

TESTS: FERRARI 12-CYLINDER 308, BITTER SC 3.9
ALL-NEW MAZDA RX-7, TURBOCHARGED MERCEDES-BENZ 190E

ROAD & TRACK

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NOVEMBER 1985

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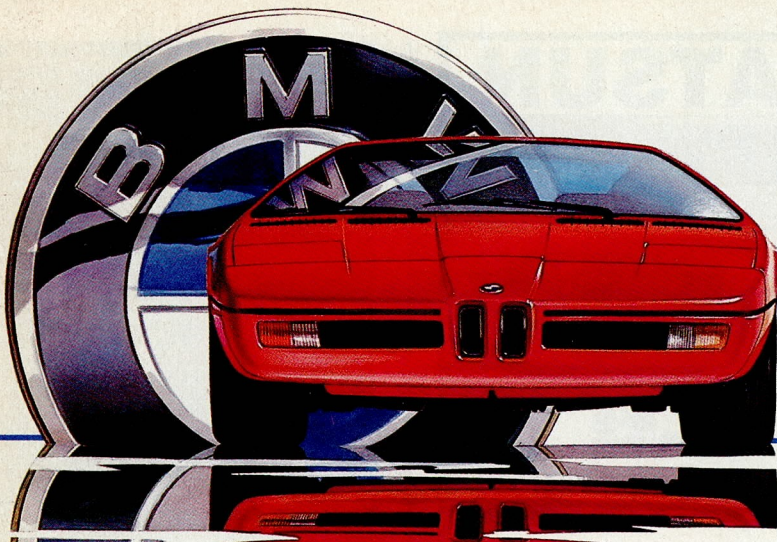
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**MAZDA'S
FABULOUS NEW RX-7**
Porsche 944 Performance at an Affordable Price?



ROAD & TRACK

NOVEMBER 1985 VOLUME 37, NUMBER 3



ROAD TESTS

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COVER

Rod Millen Drives the 1986 Mazda RX-7—photo by Jeffrey R. Zwart



YOU SAY \$89,200 seems a bit much, even for a new Testarossa? Or maybe the car is a trifle bulky by your standards? You'd appreciate an even quicker, more agile Ferrari, a sleeper guaranteed to keep every 308 owner in the neighborhood sleepless? It's okay if it costs less than \$50,000 and has a hyphenated pedigree, as long as the name Ferrari is on both sides of the hyphen? You can tolerate the sound of a strong, reliable V-12 at 8000 rpm? Answer yes to all of the above and you have our permission to read on.

Ferrari's everyday car, the 308GTBi, is generally well thought of, but for some enthusiasts the number of cylinders and the power they produce aren't up to snuff. If you really wanted the ultimate 308-based car, you'd have to slip something pretty impressive in ahead of the rear wheels.

With the Lamborghini Miura as an inspiration, David Goldsmith, a computer engineer in Burlingame, California, reasoned that a transverse V-12-powered 308 was not an impossibility. At first thought a 12 would be too wide, but that was only with all the accessories in their usual places. Asking himself a few basic questions, and then a lot of very specific ones, Goldsmith pulled the world's most sophisticated shoehorn out of his pocket. He recruited Gordon Anderson, an expert builder in nearby San Carlos, and together they went to work. The result is a masterpiece of sharp engineering and beautiful workmanship: a 4.4-liter Daytona-powered GTB that's mannered on the road and mean on the track.

It looks a lot like a standard 308, doesn't it? Goldsmith wanted a civilized, tidy conversion, carefully and thoroughly engineered,

