

MIGHTY MIDIS: FIERO V-6 vs. TOYOTA MR2

MOTOR TREND

\$2.00
IN CANADA
\$2.75

TESTS: SAAB TURBO 16,
BMW M635 CSI WUNDERCAR

WINNER? OR WIMP?
FIERO OWNERS TALK

FEBRUARY 1985

1985
Car
of the
Year

BUICK ELECTRA T-TYPE
BUICK SOMERSET REGAL
CADILLAC FLEETWOOD
CHEVROLET ASTRO
CHRYSLER LEBARON GTS
DODGE LANCER TURBO
OLDSMOBILE CALAIS
OLDSMOBILE NINETY EIGHT
PONTIAC GRAND AM LE
VOLKSWAGEN GTI

Test
of the
Car
of the
Year
1985

2C3300WITZ001
GARY*WITZENBURG
29040 FRESHWATER
CA 91301
SAMPLE



0

Porsche builds emotional cars. You either love or hate 'em. The original "bathtubs" were ugly but quick and advanced for their time. The mid-engined 914s looked like picnic baskets and were shunned by purists, though the 6-cylinder versions gave a lot of bang for the buck. The front-engined 924s were pretty and sweet-handling but overpriced and less than "masculine" in image. Turbocharging made them faster but more overpriced.

On the plus side of the ledger are the rear-engined 911s—the only *real* Porsches in the eyes of some—blessed with stunning performance and a racing heritage as thick as the Los Angeles phone book. Yet others see them as very fast, very expensive VW Beetles with their quirky, tail-heavy handling, limp-wristed shift linkage,

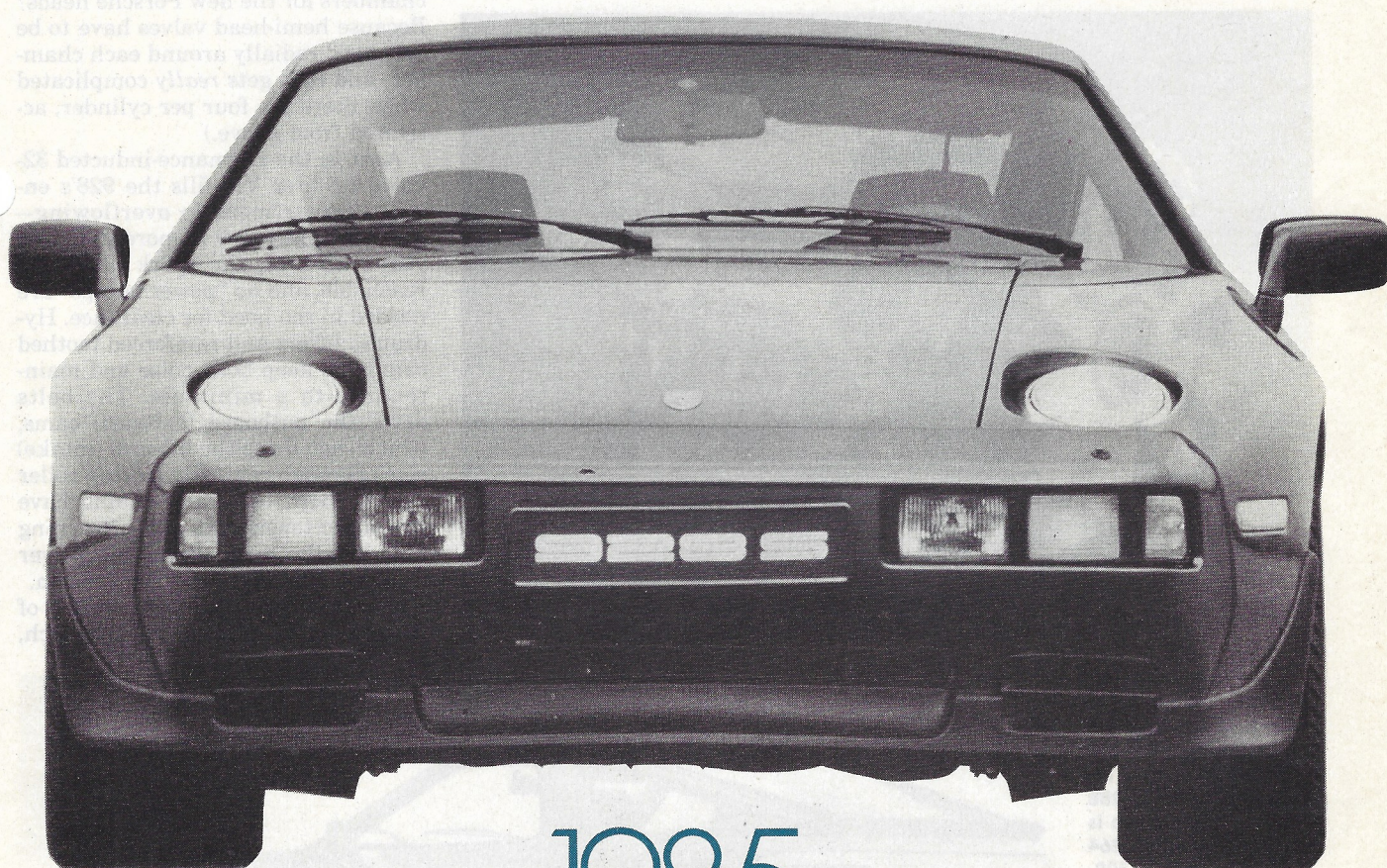
antideluvian heating and ventilation, and generally dated design. Such critics certainly prefer the slower but vastly more modern, more affordable, and beautifully balanced front-engined 944s.

