

# bike

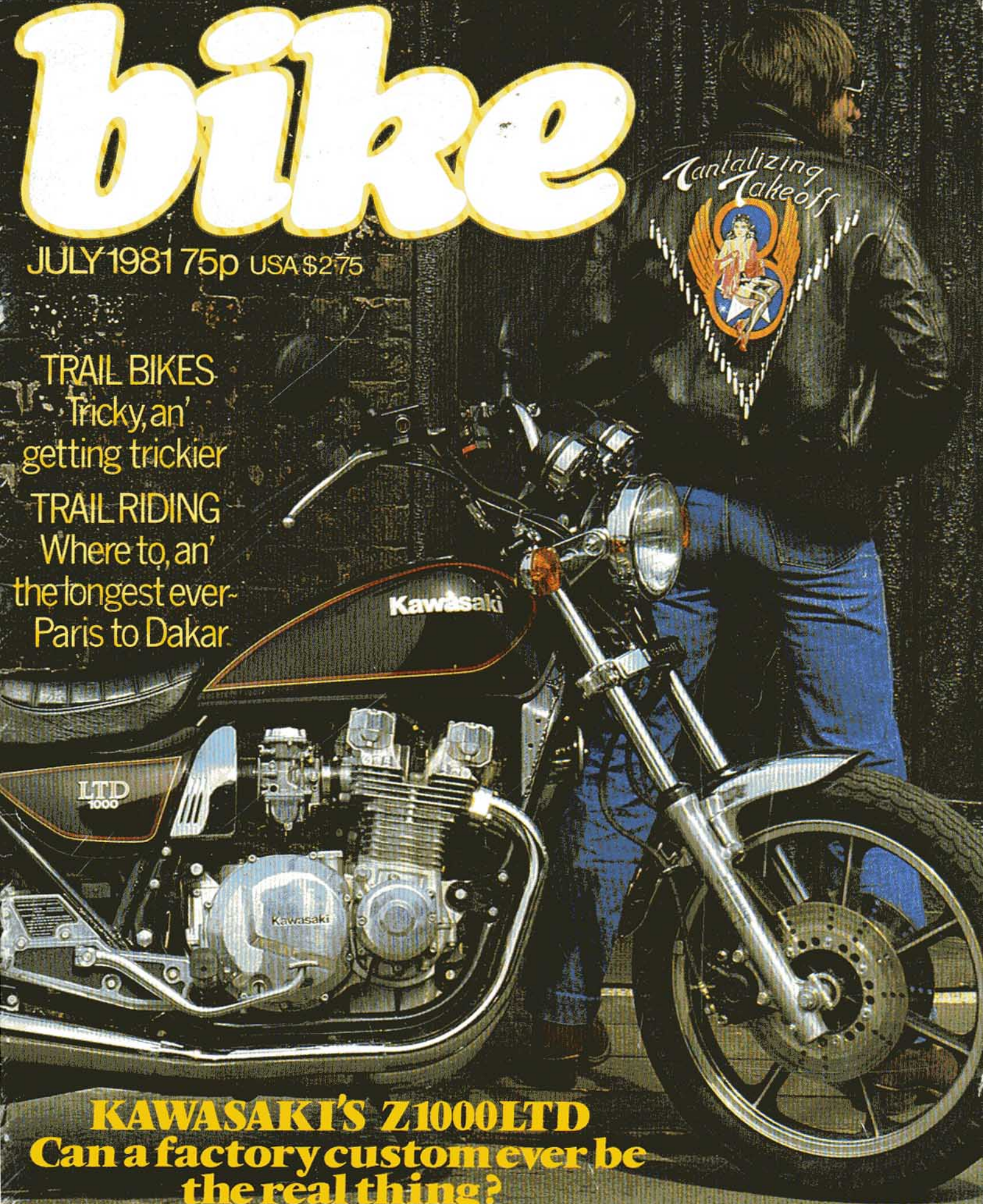
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## TRAIL BIKES

