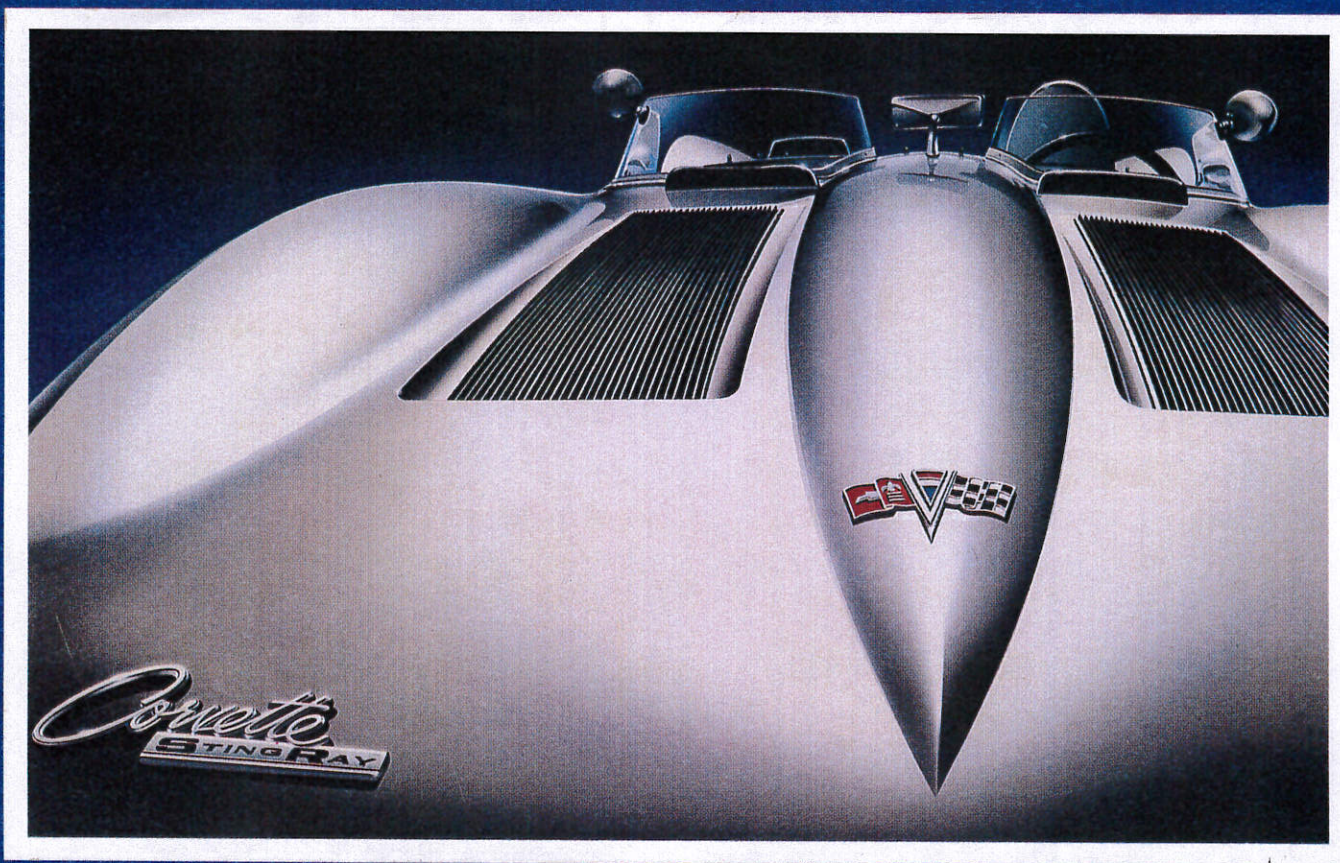


# AUTOMOBILE

*Quarterly*



GEOFFREY VEAL

# automobile

*Quarterly*

Editor-In-Chief  
LOWELL C. PADDOCK

Managing Editor  
CHRISS BONHALL

Associate Editors  
JOHN F. KATZ, JULIE M. FENSTER

European Editor  
GRIFFITH BORGESON

Art Director  
MICHAEL PARDO

Editorial Assistant  
CHER ISHAM

Chief Photographer  
ROY D. QUÉRY

Librarians  
OTIS MEYER, DOUGLAS KOTT

---

President  
ROLAND L. ELKINS

---

Founding Editor and Publisher  
L. SCOTT BAILEY

---

Contributing Editors  
ANGELO TITO ANSELMi, RANDY EMA,  
PAUL FRERE, ALLAN GIRDLER,  
JEFFREY I. GODSHALL, KARL LUDVIGSEN,  
JOHN B. MONTVILLE, GIANNI ROGLIATTI,  
GARY WITZENBURG

Contributing Artists  
JAMES ALLINGTON, SUNE ENVALL,  
WALTER GOTSCHKE, PETER HELCK,  
YOSHIHIRO INOMOTO, DAVID KIMBLE,  
GAVIN MACLEOD

Contributing Photographers  
LESLIE L. BIRD, NEILL BRUCE,  
CLIVE FRIEND, GUY MANGIAMELE,  
NEIL NISSING

Customer Services  
DONNA WANNER

---

AUTOMOBILE QUARTERLY, INC.  
A Subsidiary of  
The Kutztown Publishing Company, Inc.  
STEPHEN J. ESSER, President





The Connoisseur's Magazine of Motoring  
Today, Yesterday and Tomorrow


SECOND QUARTER 1988 • VOLUME 26, NUMBER 2

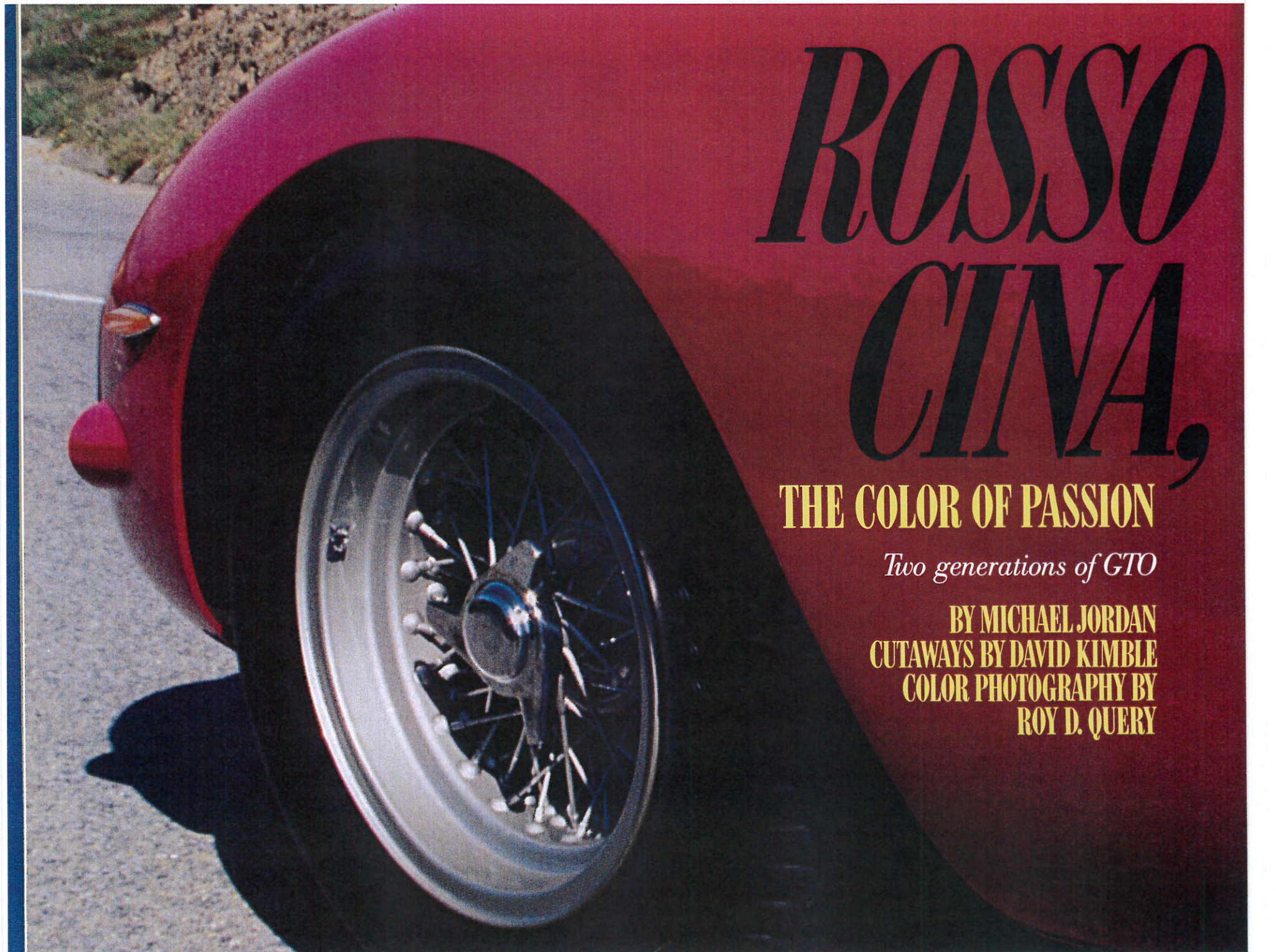
# Contents

- 116** **ROSSO CINA, THE COLOR OF PASSION**  
*Two generations of GTO*
- 130** **A SHARK IS NOT A GROUPEr**  
*A personal profile of Bill Mitchell*
- 142** **THE MITCHELL YEARS: A COLOR PORTFOLIO**  
*"You've gotta have gasoline in your veins to be a real car designer."*
- 152** **A MATTER OF PRINCIPLE**  
*The Wilkinson era at Franklin*
- 170** **THE LAST MACHINES FROM MOLSHEIM**  
*Bugatti's desperate twilight*
- 184** **UNMISTAKABLY WATERHOUSE**  
*A most handsome Victoria for the most admired Lincoln*
- 190** **BORGWARD**  
*Once Germany's number-two automaker, now nearly forgotten*
- 210** **NASCAR NOW!**  
*The Southern uprising embraced by the nation*
- 222** **NOTES & COMMENTARY**  
*Credits, updates and awards*
- 224** **CODA**  
*A new twist for our Second Annual Car Styling Contest*



