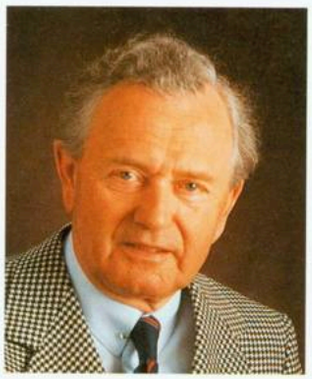
924 S



I'm often reminded that, at Porsche, our engineers all have one overriding trait: we love building cars that are entertaining to us personally. Yes, we have amassed decades of developmental experience in all fields of automotive technology at our design facilities in Stuttgart and Gmund. But it is only from such experience that we are able to design sports cars achieving our personal goal: that of "driving in its most beautiful form."

Not so long ago, we were unsure that such a personal concept would be commercially feasible. Would it attract enough driving enthusiasts to justify a production series? Even for the relatively small numbers required for Porsche production? Determined, we rededicated ourselves to attaining our personal goals, without bias for any preconceived concept.

Excellence would be our sole criterion. That's why our design experience today includes vehicles with water-cooled, front-mounted powerplants as well as those with the traditional Porsche air-cooled rear-engine configuration.
Today, Porsche drivers continue to be enthusiastic about our rear-engine models . . . and there is a growing following for our newer transaxle vehicles. I myself often find it hard to choose which of my Porsches to take!

It has always made me proud when we at Porsche have set new standards in automotive engineering with new designs, regardless of the concept on which these new standards were based.

"Driving in its most beautiful form" continues to find new expressions. For some drivers, it means simply a personal code of driving behavior and safety. For others it is a unique blend of quality, performance, styling and comfort. For all, it is special.

I take great personal satisfaction in noting that Porsche has been able to set new standards in all of these areas. While at the same time reaching out for new dimensions in the sheer exhilaration of driving.

For growing numbers of enthusiasts, "driving in its most beautiful form" means driving a Porsche.
I assure you that we are dedicated to sparing no effort to see that it remains so.

Ferry Porsche


924S

Driving in its purest form: the 1987 Porsche 924 S.

Porsche is renown for sports cars that clearly set the standard for driving exhilaration, quality, comfort and head-turning style. The new Porsche 924 S clearly is no exception.

One of the most popular Porsches in Europe returns to the U.S.

Introduced to the U.S. in the summer of 1976, the Porsche 924 became a favorite of many sports car enthusiasts. The 924 was the first of a new line of liquid cooled, front engine/rear transmission ("transaxle") Porsches offering neutral handling characteristics. In 1981, the Porsche 944, with its new, more powerful 2.5 liter engine, replaced the 924 in the U.S. While many people cheered the 944's silky new Porsche-designed engine, many also missed the 924's less aggressive lines ("the pretty Porsche", they lamented). Porsche has continued offering the 924 in Europe all along, upgrading the car each year with many detail changes – a practice the factory insists upon for all Porsches.

Now Porsche brings the 924 S back to America: the same popular 924 body style, but with the 944's superb Porsche-assembled engine, producing 147 hp. An engine and chassis combination allowing the 924 S owner to experience the exhilaration of full Porsche performance. Performance such as accelerating from a standing start to 60 mph and braking to a full stop – all in less than 12 seconds!

All the ownership advantages you would expect in any Porsche.

By selecting a Porsche 924 S, you also select entry into the Porsche family. As a new Porsche owner, you, too, are entitled to enjoy the same superior quality, driving pleasure and service reliability as one who selects any other Porsche model, whether it be the famed, classic 911 Carrera or the sophisticated, elegant 928 S. Like every Porsche, the new 924 S was designed expressly to convey the highest standards of excellence in its power, engineering and economy. Its sleek design makes the 924 S stand out from its competition. When you experience the 924 S, you'll find it to be every inch a true Porsche... from its proven 2.5 liter engine to its superbly balanced transaxle configuration, offering outstanding roadability under all road conditions. Its inherent roadability and optional automatic transmission make the 924 S the most effortless Porsche to drive well. Its design features increase safety, both active and passive. The product of nine continuous years of refinement from the Porsche 924, the new Porsche 924 S is a thoroughly contemporary automobile... and a consistently favorable reflection of you, its owner.

A new ownership experience from the most attainable Porsche.

Satisfying power, comfort and responsive handling are common traits of all Porsches. It is these traits, crystallized and combined in ideal synthesis, that make the 924 S simply unique in its class. Comprehensive research and development in all aspects of car construction have created a Porsche that is aerodynamically "slippery" – yet in classic and good taste. In good taste, because the 924 S impresses by its clean, timeless elegance. Harmonious lines instead of hard profiles, gentle curves rather than energy-consuming angles characterize the external individuality and lasting value of this most attainable Porsche. A Porsche with direct ancestry to the most dedicated and successful participation in motor racing in the history of the automobile. And yet, a high performance Porsche "packaged" around a lush, rich interior. Elegant fabrics are fitting complements for this newest addition to Porsche's established traditions.

Longlife assurance from unique Porsche technology.

An integral part of every Porsche – and, again, the 924 S is no exception – is the longlife concept: the practical application of technology to assure that this Porsche, too, shall survive the demands levied by time and rigorous use. For example, regardless of the environment where you live, your new 924 S is protected by Porsche's 10 year anti-corrosion warranty – the best in the industry. New technologies such as the hot dip galvanizing process that makes this revolutionary warranty possible and the use of lighter, more durable materials were integrated into the Porsche 924 S's design as they became available to this most innovative sports car manufacturer.

Fulfilling the demands of our time.

From the very outset, the Porsche 924 represented a vanguard in automotive technology. The new 924 S continues to fulfill the demands of our times for increased safety and comfort. For a longer life span. For more miles per gallon. And all the while, satisfying the Porsche customer's desire for higher performance.


924 S


924 S

Aerodynamics and all-around performance.

The aerodynamic qualities of the Porsche 924 S go far beyond its impressive appearance. The clean, functional, aerodynamically efficient design has a significant influence on the fuel consumption, performance and handling characteristics of this high performance sports car.

More than just "low drag".

Porsche engineers know that the currently popular preoccupation with "low drag" is misplaced; this is only one factor in achieving a slippery profile for effortless, economical highway performance. Porsche designers sought instead to reduce total wind resistance, which in turn reduces fuel consumption and increases performance, through a combination of the drag coefficient and the total frontal area. So equal attention was focused on both factors. The result is a low 0.33 drag coefficient with a frontal area of 17 sq. ft., combining to produce outstanding fuel economy for a 134 mph automobile: 21 estimated mpg, 27 estimated mpg highway (manual transmission)*. The 924 S's acceleration is equally impressive: 0 to 60 mph in 8.3 seconds.

Technically precise management of "lift".

"Lift" is an aerodynamic phenomenon that affects a car's handling, because it lightens the load on the front wheels steering the car, and on the rear driving wheels. Because lift increases with speed, reducing lift was another design objective for the Porsche 924 S. Porsche brought extensive wind tunnel studies on widely differing types of race and production cars to the task for the 924 S. Results of these wind tunnel tests helped Porsche engineers shape and fit spoilers to the front and rear of the 924 S for the most efficient airflow distribution. The result is a remarkably responsive, directionally stable, safe handling sports car.

* 1986 EPA estimates. Compare these estimates to the "estimated mpg" of other cars. Your actual mileage will vary with speed, weather and trip length. Highway mpg will probably be less.

Sophisticated implications from wind tunnel research.

Aerodynamic research conducted on the 924 S allowed Porsche engineers to go beyond merely calculating wind resistance. It meant they could establish specific airflow patterns over the body, disclosing different pressure zones. By matching pressure zones with the ideal requirements for air intakes, it was possible to compute precisely the size and position of details such as air intakes for engine cooling, and fresh air and exhaust circulation requirements for the interior of the car.