Tricky, an'  
getting trickier

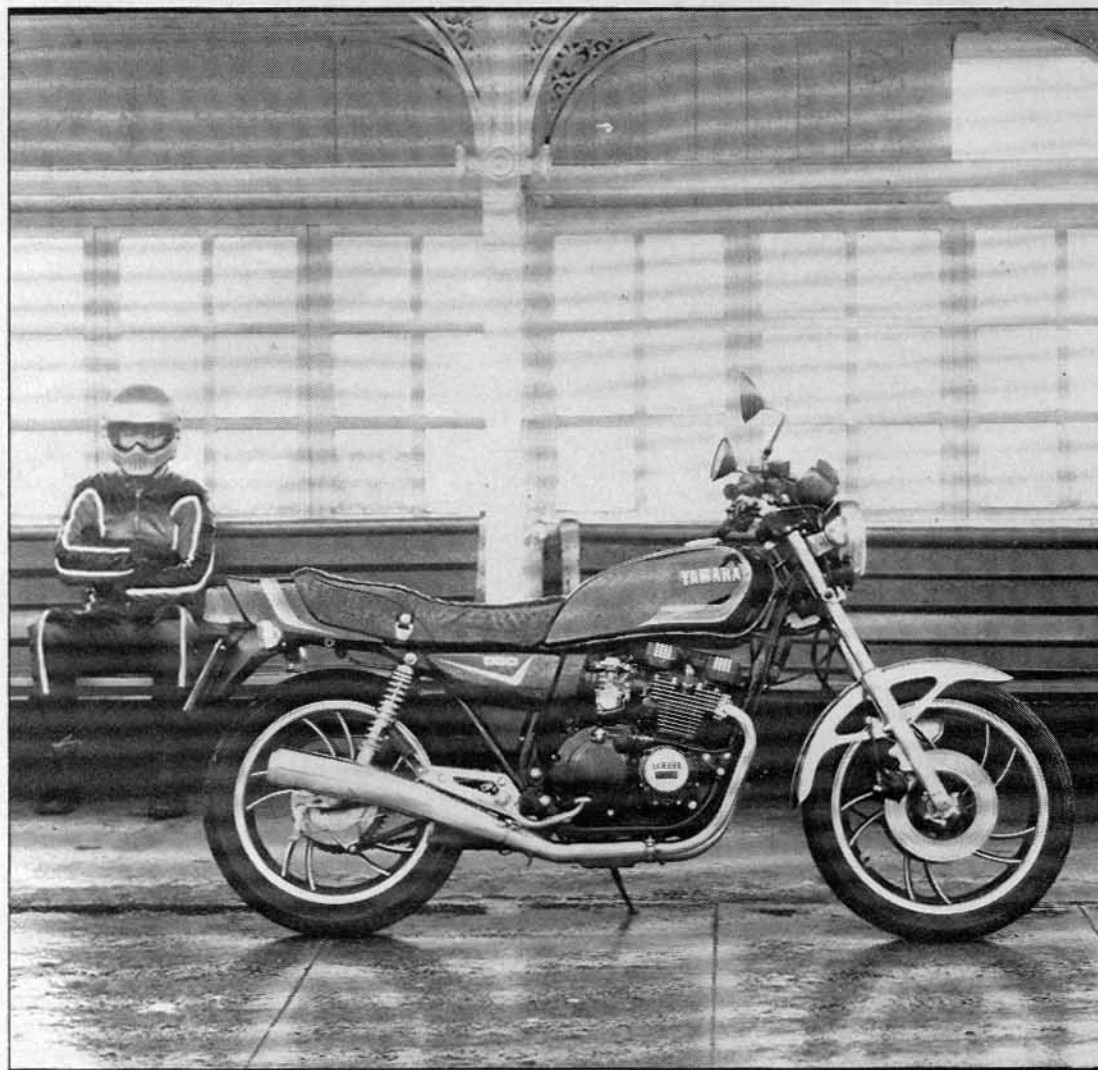
## TRAIL RIDING

Where to, an'  
the longest ever  
Paris to Dakar



**KAWASAKI'S Z1000LTD**  
**Can a factory custom ever be**  
**the real thing?**

# "RAIN, RAIN, RAIN..."



## WHAT'S A POOR BOY-RACER TO DO?"

CAN'T AFFORD TO KEEP A 750

IN TYRES AND CHAINS?

INTIMIDATED BY THEIR SHEER

SIZE AND WEIGHT?

WANT SPEED

AND GOOD HANDLING?

YAMAHA'S XJ550 WOULD

SEEM TO HAVE IT ALL.

DAVE CALDERWOOD REPORTS.

PHOTOGRAPHY STEPHEN OLIVER.

I DON'T suppose you've any sympathy for hacks who do most of their motorcycling on other people's bikes and at other people's