COVER: 1959 Corvette "Sting Ray" racer, a Bill Mitchell project car. Painting by Gavin MacLeod

*Automobile Quarterly* is published four times a year by Automobile Quarterly, Inc., a subsidiary of The Kutztown Publishing Co., Inc. Editorial office: 420 N. Park Rd., Wyomissing, PA 19610; (215) 375-8444. Office of publication: P.O. Box 348, Rte. 222 and Sharadin Rd., Kutztown, PA 19530; (800) 523-0236. Typesetting by Computer Typesetting Services Inc.; color separations by American Color Corp.; printing by The Kutztown Publishing Co., Inc.; binding by National Publishing Co. Single-copy price: \$17.95. Annual subscription price: \$49.95, United States; \$53.95, foreign. A *Twenty-Year Cumulative Index (Volumes 1-20)* is available at \$24.95. All correspondence concerning subscriptions should be sent to P.O. Box 348, Kutztown, PA 19530. Second-class postage paid at Kutztown, Pennsylvania, and at additional mailing offices. © 1988 by Automobile Quarterly, Inc., a subsidiary of Kutztown Publishing Company, Inc. All rights reserved under Pan American and Universal Copyright Conventions by Automobile Quarterly, Inc. Reproduction without permission is prohibited. Library of Congress Catalog Number 62-4005. ISSN 0005-1438. *Automobile Quarterly* and  are registered trademarks of Automobile Quarterly, Inc.



# ROSSO CINA,

**THE COLOR OF PASSION**

*Two generations of GTO*

**BY MICHAEL JORDAN  
CUTAWAYS BY DAVID KIMBLE  
COLOR PHOTOGRAPHY BY  
ROY D. QUERY**



**T**HE COLOR is called *Rosso Cina*, and it is the signature of the cars of Maranello. If you have the right kind of eyes, a glimpse of Ferrari red will set your soul alight. Something about the color itself, that peculiar combination of blood and fire called Chinese Red, speaks with terrible eloquence about Enzo Ferrari and his decades of passion for performance.

**A**s we approach the end of the Eighties, it sometimes seems as if the motoring public has come to regard the old man as a deity and his cars as mechanical miracles. How else can you explain the overwhelming appetite for all things Ferrari these days? Mail-order catalogs carry pages of gimcracks stamped with the Cavallino imprint, from sunglasses and wristwatches to travel alarms and beach chairs. In the summer of 1987, Cartier arranged an elaborate show of Ferrari automobiles at a French château, where the cars were billed as works of art. Later that year, more than 30 former Ferrari factory drivers joined the Ferrari Club Italia at the Circuit Dino Ferrari (otherwise known as Imola) to celebrate the fortieth anniversary of the first Ferrari production car. Meanwhile, the value of collectible Ferraris at assorted Christie's and Sotheby's auctions seems to escalate in monthly increments of \$100,000. Ferrari-mania has become so widespread that the magic machines of Maranello have become a kind of cultural cotton candy for film-industry glitterati and the recklessly self-indulgent.

Such enthusiasm makes you wonder what it is about Ferrari automobiles that captures the imagination so completely. Two automobiles that attest to Ferrari's ever-green allure are the 250GTO and the 288GTO, each blessed with a suffix that may be the most evocative in Ferrari history. Although the pair appear to share nothing more than a common model designation, they can tell you everything you need to know about Enzo Ferrari's automotive vision and his company's place in history. First, a close look at David Kimble's extraordinary cut-away illustration reveals the direction in which Ferrari design evolved between 1962 and 1984. And second, the story of the cars themselves captures the special magic of all Ferrari automobiles and explains the powerful hold the color red has on the soul of everyone who cares about fast cars and fast driving.

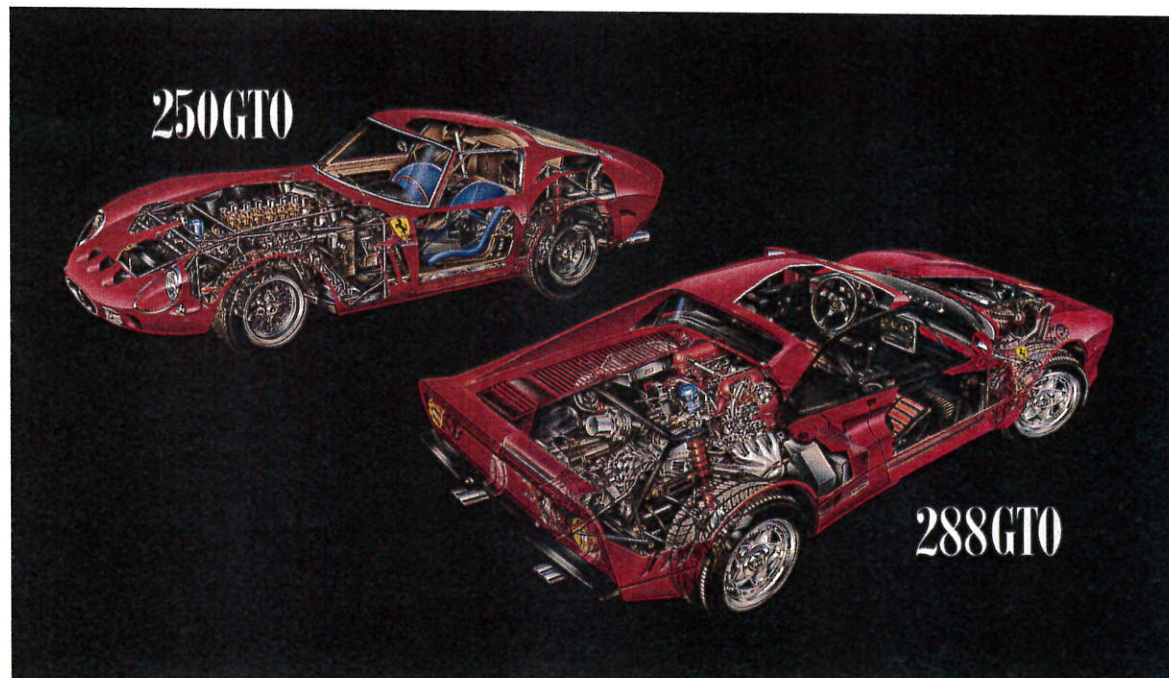
## 250GTO: TIN-TOP TESTA ROSSA

In February 1962, Enzo Ferrari summoned the press to his factory in Maranello to review Scuderia Ferrari's plans for the forthcoming racing season. At the time, Ferrari dominated all forms of racing as no other manufacturer has before or since, and so the sheer variety of race cars lined up in the factory courtyard was especially impressive. There was the 156 Formula One car, the successor to the machine that had won both the driver's and manufacturer's championship the year before. There were four sports-prototypes in both V-6 and V-8 configurations that would further the mid-engine design revolution at Ferrari and maintain the factory's hold on long-distance sports car racing. And in the back, set apart from the rest—perhaps because it was intended for nonfactory drivers—was the last front-engine Ferrari race car, an offhand acknowledgement that the rules of the FIA's World Championship of Manufacturers had been changed to feature production sports cars. This was the 250GTO.

Work had begun on this project in 1961. The speed demonstrated by the Zagato-body Aston Martin DB4 GT and the Jaguar E-type lightweight coupé during the 1960 season threatened to end the career of the venerable Ferrari 250GT, which been around in one form or another since 1954. Giotto Bizzarrini, a young Ferrari engineer, had already tamed the crude 250GT Berlinetta with suspension and steering revisions in 1957 and then designed a lightweight, short-wheelbase (SWB) version in 1959 (see *Automobile Quarterly*, Volume 23, Number 3). Now Bizzarrini was asked to produce one final miracle. As the factory could not afford to produce an all-new model, the new car would have to be an evolutionary version of the current 250GT. Moreover, Bizzarrini could not make so many revisions that Ferrari would once again find itself embroiled in a dispute with the FIA about homologation, the certification of a car's specifications and production volume under FIA rules.

Bizzarrini and three workmen were assigned to a tiny shop behind the Scaglietti works on Via Emilia Est in Modena where the chassis and bodies for all Ferrari race cars were made. With limited time and funds, the enthusiastic engineer used available technology and off-the-shelf parts to build his hot rod, which combined a proven SWB Berlinetta chassis, a full-race Testa Rossa engine and an aerodynamic, aluminum Superamerica body.

As Kimble's illustration makes clear, Bizzarrini started with virtually the same twin-tube ladder frame that had been underneath the 250GT since 1954. Over time, however, the network of *superleggera* (superlightweight)



tubes supporting the bodywork had assumed a more significant structural function and the whole had become virtually a three-dimensional tubular space-frame. For the new car, Bizzarrini reduced the diameter of the *superleggera* tubes to reduce weight and then triangulated the firewall bulkhead to increase torsional rigidity. And to improve weight distribution—and at the same time lower the car's center of gravity—the engine was moved to the rear and lowered.

