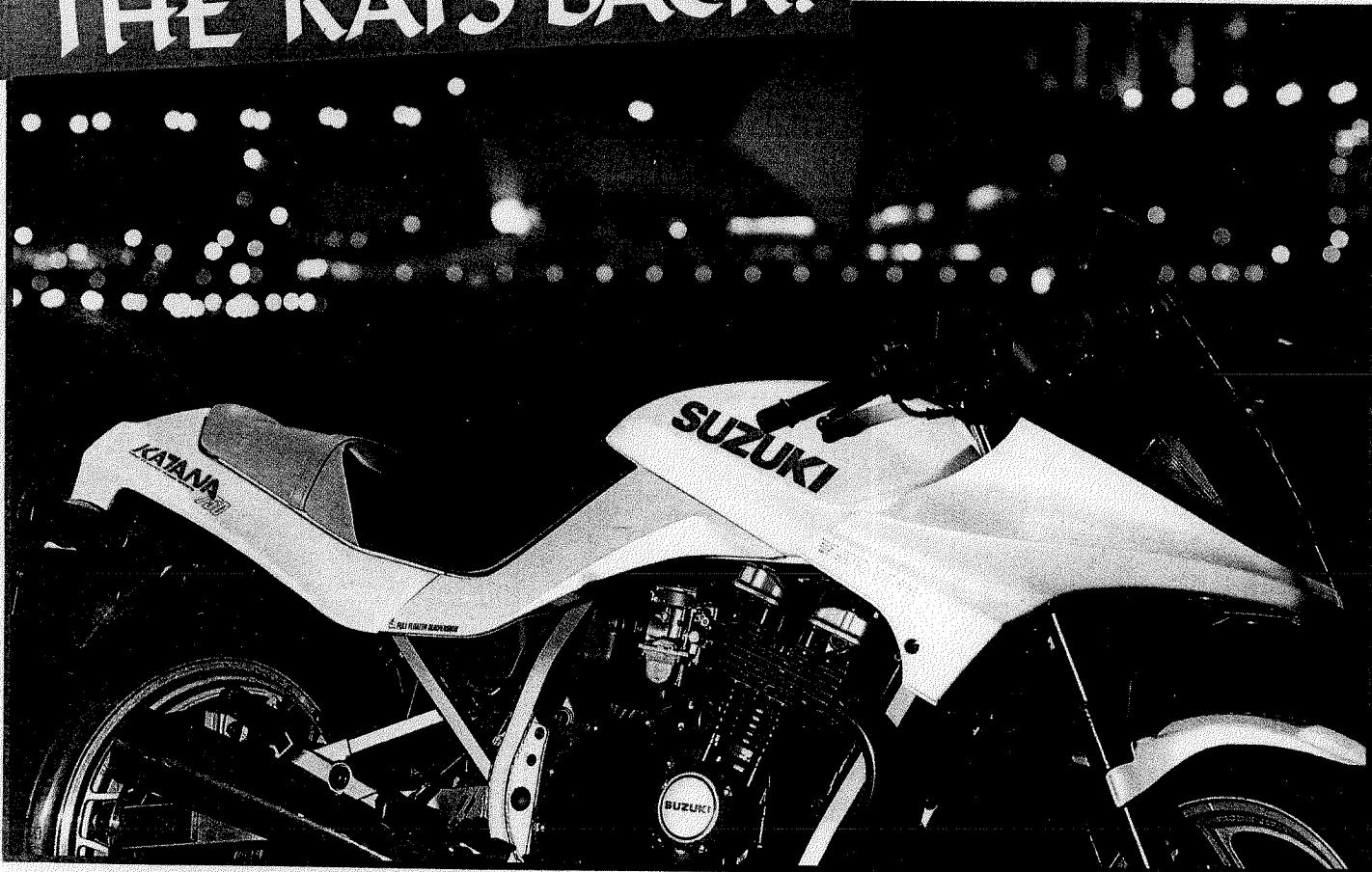


November 1984

\$2.50* NZ \$3.25*

TwoWheels

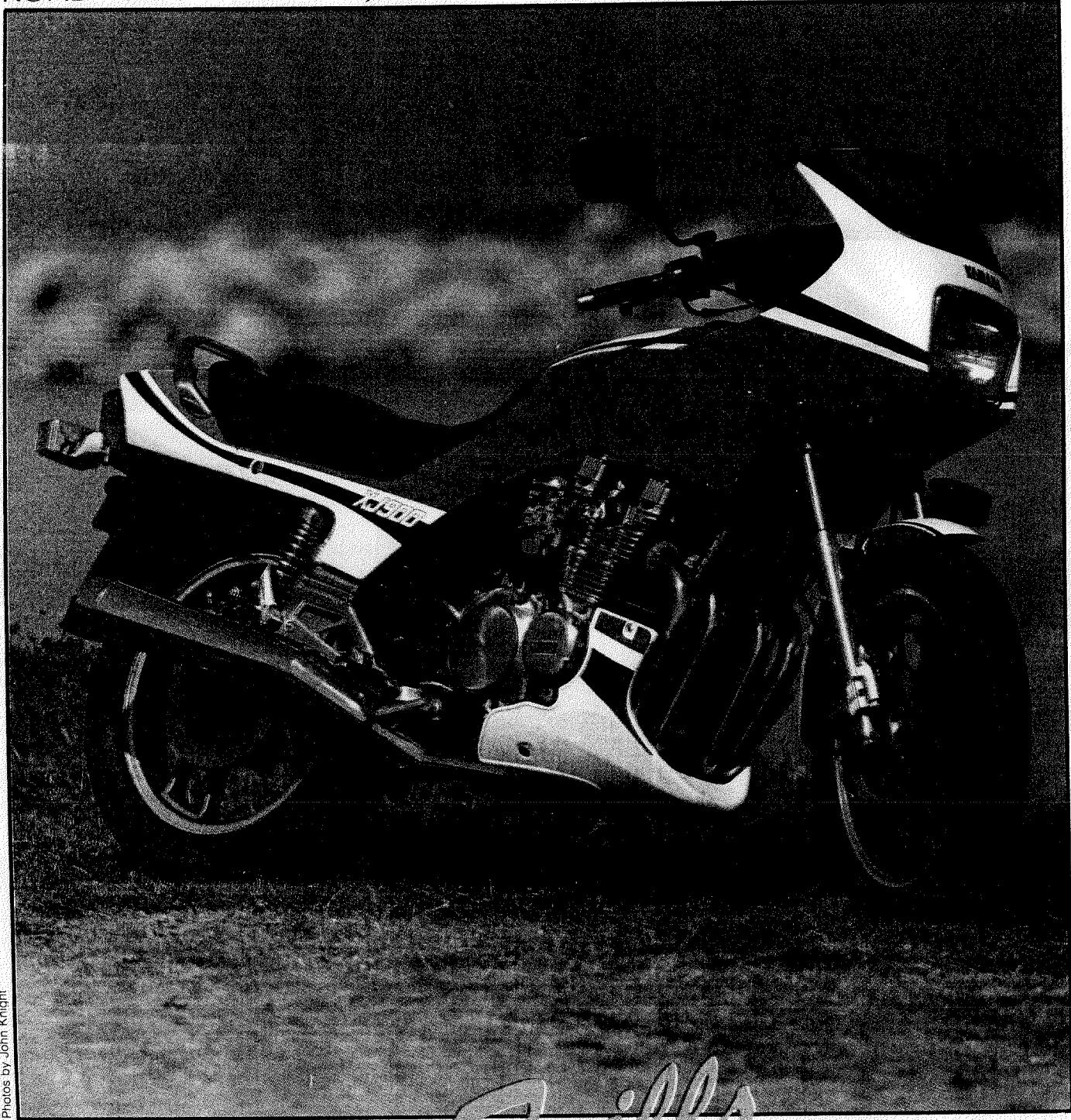
THE KAT'S BACK!



Bikes:
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YAMAHA XJ900
SUZUKI TS250
On Tour:
BMW K100RS

Plus:
WORLD SPEED RECORD
COLOGNE SHOW BIKE FINANCE
and Uncle Kel Returns!

ROAD TEST: YAMAHA XJ900RL



Photos by John Knight

No Fretts

ALL~ROUNDER



Has the day of the versatile motorcycle gone? Yamaha's XJ900RL says no; despite its soft suspension, the restyled 900 is still a fine all-rounder among a crowd of sharp-edged sportsters and specialist tourers.

WITH a whistle akin to a Fokker Friendship in full flight, the XJ900RL gathered speed, climbing away into the hills above Wiseman's Ferry darting through the corners like a red and white fish. I waved a salute to a servo attendant leaning casually on his broom and headed off in search of highways, byways and freedom... the RL is that sort of machine, equally at home on the Sunday morning twisties with the boys or cruising the long, open roads to the boondocks.

