

car

**FIRST DRIVE:
NEW FERRARI
MONDIAL**
(SEE PAGE 122)

APRIL 1989 £2.00

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SCOOP



1990 METRO

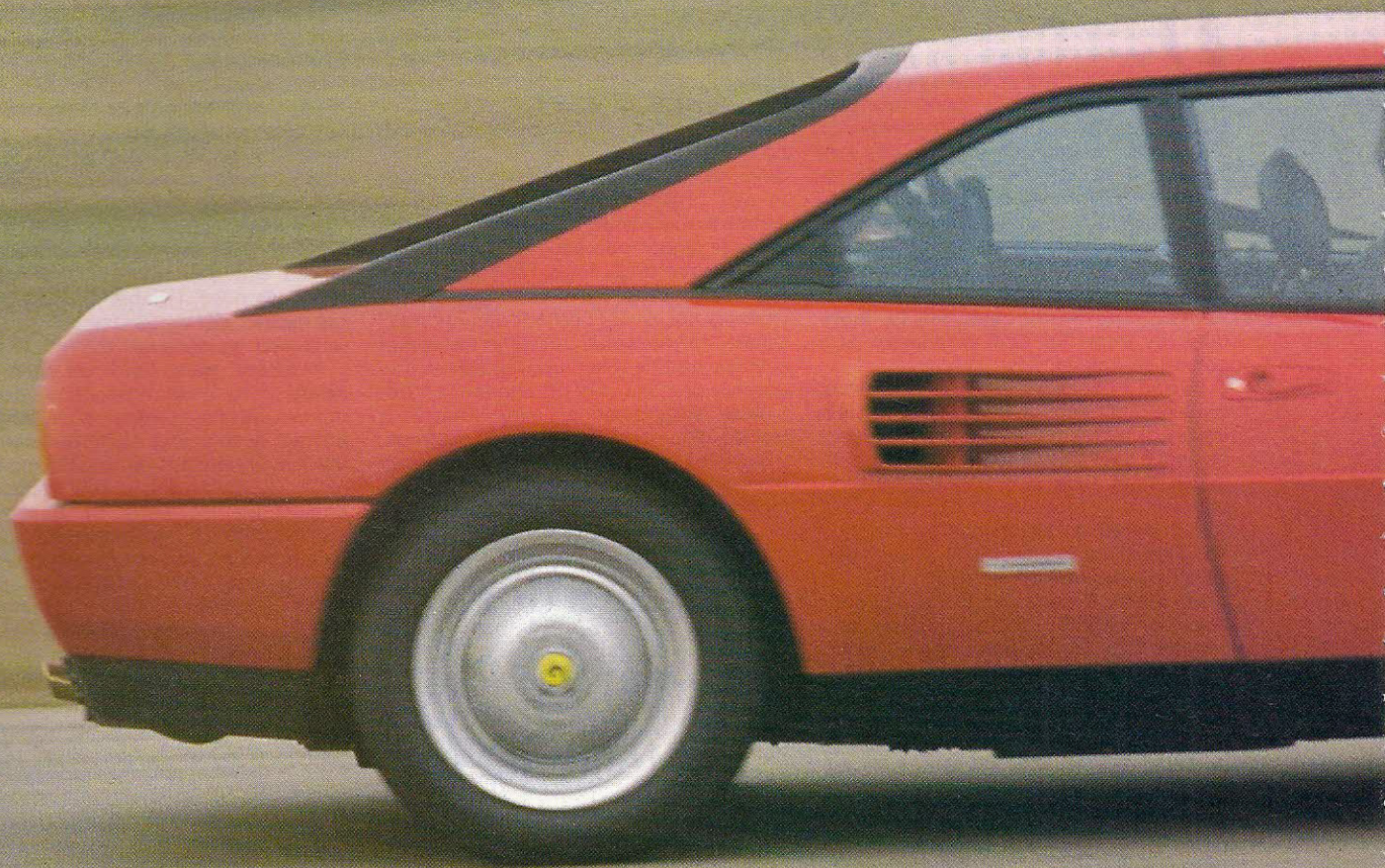
Britain's Next Best-Sellers

1990 ESCORT



EXCLUSIVE DETAILS START ON PAGE 92

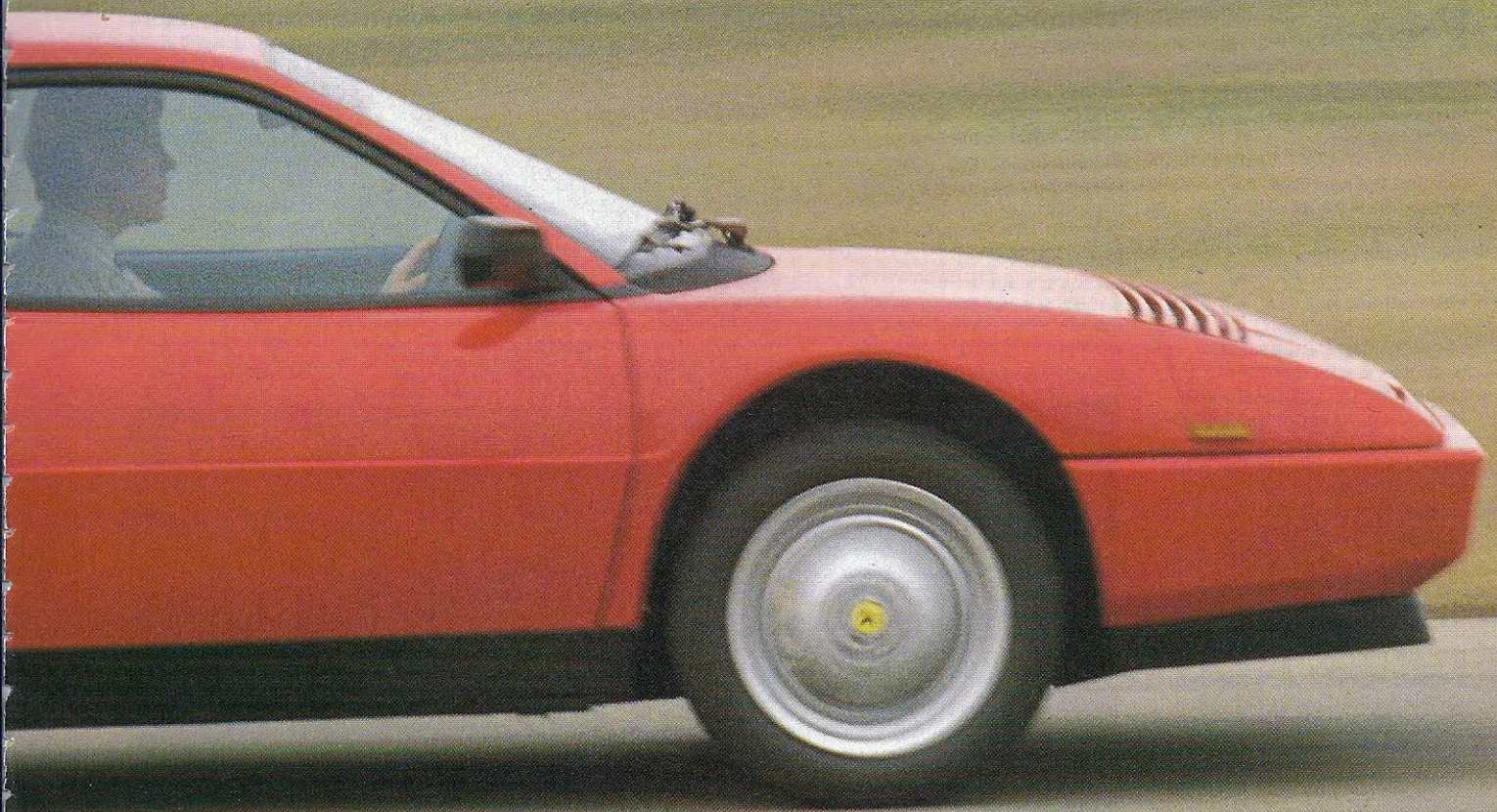




DRIVING MON

A more powerful, relocated drivetrain makes this new Ferrari a sharper

PHOTOGRAPHS BY



THE NEW DIAL

machine. And its engine will power the GTB replacement/Gavin Green

'The revolutionary powertrain sits lower and improves the handling'

NIGEL MANSELL WAS watching. He flew into the *Pista di Fiorano* in a white Ferrari-owned helicopter, stayed for about 10 minutes, and then flew off, after probably not learning a whole lot from the English journalist who was punting the new Mondial around the circuit.

There were other spectators, too, dotted around the perimeter fence. Whenever a Ferrari takes to Fiorano, it draws curious workers from the neighbouring factories, and from the nearby tenements: they stand hard up against the wire fence, hoping to catch a glimpse of Mansell or Berger in the latest V12 formula one car – or at the very least an F40, being pushed hard by one of Ferrari's impossibly talented test drivers. Instead, they saw a scribbler getting to grips with Ferrari's slowest and, traditionally, least inspiring road car. They probably didn't even realise that it was a *new* Ferrari, either, for the 1989 Mondial looks little different from the 1988 version.