The new car's suspension perpetuated the antiquated configuration of the SWB Berlinetta. The independent front end featured swivel-type, unequal-length control arms, kingpin posts and spindles—a durable combination characteristic of the first Ferrari production cars and only a single evolutionary step away from a solid front axle. Coil springs were used on each side of the front suspension, and thick bump rubbers were fixed to the frame to prevent sudden handling changes when the suspension bottomed. Rebound-adjustable Koni shocks—surrounded by a second set of coil springs—and a thick anti-sway bar were also part of the setup.

The rear suspension dated from the Type 340 Mille Miglia of 1953. The live rear axle with its ZF limited-slip differential was located by four radius rods to absorb acceleration and braking forces. Semi-elliptic leaf springs were shackled to the frame at both ends, with rubber strips separating the spring leaves to reduce friction. Rebound-adjustable Koni shocks were again included, and

a cable at either end of the axle limited rebound travel. Bizzarrini also developed light-duty *compensatore* coil springs for the Koni shocks in order to minimize axle tramp during acceleration away from slow corners, although they were rarely used in competition. Another Bizzarrini innovation for this rear suspension was the use of a Watt's linkage on the differential to improve the axle's lateral location during cornering. No rear anti-sway bar was included, probably because the mechanical bind created by the radius rod arrangement inadvertently furnished more than enough roll resistance.

Disc brakes, first introduced to Ferrari by British driver Peter Collins in 1958, were used at each wheel. The aluminum, 15-inch Borrani wire wheels had 6-inch rims in front and 6.5-inch rims in the rear, and they originally carried Dunlop R6 tube-type, cross-ply tires that were considered fairly massive for the time. A ZF worm-and-roller steering box was specified, largely because this design minimized the road shocks transmitted to the steering wheel, making the car easier to drive in long-distance races.

The centerpiece of any Ferrari is its engine, and here again we find more Ferrari tradition. The GTO's all-aluminum, 60-degree V-12 was derived from the original 1.5-liter engine that Gioacchino Colombo designed for Ferrari in 1946. Although a failure as a supercharged Formula One powerplant, it had been revived in 1957 by Carlo Chiti, Ferrari's chief engineer, for use in the 250

## SPECIFICATIONS

	250GT	288GT
<b>PRICE</b>		
Original (approx.)	\$16,000	\$74,000
Current (approx.)	\$1,600,000	\$400,000
<b>GENERAL</b>		
Curb weight, lbs. (approx.)	2400.0	2555.0
Wheelbase, ins.	94.4	96.5
Length, ins.	173.2	168.9
Width, ins.	65.9	75.2
Height, ins.	49.0	44.1
Fuel cap., U.S. gals.	35.1	31.7
<b>ENGINE</b>		
Type	V-12, 60°, sohc, 2-valve	twin turbo V-8, 90°, dohc, 4-valve
Bore x stroke, mm	73.0x58.8	80.0x71.0
Displacement, cc	2953	2855
Compression ratio	9.7:1	7.6:1
Bhp @ rpm	290 @ 7400	400 @ 7000
Torque @ rpm	253 @ 5500	366 @ 3800
Fuel delivery	6 Weber 38 DCN 2-bl.	Weber/Marelli inj.
<b>DRIVETRAIN</b>		
Transmission	5-spd. manual	5-spd. manual
Final-drive ratio	4.86:1	2.90:1
<b>CHASSIS &amp; BODY</b>		
Layout	front engine/ rear drive	mid-engine/ rear drive
Body	aluminum	Kevlar and carbon- fiber composite, fiberglass
Frame	tubular steel	tubular steel
Brake system		
front	disc	vented disc
rear	disc	vented disc
Wheels	aluminum/wire spokes	cast alloy
front	15x6.0	16x8.0
rear	15x6.5	16x10.0
Tires	Dunlop R6	Goodyear Eagle VR
front	6.00x15	225/50VR-16
rear	7.00x15	255/50VR-16
Steering	worm & roller	rack & pinion
Suspension		
front	unequal-length A-arms, coil springs, coil- over tube shocks, anti- sway bar	unequal-length A-arms, coil springs, tube shocks, anti- sway bar
rear	live axle, twin trailing arms, semi-elliptic leaf springs, Watt's linkage	unequal-length A-arms, coil springs, tube shocks, anti- sway bar
<b>PERFORMANCE</b>		
0 to 1320 ft. (1/4-mi.)	15.0*	14.1**
Time to speed, secs.:		
0 to 30 mph	2.5	2.3
0 to 50 mph	4.6	4.1
0 to 60 mph	5.9	5.0
0 to 70 mph	7.4	6.2
0 to 80 mph	9.2	7.7
0 to 100 mph	14.1	11.0
0 to 120 mph	21.7	16.0
Top speed, mph	165	180

\*Source, 250GTO performance data: *Motor*

\*\*Source, 288GTO performance data: *Road & Track*

Testa Rossa. Chiti specified the 2953cc cylinder block of the 1953 250GT with its 73.0mm x 58.8mm bore-and-stroke dimensions, replaced the obsolete hairpin valve springs on each sohc head with concentric coil valve springs (two per valve), and dispensed with the siamesed inlet ports that were designed for supercharging.

Six Weber 38DCN two-barrel carburetors fed the V-12 and helped produce 290 bhp at 7400 rpm. Jaguar's own dyno tests of this engine in October 1962 confirmed its horsepower rating and also revealed that the dry-sump Maranello motor developed its horsepower with a bmep rating some 17 percent lower than that of Jaguar's more powerful 3.0-liter, inline-six. "One would expect therefore," concluded Mr. G. Buck of Jaguar's Experimental Department, "a high degree of reliability from this engine within its present specification, and that it would be capable of being further developed."

Bizzarrini's engineering brief from Enzo Ferrari cited the poor 156-mph top speed of the SWB Berlinetta and called for a substantial improvement, and so the engineer adapted a 400 Superamerica body for his new car. Its airfoil shape, derived from Pininfarina's Superfast II show car displayed at the Turin Salon in November 1960, seemed consistent with the latest aerodynamic thinking. But when Bizzarrini's first prototype (chassis number 2643 GT) raced at Le Mans in 1961, drivers Baghetti and Tavano discovered that an airfoil could exhibit an alarming tendency to take flight at high speed (behavior that GM design chief Bill Mitchell was discovering at the same time in his Corvette Sting Ray prototype). The new car appeared to be an utter failure.

After Le Mans, Bizzarrini went to work creating a second SWB-based prototype, lightening the chassis, refining the suspension design and creating a new body. Thanks to experience with the Testa Rossa TR61, perhaps some wind-tunnel studies from the University of Pisa that appear to have been commissioned by Chiti, the efforts of a panelbeater named Agnani and numerous high-speed excursions on the nearby Milan-Bologna *autostrada*, a newly bodied car was ready in September 1961. It had a low, protruding nose and a high rear deck, and its grotesque appearance lead the press to call it *La Papera*—the Goose. Clearly, its beauty lay beneath the skin, as demonstrated by Stirling Moss and Willy Mairesse who drove the car at Monza during practice for a GT race held in conjunction with the 1961 Italian Grand Prix. There, they knocked six seconds off the best lap time recorded by an SWB Berlinetta.

That fall, a dispute between the notoriously autocratic Enzo Ferrari and his overworked and underpaid staff flared into an incident known as the Revolt of the Brains, and the chief designer, general manager, foundry manag-

er, marketing manager, team manager, and chief tester (Chiti and Bizzarrini among them) quit the company and started a new firm called ATS. Development of the GTO project was turned over to Mauro Forghieri, a brilliant 25-year-old engineer who would soon make his mark as the chief designer of Ferrari Grand Prix cars during the Sixties and Seventies.

Since the car had already been approved for the 1962 season, refinement of the prototype had to be conducted at a breakneck pace. Nonetheless, the definitive GTO, 3223 GT, was shown to the press in February 1962. Its stunning body resembled Bizzarrini's cobbled Monza prototype, although Forghieri subsequently added a rear-deck spoiler—a device discovered by Richie Ginther while testing the mid-engine 246SP in the summer of 1961—to cure its chronic aerodynamic instability. Barely a month after 3223 GT's debut at Maranello, Phil Hill and Oliver Gendebien drove it to victory in the GT class at Sebring's 12-hour endurance race. Apparently, its entry form clarified the new 250GT's FIA-approved status with the suffix "O," which stood for *omologato*, or homologation. Because the American race officials misinterpreted a telegram from Maranello, the entry form designated the car as a Ferrari 250GTO. From then on, the car became known as the GTO.

Soon the workmen at Scaglietti were pounding alloy panels, and after 1600 hours of assembly a GTO would roll out the door. Some 36 cars were built in odd lots during 1962 and 1963. The mid-engine 250LM was supposed to replace the GTO in the 1964 Manufacturer's Championship, but homologation problems with it meant that three further GTOs were built with lower, wider Pininfarina bodies. Four of the 36 1962–63 cars were also rebodied in the new style.