With the Japanese manufacturers producing increasingly specialised tourers

and sportsters, the big XJ stands apart from the crowd as one of the few genuine all-rounders currently available. It will run with both the go-fast crowd and the hard-nosed touring set, continuing the legacy of the XS1100 as proof of Yamaha's proficiency in building fast, durable four-strokes. The XJ900 has yet to emulate the Castrol Six-Hour success of its predecessor, being unlucky to claim a modest fifth place in the 1983 event after being backed a likely winner; but in every other respect the XJ appears to be at least match for its illustrious forebear.

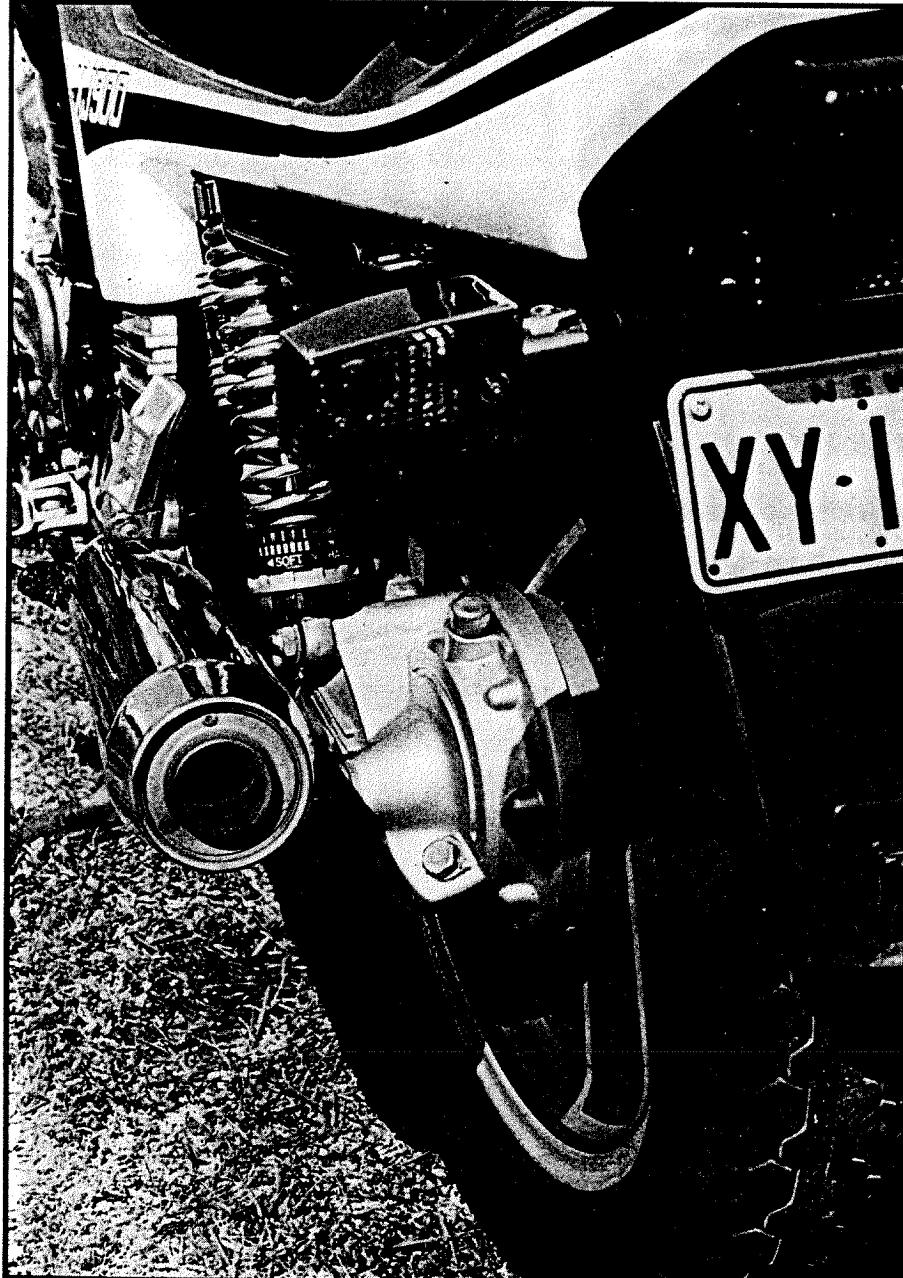
Plain Jane compared with the computer-style technology which abounds among its competitors on the showroom floor. The 900's double overhead cam, air-cooled, transverse four powerplant is typical of the no-frills engineering which is so much a hallmark of the bike. While it would be wrong to describe any Japanese four in terms of design simplicity, the XJ's two-value-per-cylinder, plain bearing mill is bargain-basement fare.