Yet it is surprisingly significant. Nestling under the minimally modified shell – which gets new, rounder and softer front and rear wings, smaller side inlets, and a narrower grille in front of the bonnet – is a 3.4-litre V8 engine mated to a revolutionary gearbox. It increases the speed and the desirability of the Mondial noticeably. It is also the very unit which, later this year, will be used in the new GTB – the car that replaces the most successful machine in Maranello's history. The interior of the Mondial is all-new, too. In short, Ferrari has made a big effort to put extra sting into what is, apart from the 412, its least popular car.

The Mondial is shunned because it is a four-seater, and tradition says Ferraris should be two-seaters – even if common sense does not. It is also less eye-catching than the GTB or Testarossa. But the Mondial has always been a favourite of mine, precisely because there is room in the rear for briefcases and jackets and luggage – and, at a pinch, people. Go on a long trip in a Testarossa or a GTB, and you'll have to leave your friends and your luggage behind. Also, I like the look of the Mondial. And always have. It may not be quite as sharp, quite as curvaceous as the GTB. But it looks one hell of a lot better than the Testarossa, and it is pretty and simple and tolerably discreet. It also rides better than the older GTB and is quieter and more refined.

The 1989 car looks better, although most people will have

a hard job to pick the difference. 'The main reason we changed the body at all,' says development engineer Franco Cimatti, 'is that we have altered everything else. It seemed silly not to make some changes to the outside as well.' The softer wings, and some other more discreet changes, have improved the Cd by 0.2 – down to a still undistinguished 0.40.

'We wanted to improve the handling and performance of the Mondial,' says Cimatti. 'But we also wanted to make it a better long-distance tourer. We

fire red cam covers, sits longitudinally. A longitudinal rather than transverse engine placement offers a number of advantages: easier access for servicing (the forward bank of the transverse V8 was always awkward to reach) and symmetrical exhaust banks for constant manifold temperatures and improved performance. The main reason for the north-south engine placement, though, is to lower the Mondial's powertrain, and thus the car's centre of gravity, to improve handling.

'The old Mondial's powertrain

engineering and manufacturing complication (the transmission casting is a work of art). The flywheel is no longer mounted at the end of the crankshaft: instead it is located, with the clutch, in an external housing at the end of the drivetrain. It is linked to the crank by a shaft which runs through the gearbox; its rotation is smoothed by an internal vibration damper. A coaxial input shaft then takes the drive forward, to the gearbox. A helical gear, at the end of the input shaft, is linked to a bevel



have reduced noise levels and made the cabin roomier – particularly in the front. We have studied a lot of criticism – among them the comments made in *CAR* August 1984 [Cimatti remembered the exact issue]. You will find this car a big improvement, I think.'

To improve performance, the old 3.2-litre V8 has been increased in capacity to 3.4 litres; maximum power jumps from 270 to 300bhp. Bore and stroke have both been boosted – up from 83mm x 73.6mm, to 85mm x 75mm. The block is largely unchanged; and so are the four-valve-per-cylinder heads. To improve pick-up and smoothness, and lower emissions, Motronic engine management is used, instead of K-Jetronic mechanical injection, in concert with Marelli Microplex electronic ignition. It will now drink lead-free fuel without modification.

Other engine changes include an aluminium rather than a brass and copper radiator – which saves money and 15lb in weight. Far more important is that the V8, still distinguished by