In pursuit of functional efficiency.

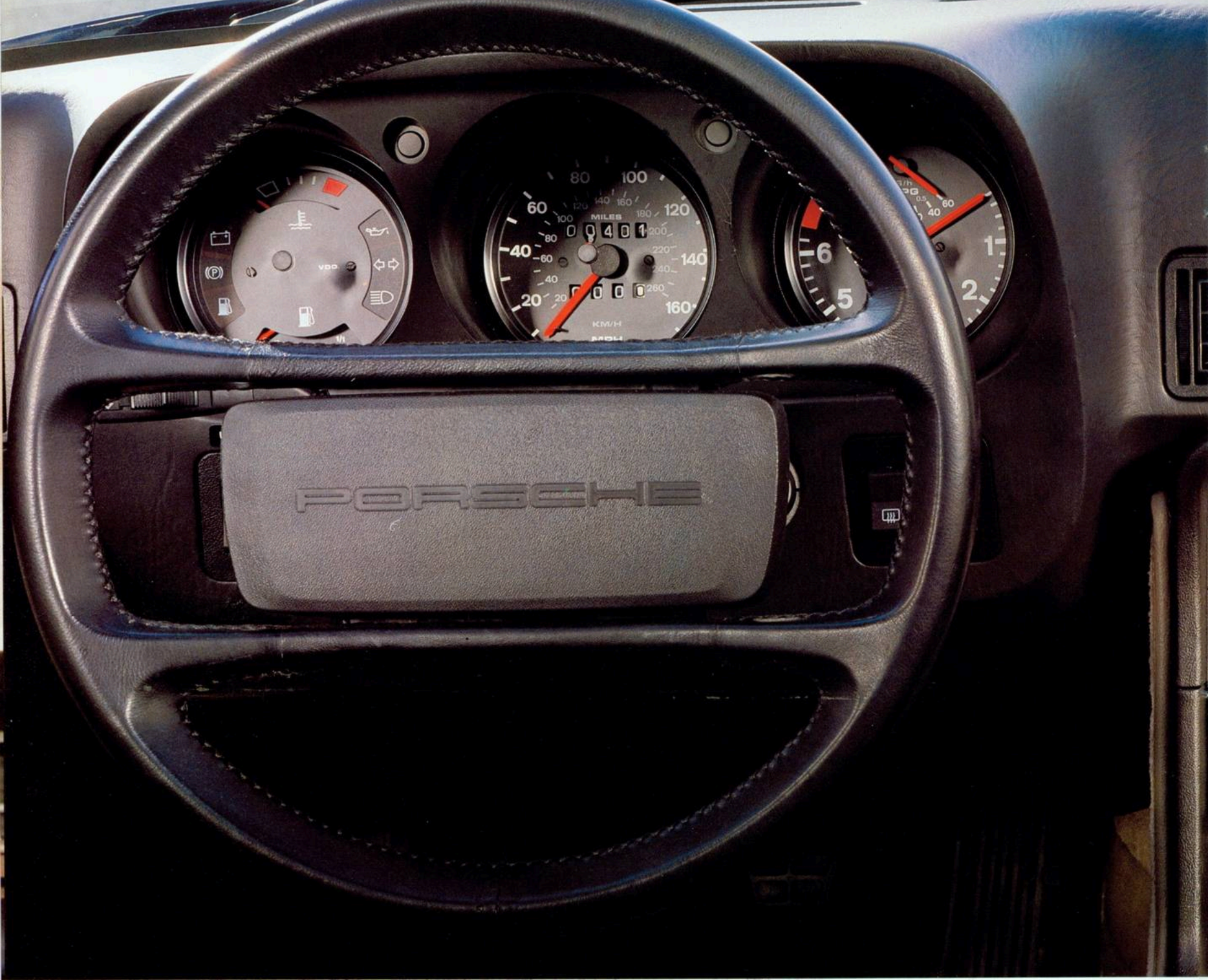
A characteristic body feature of the Porsche 924 S design is the large pressure difference between the cooling air intake and the underside of the engine compartment. This pressure difference causes a strong air flow through the radiator, making the electrically driven booster fan necessary only under very high thermal loads. Wind tunnel tests further dictated that the air intake for the passenger compartment be positioned in the high-pressure area in front of the windshield. Its outlet is ingeniously situated in the low-pressure zone between the front fenders and the doors. The air collected in front of the windshield is diverted to the sides where it flows over the fenders to the rear. The result is that dirt thrown up by the front wheels is forced outward and down, away from the upper body sides, door handles and locks – all through advanced engineering!

Even the recessed rain channels were developed in the wind tunnel.

The 924 S's rain channels were designed to meet criteria beyond merely preventing water from dripping inside the vehicle when the doors are open. The rain channels also prevent wind noise, and help keep the side windows clean. Further results of wind tunnel tests provided data on the forces generated by the wind stream on moveable parts such as the doors, side windows and hood. This led to various design measures that further helped to minimize wind noise.

Exclusivity: a Porsche definition.

Exclusivity in the true Porsche tradition means individuality and elegance in the quality of each Porsche. One example mentioned earlier is the 924 S's galvanized body: It is so well protected that Porsche remains the only car manufacturer offering a 10-year limited anti-corrosion warranty for the entire body shell, without the need for additional treatments, other than ordinary maintenance. Another example is the number of manufacturers who have rushed to imitate Porsche styling and engineering details, but have yet to equal the quality and overall "rightness" of the way such details are integrated into the final product.



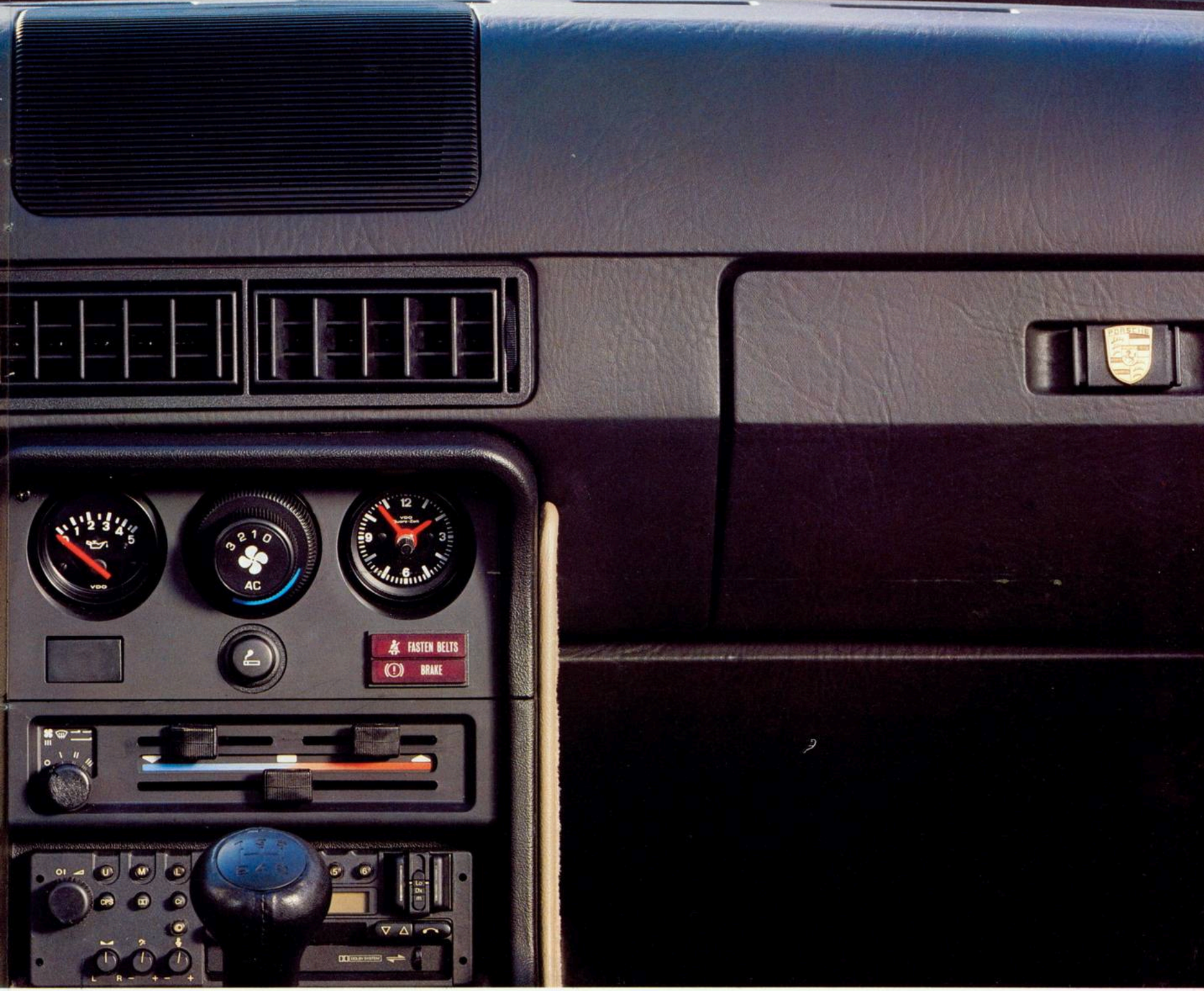
The information system and visibility.