Displacement is actually 853 cm³, achieved by bore and stroke dimensions of 67.0 mm x 60.5 mm. Compression ratio is 9.6:1, and peak power of 71.3 kW is developed at 9000 rpm. Maximum torque of 80.4 Nm is produced at 7500 rpm. The result of these numbers is a wide, usable spread of power. Nothing much happens under 3000 rpm, but from there to 6000—the bike pulls strongly; and from 6000 to redline a mighty surge of herbs pulls the XJ to its 9500 rpm redline. The strong midrange and top end make the bike equally at home screaming through the hills or lugging along the highway. In the latter case the XJ has sufficient grunt to overtake slower traffic cleanly without having to change down. At 100 km/h the motor is turning 4300 rpm; perhaps a little high for touring purposes, but falling smack in the middle of the well-stacked midrange.

Commonsense engineering has been maintained throughout the transmission. A solid, clean-shifting five-speed gearbox transmits the power via a wet, multiplate clutch to one of the better shaft drive systems currently available. The clutch provides quite a smooth take-up, without some of the slip often displayed by this type of set-up. Perhaps the one nagging flaw in the system concerns the clutch lever. For those of us with short fingers, it's quite a stretch to gain control. The lever is slightly dog-legged but the situation could be better — a slight but irritating fault.

Suspension confusion

The XJ's Plain Jane design philosophy doesn't quite follow through to the chassis. While the frame is a basic double cradle tubular steel item, the suspension components are far from simple: the front



forks are equipped with air assistance and antidive, while the twin, remote reservoir rear shocks offer five-way adjustable preload and 12-way adjustable damping.

A dazzling array of 60 settings is available, which is probably too many for most riders to sort out. During the test we resorted to the softest spring preload and the fifth damping notch. This combination offered a comfortable ride which firmed up only on bumpy surfaces. It's interesting to note that the shocks needed to be warmed before they worked properly. If the machine hadn't been ridden for half an hour, it assumed a slightly rear-down attitude. This changed as the gas inside the absorbers began to expand under use.

As is the case with some other models from Yamaha, notably the FJ1100, the

front forks are relatively soft. The air assistance helps here, but it was difficult to reach a compromise between too hard and too soft. The permitted adjustment range is 0-118 kPa, and we found that 60 kPa produced the best compromise. A change of fork oil, from the standard five weight up to 7.5 or 10 weight, would improve the situation. Antidive is fitted, giving a range of four settings. Frankly, the system didn't appear very effective on any settings.

On smooth surfaces the XJ handles very competently. Its narrow engine and clean underbelly give generous clearance right down to the footpegs and when you begin to touch these you are motoring with the best. The story changes on broken surfaces however, where the suspension's rather short travel (150 mm

front, 75 mm rear) begins to highlight the chassis' shortcomings. Here, the machine becomes quite nervous, in fact a little frightening if you push it really hard. We would have thought that the XJ would have behaved itself better, considering its 18-inch front wheel.

Instead, the bike will shake its head quite readily if provoked and the resulting disturbance progresses through the frame, causing the rear end to skate around. With plenty of suspension adjustment possible, long-term owners will no doubt find a solution to the problem by fine tuning and thus make the XJ a sound performer on the rough and the smooth of Australia's varied road conditions.