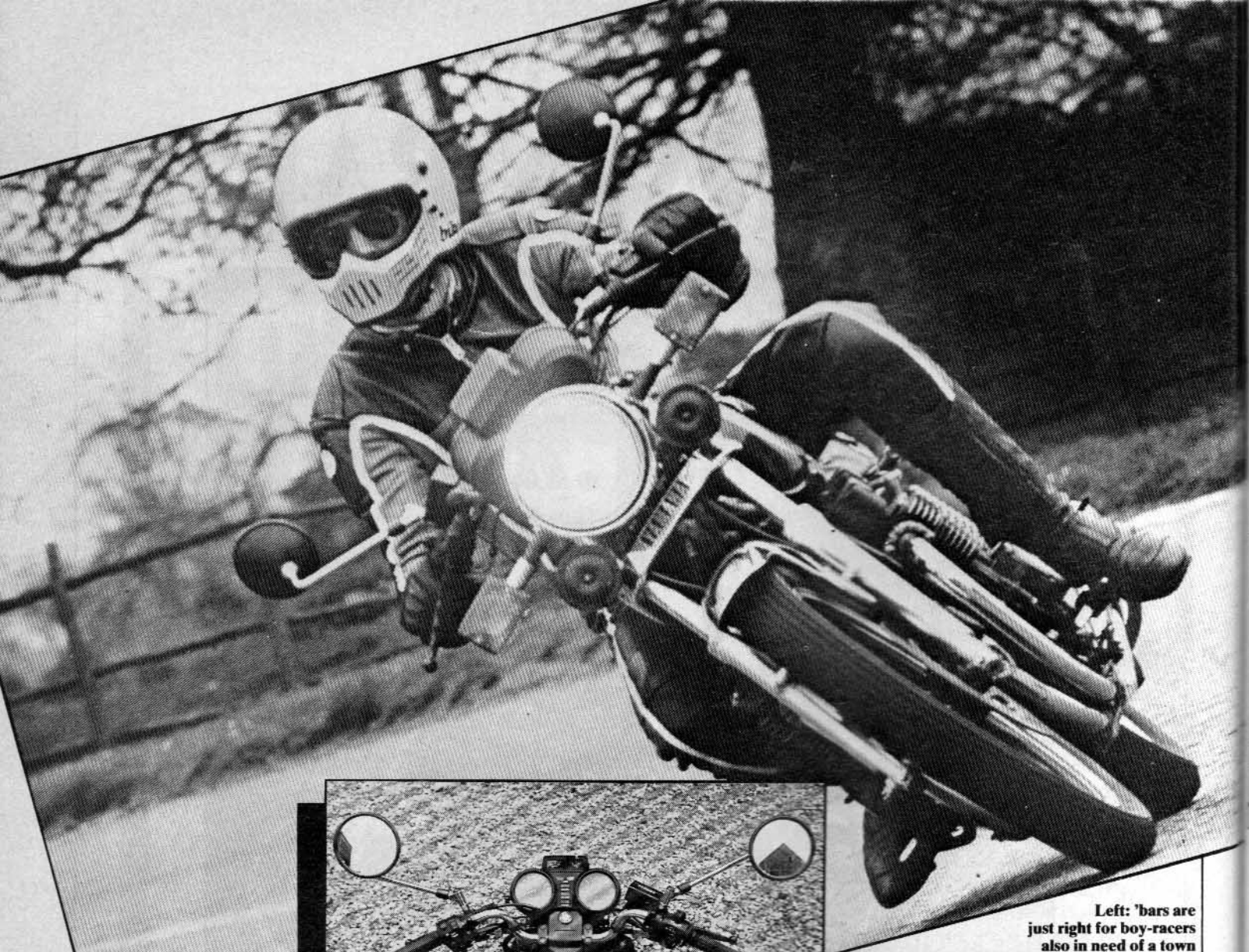
expense but it was a crazy schedule to ask of anyone: Drive 120 miles to Birmingham's NEC for press day of the motorcycle show in time to catch the Transport Minister's opening speech just in case he had anything pro-motorcycling to say for a change. Whizz round those exhibitors who had their stands complete and time to talk about new/existing products/plans. Book a couple of road tests with fleet organisers who'll almost certainly forget the details once back snug in their offices.

Take notes for a *Ride On* news story (*Bike*, June '81) and prepare a rough outline script for a radio interview with Severn Sound later that day. Do radio interview, hopping from stand to stand and hoping background noise doesn't overwhelm my rather underwhelming radio voice. Hover around Hesketh stand waiting for

His Lordship to break off from a (very effective) personal sales campaign. Get indigestion after scoffing BMW's freebie food at 7,000rpm.

Drive 110 miles back to Herbal Hill where, at 6.30pm, an impatient John Hunter was waiting with the XJ550 Yamaha which he'd kindly collected for me from Mitsui earlier that day. Discover that the bike's registration number is different from the one told to me earlier that week by Mitsui and that my Green Card insurance was therefore null and void. 'Sod 'em,' said my inner self, now wound up in my chest like a ball of rusty steel wool.

Return to my flat to gather up gear for the long weekend ride to Le Mans, France for the early season 24-hour endurance championship round and discover that my tent was missing. Collect tent from friend five miles away in



**Left: 'bars are just right for boy-racers also in need of a town 'n' touring machine. Ignition lock also incorporates steering lock and there's an additional cable-type anti-theft lock stowed in the seat hump.**

Blackheath, south-east London, and depart at 8.30pm to catch the 10pm ferry from Southampton to Le Havre.

