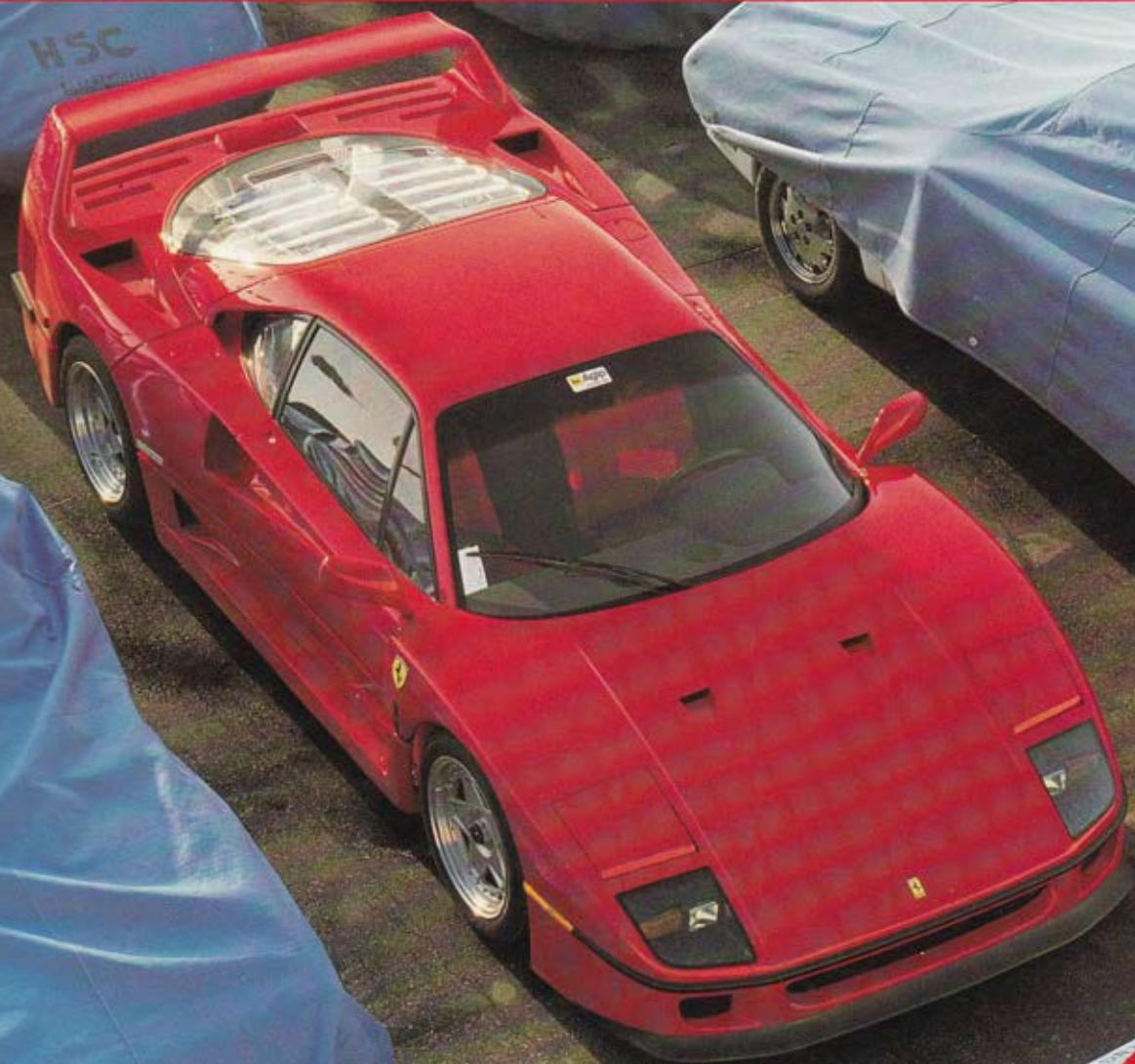


Illustrated

FERRARI

BUYER'S ★ GUIDE™



Dean Batchelor
Revised and Updated by Randy Leffingwell

**Fourth
Edition**

Mondial 8 1981-82 ★
Mondial Cabrio 1983-89 ★ 1/2
Mondial t 1989-92 ★ 1/2
Mondial t Cabrio 1989-92 ★★