The 250GTO brought Ferrari the Manufacturer's Championship in 1962, 1963 and 1964. It earned a lasting reputation for indefatigable durability, and sweetness in a four-wheel drift. The Jaguar E-type coupé, the Cobra 289 and the Corvette were each faster, but none could match the Ferrari's overall balance of performance. Top speed at Le Mans proved to be about 165 mph, and recent tests of restored race cars with somewhat shorter gearing suggest a zero-to-60 mph time of about 6 seconds and a quarter-mile time of about 15 seconds. On a 242-foot-diameter skid pad, 0.85g is possible.

In the cockpit, the driver found two crude aluminum bucket seats covered in blue terry cloth, and he sat with his legs splayed outboard of the big engine in front of him. The interior was as bare as a NASCAR stocker, hammertone-color paint sprayed generously across all the tubes and floor. The gearshift carried the plum-size, machined knob that has become identified with Ferrari

over the years. The gearbox it directed was an all-new five-speed, complete with Porsche synchromesh. Because of its long-throw shifting action, a chrome shiftgate—the first on a Ferrari GT—was added.

Dan Gurney piloted 250GTos on several occasions as an independent driver, and he remembers a characteristic toughness about it that was then the mark of all Ferrari race cars. He says:

When I first came to Ferrari in 1959, the cars were rugged and they would take an enormous amount of punishment. And you used a lot of strength to drive them. I mean, in a racing situation, if you wanted to get another gear, you went after it just as fast as you could do it. There wasn't any fingertip situation; you grabbed the lever and ripped it out by the roots. You had to treat the whole car that way, and the harder you'd squeeze it, the more lap time you'd get out of it. And you never would hurt it. You'd just grit your teeth and go.

At the same time, Gurney also notes that the GTO's magic reputation might be partially a product of its relative improvement over the somewhat skittish 250GT SWB Berlinetta. The unboosted disc brakes required a firm touch, but the solid rotors did their best within a fairly narrow range of operating temperatures, fading under extreme use and becoming almost useless in the rain. And although the car cornered without understeer, the back end became a little light unless it was settled down with a bit of throttle, an indication that perhaps the aerodynamics never were completely dialed in.

Nevertheless, the 250GTO proved easy to drive for the wide range of part-time chauffeurs who campaigned the car with the factory's blessing. The example featured in the Kimble illustration, 3943 GT, was built in October 1962 and sold to Pierre Noblet, who had already co-driven the SWB that won its class at Le Mans the previous Spring, clinching the Manufacturer's Championship for Ferrari. Noblet raced this car extensively until the end of 1964 and never crashed, which is why 3943 GT carries the original twin vents in the front fenders instead of the three slots that were usually added during a major body repair. As Noblet notes in *I Love GTO*, "I must say that the greatest satisfaction of all my racing life was to be placed second overall in number 3943 in the 1000 Kilometers at the Nürburgring, in this case also with Jean Guichet. I remember that we arrived during the same lap as the winners, Surtees and Mairesse in a Ferrari 250P prototype. . . . It rained heavily during the competition and the lightweight E-type Jaguars and the 8-cylinder Porsches were withdrawn."

## 288GTO: TWIN-TURBO COLLECTIBLE

A new Ferrari GTO appeared at the Geneva Salon in February 1984. Once again it was a homologation special, a car limited to 200 examples to qualify for the FIA's Group B rallying and road-racing classification. And once again, it was a hot rod, a high-performance blend of existing components and sophisticated technology.

The project began with an engine, the turbocharged, 670-bhp V-8 (Type 268C) that Ferrari had developed for Lancia's LC2 sports-prototype during the 1983 season. Ferrari apparently hoped to exploit the technology developed in this project in order to further the factory's own aspirations in sports car racing. The Maranello engineers adapted the LC2's twin-turbo induction system and its five-speed transaxle to the production 308GTB by grafting it longitudinally into the back of the car. This typical racing configuration replaced the standard transverse-engine setup, simplifying the installation, lowering the car's center of gravity and expediting gear-ratio changes.

It proved to be something of a shock to the onlookers at Geneva to find a V-8 engine in a car with the call letters GTO, but in fact the V-8 configuration has had a long and successful career at Ferrari. The first V-8 came to Maranello in the engine bay of the Jano-designed Lancia D50 Formula One car, which Ferrari took over during the 1955 season after Lancia encountered financial difficulties and withdrew from racing. Ferrari revived the V-8 concept again in 1962 with the 248SP. Then Mauro Forghieri and Angelo Bellei were each directed to develop a new Formula One engine to counter the surprisingly successful British cars. Forghieri designed a horizontally opposed 12-cylinder based on the Colombo V-12, while Bellei quickly penciled a 90-degree V-8 patterned after the Coventry-Climax and BRM en-

gines. Bellei's engine powered John Surtees to the World Championship in 1964, but it was regarded as underpowered, and Bellei took the concept with him when he became chief engineer for production cars in 1965.

A Ferrari V-8 next appeared in the 308GT4 introduced at the Paris Salon in October 1973, a Dino replacement that ultimately matured into the familiar 308GTB, first seen in late 1975. Curiously, this dry-sump, 3.0-liter, dohc engine, which produced 255 bhp, was also widely regarded as underpowered at the time. Turbocharging seemed the answer, and so a competition version was developed for Group 5 sports car racing in 1977. That project was stillborn, but subsequent experience with turbocharged Formula One engines spawned the factory's first turbocharged production car: the 208GTB, a 2.0-liter variant of the 308 intended to circumvent Italy's tax penalties for large-displacement cars.

This experience with V-8s and turbocharging culminated in the 2.9-liter, 90-degree V-8 fitted to the 288GTO. In its fundamental internal architecture, it resembles the 308 Quattrovalvole's dry-sump, 3.0-liter V-8 engine with its belt-driven, four-valve cylinder head. The heart of the GTO engine is a crankshaft machined out of a billet of solid steel, a tradition at Maranello. Actually, a forged crankshaft would be stronger; however, the tooling required to make such a piece to Ferrari's exacting tolerances would be extremely expensive. The cylinders measure 80.0mm x 71.0mm in bore and stroke, for a total displacement of 2855cc, a figure mandated by Group B's equivalency factor for turbo motors. The compression ratio is a modest 7.6:1 in order to accommodate turbocharging without destructive detonation. The block and cylinder head castings are aluminum, and Nikasil (a nickel-silicon process) coats the bore surfaces to permit the use of aluminum cylinder liners as well.

The most innovative aspects of this engine lie in its adaptation to turbocharging. Two IHI-built RHB52 tur-

**Driven by Pierre Noblet and Jean Guichet, 3943 GT placed second overall and first in the GT class at the 1000 KM of Nürburgring in May 1963.**





# THE PRICE OF HIS TOYS

## A French Ferrari Fantasy

**I**T WAS A RARE OCCASION, one topped only by the serendipitous reunion of six Bugatti Royales on the lush lawns of Pebble Beach a year earlier. On the eighth of June 1987, 20 Ferrari 250GTs, three 330LMs and the infamous "Breadvan" and all of their fortunate owners left Paris for a six-day trip that would take in two racetracks and a half-dozen celebrated châteaux. A similar trip in 1982 prompted the 100-page paean, *I Love GTO*.

Among those invited to the 1987 event was Tom Price, owner of 3943 GT, who didn't think twice about having his car flown across the Atlantic for the event. "I guess it was the unique opportunity to be part of the fraternity encompassing the whole history of the car," said Price, "and one I could not comprehend missing."

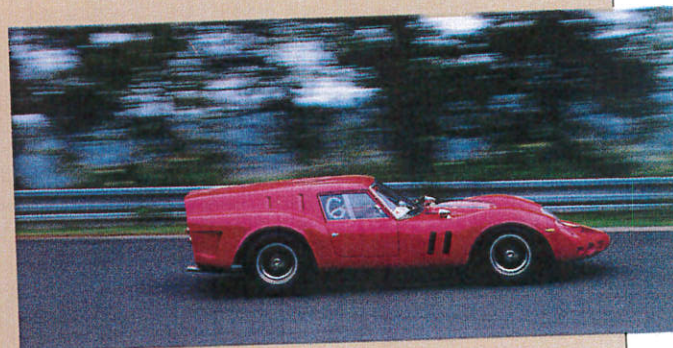
First stop for Price and his wife Gwen and the Ferrari entourage was the Reims GP circuit, where the cars were able to exercise their legendary muscle. Other demanding duties were to follow, with lunches and dinners at some of France's most famous Champagne, Cognac and Bordeaux vineyards, including Moët et Chandon, Mouton Rothschild, Château d'Yquem and Château Margaux.

Beyond coping with late hours, prodigious portions of food and drink and the stress of driving one of the world's most coveted automobiles amidst 2CVs and R5s, the only real hazard Price faced during the trip was a French gendarme with the temerity to ticket him for traveling a calm 140 mph on the *autoroute*. "We had a good long talk," recalls Price. "He spoke French and I spoke English. Our bill was 800 francs—around \$125 . . . and you pay cash there!"