'No chance,' said my helpful mate who'd watched me struggling to bungee the tent onto the pillion seat. 'Gotta try,' said I, refusing to contemplate the awful hassles which would arise from missing the boat.

Up 'til then, the XJ550 had just been a method of transport, my haste had blocked out all forms of normal roadtesting analysis but as I swung onto the south circular road (a popular London joke), the red mist began to clear behind my eyes and brain activity became a slightly more reasoning process.

Speeding from traffic jam to congested one-way system, the XJ550 proved a bit of a handful in that at least 6,000rpm was necessary to really get moving; to maintain constant and readily available urge it was essential to be in the right one of the six gear ratios. Experienced

riders will know that trying to hard-charge through thick city traffic is stupid and not much quicker than taking things easy, only using such acceleration as is really necessary and planning your lane splitting carefully. Later experience on the XJ550 proved that it's a much more capable town bike than this particular trip was proving.

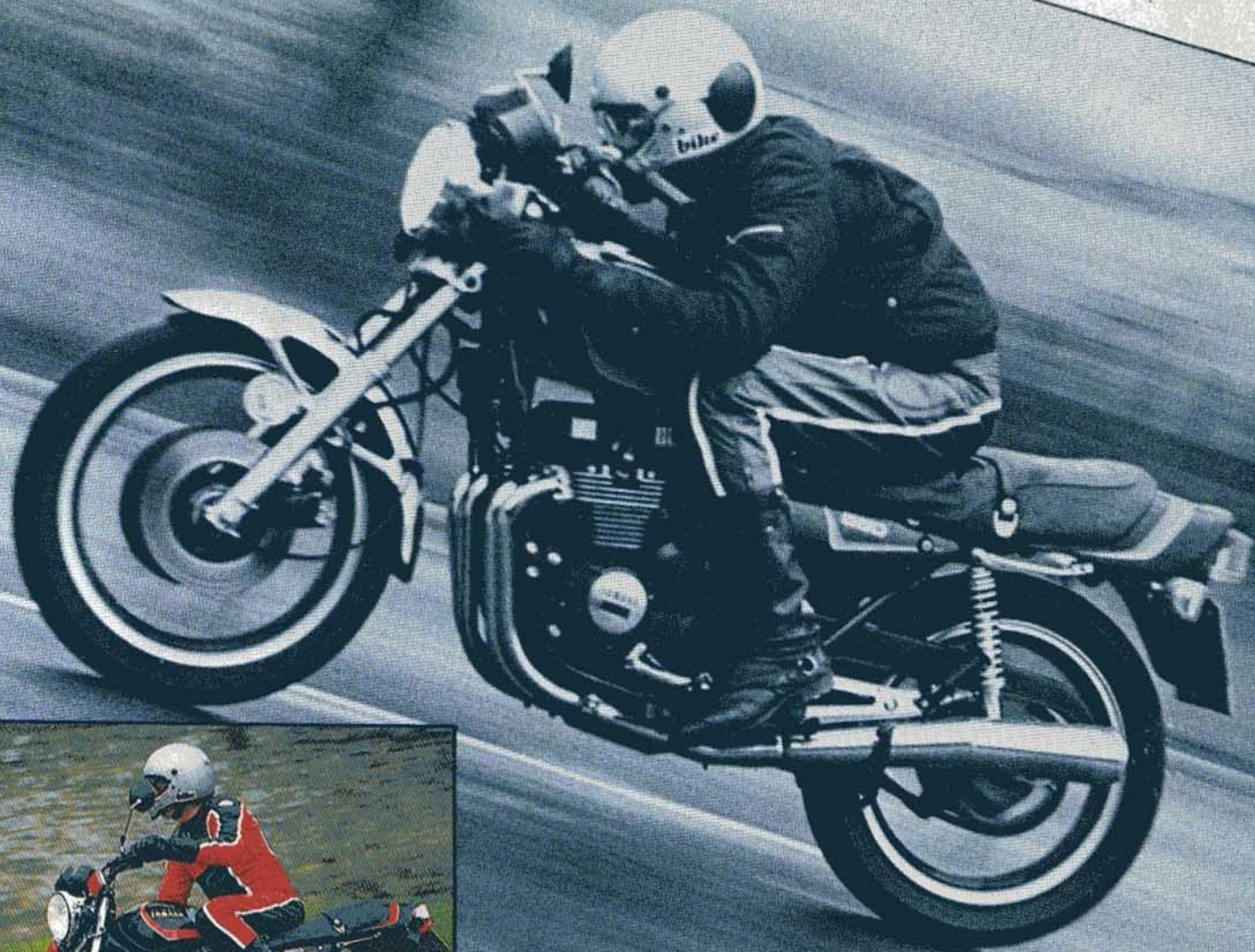
At last, I poked the front wheel onto the slip road of the M3 motorway and hit the gas, straight into the outside lane and joining a line of expensive sleek saloons all clocking a steady ninety per and guaranteed to hide Little Me from the inquiring eyes of jam sandwiches. Now it was difficult to believe that the Yamaha was the same bike with which I'd become not a little irritated on the south circular. It was really flying . . . 90mph . . . 100mph. Jeez! Was this really only a 550?