Mondial 8 1981-82

Mondial Cabrio 1983-89

Mondial t 1989-92

Mondial t Cabrio 1989-92

The latest in a long line of exciting Grand Touring cars from Ferrari made its debut at the Geneva auto show in March 1980: the 2+2 Mondial 8, with Pininfarina bodywork. The Mondial name (pronounced Moan-Dee-Ahl) was used by Ferrari way back in the early fifties for a 2.0-liter, dohc, four-cylinder sports/racing car, also carrying Pininfarina bodywork.

This Mondial has its 3.0-liter V-8 mounted transversely behind the rear seat, as in the Bertone-bodied 308 GT4. The wheelbase has been lengthened by almost 4 inches, and the seats redesigned so passengers have not only more room, but sit on more comfortable seats as well.

In addition to the normal instruments one expects to find in a high-performance GT car, Ferrari has added electronic monitoring for fluid levels, doors ajar, and lights left on. The interior is upholstered in English Connolly leather, and the leather-covered steering wheel is adjustable for height and reach. Air conditioning and central locking for all doors are standard equipment, as are the remote-control outside rearview mirror and the electric radio antenna. An electrically operated sun roof is optional.

308/328 Mondial

Although the car was introduced in March 1980, production began in 1981. No more than seven or eight examples made it to the U.S. in that model year through Ferrari

North America. This was during the height of the "gray market" import period, and customers frequently acted as their own importers and were then faced with finding aftermarket specialists capable of federalizing their cars.

Mondial engine changes paralleled the 308 GTB and GTS, as would be expected. In 1981, Bosch K-Jetronic fuel injection was added, and in late 1982, the engines received the four-valve-per-cylinder heads, making the Mondial also a "Quattrovalvole," with the same power increase to 230 horsepower at 6800 rpm.

In February 1983, Ferrari unveiled to the world its Mondial Cabriolet. Powered by the Quattrovalvole engine, this was Ferrari's first true open car since the Daytona convertibles in 1969. (The 308GTS versions, it will be remembered, were Targa-type open cars, with a "basket handle" body work structure in place behind the passengers once the roof panel was removed.) The Cabriolet, available in the U.S. during the early summer of 1983, as well as the Mondial coupe, continued as 3.0-liter four-valve models into model year 1985 when the 3.2 Mondial coupe and Cabriolet were introduced.

During 1984 and 1985, Ferrari switched from Bosch's K-Jetronic to the new K-Lambda system, resulting in a small power increase to 240 horsepower. The K-Lambda cars are easily recognizable *audibly* because the idle speed rises and falls slightly as the system adjusts to inputs from the oxygen sensor. (The cars up

through model year 1983 had a smog pump; this was eliminated thereafter.)

In 1985, the Mondial engine got a 2 millimeter bore increase and 2.6 millimeter longer stroke, increasing overall engine displacement to 3,185 cc—hence the new designation, Mondial 3.2. Horsepower and torque paralleled the 328 models, with 260 horsepower at 7000 rpm and 213 foot-pounds torque at 5500. Ignition also changed from the Marelli Digiplex to the new Multiplex system.

The Mondial has to be one of the most technically innovative models to come from the Ferrari/Pininfarina collaborations. As a 2+2 with a transversely-mounted engine behind the passenger compartment, it has proven to be more than just a novelty—as shown by its market acceptance. Especially in the Cabriolet form, its popularity among buyers with small families provided its owners with the best of several worlds.