Information displayed as clearly as its functions.

While electronics control many of the operating functions in the Porsche 924 S, restraint and good engineering were applied here, too. Because this Porsche, like all Porsches, is totally devoid of flashy electronics that might potentially distract the driver from his or her most important function: driving a high-performance sports car.

Concentrating on essentials.

The information system in the Porsche 924 S is purposely limited to important driving functions. Displays for these functions are arranged in the main instrument cluster



directly in the driver's field of view. Red indicators and white letters on a black background in clearly defined display areas ensure easy reading by the driver.

In addition to the speedometer, tachometer, coolant temperature and fuel gauges, the Porsche 924 S's instrumentation includes a quartz clock and voltmeter, the latter clearly visible in the center console.

Porsche engineers recognize that clear visibility in every direction is most important. A lightly tinted safety glass windshield, cleaned by large wipers, ensures clear forward visibility in all weather conditions. The wiper pivots are configured to prevent the blades from lifting at high speeds. At night, the driver can rely on bright, halogen headlamps, pivoted out from

motors. A good view to the rear is assured by the day/night rear view mirror, and a large rear window with electric defogger. A rear window wiper is available as an option. The interior rear view mirror is mounted directly to the windshield on a short mount to dampen vibration. The exterior mirrors are electrically adjusted and heated when the rear window defogger is turned on.

Making it naturally easy to drive: "ergonomics".

High performance technology can be enjoyed only if it is easy to handle and readily mastered. With this guiding philosophy, Porsche developed passenger compartment design criteria for the 924 S based on continuing research in ergonomics – the science of control placement – and relevant experience gained in motor racing. The resulting achievement is a degree of personal comfort that is delightfully, intelligently coordinated for maximum operating convenience.

The driving environment.

The driver's environment in the Porsche 924 S was designed to be compatible with individual driving habits and the driver's shape and size. The goal was to permit the driver to concentrate on traffic without being distracted. The driver's environment is thus arranged to prevent errors and conserve the driver's energy. Pedal positioning and seat adjustment contribute to safe and effortless driving by optimizing the movements and forces required to operate the clutch, accelerator and brakes. Such ease of operation is an important prerequisite for the exact, confident interplay of those elements that are so important for the safe operation of any automobile. So, too, are the information, visibility and seating philosophies. That's why all instruments, switches and controls are logically designed and arranged. The 924 S is one sports car that feels immediately like it was custom-designed to fit the driver's every need. Every item is within easy reach, while key elements – the ideally pitched, well-designed steering wheel and ergonomically shaped, stubby gearshift lever or automatic selector – "fall readily to hand". The end result is a Porsche that is safer and more fun to drive.

Orthopedically designed seating.

The carefully designed seats for the driver and passenger in the Porsche 924 S meet two important ergonomic requirements: optimum seating position and information transmission to the driver. The driver's seat provides suitable fore and aft adjustments for body size and individual driving habits.

The anatomically correct design of both front seats ensures relaxation even during long trips, and firm lateral support when driving through curves. The elaborately supported driver and passenger seats compose a carefully matched functional unit compatible with ride factors deriving from the 924 S's suspension, stabilizer bars and shock absorbers. The shape and upholstery of the seats assist in maintaining their occupants in place, regardless of driving conditions. Integrated headrests make height adjustments unneccessary.

Heating and ventilation.

Rear seats: tailored space availability.

As a true sports car, the Porsche 924 S naturally has less rear seat space than a sedan. However, two additional seats in the rear are more than just "jump seats". Fitted with lap belts, they offer comfortable space for children and, on short trips, even for adults. The front seatbacks fold well forward to ease entry into the rear compartment. When the back seats are not needed for passengers, they have another very welcome additional use: the rear seatbacks flip down, greatly increasing the luggage space. In this position, even bulky objects can be carried easily.

A comfortable interior climate.

A high capacity heating and ventilation system quickly brings the 924 S's passenger compartment to the desired temperature, regardless of driving speed. A blower fan, operating at low speed whenever the ignition is switched on, ensures controlled ventilation in the passenger compartment. The interior climate is also assisted by the standard equipment tinted glass and an optionally available sunroof. The sunroof is electrically adjustable, lockable, and can be completely removed. Air conditioning is standard. The system acts as a dehumidifier during cold, damp weather, thereby preventing window fogging.

A stereo radio/cassette player: Sound system to Porsche standards.