At 10pm precisely, I peeled off the roundabout at the end of the M275 motorway by-passing S'oton city centre and realised it was a hopeless mission, particularly as I'd seen the fuel gauge's needle dip lower and lower into the

red reserve. Convinced that only a mile or so remained in the float bowls, I eased the throttle back. The adrenalin rush over, that usual anti-climatic feeling of a job well cocked-up set in and my riding became sloppy. 'Might as well wave the others off,' I thought, knowing full well that the rest of Team Bike (*that anarchic bunch of liggers . . .*) would forsake alcohol rather than miss that Thursday night ferry, essential as the correct start to the weekend.

Choosing the wrong dock gate didn't help and by the time — 10.10pm — that I'd swung through an empty P&O ticket office, a deserted passport control and a desolate queuing lane I was resigned to a cheapo bed 'n' breakfast and an early start to squeeze onto the morrow's first boat. So it was with not so much elation as downright foolhardy euphoria that, as I reached the embarkation bridge, I could still see the ferry — with a juggernaut lorry stuck in its maw, trying to manoeuvre into an impossibly tight space. Ha! 'Tis the luck o' the Irish even though I'm not.

Needless to say, the rest of Team Bike, a motley collection of be-leathered individuals taking up far more than their fair share of bar space, had given me up. And all they could talk about were damn motorbikes . . .



With such an introduction to testing the XJ550 Yamaha, the rest of my riding on it might only have been a mere shadow of the real thing if it wasn't for the fact that it's a real revelation of a mid-weight bike. It's a breakaway from the super-sanitized Mr Clean and a balls-out sports bike to boot, on the lines of Yamaha's RD350LC. Comparison with the RD350LC is no accident here; look at the performance figures and you'll note that the four-cylinder four-stroke XJ550 turned in remarkably similar times as the two-stroke twin RD . . . but a whole bundle better fuel economy. Two RD350LCs were on this Team Bike trip to Le Mans so accurate evaluations under similar conditions were possible.

For a start, engine power delivery characteristics are similar — buggier all below six thou. Hit this threshold though and the next thing you're looking for is the gearchange as the tach needle soars up to the 10,000rpm red line. The XJ would not pull this in top gear at our test track so we settled for a top whack of 111mph

with a rider in full leathers and laying prone on the tank. I was sure that more was to come since the speedo had registered an easy 110mph on the road (in France, of course) and that was with oversuit, tank bag and tent on board. Then we checked the speedo accuracy and realised that it was almost illegally 'fast' with an indicated 60mph being a true 55mph. So 110mph indicated was a true 99mph . . . still not bad.

Having most of the power crowded into the top end of the rev range may make for a sporty bike but it can often be annoying under regular road conditions. Stroking the XJ along a typical English A road requires regular use of the gearchange for manoeuvres such as overtaking — down at least two cogs from sixth — and when confronted with a headwind or steep hill it'll quickly drop off the boil. Motorway riding, if you're being a good boy for a change, is also irritating since six thou in top equals 76mph. It's unlikely that you'll be pulled for that speed but since the inaccurate speedo will be showing about 85mph, you could be worried.

All this high-rev horsepower is the result of a state-of-the-art four cylinder double overhead cam engine with a modification to the induction system known to Yamaha engineers as 'Yamaha Induction Control System'. You'll see YICS stamped on the cam box covers as well as crankcases on most of Yamaha's four strokes from now on. This isn't an extra gizmo but four extra secondary interconnected inlet tracts cast into the cylinder head and which join the main inlet tracts just above each inlet valve seat. As each cylinder starts on its induction stroke, its secondary inlet port sucks fuel from the other cylinders' carbs and inlet tracts while their inlet valves are closed. These secondary inlet tracts are only a quarter of the cross-section of the main tracts so the air-petrol mixture moves at a much faster rate than the mixture in the main inlet tract. So when the secondary mix joins the main mix, it gives the whole caboodle a swirl. This increased velocity and turbulence of the

# the man at Le Mans

Photos left, going clockwise: Main colour pic shows Chemarin taking over from team-mate Christian Huguin as daylight fades into a bitterly cold Saturday night. Despite the cold, they still set a race record distance of 2,049 miles at an average speed of 85.38mph. Three duo-tone pix show variety of innovation and styles that only endurance racing sees.