Comfort features expected by American customers have been available in the Mondial since its 1980 introduction, but with the increased power and flexibility of this larger four-valve engine, it became a car seemingly built for the U.S. market. It is able to trundle around town with little regard to gear choice, yet it will go like hell when you're out of town and want to enjoy the performance. The Mondial is improved much more than it would first appear.

Mondial t

As with so many Ferrari models before it, a new version of the Mondial was presented at the Geneva auto show in 1989. The model designation is still Mondial, but followed by a lower-case "t" (for "trasversale") which indicates that the transmission is mounted transversely.

The first Mondials had the mid-mounted engine placed in a transverse position as did the 246 and 308 series Dino Ferraris, but new-generation Ferraris have their engines fitted in the longitudinal position whether front- or mid-engined.

Normally this would necessitate chassis lengthening to accommodate engines longer than they are wide. But the engineers adapted a transmission for the Mondial (and the 348 TB and TS to come) that was devised for the Grand Prix cars at the end of 1974.

Ferrari is among a small handful of companies where it can truly be said that racing improves the breed. The new transverse-mounted transaxle was developed for the 3.0-liter twelve-cylinder Formula One cars (312T) to decrease the amount of weight suspended behind the rear axle—weight that would work like a pendulum to effect handling negatively. To make this transaxle work, the engine crankshaft drives straight into the gearbox via a primary shaft to the flywheel at the back of the transaxle case that is mounted backwards (that is, the flywheel's contact surfaces are actually facing forward; the clutch is *between* the engine and the flywheel). Power from the flywheel is transmitted around the primary shaft by a coaxial shaft forward to a drop gear that drives the bevel gears that turn the power 90 degrees to turn the transmission and rear tires. If it sounds complicated, imagine inventing it and getting it to work.

Mondial 8

Engine

Type:	Rocchi-designed, 90-degree V-8
Bore x stroke, mm/inches:81x71/3.19x2.79
Displacement, cc/cubic inches:	2927/179
Valve operation:	Double overhead camshafts on each bank, with cups and spacers operating directly on inclined valves
Compression ratio:	8.8:1
Carburetion:	Bosch K-Jetronic fuel injection
Bhp (Mtr)	*205 @ 6600

Chassis & drivetrain

Clutch:	Single dry-plate
Transmission:	Five-speed, all-synchromesh, all-indirect
Rear suspension:	Independent with unequal-length A-arms, coil springs, tubular shock absorbers with self-leveling system, and antiroll bar
Axle ratio:	4.06:1
Front suspension:	Independent with unequal-length A-arms, coil springs, tubular shock absorbers, and antiroll bar
Frame:	Welded tubular steel

