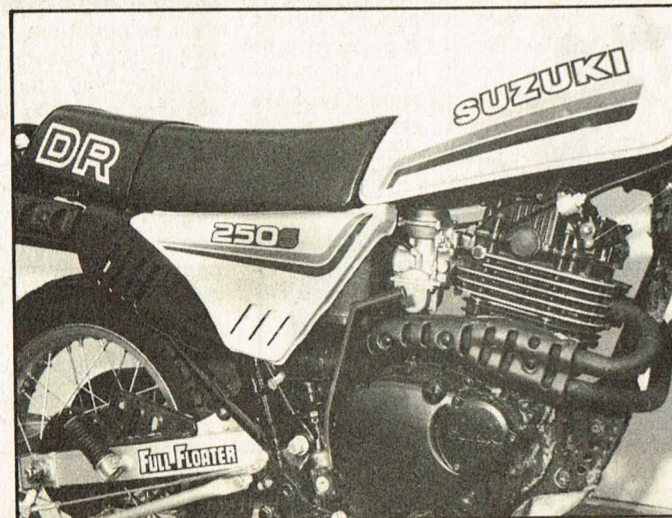
But to the rider primarily concerned with regular commuting and only mildly interested in getting dirty the DR becomes very attractive. Easy starting, good manoeuvrability, riding comfort and smoothness are attributes which make it one of the most enjoyable suburban hacks we've ridden. The middleweight powerplant doesn't aspire to interstate touring, but nevertheless the DR can cruise quite comfortably at highway speeds for reasonable distances, returning an excellent fuel economy in the process.

Either by design or by coincidence Suzuki will be able to capitalise on the DR's low seat height. To many shorter riders the tall saddle of the KLX or to a lesser extent the XL Honda make either choice unacceptable, hence the DR should enjoy considerable success on this feature alone. Indeed the easygoing and forgiving nature of the bike make it an ideal machine for the novice.

We will be interested to follow the success or failure of the DR in the Australian marketplace, as it will reflect the values the riding public place upon dual-purpose commuting as opposed to road-rideable dirt machines. \*



TSCC combustion chamber, four-valve head, CV carb, gear-driven balancer shaft and simple decompressor all add up to a smooth, economical, willing and reliable powerplant. Ignition and air intake stayed waterproof, transmission worked well. All in all, it's a delightful package.



# SUZUKI DR250S

## ENGINE

Single cylinder four-stroke. Single overhead cam, four valve cylinder head, twin exhaust ports. Wet sump lubrication.

Claimed power .....	16.4 kW at 8500 rpm
Claimed torque .....	19.5 Nm at 6500 rpm
Bore x stroke .....	72.0 x 61.2 mm
Displacement .....	249 cm <sup>3</sup>
Compression ratio .....	8.9:1
Maximum engine speed .....	8500 rpm
Carburation .....	34 mm Mikuni (CV)
Air filtration .....	Oiled foam
Ignition .....	Capacitor discharge

## TRANSMISSION

Gear driven primary drive to wet multiplate clutch. Five-speed indirect gearbox. Final drive by No. 520 roller chain.

Ratios (approximate overall)

First .....	22.6:1
Second .....	14.7:1
Third .....	11.2:1
Fourth .....	8.9:1
Fifth .....	7.4:1
Secondary reduction: .....	2.800 (42/15)
Speed per 1000 rpm top gear .....	14.8 km/h

## FRAME AND BRAKES

Single box section backbone, twin lower backbone and single front downtube. Engine used as stressed frame member. Full Floater rear suspension, gas-oil damping with five spring preloads. Oil-damped, air-assisted, leading axle front forks.

Front suspension travel .....	195 mm
Rear suspension wheel travel .....	190 mm
Fork rake .....	N/A
Fork trail .....	N/A
Front brake diameter .....	150 mm
Rear brake diameter .....	140 mm
Front tyre .....	3.00 x 21 Bridgestone Trailwing
Rear tyre .....	4.60 x 17 Bridgestone Trailwing

## DIMENSIONS

Dry weight .....	119 kg
Seat height (bike unladen) .....	830 mm
Wheelbase .....	1375 mm
Ground clearance .....	260 mm
Footpeg height .....	305 mm
Fuel capacity (incl. reserve) .....	9.5 litres

## PERFORMANCE

Street fuel consumption (average) .....	27 km/litre
Dirt fuel consumption (average) .....	20 km/litre

## TEST MACHINE

Manufacturer .....	Suzuki Motor Company, Japan
Test machine .....	Suzuki Australia, Camellia, NSW
Price .....	\$1499 (NSW)

**Best points:** Easy starting, smooth engine. Low seat height. Good headlight. Very forgiving nature. Excellent fuel economy.

**Worst points:** Rear suspension too soft, insufficient damping. Tyres unsuited for serious use off road. No chain tensioner. Mediocre power output. Vulnerable to injury in fall.



## SUMMARY

### RATINGS

#### ENGINE

	Poor	Below Average	Average	Above Average	Outstanding
Responsiveness			●		
Smoothness					●
Low rev power			●		
Midrange power			●		
Top end power			●		
Fuel economy				●	
Starting					●
Quietness				●	

#### TRANSMISSION

Clutch			●		
Gearbox operation				●	
Ratio suitability				●	
Drivetrain freerplay			●		

#### SUSPENSION

Front			●		
Rear				●	
Front/rear match				●	

#### DIRT RIDING

Ground clearance			●		
Steering (overall)				●	
Braking on dirt				●	
Sliding			●		
Jumping		●			
Hillclimbing					●
Slow, nadjery work					●
Ease of throwing around				●	
Ability to forgive rider error					●

#### STREET RIDING

Riding position				●	
Seat comfort				●	
Ride comfort				●	
Highest cruising speed					●
Touring range					●
Street handling (overall)					●
Stability at speed				●	
Braking on tar				●	
Tyres				●	
Pillioning					●

#### GENERAL

Location of controls				●	
Lighting					●
Rearview mirrors					●
Horn	●				
Toolkit	●				
Quality of finish				●	
Overall styling				●	

#### VALUE FOR MONEY

				●	
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