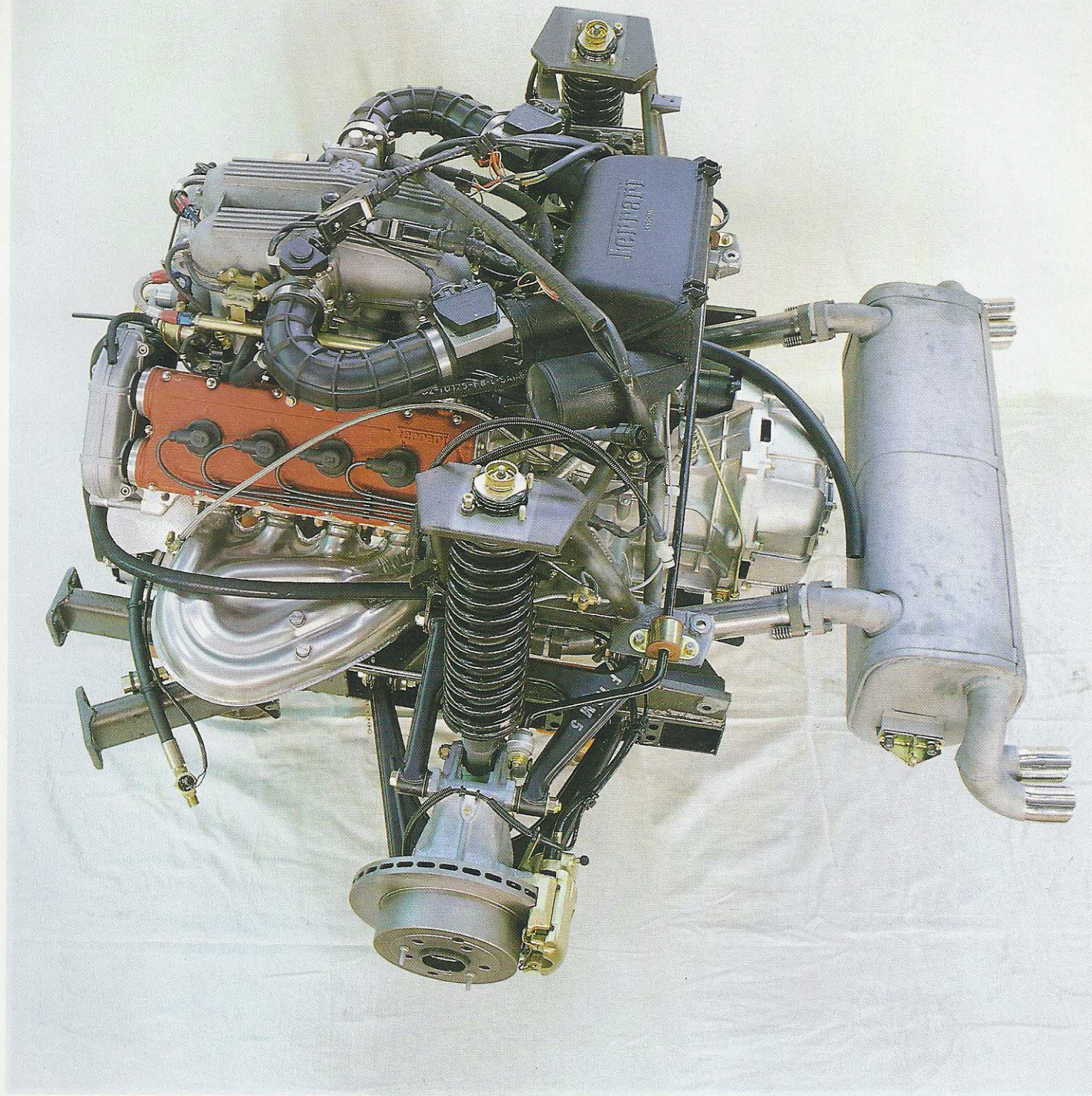
is very tall,' says Cimatti, in his immaculate English (he lived in America for seven years, and his parents now live in Surrey). 'The gearbox lies underneath the engine. To drop the height of the motor, we had to put the gearbox at the end of it, rather than underneath it. Had we done this by putting the gearbox at the end of the longitudinal engine in the conventional way, we would have had an enormously long powertrain – which would have hurt boot space or rear seat area. That was unacceptable. Yet we were still keen to use a north-south engine. That's when we hit on an idea we used in our formula one cars in the late '70s'

The answer: use a transverse gearbox, running at 90deg to the crankshaft. This would keep the powertrain compact, allow the engine to sit longitudinally, and lower the drivetrain. The new Mondial has its crank 13cm closer to the tarmac than last year's version. The height reduction has been further helped by using a dry sump.

The downside of the transverse gearbox was the

Steering now power assisted, dash improved. Bigger 3.4 engine (right) produces 300bhp, up 30bhp, and sends drive to innovative transverse gearbox sited behind motor. Note new rear sub-frame to which powertrain is secured

gear, which takes the drive through 90 degrees. Drive is then passed on to the primary and secondary shafts of the gearbox, and on to the final drive – all very compactly housed. It's a neat, space-saving solution. A further touch is that, to isolate the gearlever from the transmission, a cable-operated change is used – to prevent the lever from moving with the torque reversals. The gearbox, of course, is all-new. Its innovative location has led to the new car being known as the Mondial t – for transverse. When you think about it, it's a pretty strange name: after all, the old Mondial had a transverse engine *and* gearbox. More familiar is the retention of five gearbox speeds, and the dainty



chrome gearlever capped by the familiar golf-ball-sized round plastic knob. It sits in the middle of the familiar six-fingered chrome gate, so very Ferrari-like.

