PETER FARRELL'S AMAZING SUPERCHARGED MIATA

CAR AND DRIVER

MARCH 1995 • CANADA $3.95 UK £1.95 US $2.95



PREVIEW: '96 TAURUS

Corvette GS90

Guldstrand Revives the Grand Sport



Plus:
1995 LT1 Corvette, body customizers, and more . . .

FIRST TESTS: Ferrari's 375-hp F355, Honda Odyssey
COMPARED: 200SX SE-R, Integra LS, Saturn SC2, VW GTI
ALSO: Lincoln Town Car, Long-Term Cadillac Concours

06275 03
0 272751 8

Ferrari F355

This fast, feral, glamorous new car puts Ferrari back on the most-wanted list.

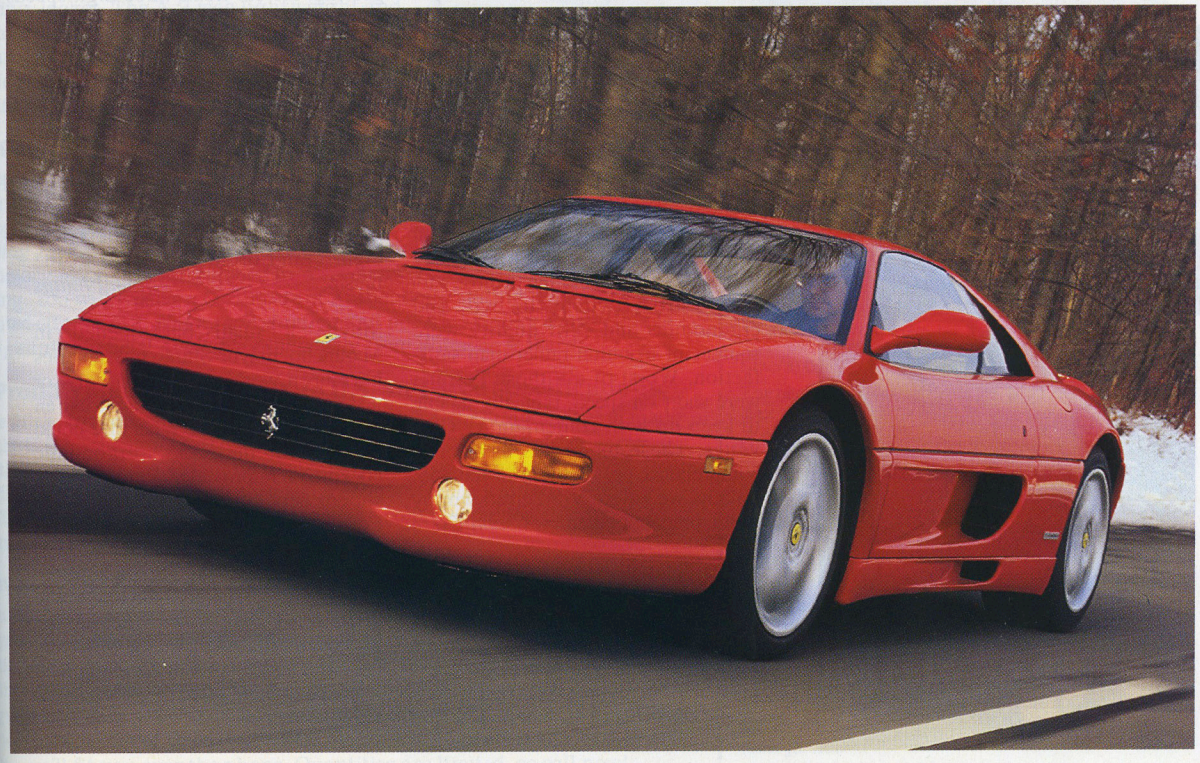
BY BARRY WINFIELD

No Ferrari F355 owner in his right mind would drive one of these art treasures in the wintry conditions we experienced while the car was in Ann Arbor, but what could we do? New Ferraris do not come our way often, and we don't pick the dates. So we ended up stabbing a flaming-red F355 through snow flurries and road-salt spray, cringing at these abuses as our admiration for the car's capabilities grew.

The F355 is Ferrari's replacement for the 348, and although it's based on that car's layout, it is a generation ahead of the 348 in every way. Still, there's no mistaking it for anything other than a red car from Maranello when you first approach it. After hunting for the door handle (it's hidden under the intake duct) and opening the door, the impression is heightened. On the other side of a wide, flat doorsill is a low, leather-wrapped seat and, in front of it, a handsome three-spoked wheel with a big yellow prancing-horse badge sitting atop an airbag. Alongside the seat is the traditional metal gearshift maze—now with seven slots—sprouting a polished steel shaft with an alloy ball at its peak.