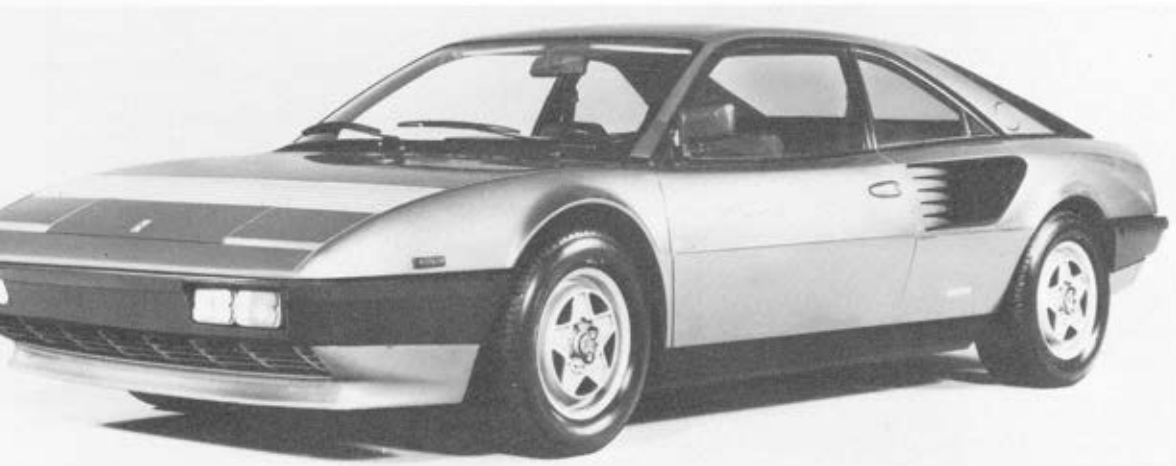
General

Wheelbase, mm/inches:	2650/104.2
Track, front, mm/inches:	1495/58.9
rear, mm/inches:	1517/59.8
Brakes:	Disc
Tire size, front and rear:	240/55 VR-390
Wheels:	Cromadora alloy
Body builder:	Pininfarina
*Bosch K-Jetronic fuel injection for 1981 (308 GTBi & 308 GTSi).	
Factory brochures list horsepower variously as 205 or 240.	



The 3.2 Mondial was basically like its 308 predecessor. But with color-keyed bumpers completely integrated into the body and the traditional Ferrari egg-crate grille moved up into the bumper from

below, it was a more cohesive design. The interior was more luxurious and state-of-the-art comfort features abounded, making it more practical as well as having better performance. *Ferrari*



Pininfarina's design of the new Mondial 8 was first seen at the 1980 Geneva auto show. Production was scheduled to start in 1981. *Pininfarina*



Simple 3.2 Mondial dash with kilometers — therefore, likely European specifications — speedometer. Everything is electronic or electrical now. *Ferrari*

And it works well. The “drop gears” reduce engine revs in the same way the differential ring-and-pinion gears reduce drive shaft revolutions to usable rear axle speeds. And its biggest advantage in road cars is that it allows the engine to be positioned longitudinally with the transmission behind it rather than with the transmission below the engine as is the case of the Boxer and 512s. The center of gravity is lowered, further improving handling. Furthermore, this transmission permitted the engineers to accomplish all this without lengthening the wheelbase.

The Mondial t looks so much like the previous models that it is difficult to tell them apart. It was offered in coupe form in the U.S. in 1989 only, but cabrios continued into model year 1992 when distribution for the U.S. was discontinued. Engine displacement was 3,405 cc, compression was 10.4:1, and horsepower was 300 at 7000 rpm. Top speed of the cabriolet was quoted as 158 miles per hour.

The “t chassis” also received some major revision. Anti-lock brakes were standard, and Bilstein gas-filled shocks automatically controlled suspension stiffness and ride height, though the driver could adjust a cockpit control for soft, medium, or hard. Steering was power assisted.

Body changes were minor but were definite improvements. There was an obvious Ferrari grille in front now and the fender flares were removed. Pininfarina designed the original Mondial and it was responsible for the updates. The “t” cars were the best of the Mondial series—mechanically and visually—especially in the rare Valeo version; it may yet become a significant Ferrari.

For model year 1992, Ferrari produced a double handful of cars known as the “Valeo” Mondials. Valeo is a French clutch manufacturer that produced a system with no clutch pedal but whose clutch was operated by an electro-mechanical actuator

(ECM). This Valeo system can engage and disengage the clutch in 0.02 seconds! Originated for the Lancia rally team, this clutch allowed the drivers to use one foot on the brake and the other on the gas at all times, and it contributed greatly to Lancia's back-to-back world rally championships.

The ECM operated like a manual transmission: Lift off the gas, move the gear shift lever by hand, get back down on the gas, and the clutching was handled without footwork. If you look in the footwell and see no clutch pedal, this is a "Valeo" car. The system is capable of picture-perfect burnout standing launches and even full-throttle shifts. But beware! The module that controls it has a memory, and when you take your worn out Valeo in for service, the mechanics can read the history of your driving style. According to insiders, the Valeo was extremely trouble-free. It was available in coupes as well as cabriolets in Europe, but as only the cabriolets were sold in the U.S., that is how you'll find them here. With its reliability and its rarity—fewer than 30 were imported in 1992—it is destined for desirability.

