

**SPECIAL IMPORT ISSUE**

**Porsche 959, Toyota Celica Turbo, BMW M3, Mazda 929**

# **CAR AND DRIVER**

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## ***Ferrari F40!***

***Enzo's  
201-mph  
revenge***





# Porsche 959

*Twenty-four hours in sports-car heaven.*

• We hesitate to call any car perfect. The absence of flaws in any product of human endeavor is extraordinarily rare. But we have just returned from West Germany, where we finally got a chance to drive a Porsche 959 on the street, and the word "perfect" is difficult to avoid. What single word more accurately describes a car that combines race-car performance with luxury-sedan comfort, that is equally adept at commuting through rush-hour traffic, profiling in jet-set locales, negotiating blizzard-swept mountain passes, and outrunning light airplanes? The Porsche 959 can accomplish almost any automotive mission so well that to call it

perfect is the mildest of overstatements.

Power and speed are the core of the 959's excellence. With rocket-sled acceleration and the highest top end we've ever measured, the 959 stands alone at the pinnacle of production-car performance. If that sounds like hyperbole, how does a 0-to-60-mph time of 3.6 seconds strike you? Or 100 mph from rest in a mere 8.8 seconds, 120 mph in 12.4 seconds, and 140 mph in a tick less than 20 seconds? The 959 devours the standing quarter-mile in twelve seconds flat, with a terminal speed of 116 mph.

We recorded these figures at the Hockenheim-Ring, the site of this year's

German Grand Prix, employing a starting procedure recommended by Manfred Bantle, the project director of the 959 program. The drill was to switch the 959's programmable four-wheel-drive system into its locked setting, engage low gear, wind the engine to 7000 rpm, and drop the clutch. The result was a cloud of rubber dust from four spinning Bridgestone RE71 gumballs, and a car that disappeared as if shot from a cannon.

As remarkable as these acceleration runs were, the 959 was just as impressive when accelerated in a more normal fashion. In tests with no wheelspin and minimal clutch slip, it sprinted from rest to 60



mph in only 4.9 seconds.

Unlike most ultraperformance cars, the 959 is astonishingly easy to drive. This is especially true if one starts in the lowest of the transmission's six ratios—though Porsche, inexplicably, discourages this practice in on-road driving by labeling the bottom gear with a “G,” for *Gelände* (terrain). When starting off in “G,” minimal clutch slip is needed to help the engine onto its power band. The clutch action is on the heavy side but very progressive, and stirring the shifter is a delight. The lever has been moved about three inches rearward from the usual 911 location, and the linkage has none of the rubbery feel we've come to expect in rear-engined cars. Instead, the 959 shifts with a wonderfully slick and fluid action. And with six ratios to choose from, the driver can run the engine either mild or wild.

These two personalities are clearly defined by the transition from single- to twin-turbo operation. The 959's engine—

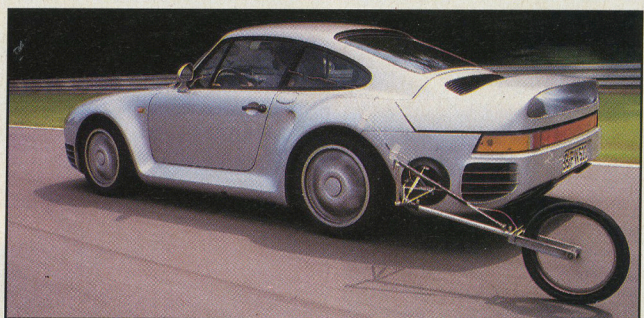
all 24 valves, four overhead camshafts, twin turbochargers and intercoolers, two water-cooled heads, and six titanium connecting rods of it—is essentially a domesticated version of the 962's racing powerhouse. Such engines thrive at high rpm but generally are weak at low engine speeds. The solution in the 959 is a staged turbocharger system. At low rpm, all of the exhaust flow is directed through just one turbocharger, bringing it quickly up to speed. Boost starts to build at 1500 rpm; by about 3000 rpm, the peak pressure of 14.5 psi is available. The second turbocharger cuts in at about 4300 rpm, uncorking the engine's high-speed breathing abilities. The 959, in turn, surges forward as if a second set of cylinders were activated.