—Lowell C. Paddock

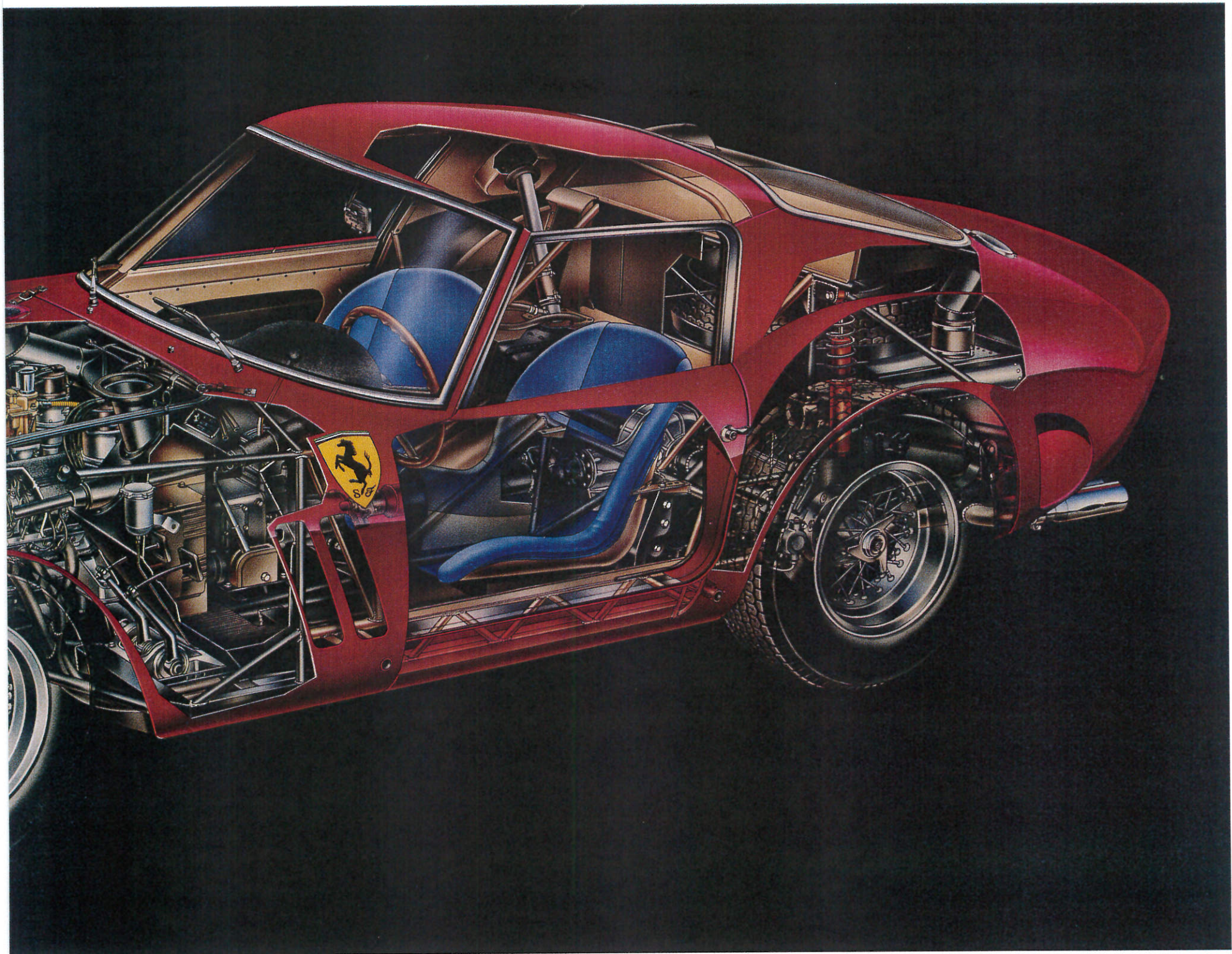


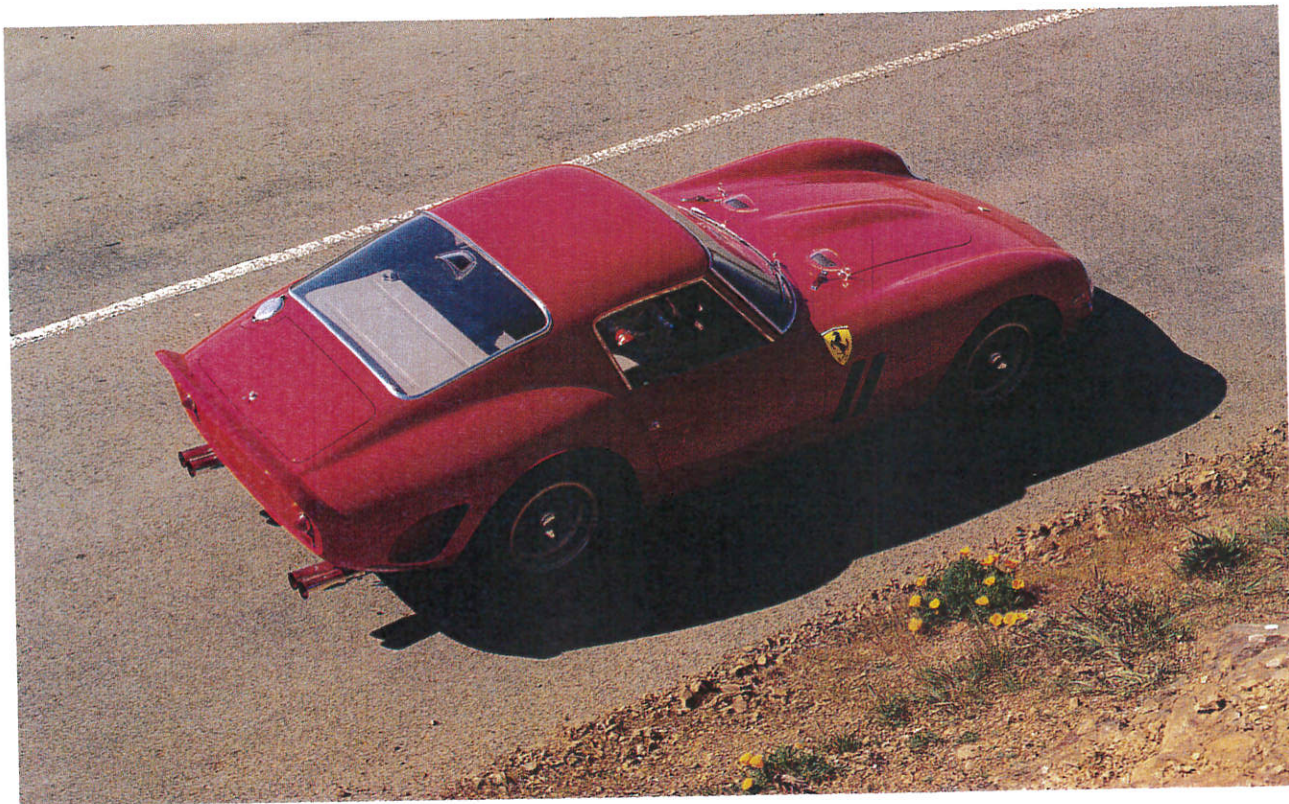
PHOTOS BY STEPHANE FOULON



Left: at the Reims GP circuit; 3943 GT is near the bottom of the lineup, wearing number 22. Just below it is the Bugatti T.251 (see "The Last Machines from Molsheim," this issue). Above: Bizzarrini's SWB-based "Breadvan;" below: variations on a theme by Kamm. Bottom: from château to château by GTO





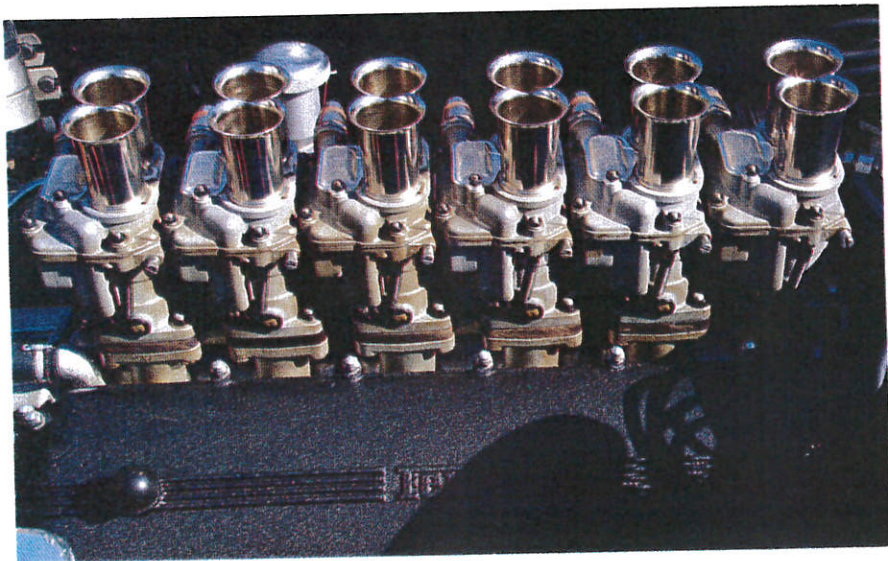


The suspension features upper and lower unequal-length control arms and adjustable Koni shock absorbers, just like the first 308GTB. Perhaps as a result, the tubular-steel control arms and their rubber-bushed pivots seem somewhat fragile for the GTO's 16-inch, Speedline modular wheels (8 inches wide in front and 10 inches in the rear) and Goodyear Eagle VR50 tires (225/50VR-16s in front and 255/50VR-16s in the rear). The Brembo vented disc brakes have cast-aluminum calipers and the front pair feature a powerful, four-piston configuration. The rack-and-pinion steering affords a quick 2.9 turns, lock-to-lock.