Mondial t

Engine

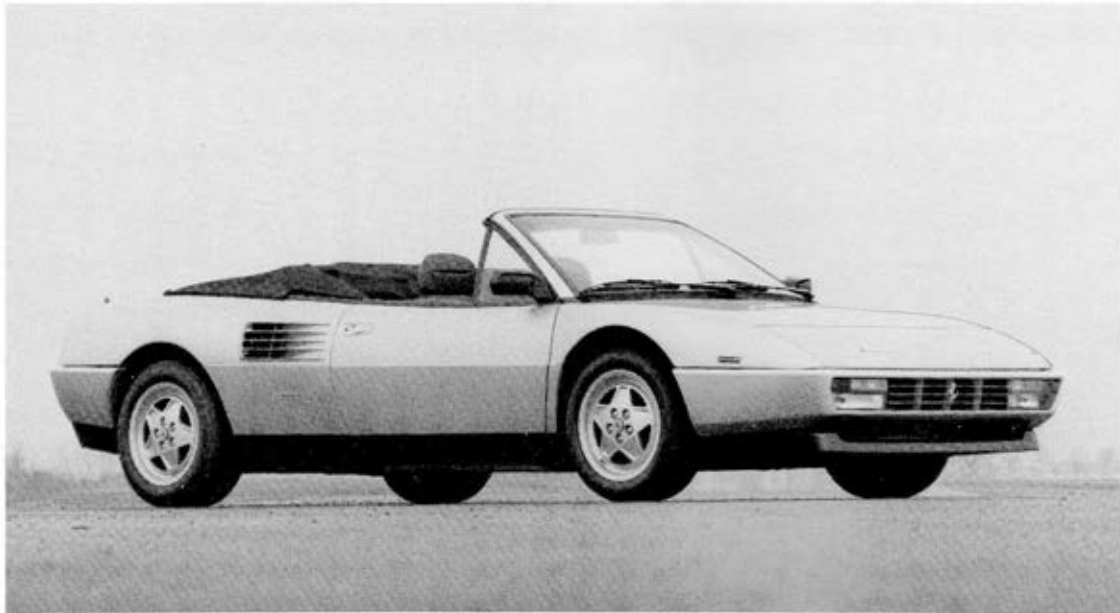
Type:	Ferrari-designed, 90-degree V-8
Bore x stroke, mm/inches:	.85x75/3.35x2.95
Displacement, cc/cubic inches:	.3405/207.7
Valve operation:	Double overhead camshafts on each bank, with cups and spacers operating directly on inclined valves, four valves per cylinder
Compression ratio:	10.4:1
Carburetion:	Bosch Motronic M2.5 fuel injection
Bhp (Mfr)	.296 DIN @ 7200

Chassis & drivetrain

Clutch:	Twin dry-plate
Transmission:	Five-speed, traverse-mounted, all-synchromesh, all-indirect
Rear suspension:	Independent with unequal-length A-arms, coil springs, tubular shock absorbers, and antiroll bar
Front suspension:	Independent with unequal-length A-arms, coil springs, tubular shock absorbers, and antiroll bar
Frame:	Welded tubular steel

General

Wheelbase, mm/inches:	.2650/104.2
Track, front, mm/inches:	.1495/58.9
rear, mm/inches:	.1517/59.8
Brakes:	Anti-lock four-wheel disc, ABS Disc
Tire size, front:	.205/55 ZR, 16/225 ZR 16
Wheels:	.Cromadora alloy
Body builder:	.Pininfarina



Last offered in model year 1992, the Mondial t Cabriolet offered the benefits of Ferrari's new "trasversale" transversely-mounted transmission.

This transaxle, developed for the 312T Formula 1 race cars, greatly improved handling for the road cars as well. By 1992, appearance improved as well with bumpers that were, at last, *in* the body rather than *on* it. *Ferrari*