Bottom right colour pic captures the consternation in the Honda pits as American rider Mike Baldwin is told he's excluded. In the background, Dave Aldana watches patiently but knows better than to argue with French logic. Far left: the start and the works bikes get away quick. Number 6 is the ill-fated Suzuki of Samin/Luc.

**JEAN-CLAUDE CHEMARIN PROVED** once again at Le Mans over the weekend of April 18/19 that he's the undisputed boss in endurance road racing when he led the works Kawasaki team home with a clear lead of 25 laps over the second placed private Honda sponsored by Pernod. It was a race which Chemarin particularly wanted to win, not only because it's one of France's premier races and is the opening round of the world endurance championship, but also because it was a loud and clear 'Yahboosucks' to Honda France who'd employed him for years but couldn't agree terms for this season.

Naturally, as soon as Kawasaki realised that all the endurance racing knowledge stored inside Chemarin's brain was available, they snapped him up for their new effort. Kawasaki's bike, based upon the 1000J motor, used an unusual rear suspension with only one shock absorber on the left side of a massive box section swing arm. Frame is an otherwise conventional duplex tubular with 16 inch wheels.

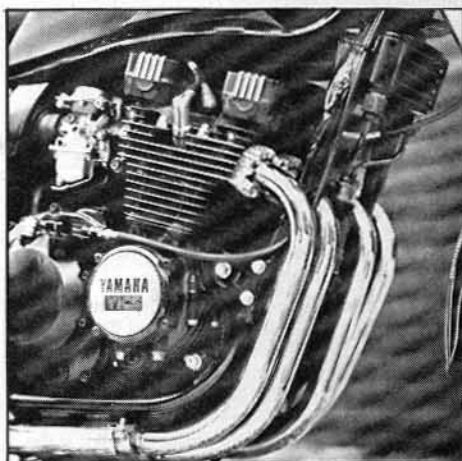
Both works teams from Honda France and Suzuki suffered crashes and mechanical troubles which eliminated them from the race. First to go was the Honda of Americans Dave Aldana and Mike Baldwin after a series of troubles starting with a blowing head gasket. They were second for the first three hours when they lost over an hour in a long pitstop. Effectively they were out of the race but they got going again only to have an exhaust pipe come loose. Baldwin was brought in to have

it tightened but missed the pits entrance, did a U-turn across an intersection and was excluded for course-cutting. They'll be doing the rest of the world championship rounds on bikes prepped by Honda France.

The other works Honda of Frenchmen Dominique Sarron and Jean-Claude Jaubert was closing on the Kawasaki leaders when, after 19 hours, Jaubert fell, breaking a shoulder and ribs.

A similar fate befell the white Suzuki of Pierre Samin and Jacques Luc which took the lead briefly at the halfway stage. Samin dropped it just after three in the morning, a period of intense cold under the clear skies, and though he was unhurt the bike had damage that took an hour to fix. Again, they only lasted 'till dawn before the big-ends shook hands with the little ends. The other works Suzuki — the team had all the marks of a major effort complete with occasional Jap mechanic — of Herve Moineau and Richard Hubin also ran out the bottom end of the motor.

As usual, amazing stories abound: Raymond Roche on the second works Kawasaki fell off while leading after four hours. He received first aid, pushed the bike back to the pits and his team-mate, Lafond, got going again. He then paid a flying visit to the local hospital and came back to take over his next stint. They finished sixth. Best Britons were Jock Copland and Mick Hunt whose Honda did the last ten hours with only one gear — fifth! They finished 12th, just out of championship points but consumed an awful lot of brake pads!



Above: Yamaha XJ550 motor is conventional across-the-frame four with double overhead cams, two-valves per cylinder and YICS to you too. That's 'Yamaha Induction Control System' — see text for details.

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mix improves the combustion process.

It's not an entirely revolutionary idea since most inlet valves are angled downwards to create this swirling effect for more efficient cylinder filling and better combustion but the Yamaha system is claimed to save 10% on fuel. Certainly our test bike returned surprisingly good mpg considering the thrashing the bike received. The worst figure was 48mpg and that included the 90-100mph blat to catch the ferry. The best of 62mpg was clocked when cruising

mostly at an easy 50mph on the return from Le Mans in the company of a dead bike being towed. Yamaha claim the tank capacity is 3½ gallons which means that reserve is just over a gallon. Unfortunately, the fuel gauge needle hits rock bottom far too early and the most I ever got into the tank was 2.6 gallons — and that was after riding the last 10 miles into Le Havre and from Southampton to Winchester on reserve, expecting the bike to conk out any moment. (Question: Why is one of Britain's major ports surrounded by petrol stations which aren't open at 7am when the overnight boat docks?)