Oft forgotten in this endless debate is the 928, the V-8-powered front-engined Porsche, the state-of-the-automotive-art Porsche, the *flagship* Porsche, introduced in 1978 as eventual successor to the beloved but aged 911. For a couple of possible reasons, few Porschephiles have warmed up to this one, and only a little over 30,000 have been built in its seven model years of existence.

It may be the styling. Today's 911 Carrera is classic, aggressive, and purposeful in appearance; and the 944 is a broad-shouldered, masculinized rendition of the lovely 924. But

the 928 comes across as a little too round and fat. Its unlined eyes gaze longingly at the heavens by day, then flip up to frog-like proportions by night. Viewed from the rear, it looks as bottom-heavy as a vacuum cleaner bag that should have been changed months ago. Its window shapes and roofline look like a slightly flattened AMC Pacer's.

Then there's the identity crisis. The V-8 928 was supposed to be the baddest, meanest Porsche on the block, worthy competition for exotic Ferraris, Loti, and the like. Yet its luxurious appointments, features, and pricetag aligned it directly against the Rodeo Drive cruiser Mercedes SL, indirectly against the 4-seater SLC, BMW CSi, and Jaguar XJ-S. And though more expensive, it's never been faster than Porsche's



1985 Porsche 928 S

Thirty-two valves, four cams, 150 mph +

by Gary Witzenburg

You can love it or hate it, but you can't question the performance.

own 911, the car it was supposed to replace.

Styling and image aside, however, the 928 is a marvelous piece of engineering. Its engine, radiator, clutch, and transaxle housings, much of its suspension, and many other components are lightweight aluminum, as are its doors, front fenders, and hood. Its rear-mounted transaxle helps achieve near fifty-fifty weight balance, and its patented Weissach independent rear suspension (named for Porsche's famous research center and test track) features unique "double-jointed" lower control arms that toe the rear wheels slightly in for outstanding stability under braking and deceleration.

Now, for 1985, the 928 S finally achieves true flagship status thanks to a marvelous new 4-cam, 32-valve version of that all-aluminum V-8 en-

gine. Displacement increases to 5.0 liters from last year's 4.7 (via a 3mm bore increase to an even 100), compression to 10.0:1 from 9.3, horsepower to 288 from 234, and torque to a healthy 302 from 264 lb-ft.

A new oscillating induction system (those big cast magnesium tubes on top) creates a minor supercharging effect (valves slamming closed on one side make shock waves that bump extra fuel/air mixture into open intakes on the other) with resonance at 2700 rpm for strong low-to-mid-range torque. A hot-wire flowmeter measures induction air mass for precise control of the Bosch LH-Jetronic port injection according to a 256-point "map" of load and rpm combinations. Two separate 4-cylinder ignition systems (controlled by a single unit) give perfect ignition at those 256 points as well as optimum start-up and cold-