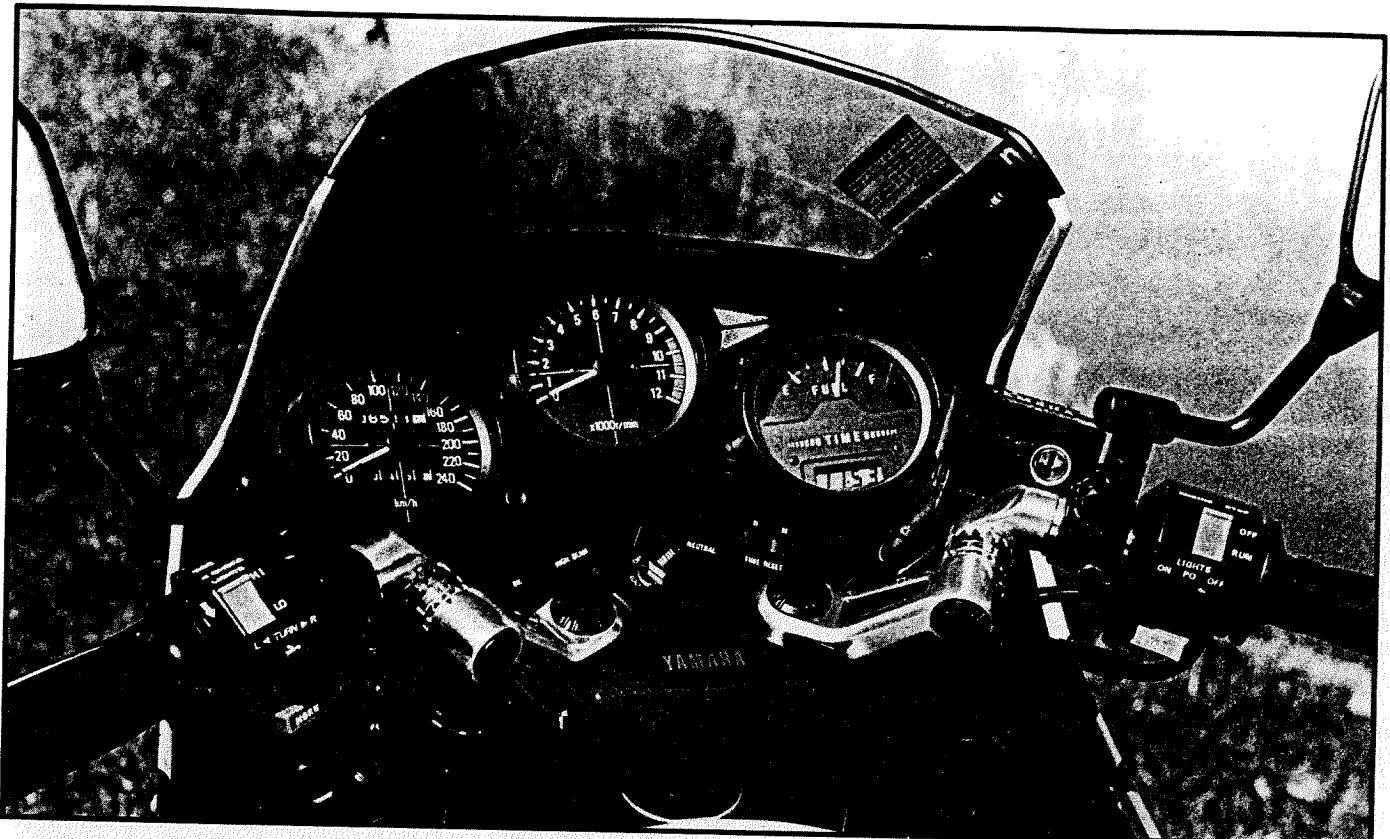
Form versus function

Despite the shortcomings in the suspension department, the XJ is quite comfortable to ride. Yamaha has created a good seating position with high, wide handlebars and a sensible seat/footpeg relationship. High bars can leave the rider too exposed to the airstream, requiring a white-knuckle grip on the bars at speed; but the XJ is better than many bikes in this respect, offering high speed cruising with little effort. Riders of different stature are also catered for as the aluminium bars are adjustable in two planes. The one drawback with such systems is that the bars will often snap rather than bend in an accident. Don't fall off!

A three-quarter frame-mounted sports fairing replaces the handlebar versions fitted to the 1983 model XJ. To save weight, the new flashy red and white fairing is made from plastic. The result is that the upper section flexes quite noticeably at speed, even though it is well braced from within. Minor tumbles should not affect this fairing as much as fibreglass types though should damage result. The unit will require replacement rather than repair because of the nature of the material.

Unfortunately, the fairing doesn't score as highly in its wind deflection ability. The large instrument pod has dictated that the fairing be mounted well forward of the steering head, with the result that the deflected airstream blasts into the rider's face. Turbulence is further magnified by the large rear view mirrors, which tend to deflect more air toward the rider. A slightly taller and widescreen would improve rider comfort here. As things are, the fairing does reduce wind pressure on the chest, but otherwise offers little but increased wind noise.