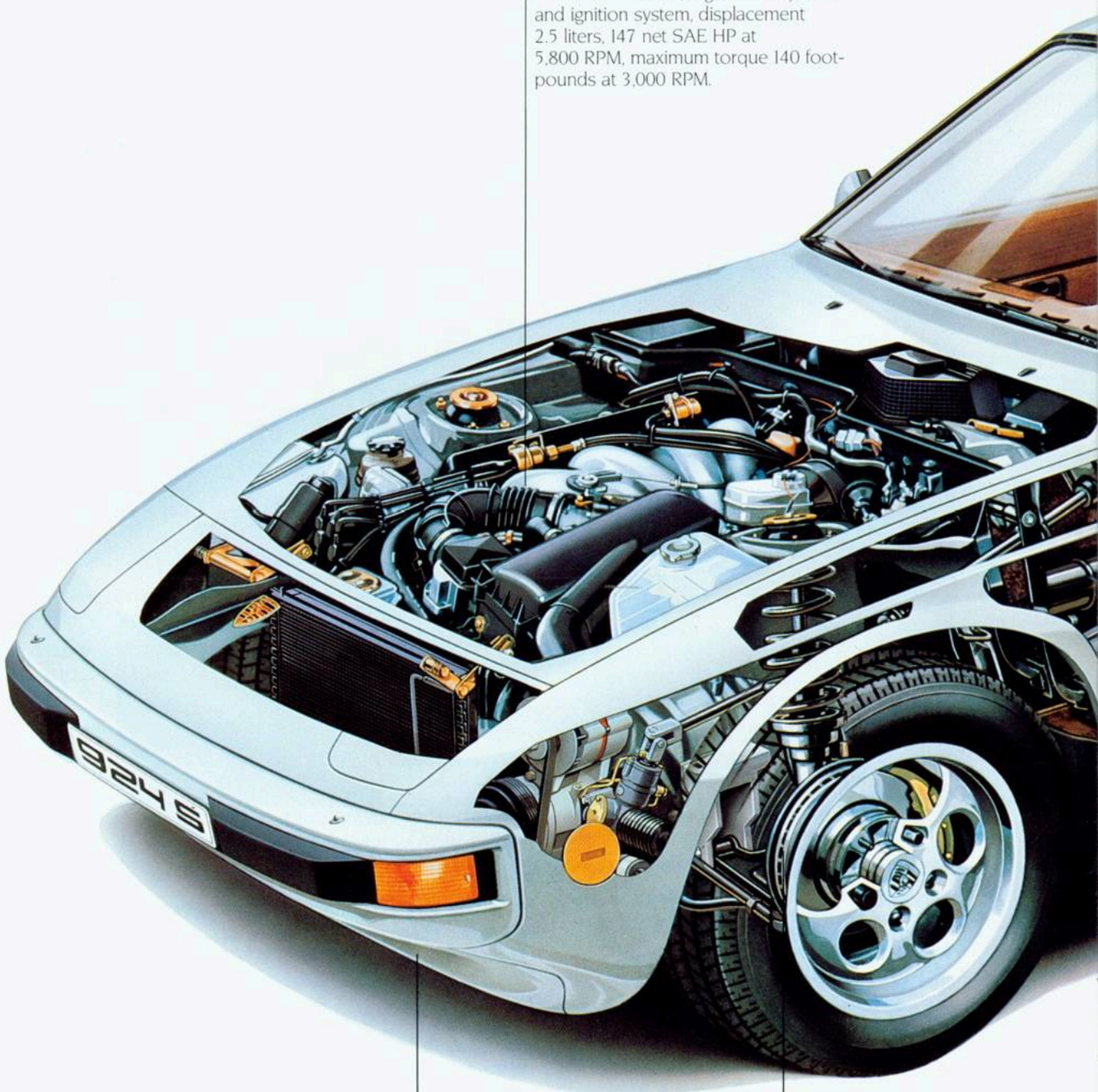
A digital stereo cassette radio optionally available for the Porsche 924 S is made by Blaupunkt and incorporates state of the art technology. It is equipped with an integrated fader and electronic search capability.

Fully equipped to accept your sound system.

As standard equipment the Porsche 924 S is fitted with four stereo speakers and an antenna.

A slimline cassette storage box with a coin compartment can be optionally integrated into the center console.

4 cylinder, water-cooled, alloy engine with 2 counter-balance shafts to minimize vibration, digital fuel injection and ignition system, displacement 2.5 liters, 147 net SAE HP at 5,800 RPM, maximum torque 140 foot-pounds at 3,000 RPM.

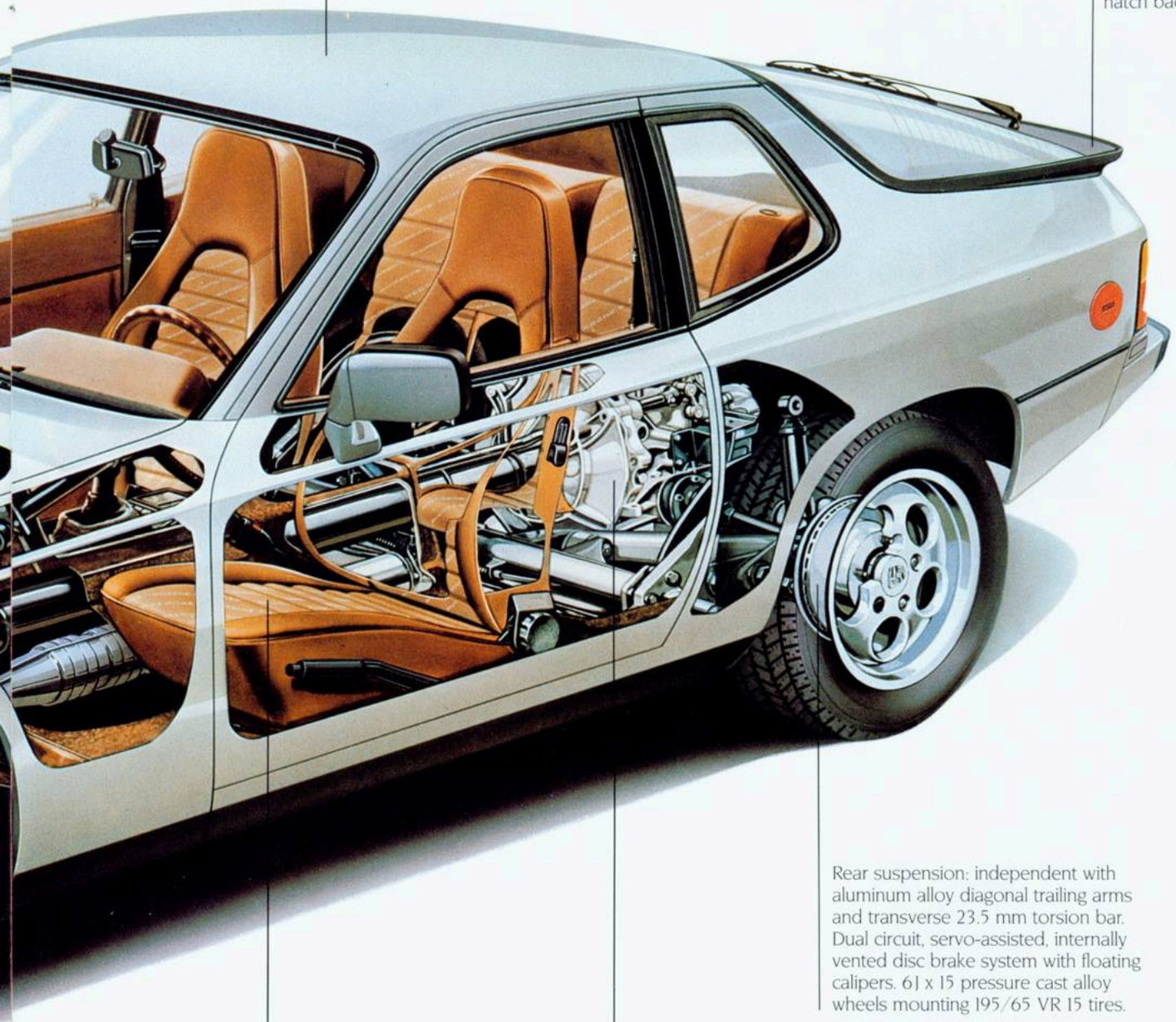


Integrated front spoiler

Front suspension: independent rack and pinion steering.
McPherson struts and coil spring suspension, 20 mm thick stabilizer bar.
Dual circuit, servo-assisted, internally vented disc brake system with floating calipers. 6J x 15 pressure cast alloy

Double-sided zinc-galvanized steel body. Aerodynamic body shape results in a low drag coefficient 0.33, frontal area 1.76 m^2. Top track speed 134 mph, acceleration 0–60 mph 8.3 seconds (manual transmission).

Deformable rear spoiler mounted to hatch back to reduce lift at high speed.



Rear suspension: independent with aluminum alloy diagonal trailing arms and transverse 23.5 mm torsion bar. Dual circuit, servo-assisted, internally vented disc brake system with floating calipers. 6J x 15 pressure cast alloy wheels mounting 195/65 VR 15 tires.

Ergonomically optimized seating design. Air conditioning with tinted glass and power windows.

Rear mounted 5-speed manual transmission rigidly connected to the engine by a rigid torque-tube.


PORSCHE
Zündfolge
1-3-4-2
K2

The powerful heart of the Porsche 924 S.