Just as with the original GTO, much of this car's magic lies in the sensuous sweep of the body. Pininfarina designer Leonardo Fioravanti created the basic form for the 308GTB, and the new car provided him with an opportunity to solve the GTB's problems with aerodynamic lift and engine cooling. Although the body's center section remains the same as that of the original, the fenders are 7.5 inches wider to cover the big tires and the front and rear decks have been reproportioned to accommodate a wheelbase 4.3 inches longer than before. A front air dam and a rear spoiler reduce aerodynamic lift at speed. Ducts in the air dam direct cooling air to the brakes, another set in the rocker panels funnels cooling air to the turbos, and a third set behind the doors cools the engine compartment. The car's GTO identity is reinforced by the three vents cut into the rear fenders.

There is additional magic in the body panels themselves. Harvey Postlethwaite's arrival at Ferrari in 1982 resulted in the Formula One team's adoption of carbon-fiber technology for its monocoques, and the team's autoclaves have been used to produce lightweight yet extremely strong body pieces for the GTO. The front decklid and firewall are built of Kevlar-coated aluminum honeycomb with a Nomex core, and simple fiberglass-coated aluminum honeycomb is used for the roof and rear deck lid. Like the first batch of 308GTBs, the doors and fenders are fiberglass. In keeping with tradition, the whole package is assembled at Scaglietti.

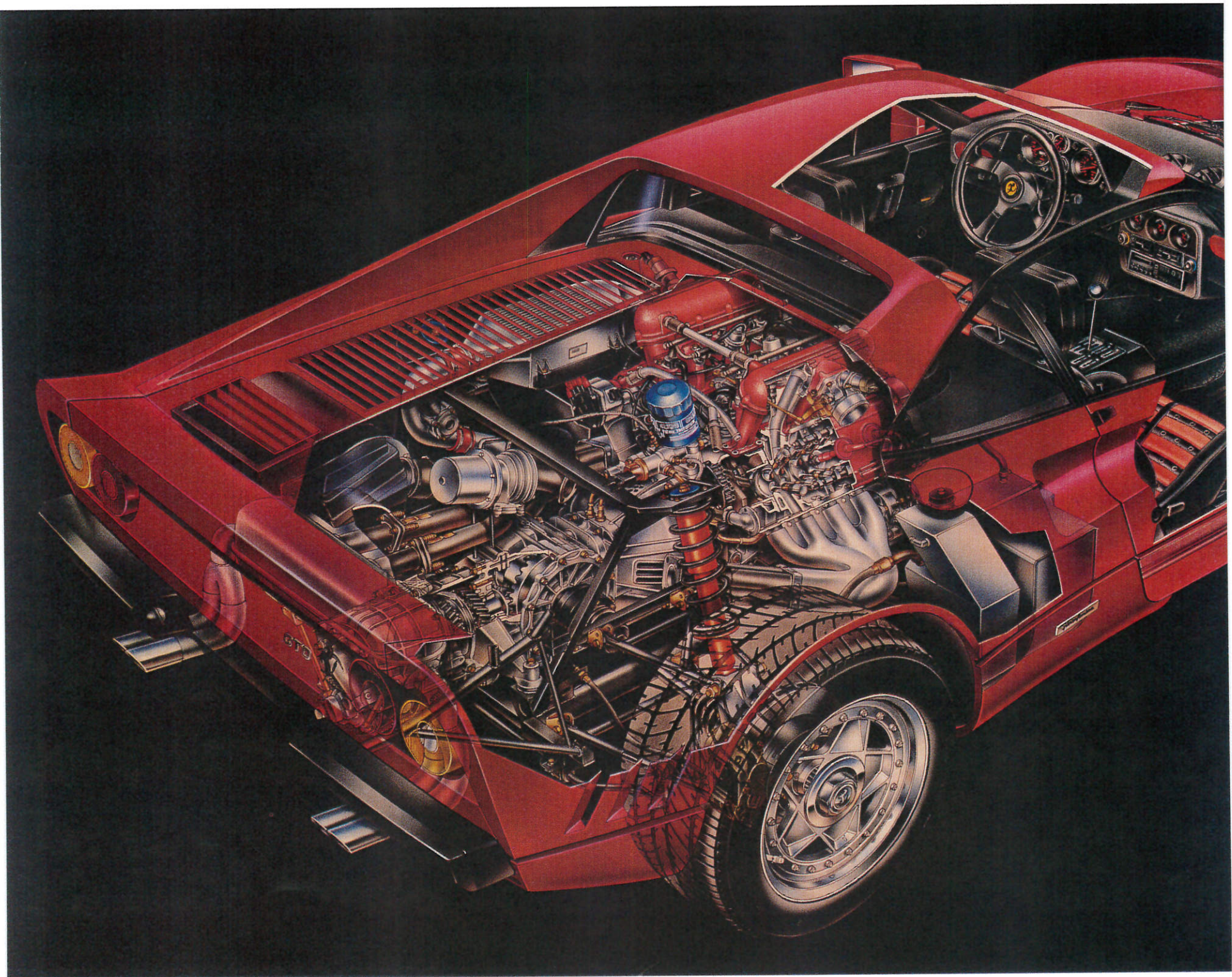
The 288GTO carried a list price of \$74,000 when it appeared at the Geneva Salon in 1984, and Ferrari was besieged with orders. Despite the fact that the price quickly rose, new buyers kept appearing, so 272 were built before production finally shut down in 1986. Clearly, the car appealed primarily to collectors, and once Ferrari saw that the Porsche 959, another pseudo-Group B exercise, commanded a purchase price of \$185,000, the men of Maranello realized that such cars could be a major source of income for the company. As a result, Ferrari proceeded with its plans for an evolutionary version of the 288GTO even after the FIA abandoned Group B in

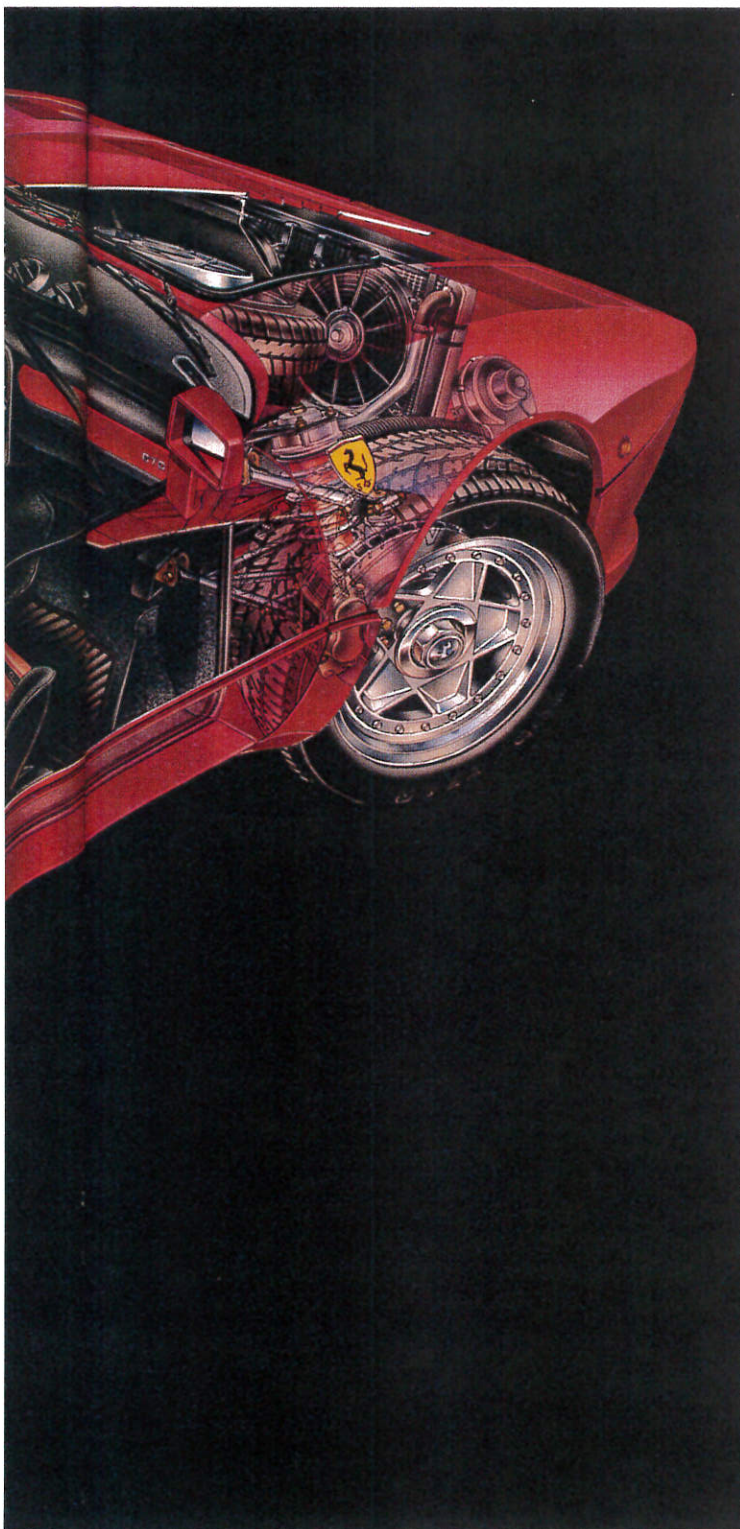


**Above: beauty dictated more by function than by form. Left: Colombo's potent 3.0-liter V-12, topped by six dual-throat Weber 38 DCNs. Below: The GTO was Ferrari's first GT to use a shift gate.**









## Artist's Perspective: 288GTO

In a sense, the 288GTO represents the limited-production road car sidestepped in the original GTO program. Its exterior resembles the contemporary 308GTB, but beneath its composite skin lies a hand-built tube chassis. Note that the mounting brackets for the front and rear A-arms each have two anchor points. Normally, the lower position is used for street driving, as shown here. The upper position lowers the car slightly for improved handling—with a minimum of ground clearance. The turbo's complex exhaust system employs a single wastegate (visible above the transaxle) for improved throttle response. This cutaway is based upon the 288GTO owned by Ray Oyakawa, while the car used for photography is owned by Herbert W. Boyer. Both share the optional interior with red inserts in the dash and alternating red-and-black pleats in the seats. Oyakawa's car is shown as it was delivered at Maranello, without the complex emissions-control equipment required for road use in the United States.