You vault the sill, twist into the seat, and slide your feet down to shiny metal pedals offset slightly to the center of the car. A hoarse bark greets the starter, then the engine settles to a deep, resonant idle. Prods at the pedal send the revs soaring, and you hear the twang of an unconstricted exhaust system and the whiz of a small, responsive V-8. *Five* valves serve each cylinder, but they're operated by belt-driven cams and hydraulic tappets; as a result, the valvetrain is unexpectedly quiet.

A tachometer redlined at 8500 rpm suggests a peaky engine and a dull, off-song response to the throttle at low revs, but that isn't the case. In fact, the F355 pulls willingly almost from idle, with no snatching or shuffle. It'll run easily with traffic at under 4000 rpm, accelerating steadily and acting as well mannered as a kid's pony. The only impediment to gracious around-town cruising is a throttle pedal with some initial stiction in the movement. This makes smooth shifting more difficult than it need be. A pity, now that the car's transmission oil is warmed by an engine-



PHOTOGRAPHY BY DICK KELLEY



THE VERDICT

Highs: Stirring engine note, searing speed, drop-dead good looks, everyday convenience.

Lows: Still a bit hard to drive smoothly.

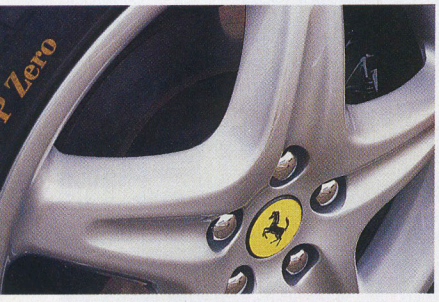
The Verdict: Everything a Ferrari is supposed to be.

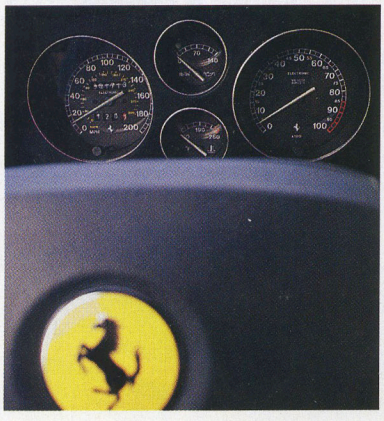
coolant heat-exchanger, and the shifter moves easily almost from the start.

With a more predictable throttle action, you would be able to add the precise amount of power needed to produce seamless shifts. If we owned an F355, we'd massage the linkage immediately. Naturally, it's less of a problem on the open road, where sixth gear offers enough response to pass other cars even when using only the first half of the tachometer. Of course, you can also clack the lever down a cog or two and flash by so fast that other drivers will think someone repainted the Starship Enterprise.

Because the Ferrari engine has a 180-degree crankshaft, (which produces equal firing intervals on each cylinder bank for best exhaust timing), its firing order is more like two straight-fours than the four V-twins of the typical arrangement. So it sounds more like a demented four-cylinder motorcycle than a NASCAR stocker at high speed. It also puts 375 horsepower to the ground in a convincing display of power. From a standing start, if you can balance the powertrain on the knife-edge between tire smoke and clutch smoke, 60 mph can be reached in 4.5 seconds. That makes it faster than a 405-horsepower 5.7-liter ZR-1 Corvette (4.7 seconds).

It's also faster than all the new Porsche 911s except the blindingly quick 3.6 Turbo (which hasn't come to the U.S. yet). Once you've discovered how readily the 3.5-liter V-8 spins to its 8500-rpm redline, you begin to exploit the car's long, delicious blasts of power in each gear. The experience is intense, accompanied by the frenzy of a 40-valve engine with a full repertoire of scalp-prickling harmonics. The car's top end is equally impressive. We managed a maximum speed of 179 mph at the redline in sixth gear. But we have every confidence in the factory's claim of 183 mph because of the car's eagerness to pull beyond the redline—assuming we were willing to risk the engine. On the public road, as you can imagine, the F355 is a license looking for suspension. Despite comparatively low gearing, the car treats three-digit speeds