*Take one 308GTB,
one Daytona V-12,
one shoehorn . . .*

RECIPE FOR SMOKED TESTAROSSA

BY JONATHAN THOMPSON

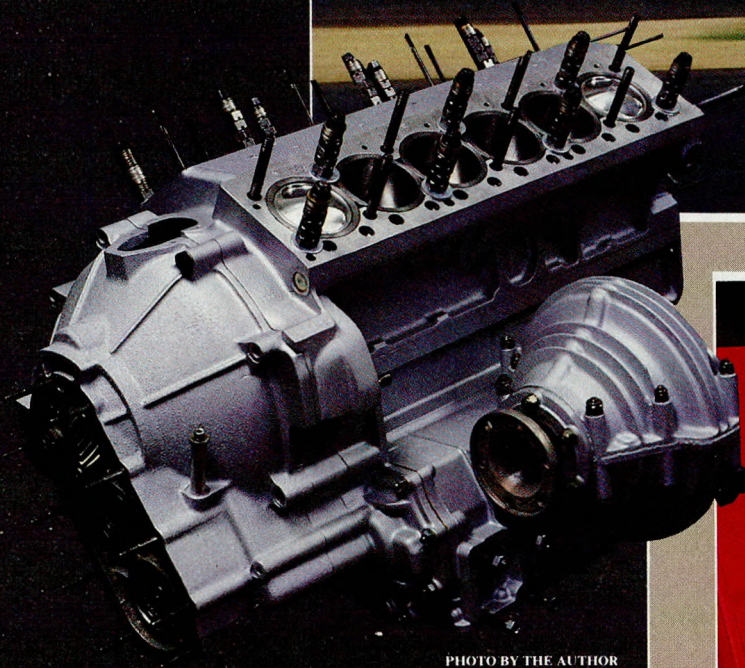
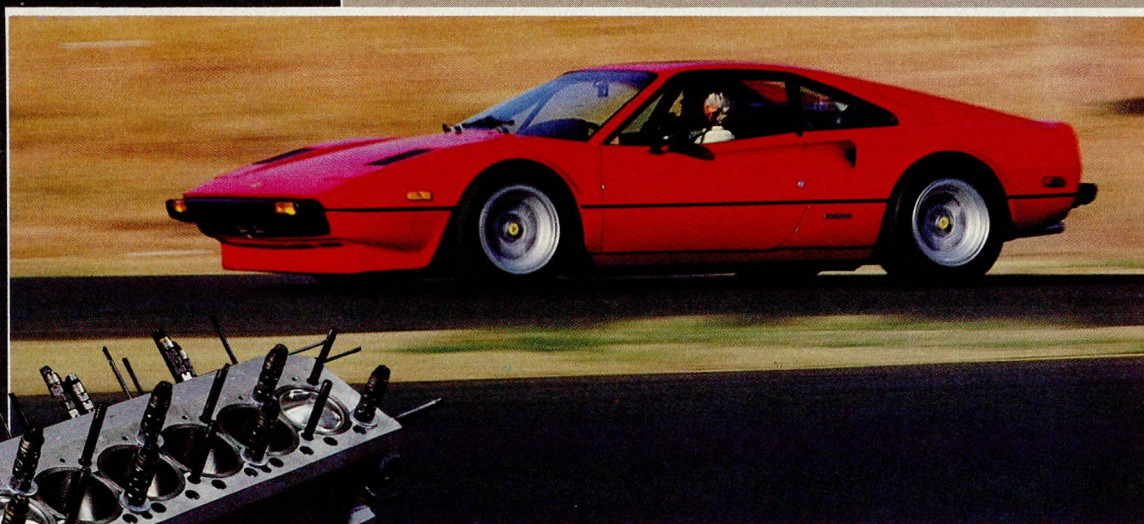


PHOTO BY THE AUTHOR



PHOTOS BY JOHN LAMM

the way Ferrari would have done it. Slightly lowered, with wider but still stock-appearing wheels and the most discreet 365GTB lettering on the tail, it could almost go unnoticed parked at roadside. With the engine running, it's another matter. The sound of a 4.4-liter Ferrari V-12 is something that can never be achieved with a V-8, not even Ferrari's own twin-turbo version in the GTO.

For his conversion, which started as a 1977 GTB, Goldsmith chose a Daytona block, although any 330 or 365 is suitable. Basically it fit, but almost every component, major and minor, had to be rethought and made to align in three planes. The 365 sump and bellhousing had to be adapted to the 308 transaxle, including a new fabricated transfer gear, and a lot of components (such as the throttle linkage, starter and exhaust headers) had to be redesigned and/or repositioned to work transversely. With the engine lid up, what you notice first are the 330/365-type single-cam cylinder heads that have replaced the Daytona's dohc heads; the latter simply would not fit. Also impressive are the six Weber 40 DCN 21A dual-throat carburetors, with a Daytona air cleaner modified to work sideways. In addition to all the modifications required for the conversion, the engine received a full blueprinting, with all parts dynamically and statically balanced and Magna-fluxed. The result is an sohc 4.4-liter that performs even better than the stock dohc Daytona; Goldsmith estimates 400 bhp at 7500 rpm up to the redline of 8000, and our test results suggest that this is accurate. The torque is really exceptional, probably about 440 lb-ft at 5500 rpm. It moves a car that is 110 lb *lighter* than standard at 3140.