Developing 444 hp at 6500 rpm, the 959's 2.8-liter flat six-cylinder produces more than 156 hp per liter. To put that into perspective, the Callaway Corvette's twin-turbo V-8 has twice the displacement

of the 959 engine but produces about 100 hp less, for a specific output of only 60 hp per liter.

In spite of its heroic output, the 959's all-aluminum powerplant is always smooth and refined. It idles evenly at 800 rpm, it can be driven away at 1000 rpm in top gear without a shudder or a lurch, and it's quieter than a production 911 powerplant. When it climbs into the boost mode, its power surge feels like a strong push rather than a hard punch. This softness around the edges of the awesome power curve lets the driver use the 959's tremendous thrust with confidence.

Project director Bantle believes strongly that speed without security and stability is senseless, and we were eager to see whether his car would deliver both elements of the equation. The 959 was in our hands for only 24 hours, so we had no time to find a track where we could measure its top speed. We had to do it the German way—on the autobahn. We chose to



*A small planetary gearbox and a preset torque wrench are used to apply the specified 625 pound-feet of torque to the wheels' central locking nuts.*

run at night, when traffic was minimal, but the conditions were less than ideal: our test stretch was only two lanes wide, and it wasn't perfectly straight. Nevertheless, we clocked a two-way average of 190 mph, without ever feeling as though we were driving on the hairy edge. According to the factory, the 959 will do 195 if given enough room.

Driving at such speeds is completely comfortable in the 959. Porsche claims that it develops no aerodynamic lift at high speed, and we have no reason to doubt that. In our testing the 959 never felt light, and it always tracked straight and true. Neither side winds nor the wakes of slow-moving trucks seemed able to deflect it from its path.

Indeed, every aspect of the 959 promotes confidence in its high-speed abilities. The power steering has the pronounced self-centering of a 928. Tight door and glass seals limit wind noise. The brakes are powerful and fade-free no mat-

ter how hard or at what speed they're applied. At almost any cruising speed, the engine seems to be loafing. And the control-arm suspension keeps a tight rein on body motions but still absorbs bumps with supple strokes. In fact, the 959 rides more comfortably than the 911.

In addition to its superb high-speed stability, the 959 is an extremely capable back-road runner. Although it doesn't turn in with the sharpness of, say, a Z51 Corvette, it responds very progressively to the helm and exerts a tenacious grip on the pavement. We tested it on both a 197-foot and a 633-foot skidpad at Porsche's Weissach facility and measured lateral accelerations of 0.87 and 0.89 g, respectively. Controllability at the limit was excellent. Too much power and the car understeered; backing off of the throttle diminished the understeer and kept the tail obediently in line.

We further explored the 959's handling on the short course at Hockenheim. The

only way we could make its tail swing wide was to brake hard and late into corners. We could then hold the tail out with power, but the chassis was unstable in that attitude. It was much more rewarding to enter a corner conservatively, then take advantage of the four-wheel drive and the tires' prodigious grip by applying power early and exiting very fast. The same approach worked nicely on the road as well.

Much of the credit for the 959's unparalleled combination of performance and refinement must go to the high technology incorporated in its design. In this respect the 959 stands in stark contrast to certain Italian exotics, in which electronic fuel injection is still something of a novelty. The Porsche's blend of low-speed refinement and high-end power would be impossible without its Bosch Motronic engine-control system to optimize fuel metering, ignition timing, and turbocharger boost for all operating conditions. Likewise, its unusually broad

power band could not have been achieved without the staged turbocharger setup.