Below the waist, the lower reaches of the fairing offer little protection, and the bellypan is suitable only for bumping gutters (that gets rid of that!) and grading roads. It is, of course, no more than a styling gimmick and it's a shame that Yamaha has seen fit to embellish a



commonsense bike with such a silly attachment.

Pillion passengers have largely been forgotten in the design of many modern sports bikes, mainly as a result of styling considerations. The seats are usually very small, footpegs too high and the grab rails either inadequate or non-existent. The XJ is, unfortunately, no exception: the pegs are too high, dictating that the passenger sits up in the airstream and cops a buffeting. Perhaps a sheepskin or air seat may help to improve the height relationship between the seat and the footpegs but it's a pity that the designers' efforts didn't extend to better efforts in this important area.

The seat itself proved reasonably comfortable. During one ride we spent over two hours in the seat without a fuel stop and found it quite acceptable. The narrow leading edge and slimline tank enable the rider to gain additional support by gripping the tank with the knees. Despite its apparently small dimensions, the tank holds 22 litres, five of which are reserve. This provides a good touring range at most speeds.

Long distance information

Fuel consumption at touring speeds averaged 15.5 km/l, while city work achieved 14.1 km/l. Ride the machine hard and you will be lucky to exceed 13.0 km/l. The YICS induction system combined with four Mikuni BS35 constant vacuum carburettors appear to be largely responsible for the moderate fuel

consumption. Those of you who wish to tour Australia will have an adequate range providing you don't run in excess of 140 km/h. It's interesting to note that a fuel gauge is provided in our experience it's just about the only one which has ever been anywhere near accurate.

The XJ's instrument panel is quite simple. A large tachometer takes centre stage, flanked on the left by the speedometer and to the right by the fuel gauge dial which also houses a digital clock. There are only three warning lights and these are spread either side of the ignition switch. Oil, high beam, and neutral lights are provided, as well as two large turn indicator lights. At night the instruments show up well under orange lighting.

If simplicity personifies the instrumentation, the switchgear is quite a different kettle of fish — it's a mismatch of good and bad. The choke lever, horn button and blinker switch are all well situated on the left-hand block. In concept the blinker switch is excellent, though in practice it takes some time before you master its operation. The basic idea is a self-cancelling blinker; however by pressing the button in, you can terminate the signal by overriding the automatic system. A good concept, but the switch creates problems. For some reason you end up pushing it when you should be sliding it. Also on the less-than-satisfactory list are the dip switch (too high on the handlebar) and the pass flasher which is in a ridiculous place

up and over the top of the switchblock. You need to use your first or second finger to activate the switch, which is difficult at the best of times. No doubt owners will become competent with these systems. We simply didn't have enough time.

In the area of ancillary equipment, the horns are below standard as they simply don't create enough noise. If there's room, turf out the originals and replace them with electric air horns. The standard ones wouldn't create a stir in a nunnery. The rear view mirrors rate better providing a view past the shoulders, although these tend to blur through vibration at over 4000 rpm. While on the subject of vibration, it's interesting to note that the four cylinder tipples don't appear with the XJ. At no time did the vibration through either footpegs or handlebars become intrusive, which is good news for weekend blasters and tourers. There's nothing worse than the numbness of a limb which has been "put to sleep" by continual vibration. While sound engineering has cured the vibration headache, design constraints have restricted the XJ to a rectangular headlight; and though this shape provides a good beam spread, it lacks sufficient penetration for high speed night work. The AC generator will run an accessory light which would undoubtedly help, you mount it on this slimline machine?

Big feet

Cast aluminium alloy wheels grace the XJ both front and rear. Rather than

YAMAHA XJ900RL

ENGINE

Air-cooled four-cylinder four-stroke. Chain-driven overhead camshafts, two valves per cylinder, clearance adjustment by shims. Forged one-piece crankshaft, plain main and big end bearings. Wet sump lubrication, oil cooler.

Claimed maximum power	71.3 kW at 9000 rpm
Claimed maximum torque	80.4 Nm at 7500 rpm
Bore and stroke	67.0 mm x 60.5 mm
Displacement	853 cm ³
Compression ratio	9.6:1
Maximum engine speed	9500 rpm
Carburation	4 x 35 mm Mikuni CV
Air filtration	Pleated paper
Starter system	Electric only
Ignition	Transistorised battery/coil
Fuel consumption	
Touring	15.5 km/litre
City	14.1 km/litre
Hard riding	12.8 km/litre
Average on test	14.5 km/litre

TRANSMISSION

Gear primary drive through wet, multiplate clutch to five-speed, constant-mesh gearbox. Final drive by shaft.