Though it's a bike which needs to be revved to get the best out of it, it's not completely useless at low revs providing you don't expect sharp pick-up from snapping open the throttle. It'll pull smoothly from just above tickover with none of the cold-bloodedness usually associated with small multis. Choke lever for the four 28mm Mikunis is mounted on the left bar and operated by the thumb — far better than Yamaha's old method of a push-pull button on the side of the carb.

Though the bike is close to its XJ650 bigger brother in cubic capacity, it's miles away not only in 'feel' but there are many engineering differences. The alternator is mounted behind the cylinders on the 550, as on the 650, but power is transferred from the crankshaft to the alternator shaft via a Hy-Vo inverted tooth chain instead of the gears you'll find on the 650. This chain is automatically tensioned by an hydraulically operated slipper running off engine oil pressure. A relief valve ensures that excessive oil pressure (such as when the engine is cold) doesn't over-tighten the chain.

The eight friction plate wet clutch takes its

power off the alternator shaft by straight cut gears and is light to operate though it didn't take our acceleration tests too well. After five runs, including the 13.48 seconds elapsed time over the standing quarter-mile quoted, the clutch was dragging badly and refused to disengage to allow the gearchange from first to second. It soon cooled off and returned to its normal sweetness and such savage use is unlikely to be repeated during road use. However, the gearchange was never the usual slick selection we've come to expect from Japanese boxes and the test bike may well have been a rogue in this respect.

A single conventional roller chain drives the two overhead cams and there's only two valves per cylinder, eschewing the complex technology found elsewhere and normal for the level of power that the XJ produces. Valve clearances are adjusted by the inverted bucket and shim method.

Rubber engine mounts absorb what little high frequency vibes are produced by the engine and even at a screamin' ten grand, there's only just a tingle coming through the 'bars and footrests. There's a black period between four to six thousand rpm when I suspect there's a hole in the power delivery curve. As you're going through these revs, the mirrors set up a blur just as you're checking to see whether hyper-speed is safe to move into. By the time they clear again, you're already committed.

What really makes the XJ550 such a sports bike, apart from its power, is the light overall weight — 410lb dry though that's only just less than a Bonneville (watch it Dave, no jingoism here please). Like the RD350LC, the XJ has that twitchy feel to the steering that comes with a fairly short wheelbase of 55 inches and which



YAMAHA XJ550

Engine.....	4 cyl dohc
Bore x stroke.....	57 x 51.8mm
Capacity.....	528cc
Compression ratio.....	9.5:1
Carburation.....	4 x 28mm Mikuni
BHP @ rpm.....	56 @ 9,500
Max torque @ rpm.....	33.3ft/lb @ 8,500
Primary drive.....	Hy-Vo chain
Clutch.....	Multiplate, wet
Gearbox.....	6 speed
Electrical system.....	AC generator, 12v 12ah battery, magnetically triggered electronic ignition
Headlamp.....	50/40w

## DIMENSIONS

Wheelbase.....	55½in
Seat height.....	31in
Overall width.....	28¾in
Ground clearance.....	6in
Weight (with 1gal fuel).....	420lb
Fuel capacity.....	3½gal

## EQUIPMENT

Indicators.....	Yes
Electric start.....	Yes
Trip odometer.....	Yes
Steering lock.....	Yes
Helmet lock.....	Yes
Headlamp flasher.....	Yes
Others.....	Mirrors, cast wheels, extra cable anti-theft device, fuel gauge, volt meter

## CYCLE PARTS

Tyres	
front.....	3.00 x 19in Bridgestone
rear.....	110/19in Bridgestone
Brakes	
front.....	2 x 11¼in discs
rear.....	drum

## PERFORMANCE

Top speed	
prone.....	111.14mph
sitting up.....	102.95mph
Standing ¼-mile.....	13.48 seconds/98.26mph
Speedometer error	
at indicated 30mph.....	27.9mph
at indicated 60mph.....	55.2mph
Fuel consumption	
overall.....	55mpg
ridden hard.....	48mpg
PRICE.....	£1,567
Guarantee.....	12 months/unlimited mileage

Supplied by..... Mitsui Machinery sales, Oakcroft Road, Chessington, Surrey.



reacts quickly to both rider and road inputs. I like that light steering feel which makes a mid-weight bike so chuckable and the XJ's excellent weight versus bulk balance encourages this. It's one of those bikes that you can enter a series of your favourite bends at a very interesting speed, feel the tyres begin to skip, ease the angle of lean and change lines, all without the anxiety that the same manoeuvre would induce on a 750 or 1000cc bike. And that's with the standard tyres which just have to be the worst Bridgestone have produced in yonks. At the front is a ribbed Mag Mopus which is okay, but nothing special, as deserved by a bike of this nature. The rear tyre is a throwback from the days of Jap tyres when they were best used by Thames barges as fenders. Admittedly it had worn to a flattish profile in the centre but it was still well within the legal limits, and overall mileage on the bike was only 2500 miles at this stage.