Technology also serves to harness this considerable power. The Porsche "Control Coupling" four-wheel-drive system distributes power to the wheels according to the dynamic loading on the tires, providing extraordinary stability and handling consistency at all speeds. The damping of the three-position shock absorbers increases progressively with speed to provide proper ride control without excessive harshness. Automatic ride-height control allows the springs to be calibrated for handling without regard to the vagaries of payloads and vertical aerodynamic forces. And the 959's tire-pressure-monitoring system ought to discourage its drivers from trying to set speed records when their tires are underinflated.

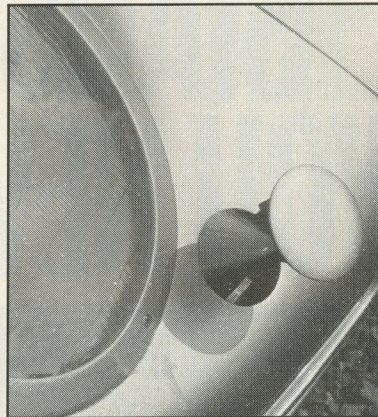
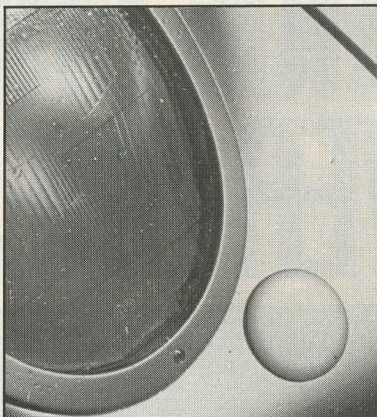
Not only do these advanced technical features work well, but every detail of the 959 has been fine-tuned to the nth degree. In view of the car's very limited production, it's amazing how well developed it is. The 959's body and chassis are as solid as any on the road. The wind noise, mechanical vibration, and road rumble that intrude into its cabin are remarkably well attenuated. Its air conditioning, power windows and seats, sound system, and other luxury features work as well as any Cadillac's. Such special details as aerodynamically efficient, wide-angle exterior mirrors and telescoping headlight washers have been fully developed. There is even a fist-sized planetary-gearbox adapter to make it easier to apply the correct amount of torque to the magnesium wheels' central locking nuts.

We did detect a few flaws during our 24 hours with the 959. Its ancestry is all too apparent in its dashboard layout, which adds several controls to the 911's already haphazard arrangement of switches. Its power brakes are a trifle sensitive to the first portion of pedal travel. Its power steering feels somewhat artificial, with limited feedback from the front tires in corners. And its stock 911 seats provide too little lumbar support.

The most disturbing flaw of all is that you can't buy a 959. Not even if you have enough money—nearly a quarter of a million dollars—stuffed under your mattress. Porsche has sold out the entire production run of 200 cars (none of which was built to American specifications), and it does not intend to build any more.

In price, in availability, in performance, the 959 defies comparison with lesser machinery. The ultimate automobile, it is to any ordinary car as the F-15 is to a hang glider. We cannot, in the final analysis, call it perfect. But if you want to call the Porsche 959 the best car in the world, you will get no argument from us.

—Csaba Csere



The 959's telescoping headlight washers lie flush until activated, then rise to the occasion.

**Vehicle type:** rear-engine, 4-wheel-drive, 2+2-passenger, 2-door coupe

**Price as tested:** \$227,000 (West Germany)

**Options on test car:** none

**Standard accessories:** power steering, windows, seats, and locks, A/C, rear defroster

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

**ENGINE**

Type ..... turbocharged and intercooled flat 6, aluminum block, cylinders, and heads  
 Bore x stroke ..... 3.74 x 2.64 in, 95.0 x 67.0mm  
 Displacement ..... 174 cu in, 2849cc  
 Compression ratio ..... 8.3:1  
 Engine-control system ..... Bosch Motronic with port fuel injection  
 Turbochargers ..... 2 KKK  
 Waste gates ..... 2 Porsche  
 Maximum boost pressure ..... 14.5 psi  
 Valve gear ..... chain-driven double overhead cams, 4 valves per cylinder, hydraulic lifters  
 Power (SAE net) ..... 444 bhp @ 6500 rpm  
 Torque (SAE net) ..... 369 lb-ft @ 5500 rpm