Inside, almost everything else is new. Although the dash sculpture is similar, the binnacle is different, and so are the instruments and the centre console. The new three-spoke Momo-designed steering wheel is smaller than the old item: a corollary of Maranello's decision to fit power steering to

the Mondial for the first time. The wheel is rake-adjustable as before, but no longer reach-adjustable as well; surely a backward step. But there are no other signs of regression. The new binnacle is smaller and daintier and more GTB-like; inside it is a neat collection of six gauges, dominated by the large speedo and tachometer.

The centre console now extends up to the dash, and includes the major switches – which used to repose, looking

unsightly, in the main binnacle. Visually, it's a big improvement. The seats are new, and about time, too. The old Mondial has flat, thin chairs that lack under-thigh support and have squabs that are too short. Now, there is padding under the upper legs, and cushioning for your shoulders. More side support would be welcome, though.

The single biggest cabin improvement is that Cimatti and friends have managed to reposition both the pedals and

the steering wheel, alleviating the old car's unfortunate crab-like driving position. Although the pedals are still off-set a little – to clear the front wheel-arch, which still intrudes – the wheel is straight ahead and so, more or less, is the driving position.

Ferrari claims that there is more rear room – but is a little short on specifics when it comes to how this extra space has been extracted. Rear seat space is still tight: two adults cannot travel in any comfort. As



seats-cum-luggage shelves, the rear is improved, though; the squabs now fold forward. The column stalks used to be Lancia hardware: now they are unique to Ferrari, and distinguished by rubber ends, which are nice to touch and easy to swivel.

Inside, you're sitting more comfortably than ever before in a Mondial, and that quite gorgeous Momo wheel (Ferrari steering wheels just keep on getting more and more beautiful) proves just as

sensuous to the touch as it is to the eye. Close your eyes, and drop your right hand – and there is the gearlever, exactly where it ought to be. Swivel your head, and all-round vision is generous – better than in a GTB or a Testarossa.

We had a brief drive on the broken public roads outside Maranello, before heading for Fiorano. The road driving was enough to prove the worth of the car's chassis, and its bump absorption qualities – always

good, but now improved. Gone are the old Koni oil dampers, and in their place are electronically adjustable Bilstein gas units. A little rocker switch on the centre console allows you manually to alter the damping. There are three settings: soft, medium and hard. The dampers also firm up automatically at speed, and when the *g*-forces get high. The other major suspension change is to the wishbone arms which are now made from welded box section steel rather than open

C-section steel: the new way is less expensive and more consistent in quality, says Ferrari. Tyres are the same size as before; also carried over are the ABS-controlled (courtesy of Teves) ventilated disc brakes.

Fiorano was deserted. There were two new formula one cars in one of the garages, but no-one to exercise them. The doors of the Mondial still don't open quite wide enough; although the problem is nowhere near as bad as it is on,

'The new, harder-charging engine, is an improvement in every way'



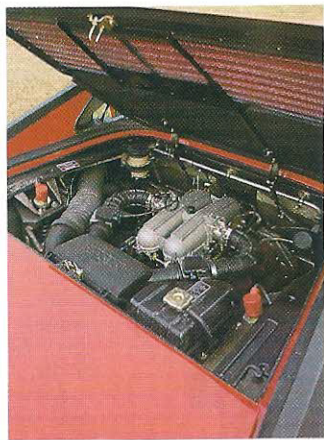
say, an Esprit. The seats are beautifully trimmed in black leather on our test car (chassis number 22). The controls are simply, and straightforwardly sited: no Escort or Fiesta driver will feel intimidated by the sights around him.

Nor will he worry unduly about the clutch or brake or throttle actions, either; all are easy to use, and not particularly heavy. The engine starts on first turn, before settling down to a contented snarl: not noisy, but just loud enough to impress. Time to move off onto the figure-of-eight test circuit, less than a mile away from the main Maranello factory: where sophisticated testing gear can measure Mansell's cornering speeds, where F40s have been pounded around to death, where thick black rubber marks scar the entry to the corners, and where the grass is clipped away from the exit of every bend by hard-charging test drivers.

