

**NEW**

# Dolce as well as presto

Ferrari's new fuel-injected Mondial 8 2+2

By Michael Scarlett



*Fitting four seats into a relatively short wheelbase (for the type of car) and still contriving to keep a graceful aspect is not easy, but in most opinions Pininfarina has done outstandingly well on the new Ferrari. Bumpers are black resin type capable of absorbing 3 mph impacts without damage*

BUILDING four-seaters, however genuinely so, when your name is one mainly associated with very high performance two-seaters, is a difficult trick. Ferrari have been doing various things of the sort for many years now, with varying success – more successfully than most of their few competitors or would-be emulators at any rate. Even so, cars like the Bertone-shaped Dino 308 GT4 and its ultimate replacement, the Pininfarina-styled Mondial 8 revealed at Geneva are inevitably a compromise. It is interesting to see how what Ferrari consider to be market forces and their (and Pininfarina's) own instincts have assisted or interfered in the making of the new car.

The company seek to widen the scope of their market by producing a more civilized and versatile machine, which will meet the needs of the modern sporting motorist, who in this price class is more often than not the type who, even when buying a Ferrari, increasingly expects more civilization and refinement than his sort 10 years earlier. Ferrari claim that many of their customers today are quite high mileage men, averaging up to 20,000 miles per annum, and not the owner who takes the car out only for the occasional pleasurable run. The modern Ferrari owner expects the same faultless driveaway from cold, the same reliability, even something of the same wider service intervals that is normal in the mass production car world. This, and the spread of government type approval interference across the motoring world, means the extinction of the fussy, coquette-ish Italian

super-car, and maybe the start of a new generation of kinder, less demanding – if perhaps less exciting – products. This obviously applies very much in America, which is Ferrari's most important market, since it takes 35 per cent of their output.

Compared with the Dino 308 GT4, which appeared first at the 1973 Paris Salon, the Mondiale 8 is a softer, bigger car. It has 6½ per cent less power and nearly 15 per cent less torque, to drive a car which although it has virtually the same wheelbase and only 1.4 and 2.2in. wider track, is 11in. longer, has around 2½ per cent more frontal area (due to 1.6in. more height), and weighs nearly 10 per cent more. Its power-to-two-up-laden weight ratio, still a respectable 136 bhp/ton, is accordingly 14 per cent down on the Bertone model, assuming one goes by the maker's power figures – 215 bhp at 6,600 rpm and 179lb.ft. at 4,600 rpm against the older car's 230 bhp at 6,600 and 210lb.ft. at 5,000.

## Fuel injected engine

In basic mechanicals, the engine is the same 81 x 71mm 2,027 c.c. 90-deg V8 as before, with no change to its compression ratio of 8.8-to-1. The big change is to the induction, which for the second time in a production road-going Ferrari, displaces multiple carburetors for fuel injection – Bosch K-Jetronic – one is tempted to add, "of course." The first case was on the big 400i model last June, where again there was a nine per cent reduction in power. Ferrari cite the advantages of injection here as a complete absence of flat

spots, great operating smoothness, reduced consumption, simpler maintenance over longer intervals and of course – the most important reason obviously – lower exhaust emissions. The Mondial 8 is in fact well ahead of European emission requirements, and complies with American ones up to 1982.

The other major change is the adoption of a new electronic ignition system developed in conjunction with Ferrari by Marelli and called Digiplex. It is not as sophisticated as Bosch's Motronic system used on some 7-series BMWs, but approaches

it closely, with a hybrid solid state electronic memory which will automatically provide 512 ignition advance settings derived from eight levels of vacuum – in effect load – and 64 different engine speeds. The system includes an ignition cut-out which prevents over-revving beyond the 7,500 rpm limit. Again, the advantages are obvious – better ignition control, far better reliability assuming no electronic failure, improved consistency and no mechanical wear, which in turn means another item normally demanding regular service eliminated.

The four-camshaft, all-light



*Ferrari's second production Bosch fuel-injection engine nestles behind cabin. For major engine work, the entire rear frame cum suspension can be wheeled away for ideal access*

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Car has pronounced overhangs front and rear; rear one hides an unusually generous boot for this layout



### Ferrari Mondial 8 *continued*

alloy engine is of course arranged transversely, behind the driver and ahead of the back wheels, in unit with the five-speed transmission. This has nearly the same internal ratios except for a slightly higher indirect fifth - 0.92 instead of 0.952 - but a noticeably lower final drive - 4.063 (16/65) in place of the Dino's 3.706 (17/63). In conjunction with different tyres - very low profile Michelin TRX 240/55VR390 instead of 205/70VR 14in. - the result is a small reduction in overall gearing, from the 21.0 mph per 1,000 rpm of the Bertone car to 20.1 for the Mondial 8. Going by Ferrari's performance claims, as before the car is deliberately under-

geared by 7½ per cent in terms of the amount it will rev past its engine peak at 143 mph (compared with 148 for the 308 GT4).