With a displacement of 2479 cc's and a compression ratio of 9.7:1, the Porsche 924 S engine generates a power output of 147 hp at 5800 rpm. Maximum torque of 140 foot-pounds is achieved as low as 3000 rpm, clearly demonstrating the exceptional flexibility of this powerplant. An automatic fuel injection cutoff is activated at 6520 rpm to guard against overreving the engine.

Impressive engine characteristics for impressive performance.

From a standing start, brisk acceleration through all five gears indicates the true sports car character of this four cylinder engine. The Porsche 924 S accelerates from 0 to 60 mph in 8.3 seconds (manual gearbox), continuing rapidly to a top speed of 134 mph on the track.

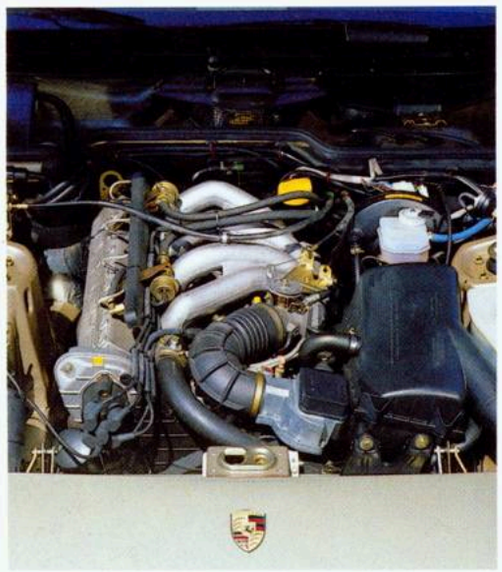
Rapid trottle response is not restricted just to high engine rpms. The torque generated at lower rpms provides sufficient power at any time even when driving economically at constant low engine speed. The result is uncompromised driving pleasure, with sufficient safety reserves for emergency situations or passing.

Innovative engine technology from Porsche.

As they did when designing the revolutionary engine for the 928 S, Porsche engineers again broke new ground in designing the engine destined for the Porsche 924 S. Both pistons and engine block are fabricated of aluminum alloys. Compared to more conventional engines using cast iron cylinder blocks, the aluminum alloy of the Porsche cylinder block has the same thermal expansion coefficient as the pistons. The result is that the traditional problem of tolerance between the piston and cylinder block ceases to be a problem. The reduced clearance between piston and cylinder wall permits the engine to fully utilize all the energy available in the fuel air mixture, and to run more smoothly and economically with lower emissions.

High-speed balance shafts for inherent smoothness.

The 2.5 liter displacement of the Porsche 924 S engine makes it one of the largest four-cylinder engines in use today, with potentially significant vibration problems. Yet automotive journalists have reported it to be as quiet and smooth as a six-cylinder engine. Porsche achieved these desirable characteristics via a pair of high-speed balance shafts mounted in a vertically staggered arrangement. The shafts operate at twice the engine speed, rotating in the opposite direction, thus eliminating the secondary vibrations that have long been considered unavoidable in large-displacement four-cylinder engines. Further, all components driven by the crankshaft are dynamically and statically balanced to ensure quiet and vibration-free running at all engine speeds.



Engine technology in detail.

The Porsche 924 S engine is – as all modern engines should be – powerful, yet economical, with low emission values, durable and dependable.

Maintenance-free valves.

Because less vibration means quieter running and less wear, the 924 S engine incorporates special damping measures. For example, the valves are operated by a belt-driven overhead camshaft. Vibration of this drive belt, as well as the belt driving the balance shafts, is reduced through damping and tensioning rollers, and through careful design even of the „teeth" on the rubber-composite belts.

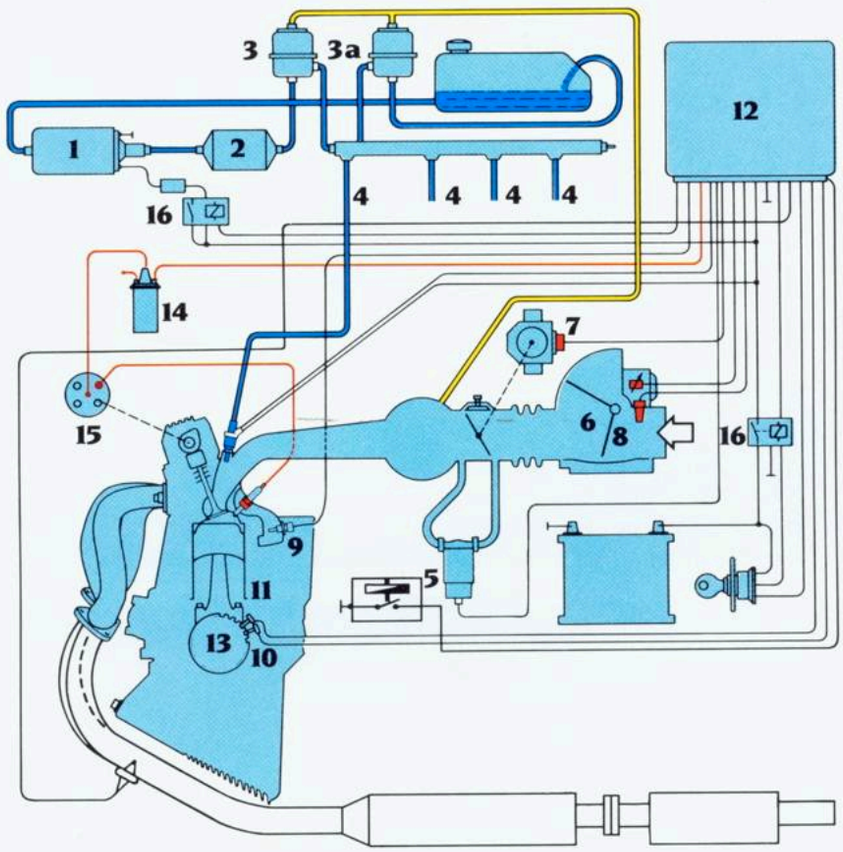
The camshaft opens and closes the valves by means of self-adjusting, hydraulic cup-tappets. An ingenious rotating system in the cup-tappets automatically actuates a new adjustment process following each valve opening. This ensures that valve play is kept virtually to zero and that adjustments will rarely be required. Wear of the valves or the valve seats is automatically compensated for, contributing to extended intervals between servicing.

The valve train receives oil under pressure from the engine oil pump. The 924 S's pressurized lubrication system guarantees optimum lubrication at every lubrication point, even while driving through extremely fast corners.

The digital motor electronic system.

Porsche is one of the few important car manufacturer in the world who has produced only fuel injection engines for more than 10 years. The Digital Motor Electronics (DME) fuel injection system, the most advanced system of its type, controls all elements crucial for ensuring complete, perfect combustion. It delivers the correct mixture, in the optimum cylinder fill required by current operating conditions at that instant. The system also ensures that the transistorized ignition system delivers spark at exactly the right instant. Engine pressure and temperature values are automatically factored into every command executed by the system.

The advantages of the digital motor electronic system are fully exploited in the Porsche 924 S to provide an optimum combination of performance and economy. Precise ignition timing reduces fuel consumption during starting and warmup, while the optimized mixture setting also reduces fuel consumption under full load conditions. Idling speed is automatically controlled by an electronic idle speed regulator whenever accessories such as lights or the air conditioning compressor are turned on or off.



DME system.

1 Fuel pump
2 Fuel filter
3 Fuel pressure
3a Fuel pressure regulator
4 Fuel injection line
5 Auxiliary air regulator
6 Idle regulator
7 Throttle switch
8 Intake air temperature sensor
9 Engine temperature sensor
10 Reference sensor
11 RPM sensor
12 Control unit
13 Flywheel
14 Ignition coil
15 Distributor
16 Control unit/fuel pump dual relay

Fuel supply

Vacuum lines

Ignition circuits

The cooling system.