So good and controllable is the XJ550's handling that this deficiency in the roadholding department was only a problem during the peel-off moment when entering a bend fast. Neither are the rear shock absorbers much cop. Suspension front and rear is surprisingly non-high tech considering the XJ's main rival will be Kawasaki's GPz550 which has air assisted forks and adjustable damping at the rear. The Yamaha's forks don't suffer at all by being 'only' coil spring and work exceptionally well, but the rear shocks had to be put on maximum spring preload to maintain ride height. That was with just me, an 11-stone weed, on board — with a pillion it was just a joke. The rear shocks were so bad that I'm beginning to think that somewhere along that bike's preparation line, the wrong pair were put on. Maybe there's an RS100 somewhere that's vastly oversprung.

That twitchy feel I mentioned earlier could well be tamed, and the whole bike's roadholding transformed, with a decent set of tyres and rear shox — the same old Japanese bike complaint we were making years ago! There's no worry over the brakes though. In wet or dry, the twin front discs are incredibly powerful yet also progressive and are well matched by the rear single-leading-shoe drum brake, rod-operated. At the test track, it was impressive to try emergency braking which could be controlled finely — nothing like the dead 'feel' you often get with the now common metallic disc pads. With each new Jap bike we seem to get completely redesigned brakes but these latest floating calipers on the XJ are as good as Brembo's latest twin piston type. Mind you, the Italians did get it right an awful long time before the Japs.

The road to Le Mans after leaving behind Le

Have's oil refineries is definitely in the ace roadtesting league. It's got a heady mixture of tight, abrasively surfaced bends over an undulating landscape, many series of twists up 'n' down dale that you can see all the way through and plan a racing line with no fear of adding a dash of red to the Normandy countryside's idyllic green hue, and all this is followed by long straights into the urban street racing circuit around the environs of Le Mans.

It was along such roads that I came to the conclusions about the XJ's suspension but also discovered that it didn't really matter anyway since the bike was so much fun. Part of this rider control is the excellent footrest/seat/handlebar relationship which leans you forward just so.

Footrests on the XJ are well to the rear and quite high so your knees are severely bent. This attitude pushes you forward onto the 'bars which are hardly raised at all from the level. Levers, pedals, switches, instruments, etc all fall easily to fingers/feet/thumbs/eyes.

While the riding position is great for a sporty solo rider, it's a bit of a tight fit two-up, especially if you're trying to squeeze on luggage somewhere too. The rearset footrests that make for one-up total control also mean you and your passenger's feet entangle occasionally. It's not that two-up trips are an impossibility, just that here's a bike that gives its best ridden hard; if you're into touring with a friend, forget the XJ. It was a tight fit too for me, a lanky six-footer with size eleven boots, with just a modicum of luggage — tank bag, tent and, on the return journey, a stuffa bag.

In fact, the return trip from Le Mans wasn't so enjoyable as the trip down though it was certainly memorable, even allowing for the heavy heads among our party. Roads made greasy from light rain, then awash in sudden cloudbursts, showed up the XJ's skittishness and lack of surefooted roadholding. Again, its relative light weight made control of steering no problem but once or twice, I accidentally locked up the brakes. Back on home soil, after eventually filling up at Winchester, the blast back up the A33 and M3 to London was straight into a strong headwind which cut the top whack of the XJ down to around 90mph — and an RD350LC alongside was similarly reduced. It wasn't a lack of power but just too much wind force on the rider's neck and upper arms. I'm sure that if either of us had been alone, we'd have done the sensible thing and settled for an easier ride at 70mph.

All the usual Jap equipment is quite adequate: headlamp is a 50 Watt main beam/40 Watt dip unit with reasonable penetration into the murk. Self-cancelling indicators are standard as are the Mockett italic cast wheels. Twin horns mounted below the headlamp rather spoil the front view but have a surprisingly loud noise. Toolkit is the usual joke. My only other major criticism is how hard it is to clean the engine thoroughly. Crankcases, barrels, heads and alternator cover are all matt black which may be correct from a heat dissipation viewpoint but hell to keep free of crud. The oil cooler mounted just underneath the steering head and with plumbing in between front down tubes, collects grubbiness too.

So many motorcycles of all capacities, shapes and sizes are available today and each category is incredibly competitive, especially among the Japanese offerings. The XJ550 Yamaha is in the same mould as Honda's famous 400cc four but with all the improvements in motorcycle technology that have taken place since then. It's not the stuff that legends are made of — such as the RD350LC — but then who wants to be a broke folk hero anyway?