FRAME AND BRAKES

Welded tubular steel double cradle frame. Telescopic forks, hydraulic anti-dive. Rear suspension by twin spring/damper units with remote fluid reservoirs. Five spring preload positions, 12-way adjustable rebound damping. Twin disc brakes front, single rear, twin piston fixed hydraulic calipers.

Front suspension travel	150 mm
Rear suspension travel	75 mm
Front brake diameter	267 mm
Rear brake diameter	267 mm
Front tyre	100/90 V18 Michelin A48
Rear tyre	120/90 V18 Michelin M48

DIMENSIONS

Dry weight	220 kg
Seat height	790 mm
Wheelbase	1480 mm
Fuel capacity (incl. reserve)	22 litres
Fuel reserve	5 litres

TEST MACHINE

Manufacturer	Yamaha Motor Company, Iwata, Japan
Test machine	Yamaha Motor Australia, Silverwater, NSW
Price	\$4550

Best points: Mr Joe Average — a very competent motorcycle capable of accomplishing most tasks. Responsive motor, good touring range, excellent cornering clearance. A simple bike which should be most things to all people.

Worst points: Touchy brakes, nervous handling on bumpy roads, poor passenger comfort. Confusing switchgear, poor horn.

SUMMARY

RATINGS

ENGINE

	Poor	Below Average	Average	Above Average	Outstanding
Responsiveness			●		
Smoothness				●	
Bottom end power		●			
Mid range power			●		
Top end power				●	
Fuel economy		●			
Starting		●			
Ease of maintenance			●		
Quietness	●				
Engine braking			●		

TRANSMISSION

	Poor	Below Average	Average	Above Average	Outstanding
Clutch operation			●		
Gearbox operation			●		
Ratio suitability			●		

HANDLING

	Poor	Below Average	Average	Above Average	Outstanding
Steering			●		
Cornering clearance			●		
Ability to forgive rider error		●			
High speed cornering			●		
Medium speed cornering		●			
Bumpy bends		●			
Tossing side to side		●			
Changing line in corners			●		
Braking in corners		●			
Manoeuvring			●		
Top speed stability				●	

SUSPENSION

	Poor	Below Average	Average	Above Average	Outstanding
Front			●		
Rear			●		
Front/rear match		●			

BRAKES

	Poor	Below Average	Average	Above Average	Outstanding
Resistance to fading			●		
Stopping power			●		
Braking stability		●			
Feel at controls	●				

CONTROLS

	Poor	Below Average	Average	Above Average	Outstanding
Location of major controls			●		
Switches		●			

INSTRUMENTS

	Poor	Below Average	Average	Above Average	Outstanding
Instruments			●		

TWO-UP SUITABILITY

	Poor	Below Average	Average	Above Average	Outstanding
Passenger comfort	●				
Stability with pillion			●		

GENERAL

	Poor	Below Average	Average	Above Average	Outstanding
Quality of finish			●		
Engine appearance		●			
Overall styling			●		
Seat comfort		●			
Riding position			●		
Touring range			●		
Headlight	●				
Other lights		●			
Stands			●		
Rearview mirrors			●		
Horn			●		
Toolkit			●		