The 924 S engine incorporates a closed cooling system supported under high thermal loads by a temperature-controlled electrical fan. An oil cooler, integrated into the water cooling system, and the low drag factor of the accessory units additionally permit time and cost saving reductions in maintenance. And contribute to the recommended 15 000 miles inspection and oil change intervals.

Environmental protection.

Porsche engineers have spent many years developing environmentally acceptable technologies for the cars of the future. Much of this knowledge is evident throughout the Porsche 924 S. Refinement in the engine's technology has resulted in, among other things, a Porsche 924 S capable of meeting all U.S. emission requirements via a catalytic convertor.

Precise steering and braking systems.

The precise and spontaneous steering characteristics of the Porsche 924 S are based on the long-proven rack and pinion system. This system provides optimum operating efficiency and excellent contact between the steering wheel and tires. The steering system operates from lock to lock with virtually no play.

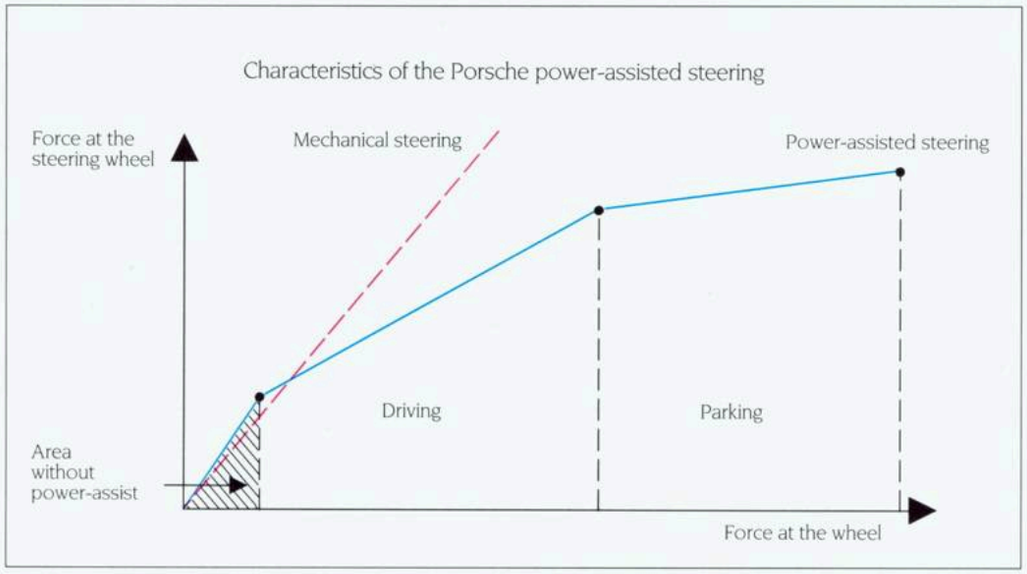
The 924 S's power-assisted steering.

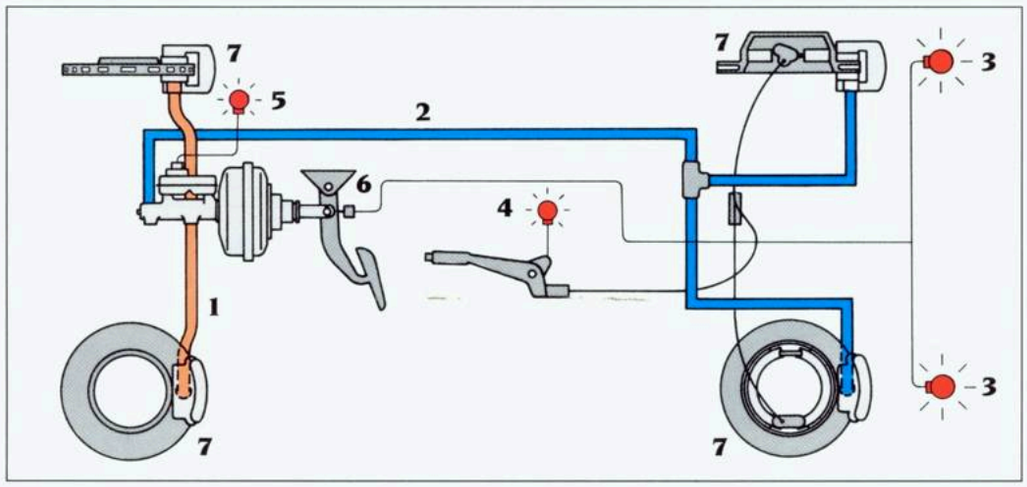
The Porsche 924 S's progressive power-assisted steering system makes parking effortless and conserves the driver's strength while negotiating curves and winding routes. The power assist has purposely been applied with more restraint than is common with many other power steering concepts. The 924 S driver thus is provided with full sensitivity for everything that occurs between the road and the 924 S's tires. The result is that limiting characteristics of the vehicle and slippery-surface performance are transmitted fully and accurately to the driver.

Automatically adjusting power-assisted steering: a closer look.

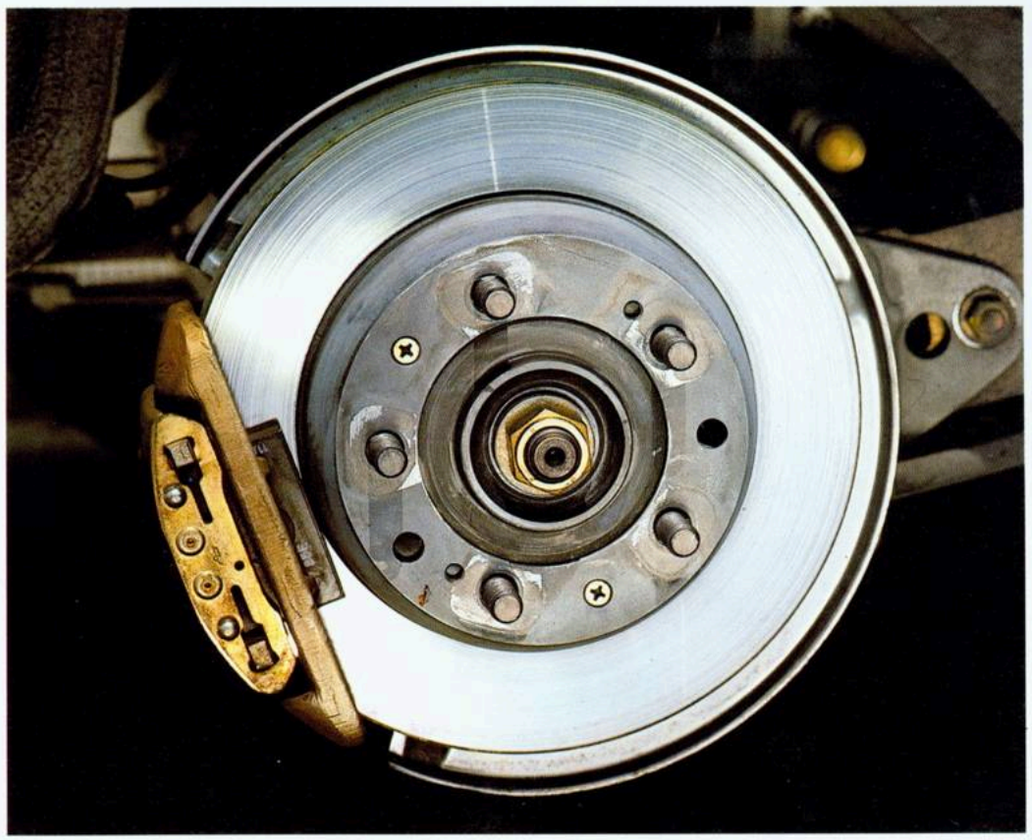
Full power steering assistance is available when maximum torsional forces are present at the front wheels. The amount of steering wheel pressure necessary to steer when driving slowly or when parking is limited to a comfortable level. As engine rpm's increase, the steering oil pump ensures that the power assist is reduced slightly. When driving through fast corners it again automatically adjusts itself to the lower level of torsional forces. This level of power assistance sophistication gives comfortable steering while ensuring exact feedback to the driver regarding road conditions and the response of the 924 S to the driver's inputs.