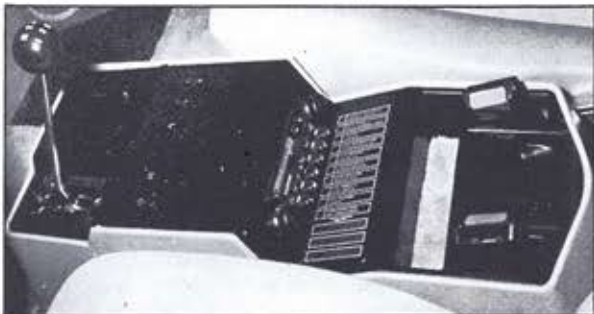
There are other differences within and without the gearbox. A circulating oil pump has been adopted for better cooling and more even heater distribution throughout the transmission, and it is claimed to lower transmission noise. Selectors and gears have been improved to reduce friction and gearlever vibration and to give better gearchanges. The countershaft provides the drive for the unusual electronic mileage recorder. More unusual still is the incorporation within the car's very comprehensive

warning lamp system of an indicator which tells the driver if the gearbox oil level has dropped seriously.

Limited slip is standard for the differential, whilst the clutch has hydraulic control, automatic wear adjustment, and a constantly running release bearing.

### Body and suspension

The frame is tubular as before, making much use of fabricated sheet box sections. It will meet current Federal crash safety dictates, and in European form has black resin bumpers good for 3 mph



Above: Panel of warning lamps behind radio informs on state of (from driver's right to left) engine temperature, brake hydraulics, bonnets open, transmission oil level, engine oil, screen washer fluid, service due, stop lamps, parking lamps, and air conditioning

Right: Neat and tidy instruments layout gives driver all the information he might expect in a Ferrari. Digital distance recorder readout is on right of rev counter



Below: Buttons to left of speedometer deal with (right hand row from top) heated rear window, front and rear fog lamps, and (left hand row) releases for the lids of the engine compartment, front boot and car boot





parking lamps, engine and gearbox oil levels, coolant and washer fluid levels, brakes, and engine and boot lid closing. The standard specification includes leather upholstery by Connolly, air conditioning, electric mirrors and central locking (which includes locking details like the petrol filler cover), and loudspeakers wired for radio of the customer's choice. Options

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parking collisions without damage. An interesting detail, a first for this maker, is the adoption of a rear end which carrying engine, gearbox and rear suspension, can be removed complete for faster power plant assembly and maintenance. The suspension is little altered in principle, remaining all-independent with double wishbone geometry. The differences are much reduced kingpin offset, which comes down from 71 to 11 mm, low maintenance pivot bearings and anti-dive inclination of the upper front suspension arm. The improvements claimed include reduced steering kickback and effort. The steering column is adjustable for height and reach. Wheels are wider rimmed at 7in. instead of 6½in.

The body shape is as clearly Pininfarina as its Scaglietti-

made predecessor was Bertone. Where the Dino 2+2 was almost arrogantly angular, the Mondial is curved. Its proportions aroused a certain amount of controversy on first sight at Geneva, perhaps in part due to the thrust-forward driving position and the quite noticeable amounts of overhang. At the back, this latter point is made surprisingly good use of in the quite sensibly shaped boot, which is 30 per cent more voluminous than the Dino's and which can be opened remotely from the passenger cabin. Headlamps are as usual the pop-out sort with an electrically powered movement.

The usual high Ferrari standard of instrumentation is preserved, with extras like an oil temperature gauge. Less usual is the adoption of an electronic digital display for both total and



trip mileage indicators, plus the very elaborate control panel of warnings, carried in the centre of the car and telling the owner the condition of stop lamps,

*Left: Seats are upholstered in leather. Rear ones are shaped to suit the position necessarily adopted by any extra passengers*

include a power sunshine roof and metallic paint.

The car's body panels are largely aluminium alloy. Where steel is used, it is either pre-zinc coated sheet (zincrometal) or zinc protected after assembly, with a final anti-abrasion pvc-based coat underneath. Special attention is paid to the vulnerable areas around spot welds.



### Performance

The Mondial 8 – the name is an exact echo of an earlier Pininfarina Ferrari, the front-engined 1,984 c.c. open two-seater of 1953 – may not be quite as fast as the Dino 308 GT4, but it is still quick, with a standing quarter mile time of around 15 sec and a standing kilometre covered in 28 sec, passing the post at 130 mph, if one may take the maker's figures. It enters a highly competitive corner of the specialist market, with its most notable competitor coming from Germany in the shape of Porsche.

*Above: A different Ferrari Mondial 8, also by Pininfarina – the classically beautiful front-engined 1,984 c.c. four-cylinder 170 bhp two-seater whose engine was based on the Formula 2 500 Ferrari*