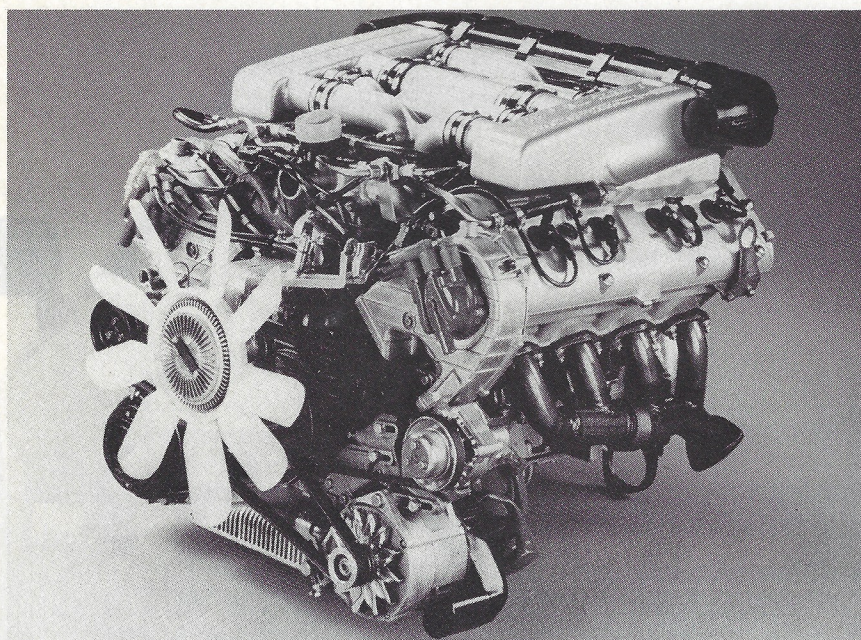
weather firing.

Even the three-way catalytic converter has been overhauled. It's now a dual system with 38% more frontal area for reduced back pressure, more insulation to ensure sufficiently high gas temperatures (for conversion) at low speeds and loads, and increased platinum and rhodium content for more complete conversion.

Obviously, doubling the number of valves and cams adds cost, complications, bulk, and weight to an engine. But it also increases flow—and therefore power and efficiency—compared to a conventional 2-valve system. It permits a central spark plug in a tent-shaped ("pentroof") combustion chamber, the next best thing to the revered hemispherical chamber. And it gives higher operating rpms since smaller valves and their gear have less mass to move. (Why *not* hemi chambers for the new Porsche heads? Because hemi-head valves have to be arranged radially around each chamber, and that gets *really* complicated when there are four per cylinder, activated from above.)

As it is, the resonance-inducted 32-valve 5.0-liter V-8 fills the 928's engine compartment to overflowing—but it weighs just 9 lb more than last year's 4.7-liter, the spark plugs are reachable, and no "power bumps" are needed in the hood for clearance. Hydraulic lifters and reinforced toothed cam belts keep both noise and maintenance to a minimum. The belts drive the outboard (exhaust) cams, which then drive the inboard (intake) cams through centrally located roller chains. Both belts and chains have hydraulic tensioners, and a warning light on the dash alerts the driver should a cam belt ever lose tension.

Porsche's Paul Hensler, director of powertrain development at Weissach,



The 4-valve-per-cylinder V-8 has been punched out from 4.7 liters to a full 5.0 liters. Power goes up from 234 hp to 288 and torque is increased from 264 lb-ft to 302.



The 928's exterior remains largely unchanged.

says the 928's 4-valve technology is derived from that of the awesome 956 racers that have dominated international endurance competition since finishing 1, 2, 3 at Le Mans four years ago. "For the 1981 season," he explains, "the World Long-Distance Endurance Championships set strict allocations on fuel but allowed unlimited displacement and turbocharger boost for engines. The technical implications were clear. The more fuel savings we could achieve in engine design, the higher the horsepower we had for racing."

Redevelopment of the V-8 began with a series of single-cylinder models used for setting the design and development parameters. Once in 8-cylinder form, the 4-valve design underwent exhaustive testing: 600-hour dynamometer runs, 50,000-mile durability road tests (7500 of those miles at top speed), winter testing in the U.S., Canada, and Sweden, summer testing in Los Angeles and Death Valley, high-altitude testing on Mt. Evans, and a whole lot more.

The result is a sophisticated 4-valve V-8 that generates 54 more horsepower than last year's 2-valve version, yet should be trouble-free and, except for routine (15,000-mile)

oil, filter, and spark plug changes, virtually maintenance-free. It lowers the 5-speed 928's 0-60 performance to 6.1 sec (versus the '84's 6.8), according to Porsche, and raises its top end to a claimed 155 mph. Even with the 4-speed automatic, they tell us, it should do 152—no insignificant feat considering the car's 3400-lb weight

and less than aero-efficient shape. The 5-speed's quarter-mile acceleration is lowered a full sec to 14.2, the automatic's 0.6 sec to 14.9. EPA economy (not final at press time) was estimated at about 17 mpg city, 28 highway for the 5-speed (18 city for the automatic), up from 17/24 for 1984.