Ferrari gearboxes have never been easy to master; the new transversely sited set-up is no exception. The change action is a little sticky, particularly in the lower cogs. Tempt the gearlever out of its gate and, after initial hesitation, it will spring out of its resting place, before engaging the next gear quite smoothly. You have to be firm and positive, though. Lose concentration, and you're likely to end up wallowing in no man's land, and in danger of selecting the wrong slot – and risking damage to both valves and wallet.

The new engine is an improvement in every way. It charges harder. Ferrari claims 0-62mph in 6.3sec, an

improvement (if true) of almost a second. Top speed rises from 155mph to 160. The 3.4 engine gives a more even power delivery than the 3.2 it succeeds: it is stronger down low, and there's less of a power step as the revs rise. The old Mondial used to snap out of its languor at about 4000rpm; the new car never feels languid in the first place. Its engine can pull evenly and sweetly from less



than 1000rpm in fifth gear – an astonishing achievement. And it will keep pulling, with increasing urgency and mounting vigour, as the snarling note turns from contentment to frenzy, until you hit the 7500rpm limit that the tachometer puts on your fun. It starts to sound a little strained, though, a little in need of a rest, from about 7000. Yet what a wonderful achievement. An engine with a usable power band of 6500rpm.

I was suspicious of Maranello's decision to fit power steering, before the new Mondial and I had our day

Styling (left) similar to old car's, though front and rear wings are softer, rounder, and side inlets smaller. Cabin completely re-designed. Seats, switches and driving position improved. Note longitudinal engine position (below)

together. What next? I wondered. An automatic Mondial? A four-wheel-drive Mondial? Sacrilege! Worry not. Ferrari's engineers have given the Mondial the sweetest power steering imaginable. In fact, during my first couple of laps, trying to get to grips with the difficult twisting circuit and that rather stiff gearchange, I quite forgot that I ought to be evaluating the new power steering. It felt just like a normal Ferrari manual steering. Only, it's better than that of the old Mondial: higher geared, and producing less kickback and fidgeting over bumps. It is firm at speed – no less so than a conventional manual system. Yet, for parking, the old heaving is replaced by delicate and precise input. 'We are very proud of that power steering,' says Cimatti, with justification.

And what of that selectable damping: a one-time gimmick that the Japanese dreamt up to give awful handling cars the chance to ride badly as well? There was virtually no difference discernible at Fiorano when I pushed hard, but then nor would you expect any: the automatic control was firming up the Bilsteins, even when the manual control said soft. On the open road, the softer setting gives excellent bump absorption.

The best bet, I reckon, is to leave the manual setting on soft, and enjoy a comfortable low speed ride – and let the automatic control firm up the dampers when necessary. There is a whiff of gimmickry about it all, though.

Mondials have always handled well, particularly by four-seater or 2+2 standards. Turn-in is very sharp – better than on similarly sized front-engined machines – and the whole car feels small and lively and manoeuvrable. You have to commit yourself, to travel quickly – in the way that you don't with a Porsche 944 Turbo. You need to swallow hard, concentrate, and drive the car well to get *real* performance out of it. But play your cards right, and the Mondial will reward you richly. Its only real vice is on a succession of right- and left-hand corners, where the tail can start to break away during the quick direction changes. The shorter GTB is less likely to snap out of line during those manoeuvres; so, for that matter, is a 944. Mind you, when the tail does start to come, it is not too difficult to correct it. The chassis communicates eloquently, although it expects you to do the same. It is precisely because the car's messages are sharp and rich that you have to be alert on a fast drive.

I would like to have taken the Mondial t away, partly because it is a car I would like to own, and partly to evaluate a *sine qua non* of the car – its ability to convey you over long distances in comfort. Such a thing was not possible. Yet the new car is quieter than its predecessor. The engine is less obtrusive, less likely to wear you down on a long run. Yet the car's still no great shakes as a grand tourer. It's still a little too noisy. Better to dash across Europe in one of these cars than a GTB, all the same. And although a 944 Turbo may be a more restful companion, I would rather have a Mondial for those occasions for which sports cars are designed: when the road ahead is winding and wide, and the aim is simply to enjoy your motoring.

That the Mondial is fun to drive, fast and practical should make it Ferrari's most popular car. After all, it does much of what a Porsche 911 does for much the same sort of money – and adds extra style, greater handling competence and an even finer engine. Now that it has been so intelligently worked-over, and so discreetly yet effectively improved, its appeal is stronger than ever. Yet sales are unlikely to improve. Why is this wonderful car so unfairly ignored?