We spent a day at Sears Point International Raceway with the ➡

AT A GLANCE

	Goldsmith-Ferrari 365GTB	Lotus Turbo Esprit	Ruf Porsche 930 Turbo
Price, base/as tested	\$49,000 \$49,000	\$47,984 \$47,984	\$82,000 \$82,000
Curb weight, lb	3140	2710	2980
Engine/drive	V-12/rwd	inline-4/rwd	flat-6/rwd
Transmission	5-sp M	5-sp M	5-sp M
0-60 mph, sec	5.1	6.6	5.3
Standing 1/4 mi, sec @ mph	13.7 @ 105.5	15.3 @ 90.0	14.2 @ 103.0
Stopping distance from 60 mph, ft	na	154	149
Lateral acceleration, g	na	0.81	est 0.83
Slalom speed, mph	61.0	62.2	59.3
Fuel economy, mpg	13.0	17.5	est 16.0

	Pro	Con
365GTB:	extraordinary performance at a reasonable price, legendary V-12, superb workmanship	conversion a time-consuming, non-trivial undertaking for only the most serious enthusiasts
Turbo Esprit: tested 12-83	excellent handling, exotic character while easy to drive, well finished body panels	4-cylinder engine lacks exotic charm, turbo lag, minor fit and finish lapses
930 Turbo: tested 7-84	enormously fast, Porsche reliability, excellent Ruf shifter, tasteful aftermarket appearance and trim	high price, handling demands respect for the physics of rear-engine cars

car. It met Goldsmith's and our expectations as a humbler of Testarossas and Ruf Porsche 930 Turbos; 0-60 mph took just 5.1 seconds and the quarter mile came up in 13.7. The song of the V-12 at 8000 rpm just has to be heard, yet the engine is tractable in ordinary use. Far from being just a hot rod, the car itself behaves as well and in some ways better than your everyday 308. For instance, the redesigned gear linkage works much more smoothly, and the 8½-in. front and 9½-in. rear wheels (with 245 and 265 Goodrich Comp T/As) improve the handling remarkably, especially for track work.

To assess the latter, we asked Bob Bondurant, whose expertise includes a thorough familiarity with the standard 308, to put the car through its paces. Bondurant's comments: "Very controllable, with no understeer, basically neutral but you can make it oversteer . . . a 308 lumbers into the turns but this car squats . . . it behaves, you can do anything you want with it . . . a Boxer is cumbersome, this feels much more agile."

Bondurant school instructor Bill Cooper, who also tried the car, paid it the ultimate compliment: "It's hard to make something Enzo made better; I think you've done that."

Off the track, Goldsmith has put a lot of miles on the car, including, one assumes, a fair share of 308 and 911 baiting. It is emissions-legal and performs without fuss (although Goldsmith, who is

demanding, has some further modifications in mind, such as Lucas mechanical fuel injection). He doesn't plan to build duplicates of his 365GTB, but for those who want one he has prepared the most comprehensive conversion manual imaginable. Detailing and illustrating every phase of the operation, with the rationale behind and the methods chosen for the modification of each part, his 150-page book rivals the car itself for precision and thoroughness. Even if you don't plan an engine swap, the performance modifications are applicable to any Ferrari V-12. (The book is available for \$100, plus \$5 for shipping and \$6.50 tax for California residents, from DPB Enterprises, 1050 Carolan, Suite 318, Burlingame, Calif. 94010.)