VALUE FOR MONEY

	Poor	Below Average	Average	Above Average	Outstanding
Value for money			●		

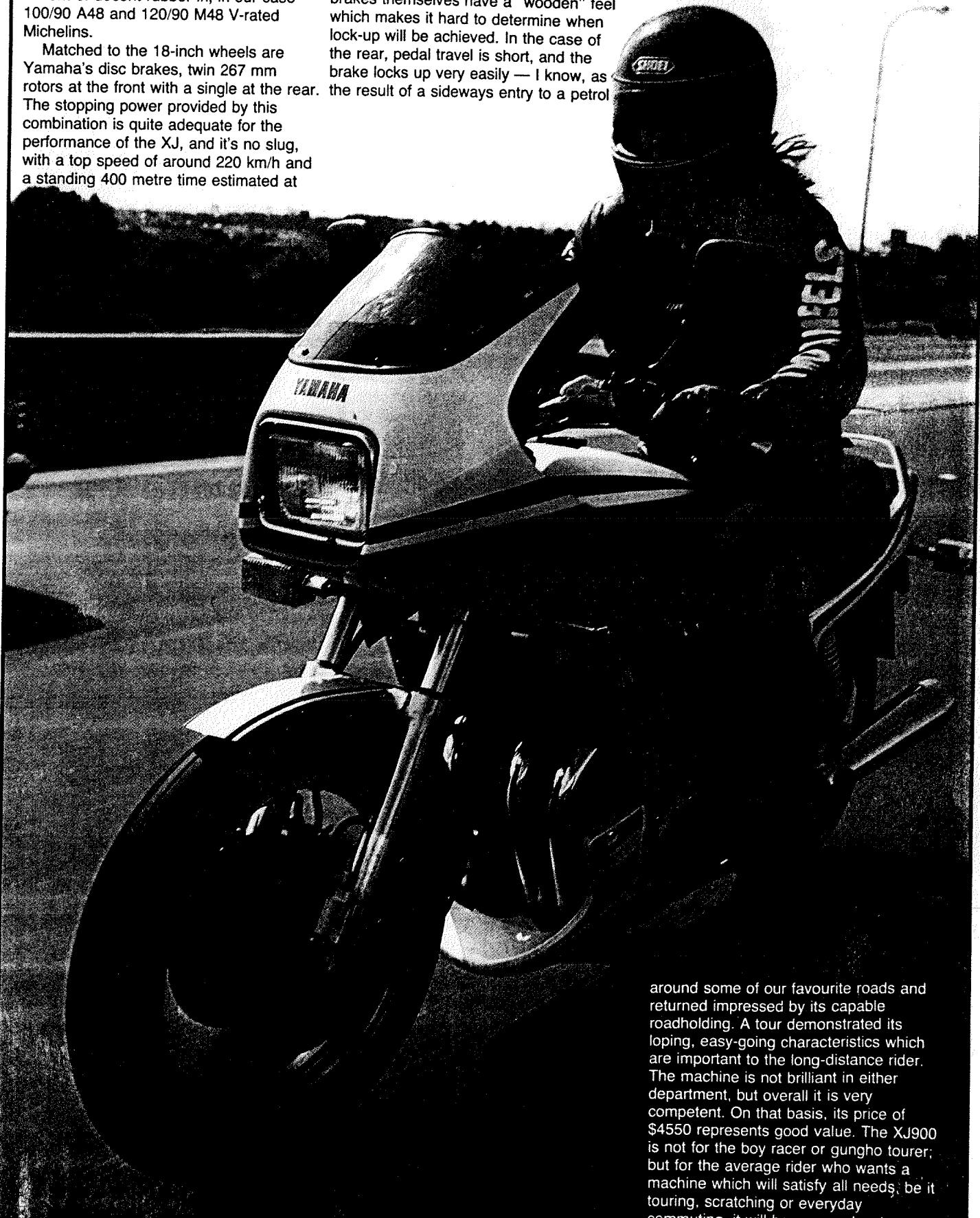
provide the small diameter wheels so popular with manufacturers at the moment, Yamaha has fitted 18-inchers front and back. The generous rim sizes (2.15 front and 2.75 rear), have allowed fitment of decent rubber in, in our case 100/90 A48 and 120/90 M48 V-rated Michelin.

Matched to the 18-inch wheels are Yamaha's disc brakes, twin 267 mm rotors at the front with a single at the rear. The stopping power provided by this combination is quite adequate for the performance of the XJ, and it's no slug, with a top speed of around 220 km/h and a standing 400 metre time estimated at

under 12 seconds. Unfortunately the feel and control offered by these brakes are not up to the class standard. The reach to the front brake lever is too long, making it difficult to achieve good control. The brakes themselves have a "wooden" feel which makes it hard to determine when lock-up will be achieved. In the case of the rear, pedal travel is short, and the brake locks up very easily — I know, as the result of a sideways entry to a petrol

station.

The bike has its nagging faults, but, in the XJ900, Yamaha has created perhaps the last of the true all-rounders. We took the XJ for a short afternoon scratch



around some of our favourite roads and returned impressed by its capable roadholding. A tour demonstrated its loping, easy-going characteristics which are important to the long-distance rider. The machine is not brilliant in either department, but overall it is very competent. On that basis, its price of \$4550 represents good value. The XJ900 is not for the boy racer or gungho tourer; but for the average rider who wants a machine which will satisfy all needs, be it touring, scratching or everyday commuting, it will do.