When driving straight ahead with lower torsional forces, the Porsche 924 S's power system works just like its mechanical equivalent – the precise steering characteristics guarantee a trouble-free straight line stability and an optimum feel for the center point: the awareness of the steering wheel's center position.





Braking system
1 Front brake circuit
2 Rear brake circuit
3 Braking lights
4 Indicator for parking brake
5 Indicator for brake fluid level
6 Brake light switch
7 Internally vented discs

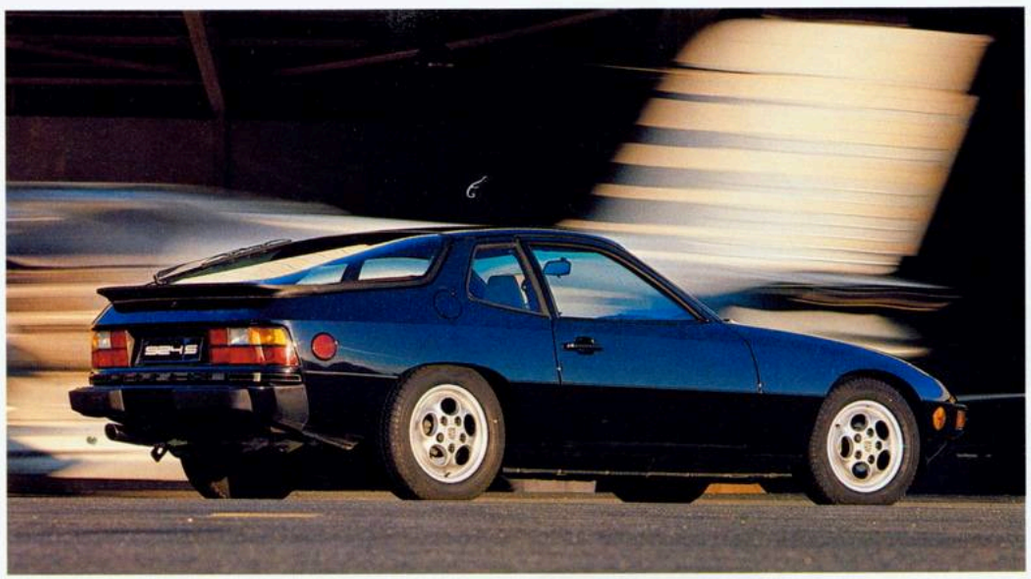


High-performance brake system.

The dual circuit brake system of the Porsche 924 S is matched to the higher performance characteristics of the vehicle with internally vented "floating frame" brakes and floating caliper disc brakes on all four wheels. The floating caliper disc brakes minimize brake fluid heating because there is only one contact surface between piston and brake pad and the cylinder is cooled in the air stream. Internal venting of the discs helps prevent brake fading (that is, the loss of brake effectiveness after their repeated use at high speeds).
An indicator light reports brake pad wear to the driver well before damage can occur. Power assistance helps keep the load on the driver to a minimum. The hand brake operates in the traditional Porsche manner: on separate brake drums to the rear wheels.

The passive safety systems of the Porsche 924 S.

The Porsche 924 S compares favorably with any sports car where passive safety is concerned. It fulfills the demands placed by modern safety requirements on today's cars in an exemplary manner.



Interior safety.

The Porsche 924 S's passenger compartment is padded with energy-absorbing material at all critical points from the roof to the floor. The resilient instrument panel with its deformable frame extends into the footwells. Instrument panel accessories, switches, grips and the glove compartment lock are either deformable or recessed. All materials used in the passenger compartment are highly flame retardant.

Body passive safety.

The Porsche 924 S uses unusually large energy-absorbing zones and optimized energy-absorbing structures. Body damage is significantly reduced by the alloy bumper assembly which is attached to hydraulic impact tubes. The hood of the vehicle is preprogrammed to fold upon impact. The transaxle design helps prevent the engine from penetrating the passenger compartment.

The laminated safety glass windshield is bonded directly to the body. If the car is hit from the side, the doors – which are strengthened by internal steel beams – are held shut by safety locks. The rigid safety of the 924 S ensures that the doors can still be opened from either inside or outside. The roof's strong construction and design describe a rigid, self-contained load-bearing structure. The fuel tank and fuel line system are designed to minimize fuel escape if the vehicle rolls over.


924S

Active safety from ample power reserves.

The 924 S's power reserve is a significant prerequisite for driving safety, or "active safety". Such power reserves form the basis for a dynamic, active style of driving, while making an economical style of driving possible. Without frequently changing gears, the Porsche 924 S accelerates smoothly and rapidly even from low rpm's. Passing is accomplished in the shortest period of time for greatest safety.

Active safety and the transaxle design.

The Porsche 924 S's inherent active safety is augmented by its transaxle unit which distributes the load virtually equally between both ends of the car: in the front by the engine, at the rear by the transmission and differential, fuel tank and spare tire. This balanced weight distribution allows the 924 S driver to use the effects of steering and acceleration to maintain optimum control.

The low center of gravity and high polar moment of inertia ensure superb directional control. The Porsche 924 S exhibits a steady, stable, straight course and is remarkably insensitive to cross winds. Even on wet pavement, power is smoothly transferred into forward acceleration. In curves the steering characteristics are nearly neutral.

Cornering safety.

The very high cornering potential of the Porsche 924 S gives its driver another form of active safety. The typical Porsche 924 S driver simply will never reach this sports car's adhesion limits when cornering. Normally, only 30 to 40 percent of the absolute limit fixed by lateral gravitational acceleration would be required. Experienced Porsche drivers will certainly use more. Under controlled test conditions, the Porsche 924 S can be driven around corners creating almost 0.9 g of lateral acceleration!

Safety, sports and comfort.

Porsche engineers have achieved the perfect synthesis between active safety, dynamic handling and a higher level of driving comfort by optimizing the relationship between transaxle design, tire selection and suspension tuning. Engine and transmission are connected by a rigid hollow steel tube to form a solid drive unit. A transmission shaft 25 mm in diameter, mounted in special, permanently lubricated roller bearings, rotates within this tube.

Wheels and tires.

As standard equipment, the Porsche 924 S is delivered with 6J x 15 cast light aluminum alloy wheels and tubeless high-speed 195/65 VR 15 tires.

Suspension technology.

The 924 S's front wheels are independently suspended on wishbones and MacPherson trailing struts, the rear wheels on independent trailing diagonal arms. A coil spring per front wheel with a coaxially mounted shock absorber and standard equipment stabilizer bars optimize the cornering performance of the front axle without reducing suspension comfort. Drive axles are fitted with torsion bars.


924 S

Options: custom-tailoring the Porsche 924 S.

Some optional equipment has been mentioned previously – the removeable sunroof, rear window wiper and digital cassette AM/FM stereo. Additional accessories and options available for the Porsche 924 S include the following.

Automatic transmission.