We had no opportunity to verify the performance numbers during our short non-instrumented test drive on public roads near Phoenix, but we did see an easy indicated 140 mph with the 5-speed before having to back off. At that point, both speedo and tach were still climbing slowly but steadily in the very tall overdrive 5th, and the car felt amazingly steady, stable, and firmly glued to the road.

At lower speeds, this engine will just about suck your socks off at any rpm in any gear. A look at the torque and power curves reveals why: Except for a pronounced peak where the oscillating induction system resonates at 2700 rpm, the torque line is nearly flat between 1000 and 6000 rpm. Except for a noticeable bump at that same 2700 rpm, the power graph climbs steeply and nearly straight to its 5750-rpm pinnacle. At 6400 rpm, a rev-limiter cuts off the fuel.

There was little sensation of speed

DATA

1985 Porsche 928 S

POWERTRAIN

Vehicle configuration.....Front engine, rear drive
Engine configuration.....90° V-8, DOHC, 4 valves
per cylinder
Displacement.....4957 cc (302.0 cu in.)
Max. power (SAE net).....288 hp @ 5750 rpm
Max. torque (SAE net).....302 lb-ft @ 2700 rpm
Transmission.....5-sp. man.
Axle ratio.....2.20:1

CHASSIS

Suspension, f/r.....Independent/independent
Brakes, f/r.....Disc/disc
Steering.....Rack and pinion, power assist
Wheels.....16 x 7.0-in. alloy
Tires.....225/50VR16

DIMENSIONS

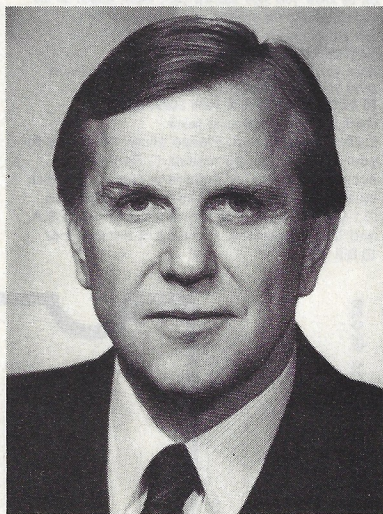
Wheelbase.....2500 mm (98.4 in.)
Overall length.....4463 mm (175.7 in.)
Curb weight.....1527 kg (3366 lb)
Fuel capacity.....85.9 L (22.7 gal)

Porsche Cars North America: Captain Cook Takes the Helm

As any good Porscheophile knows, the lucrative U.S. Porsche business changed hands last September 1. The parent company, wanting more direct control, yanked it away from long-time importer/distributor Volkswagen of America and set up its own operation under the Porsche Cars North America label. Following an ill-considered attempt at reorganizing the dealer franchise system that created nothing but anguished screaming and a barrage of lawsuits, things are more or less back to normal and rolling along as the 32-valve 928 S hits the streets.

All the suits have been dropped, dismissed, or settled, and all 326 previous dealers have signed new franchise agreements. A 100,000-sq-ft main distribution center and parts building is operational in Reno, Nevada, and a second one is under construction in Charleston, South Carolina. Parts delivery to dealers is now on a weekly basis (not monthly as before), and a new Porsche Dealer Express (PDX) air freight system guarantees delivery in seven days or less, direct from Stuttgart, of any part not stocked in the Reno or Charleston centers.

Employment is over 150 (including



40 field staff personnel) of a projected 280, technical training of the service field force is well underway, and PCNA has taken over the handling of all customer complaints. A computer link with dealers, successfully tested in 11 western locations, is being installed nationwide, and two special service technicians can be mobilized to assist dealers and customers anywhere in the U.S. in cases that prove

difficult to handle locally.

At the reins as president and chief executive officer is 56-year-old John A. Cook. An affable Canadian with a sales and marketing background, Cook began his carbiz career at General Motors of Canada, moved to Volkswagen, and eventually rose to head the Porsche+Audi Division of VWoA. Prior to his current PCNA position, he spent eight and a half years as president and chief executive of BMW of North America, Inc., from its beginning until early 1983 when it reached \$1.5 billion in size.

During the November press introduction, Cook jokingly predicted "a new kind of gray market" when European Porsche fanciers find that the 4-valve engine, at least for now, is intended for the U.S. only. (This is Porsche's answer to our tough emissions and fuel economy standards in combination with the demand for higher performance.) Given the current exchange rates and the fact that the 2-valve European 928 S engine is still more powerful, we doubt whether many American versions will find their way back across the Atlantic. But the Porsche flagship's new level of performance certainly should make it easier to sell here.

—G.W.