**DRIVETRAIN**

Transmission ..... 6-speed  
 Final-drive ratio ..... 4.13:1, limited slip  

Gear	Ratio	Mph/1000 rpm	Max. test slip
I	3.50	5.0	37 mph (7300 rpm)
II	2.06	8.5	62 mph (7300 rpm)
III	1.41	12.5	91 mph (7300 rpm)
IV	1.04	17.0	124 mph (7300 rpm)
V	0.81	22.0	161 mph (7300 rpm)
VI	0.64	28.0	190 mph (6800 rpm)

**DIMENSIONS AND CAPACITIES**

Wheelbase ..... 89.4 in  
 Track, F/R ..... 59.2/61.0 in  
 Length ..... 167.7 in  
 Width ..... 72.4 in  
 Height ..... 47.2 in

Frontal area ..... 20.7 sq ft  
 Ground clearance ..... 4.7 in  
 Curb weight ..... 3500 lb  
 Weight distribution, F/R ..... 40/60%  
 Fuel capacity ..... 23.8 gal  
 Oil capacity ..... 19.0 qt  
 Water capacity ..... 26.4 qt

**CHASSIS/BODY**

Type ..... unit construction  
 Body material ..... welded steel stampings, aluminum stampings, Kevlar- and fiberglass-reinforced plastic

**INTERIOR**

SAE volume, front seat ..... 43 cu ft  
 rear seat ..... 13 cu ft  
 trunk space ..... 2 cu ft  
 Front seats ..... bucket  
 Seat adjustments ..... fore and aft, seatback angle, front height, rear height  
 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, anti-roll bar  
 R: ..... ind, unequal-length control arms, coil springs, anti-roll bar

**STEERING**

Type ..... rack-and-pinion, power-assisted  
 Turns lock-to-lock ..... 2.9  
 Turning circle curb-to-curb ..... 36.4 ft

**BRAKES**

F: ..... 12.7 x 1.3-in vented disc  
 R: ..... 12.0 x 1.1-in vented disc  
 Power assist ..... hydraulic with anti-lock control

**WHEELS AND TIRES**

Wheel size ..... F: 8.0 x 17 in; R: 9.0 x 17 in  
 Wheel type ..... cast magnesium, center-lock hubs  
 Tires ..... Bridgestone RE71, F: 235/45VR-17; R: 255/40VR-17  
 Test inflation pressures, F/R ..... 39/46 psi

**CAR AND DRIVER TEST RESULTS**

**ACCELERATION**

	Seconds
Zero to 30 mph	1.5
40 mph	2.2
50 mph	2.9
60 mph	3.6
70 mph	4.8
80 mph	5.8
90 mph	7.1
100 mph	8.8
110 mph	10.4
120 mph	12.4
130 mph	15.9
140 mph	19.9
Top-gear passing time, 30-50 mph	11.9
50-70 mph	8.8
Standing ¼-mile	12.0 sec @ 116 mph
Top speed	190 mph

**BRAKING**

70-0 mph @ impending lockup ..... 166 ft  
 Fade ..... none moderate heavy

**HANDLING**

Roadholding, 197-ft-dia skidpad ..... 0.87 g  
 Understeer ..... minimal moderate excessive

**FUEL ECONOMY**

C/D observed fuel economy ..... 13 mpg

**INTERIOR SOUND LEVEL**

Idle ..... 56 dBA  
 Full-throttle acceleration ..... 83 dBA  
 70-mph cruising ..... 71 dBA  
 70-mph coasting ..... 70 dBA