Compared with a Testarossa, much of the rationale for the car is dollars and cents. Although he spent quite a bit more on the engineering and problem-solving of the initial installation, Goldsmith figures an enthusiast can duplicate it for less than \$50,000. A 1976-1979 308GTB (with the advantage of being somewhat lighter than the current cars) can be had for something near \$25,000, a 365 engine for about \$6500 (less \$5000 if you sell the 308 unit), a blueprinted rebuild for \$10,000-\$12,000, the major machining approximately \$6000, with the various other modifications (some of them optional) bringing it up to \$49,000. We bet quite a few enthusiasts will spend that first \$100 to check it out. ☺

Goldsmith 365GTB Ferrari 308GTB

PRICE

List price	est \$49,000*	\$59,500
Price as tested	\$49,000	\$59,500
*Price as tested includes used 1977 308GTB, V-12 engine (less sale of V-8), blueprint rebuild, machining and modifications		

GENERAL

Curb weight, lb	3140	3250
Test weight	3300	3440
Weight dist (with driver), f/r, %	43/57	42/58
Wheelbase, in.	92.1 ¹	
Track, front/rear	57.8/57.8	
Length	174.2	
Width	67.7	
Height	42.5	44.1
Trunk space, cu ft	5.3	
Fuel capacity, U.S. gal.	18.5	
¹ Single entry indicates specifications are identical.		

ENGINE

Type	sohc V-12	dohc V-8
Bore x stroke, mm	81.0 x 71.0	
Displacement, cc	4389	2926
Compression ratio	9.8:1	8.8:1
Bhp @ rpm, SAE net	est 400	230
	@ 7500	@ 6800
Torque @ rpm, lb-ft	est 440	188
	@ 5500	@ 5500
Fuel delivery	six Weber (2V)	Bosch L-Jetronic
Fuel requirement	leaded, 91-oct	premium unleaded, 91-oct

DRIVETRAIN

Transmission	5-sp manual
Gear ratios: 5th (0.90)	3.33:1
4th (1.20)	4.44:1
3rd (1.62)	5.99:1
2nd (2.24)	8.29:1
1st (3.23)	11.95:1
Final drive ratio	3.70:1

CHASSIS & BODY

Layout	mid-engine/rear drive
Body/frame	steel/tubular steel
Brake system	10.7-in. vented discs front, 10.9-in. vented discs rear; vacuum assisted
Wheels	cast alloy; 15 x 8½ front, 15 x 9½ rear
Tires	P245/50VR-15 front, 220/55VR-390 P265/50VR-15 rear
Steering type	rack & pinion
Turns, lock-to-lock	3.3
Suspension, front/rear	unequal-length A-arms, coil springs, tube shocks, anti-roll bar/unequal-length A-arms, coil springs, tube shocks, anti-roll bar

CALCULATED DATA

Lb/bhp (test weight)	8.3	15.0
Bhp/liter	91.1	78.6
Engine revs/mi (60 mph)	2700	3300
R&T steering index	1.30	
Brake swept area, sq in./ton	272	261

ROAD TEST RESULTS

ACCELERATION

	Goldsmith 365GTB	1983 308GTB	1970 365GTB/4	1985 GTO	1985 Testarossa
Time to distance, sec:					
0-500 ft	7.6	8.2	8.0	8.0	7.6
0-1320 ft (¼ mi)	13.7	15.2	13.8	14.1	13.6
Speed at end of ¼ mi, mph	105.5	91.5	107.5	113.0	105.0
Time to speed, sec:					
0-30 mph	1.8	2.3	2.4	2.3	2.2
0-60 mph	5.1	6.8	5.9	5.0	5.3
0-100 mph	12.4	18.1	12.0	11.0	12.2

SPEEDS IN GEARS

	365GTB	308GTB
5th gear (8000/7700 rpm) est	177	142
4th (8000/7700)	133	113
3rd (8000/7700)	98	84
2nd (8000/7700)	71	60
1st (8000/7700)	49	41

FUEL ECONOMY

Normal driving, mpg	13.0	16.0 ¹
¹ Trip fuel economy		

HANDLING

	365GTB	308GTB
Lateral accel, 100-ft radius, g	na	0.81
Speed thru 700-ft slalom, mph	61.0	60.9

INTERIOR NOISE

Idle in neutral, dBA	68	73
Maximum, 1st gear	86	83
Constant 70 mph	85	80