COUNTERPOINT

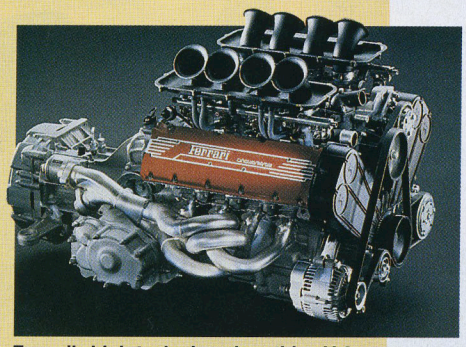
This 355 is easily the best eight-cylinder Ferrari I've ever driven. Previous 308–348 models have delivered full measures of the Ferrari image and excitement, but they have been wanting in the behind-the-wheel qualities on which the marque's sterling sporty image was built. Handling in those cars ranged from twitchy to evil, and ergonomics and shift quality were sources of irritation rather than satisfaction. Worst of all, those Ferraris were short on speed, typically unable to keep up with contemporary Corvettes. These blemishes have been comprehensively rectified in the 355. Finally, we have a V-8 Ferrari worthy of the prancing horse. *—Csaba Csere*

James Thurber once wrote of a European car, "The gadgets on the dash and on the floorboard, which he pulled and pushed to make the thing go, seemed to include fire tongs, spoons, and doorknobs." Actually, the F355 could use a doorknob, because its door handles are otherwise difficult to locate. And the fire-tong shift lever, clacking its way slowly between metallic gates, makes the noises of dropped kitchenware. Of course, if you want to mask the sounds of the shifter, just zing this little V-8 to eight grand or so and listen to the music. *—John Phillips*

Maybe a sushi bar opened in Maranello, maybe Shinto missionaries have been working northern Italy, or just maybe someone at Ferrari drove an NSX *and took notes.* What else could account for the F355's ergonomic cockpit, its improved visibility, and its superb new climate-control system? Power steering even makes it easy to park. Well, praise Buddha, or Hail Mary—whatever diety expunged the bad Ferrari genes also enhanced the good ones. The new V-8 and the improved chassis deliver the blistering performance, confident handling, and high-speed stability that the 348 lacked. I want one. *—Frank Markus*

TECH HIGHLIGHTS

Five Valves Put a New Spin on Ferrari's V-8



Ferrari's high-tech, deep-breathing V-8.

The only other car we've driven that has this kind of engine elasticity *and* very high crankshaft speeds is the Acura NSX, which has Honda's VTEC variable valve-timing-and-lift mechanism. The five-valve cylinder head is Ferrari's answer to VTEC. In fact, the company was researching variable valve-event technology when it discovered that five valves work even better.

Ferrari's cylinder head has its three inlet valves arranged radially around the central spark plug. By opening and closing the center inlet valve 10 degrees later than the valves alongside it, enough mixture swirl is generated to support fast and complete combustion in a very high compression (11:1) cylinder head. The result is a specific output of 107 hp per liter, an extraordinary figure for a normally aspirated engine.

Because the inlet valve-faces correspond to the dome-shaped combustion-chamber profile, the outer valve stems are splayed. They are thus not perpendicular to the inlet camshaft, and require unusual cone-profile cam lobes to operate them. Despite the high rev-ceiling (an electronic limiter steps in at 8800 rpm), the valvetrain uses auto-adjusting hydraulic tappets.

To lower reciprocating masses in an ultra-high-rpm engine, Ferrari fits low-density forged alloy pistons and light-weight titanium alloy connecting rods. A dual-exhaust system reduces back-pressure at high rpm by opening a secondary metal-matrix catalyst circuit. And, for quick throttle response, the F355 boasts individual throttles for each cylinder. *—Barry Winfield*

as just something else to pass.

Thanks to extensive chassis tuning work, the F355's suspension takes the enormous thrust of its engine in stride. An electronically managed variable shock-absorber system reads data from various sensors and adjusts damping forces through a wide range of values to control wheel movement. There's an override button that allows the driver to select the comfort level, but the chassis now has a degree of initial compliance that makes the car feel supple and slightly cushioned anyway, even on Michigan's washboard byways. Of course, if you dial the speed way up, the system goes into the fully firm mode, and then you hear some rumbling from the undercarriage, as well as messages through the structure that suggest that Ferrari's central steel cell with tube subframes may still be a tad less substantial than the all-alloy monocoque of an Acura NSX.

Anyone familiar with the stiff, high-geared manual steering of earlier Ferraris will welcome the new TRW power-steering system. This mechanism takes over the iron-pumping job from your arms during low-speed maneuvering, and enables the driver to make quick steering corrections without the exertion these cars used to require.