1987. And so the 288LM, called the F40 by the factory to celebrate the fortieth anniversary of the company's first production car, appeared in the summer of 1987 complete with a 471-bhp engine, a claimed 201-mph top speed, and a price tag of \$187,000.

Compared to the first GTO, the driver of the modern GTO finds the cockpit a fairly luxurious environment that features electric windows, air conditioning and an AM/FM stereo cassette player. Yet there is a certain resemblance between the two cars, in the Veglia instruments, the plum-size gearshift knob, and the chrome gate that guides the gear lever. The seats are also thin, narrow and slippery, and the driver sits with his legs offset toward the center in order to clear the front wheelwells.

The 288GTO weighs approximately 2555 pounds with a full tank of fuel, about 400 pounds more than the 250GTO, but the new car's 393-bhp engine and 50-series Goodyear Eagle VR50 tires give it a sizable performance advantage. Published road tests indicate that the 288GTO accelerates from zero-to-60 mph in 5.0 seconds and turns the quarter-mile in 14.1 seconds. According to Ferrari's sometimes optimistic road test data, the 288GTO also achieved 190 mph at Fiat's high-speed test track in Nardo—once the suspension's ride height was set to the lower of the two available positions. Independent testing has recorded 0.88 g on the skid pad.

On the track, the 288GTO is remarkably well-balanced, understeering nicely through the corners with minimal roll. The brakes are extremely powerful, yet feel

overboosted, making it difficult to accomplish a perfectly coordinated heel-and-toe down-shift. The steering provides excellent feedback, but it requires heavy effort and its response is a little slow; the latter is perhaps a result of the high caster/high trail steering geometry. The twin-turbo engine, on the other hand, is little less than brilliant, proving astonishingly flexible below 4000 rpm and then tremendously powerful above that mark when full turbo boost is available. All in all, Dan Gurney says, the 288GTO feels just like a real Ferrari:

This car is very competent. But with any car that has this much horsepower, the ability of the suspension, the tires, the brakes, and the steering to cope with the power gradually diminishes as you give it more and more throttle. You can't keep upgrading everything; it can't be done. So the GTO starts asking more and more of the driver, and that is what makes it so pleasurable. But that is also what makes this car not right for a lot of people. This car has an excellent balance of capabilities, but it's certainly no plaything.

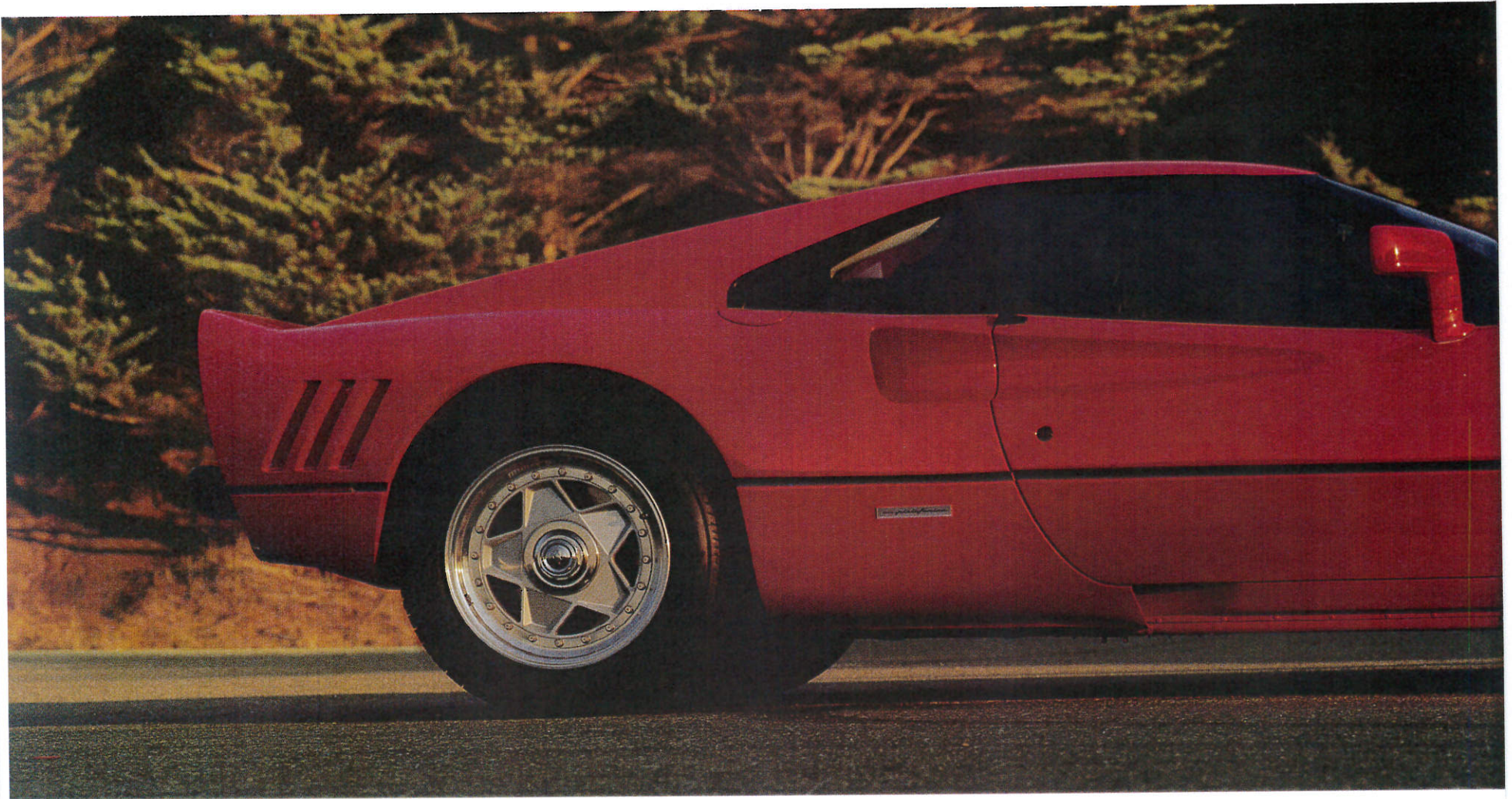
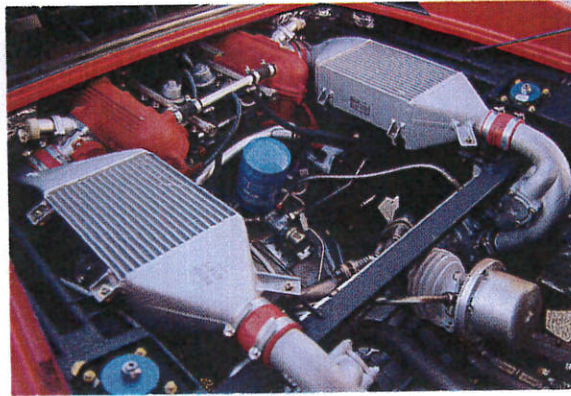
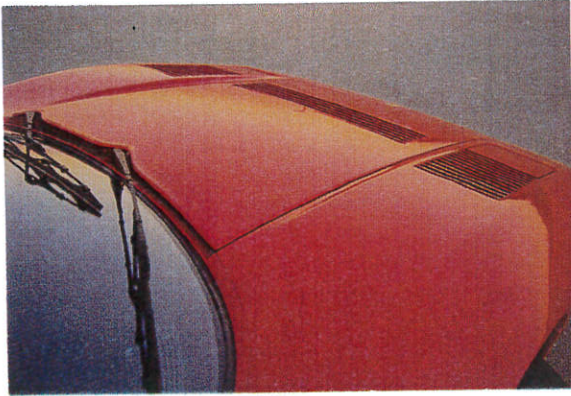
---

### ROSSO CINA—THE COLOR RED

---

These days, the 250GTO and 288GTO have become valuable pieces of Ferrari sculpture as well as important souvenirs of Maranello history. The buildup of dollars among foreign investors, the decline of the dollar's value and fears of inflation have led many people both in the United States and abroad to seek durable goods as protection for their savings. As a result, the value of collectible Ferraris has escalated nearly out of sight: The most recent sales include a \$1.6 million 250GTO and a \$400,000 288GTO. Indeed, all Ferrari automobiles have become collectible items as the baby-boom generation ages and consequently acquires the wealth to enjoy the marque that defined automotive performance during its childhood in the Fifties and Sixties.

Nevertheless, most Ferrari owners remain drivers first and collectors second. The 288GTO featured in the cutaway, chassis number 58339, has been federally certified by its owner, Ray Oyakawa, an ophthalmologist in Los Angeles, and he drives it regularly, risking all amongst battered junk-heaps and uninsured drivers. Tom Price, an automobile dealer from San Francisco, owns 3943 GT and has driven it in the Monterey Historic Races every year since he purchased it. Indeed, Price even drove it to Monterey this year, inspired by the terrific time he had at a gathering of GTO owners in France last spring and un-



daunted by the 140-mph speeding ticket the French police had given him as a souvenir. As he says, "I will drive my GTO as long as I'm capable. It becomes my son's when he turns 30, and since he's four years old right now, I'll be driving it for quite a while yet."