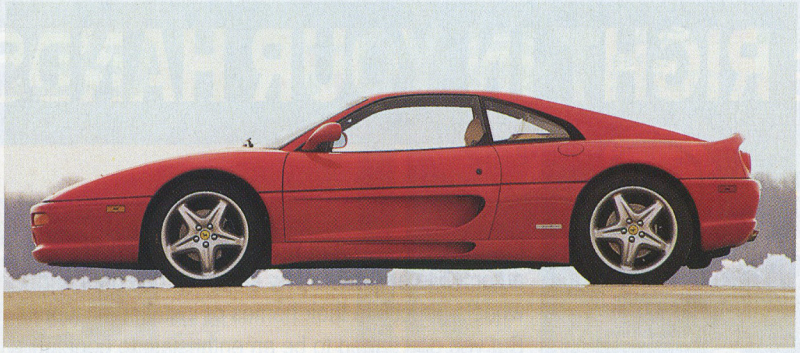
Perhaps more important than the ease with which the car changes direction is its high-speed stability. The wheel still pulses information into your palms as the front wheels read the road surface, yet it refrains from arm-wrestling the driver, and kickback shock has been virtually eliminated. This is real progress—but for the diehards who believe Ferraris have to be difficult to drive, there is an unassisted steering option available.

TRW's steering helps this new Ferrari turn in with surgical precision, its Pirelli P-Zero system rubber clinging with an impressive 0.98 g of grip. We expected the Z-rated rubber to be a problem in the winter, and although we were once immobilized after overnight temperatures had hardened a snowy driveway as well as the tires' compound, the P-Zeros proved surprisingly good in cold, wet conditions.

Equally welcome in the prevailing conditions was an anti-lock braking system monitoring the activities of four very capable rotor and caliper teams. In concert with a clear and progressive pedal, these components produced excellent stopping distances at the test track, with no sign of fade. During normal driving, the temperature wasn't high enough to silence the squeals of protest from chilly pads until the brakes were worked hard. In hotter climates, the front brakes will benefit from cooling ducts built into the new grille.

Driven in good weather, this F355 will undoubtedly bring great pleasure to its well-heeled owners. The climate-control system worked well in winter; no doubt the CFC-free air conditioning will perform as well in summer. After all, there are new arbiters of these matters at Ferrari now. As we said earlier, no Ferrari owner in his (or her) right mind would drive in the conditions we endured during this test. But if the car was this good in the freezing, slushy December weather, imagine how wonderful it will be in the warm and dry good times of summer. Please, Ferrari, can we have one then? •





Vehicle type: mid-engine, rear-wheel-drive, 2-passenger, 2-door coupe

Price as tested: $136,500

Price and option breakdown: base Ferrari F355 (includes $1300 freight, $3000 gas-guzzler tax, $9450 luxury tax), $136,500

Major standard accessories: power steering, windows, and locks, A/C, tilt steering

Sound system: Blaupunkt Malibu AM/FM-stereo radio/cassette, 4 speakers

ENGINE

Type ..... V-8, aluminum block and heads
Bore x stroke ..... 3.35 x 3.03 in, 85.0 x 77.0mm
Displacement ..... 213 cu in, 3496cc
Compression ratio 11.0:1
Engine-control system ..... Bosch Motronic 2.7 with port fuel injection
Emissions controls ..... 3-way catalytic converter, feedback fuel-air-ratio control, EGR
Valve gear ..... belt-driven double overhead cams, 5 valves per cylinder, hydraulic lifters
Power (SAE net) ..... 375 bhp @ 8250 rpm
Torque (SAE net) ..... 268 lb-ft @ 6000 rpm
Redline ..... 8500 rpm

DRIVETRAIN

Transmission 6-speed
Final-drive ratio ..... 3.56:1, limited slip
Transfer-gear ratio 1.22:1

Gear	Ratio	Mph/1000 rpm	Max. test speed
I	3.06	5.7	49 mph (8500 rpm)
II	2.16	8.2	69 mph (8500 rpm)
III	1.61	10.9	93 mph (8500 rpm)
IV	1.27	13.9	118 mph (8500 rpm)
V	1.03	17.0	145 mph (8500 rpm)
VI	0.84	21.0	179 mph (8500 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase ..... 96.5 in
Track, F/R ..... 59.6/63.6 in
Length ..... 167.3 in
Width ..... 74.8 in
Height ..... 46.1 in
Frontal area ..... 19.6 sq ft
Ground clearance ..... 4.9 in
Curb weight ..... 3268 lb
Weight distribution, F/R 42.2/57.8%
Fuel capacity ..... 21.7 gal
Oil capacity ..... 10.0 qt
Water capacity ..... 11.6 qt

CHASSIS/BODY

Type ..... unit construction with steel-tube rear subframe
Body material ..... welded steel and aluminum stampings

INTERIOR

SAE volume, front seat ..... 47 cu ft
luggage space ..... 8 cu ft
Front seats ..... bucket
Seat adjustments ..... fore and aft, seatback angle
Restraint systems, front ..... manual 3-point belts, driver and passenger airbags
General comfort ..... poor fair **good** excellent
Fore-and-aft support ..... poor fair **good** excellent
Lateral support ..... poor fair good **excellent**

SUSPENSION

F: ..... ind, unequal-length control arms, coil springs, 2-position cockpit-adjustable electronically controlled shock absorbers, anti-roll bar
R: ..... ind, unequal-length control arms, coil springs, 2-position cockpit-adjustable electronically controlled shock absorbers, anti-roll bar

STEERING

Type ..... rack-and-pinion, power-assisted
Turns lock-to-lock 3.2
Turning circle curb-to-curb ..... 37.9 ft

BRAKES

F: ..... 11.8 x 1.1-in vented disc
R: ..... 12.2 x 0.9-in vented disc
Power assist ..... vacuum with anti-lock control

WHEELS AND TIRES

Wheel size ..... F: 7.5 x 18 in, R: 10.0 x 18 in
Wheel type ..... cast magnesium
Tires ..... Pirelli P-Zero, F: 225/40ZR-18, R: 265/40ZR-18
Test inflation pressures, F/R ..... 31/29 psi

CAR AND DRIVER TEST RESULTS

ACCELERATION

	Seconds
Zero to 30 mph	1.7
40 mph	2.4
50 mph	3.4
60 mph	4.5
70 mph	6.4
80 mph	7.7
90 mph	9.3
100 mph	11.2
110 mph	13.0
120 mph	16.3
130 mph	19.1
140 mph	23.2
150 mph	29.0
Street start, 5–60 mph	5.5
Top-gear passing time, 30–50 mph	7.9
50–70 mph	8.2
Standing 1/4-mile	13.0 sec @ 110 mph
Top speed (redline limited)	179 mph

BRAKING

70–0 mph @ impending lockup ..... 156 ft
Fade ..... **none** moderate heavy

HANDLING

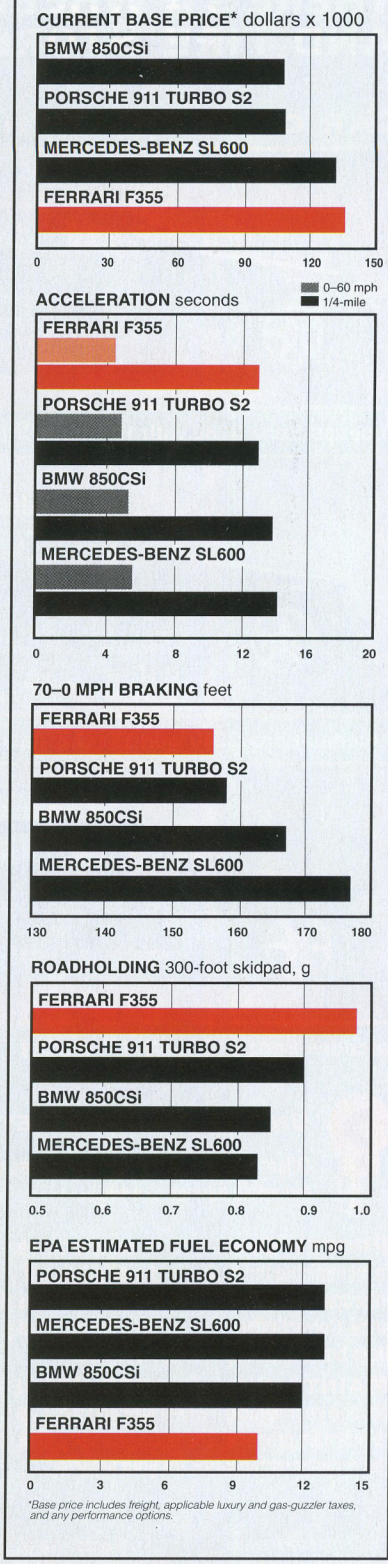
Roadholding, 300-ft-dia skidpad ..... 0.98 g
Understeer ..... **minimal** moderate excessive

FUEL ECONOMY

EPA city driving ..... **10 mpg**
EPA highway driving ..... 15 mpg
C/D observed fuel economy ..... **14 mpg**

INTERIOR SOUND LEVEL

Idle ..... 70 dBA
Full-throttle acceleration ..... 89 dBA
70-mph cruising ..... 77 dBA
70-mph coasting ..... 76 dBA



*Base price includes freight, applicable luxury and gas-guzzler taxes, and any performance options.