It says a great deal about the character of Ferrari that its enthusiasts are drivers rather than simply collectors. Ferrari automobiles have always had something of a dual-purpose nature, perhaps because Enzo Ferrari's first cars were race cars sold for the street. Something about that dual-purpose identity has always appealed to hard-core drivers, as if a car's competition heritage gave it a kind of purity unavailable in bland transportation. There is an element of risk in keeping a thoroughbred for daily use that has had a universal appeal since the days when man-

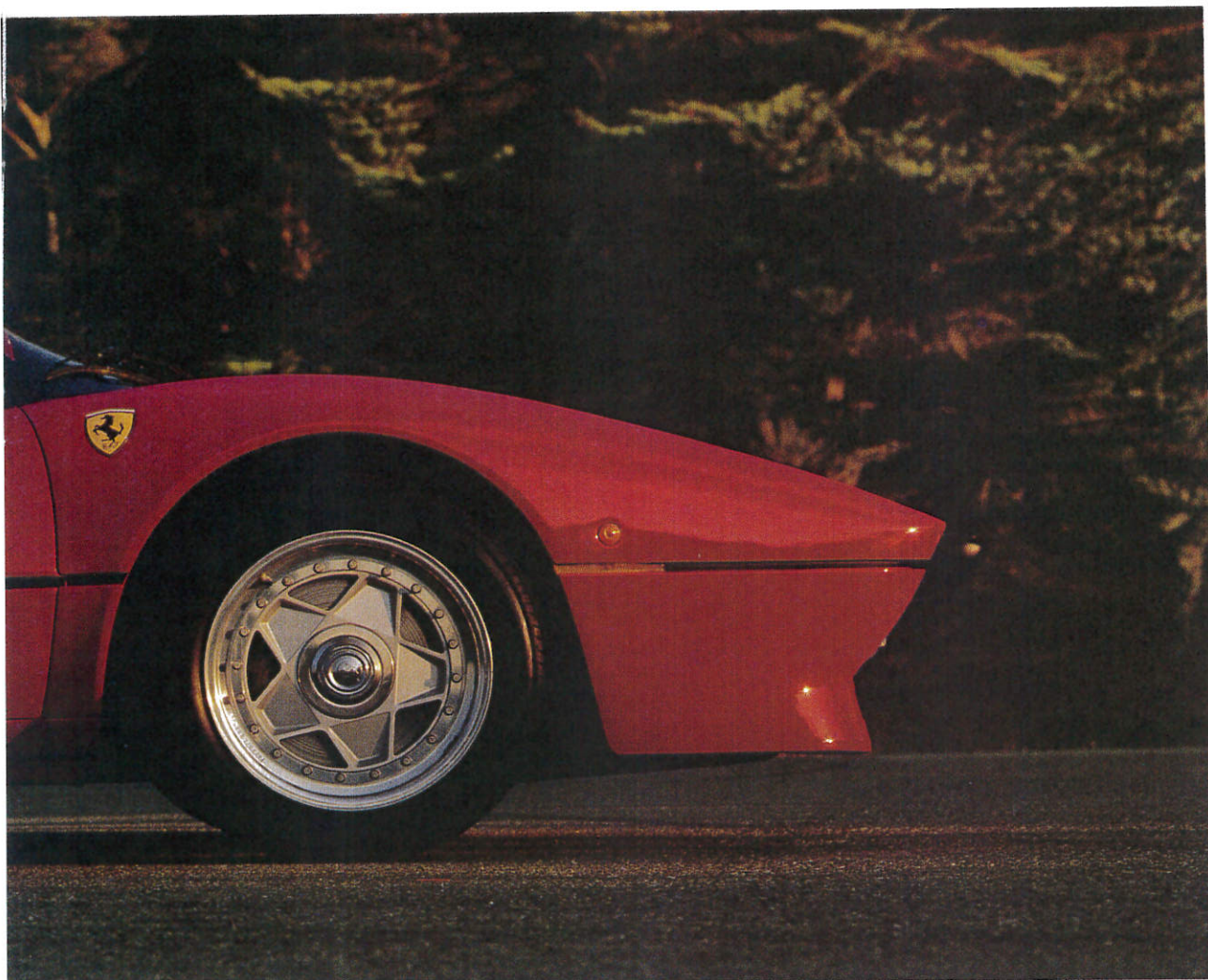
kind rode horses for transportation. The willingness to accept that risk marks an owner's special skill at the controls and provides public evidence of his appreciation for a good pedigree. At a time when values are shifting and trinkets signifying wealth and power are widely available, a Ferrari still sets a person apart from the crowd.

As it turns out, the 250GTO and 288GTO are more alike than they are different. Though their specifications are wildly diverse and reflect the prejudices and preferences of their times, these cars both reflect Ferrari's general emphasis on craftsmanship rather than technology. True, the rugged finish on the 250GTO's inner fenderwells seems to indicate a fairly crude manufacturing process compared to the anticorrosion paint thoughtfully sprayed on the 288GTO's underbody, but both cars are

remarkably simple devices compared to their competition. After all, Enzo Ferrari has always regarded a car as simply a mundane container for a great engine. At the same time, the complex and beautiful castings used in the 250GTO's front suspension and the exotic composite body panels of the 288GTO's familiar shape share a common faith—a faith in the ability of individual men with tiny hammers to surpass the efforts of automated assembly lines and spiritless robots.

A common thread links the racing fortunes of both GTOs as well. One was a success that created a legend and the other a failure that fulfilled the prophecy of cynics, yet they reflect the same philosophy. At Ferrari, production sports cars have always been something to keep the factory coffers full and the workers busy while old man Enzo proceeded about the business of real racing, which is to say, Formula One and sports prototypes. The 250GTO was built for the racing enthusiasms of the extended Ferrari family in Europe and the United States, who happily took on the task. The 288GTO was built for the same people, except the time has long since passed when racing success could be won without extensive development and full factory support. Enzo Ferrari believes that one races for honor and glory, that true enthusiasts should be grateful for the opportunity for glory his cars provide, and that people should be willing to pay the factory for the privilege of driving its cars. Unfortunately, such a philosophy is increasingly out of step with modern racing, and so the Ferrari Can-Am cars of the late Sixties, the 288GTO, the recent Indy Car design and now the F40 have all been destined for failure from the moment of their conception.

At the same time, however, the 250GTO and 288GTO represent Ferrari's ascension to the summit of automotive prestige. The 250GTO carried the flag of the most influential and successful manufacturer of high-performance automobiles in the world. And the introduction of the 288GTO in 1984 confirmed Ferrari's return to that lofty height. After more than a decade of indifferent success, Ferrari finally seems dedicated to greatness again, perhaps helped along by an injection of funds from Fiat, the Maranello factory's parent company. The enormous financial success of the 288GTO showed the factory that a lucrative market existed for its engineering projects, no matter how costly the final product might be. Consequently, Ferrari has dedicated itself once again to assuming leadership in the high-performance field, and it is making the effort to surpass Porsche and Lotus just as it once turned back Maserati, Jaguar and Aston Martin. While Ferrari may not always have the highest technology on its side, as the 288GTO shows, it does have a special spirit and heritage to call its own. ☼





## Artist's Perspective: 250GTO

As no two 250GTOs were completely alike, producing an accurate cutaway of one was a complex task. My illustration is based on 3943 GT, which I learned a great deal about by studying its sister car, 3987 GT, during its restoration by Mike McCluskey of Torrance, California. Here, 3943 GT is shown with Bizzarrini's *compensatore* springs encircling the rear shock absorbers. They were intended to reduce axle tramp but were often removed because of the oversteer they induced. The tips of its full-length exhaust system incorporate a lateral slot; known as Snap Extractors, they introduced a high-velocity column of air into the center of the exhaust stream. They were a short-lived speed secret, however, and later cars almost always ran straight pipes exiting forward of the rear wheels. Like all 250GTOs, 3943 GT is barely suitable for road use. Its Spartan interior—with its original champagne-painted surfaces and blue cloth seats—had just enough production hardware to persuade race officials of its homologated status.

bos, one per cylinder bank, feed the engine with compressed air; these small turbochargers were selected to improve throttle response. They also feature a bypass valve in the compressor housing, which allows the turbine wheels to keep spinning even when the throttles are closed, further reducing crippling turbo lag. Air-to-air intercoolers from Behr keep intake temperatures under control for increased power, while a single, centrally located wastegate permits 11.6 psi of boost. An electronic engine management system created by Weber and Marcelli improves the engine's tractability by controlling ignition and fuel delivery interdependently. Various sensors feed information to the management computers, one per cylinder bank, which then select the optimal combination of spark advance and fuel/air ratio according to pre-determined programming. The result is 393 bhp at 7000 rpm and 366 lb-ft of torque at 3800 rpm. Feeding the power to the rear wheels is an all-synchromesh, five-speed, limited-slip transaxle designed for competition.

The 288GTO's chassis has all the earmarks of a racing design, but it has more in common with racing technology of the Sixties than of the Eighties. Just like that of the 250GTO, the 288GTO's engine placement reflects an effort to centralize the car's major masses and reduce the polar moment of inertia, improving maneuverability for agile cornering. The frame itself is a network of steel tubes skinned with molded body panels, a configuration that has racing overtones, although in this case it has more to do with relatively low production cost.