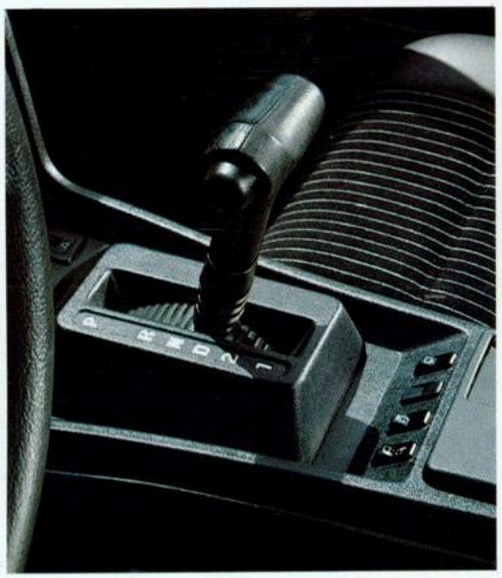
The Porsche 924 S's three-speed automatic transmission increases driving pleasure without eliminating the capability for the car to be driven as a true sports car. The 924 S reaches the same top speed, and acceleration values are modified only slightly compared with the five-speed manual transmission.

Limited-slip differential.

The Porsche 924 S can be ordered with a self-actuating, limited-slip differential. It offers the experienced Porsche driver additional forward traction when nearing adhesion limits in curves. It also reduces the likelihood of one drive wheel spinning when accelerating from a stop, or when driving on snow, ice, gravel, or on wet roads. The anti-slip effect of the Porsche differential has been deliberately limited to 40 %. This limitation avoids the unpleasant side effects experienced with higher limited-slip levels, primarily the feeling of a reluctance for the rear wheels to negotiate curves, and less lateral stability at the rear axle.

Other options.

The 924 S may be further tailored by each buyer to include the following options: an cassette and coin holder which is integrated into the armrest and a locking system to individually protect the alloy wheel rims.



Technical Specifications:

ENGINE

Number of cylinders	4
Bore	3.94 in. (100 mm)
Stroke	3.11 in. (78.9 mm)
Displacement	151 cu. in. (2479 cc)
Compression ratio	9.7 : 1
Maximum horsepower SAE net	147
at RPM	5800
Maximum torque – SAE net ft. lbs.	140
at RPM	3000
Fuel requirement	Unleaded minimum octane rating 87 CLC (91 RON)
Engine design	Water-cooled, 4 cylinder in line, front-mounted, 2 balance shafts
Crankcase, cylinders	Light alloy, two part
Cylinder head	Light alloy
Valve placement	Overhead valves
Valve train	Overhead camshaft, hydraulic lifters
Camshaft drive	Spur belt drive
Crankshaft	Forged, 5 main bearings
Engine lubrication	Crankshaft driven, crescent gear pump
Fuel supply	Electronic fuel injection, DME controlled
Emission system	3-way catalyst, oxygen sensor

ELECTRICAL SYSTEM

Battery voltage	12 V
Battery capacity	63 Amp/hr
Alternator output	115 Amps, max. output 1,610 watts
Ignition system	Fully electronic, DME controlled

DRIVE TRAIN

Clutch	Single disc, dry
Transmission	Transaxle, rear
Number of gears	5 forward, 1 reverse (Manual) 3 forward, 1 reverse (Automatic)
Final drive	Hypoid drive
Shift lever location	In tunnel console
Final drive ratio	3.89 : 1 (Manual), 3.46 : 1 (Automatic)

CHASSIS, SUSPENSION

Body design	Welded, unitized construction; double-sided zinc-galvanized steel
Front suspension	Independent coil/shock absorber struts
Rear suspension	Independent diagonal trailing arm, one torsion bar each
Shock absorbers	Double acting, hydraulic shock absorbers, front and rear
Stabilizer	Front 20 mm
Brake system	Dual circuit, power-assisted ventilated discs, front and rear
Wheel rims	6J x 15 pressure cast alloy
Tire size	195/65 VR 15
Steering	Power-assisted rack and pinion
Coefficient of drag	0.33 Cd

CAPACITIES

Engine coolant	9.0 US qt. (8.5 ltr.)
Engine oil	6.3 US qt. (6.0 ltr.)
Transmission	2.1 US qt. (2.0 ltr.) (Manual); 6.4 US qt. (6.0 ltr.) (Automatic)
Fuel tank	17.42 US gal. (66.0 ltr.)
Windshield washer tank	6.3 US qt. (6.0 ltr.)

Porsche 924 S:

Standard appointments geared to Porsche's highest level of perfection.

- 2.5 liter four cylinder all aluminum water-cooled overhead cam front-mounted engine with 2 internal balance shafts
- 147 horsepower SAE net
- Fully integrated digital ignition and fuel injection system (DME)
- Seperate engine oil cooler
- Five-speed fully synchronized rear transaxle
- Welded, unitized construction; double-sided zinc-galvanized steel body with 10 year anti-corrosion warranty
- Four-wheel independent suspension, McPherson struts front, torsion bars rear
- Energy-absorbing bumpers, front and rear
- Front stabilizer bar
- Steel-belted radials
- Power-assisted internally vented 4-wheel disc brakes
- Power-assisted rack and pinion steering
- Pressure cast alloy wheels
- Integrated front spoiler
- Rear spoiler
- Electric release for rear hatch
- Heavy duty 63 Amp. battery
- Heavy duty 115 Amp. alternator
- 1.4 kW starter
- Windshield with graduated tint
- Pop-up Halogen headlights
- All glass lift-up hatchback
- Electrically adjustable and heatable outside rearview mirrors
- Power windows
- Air conditioning
- Tinted glass all around
- Electric rear window defroster
- Fully carpeted
- Rear luggage area with fold-down seatback
- Luggage compartment cover
- Steel spare tire rim with space saving tire
- Roomy storage pockets in doors
- Inertia reel 3-point seat belts, front, and lap belts, rear
- Leatherette interior with cloth seats
- 3-spoke leather sport steering wheel
- Sun visors with covered vanity mirrors
- Transistorized tachometer
- Coolant temperature and oil pressure guage
- Trip mileage odometer

DIMENSIONS

Wheelbase	94.5 in. (2400 mm)
Track, front	55.9 in. (1419 mm)
Track, rear	54.8 in. (1393 mm)
Length	168.9 in. (4290 mm)
Width	66.3 in. (1685 mm)
Height (unladen)	50.2 in. (1275 mm)
Ground clearance at maximum load	4.7 in. (120 mm)
Turning circle – curb to curb	33.8 ft. (10.3 m)

WEIGHT

Curb weight	2734 lbs.

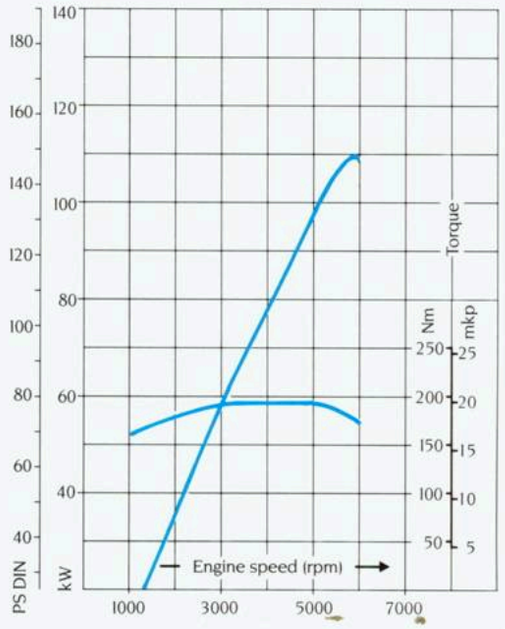
PERFORMANCE

Top track speed mph (km/h)	134 (215)
Acceleration 0–60 mph	8.3 sec. (Manual); 9.8 sec. (Automatic)
Fuel consumption*	
All states	21 estimated city mpg, 27 estimated highway (Manual) 19 estimated city mpg, 23 estimated highway (Automatic)

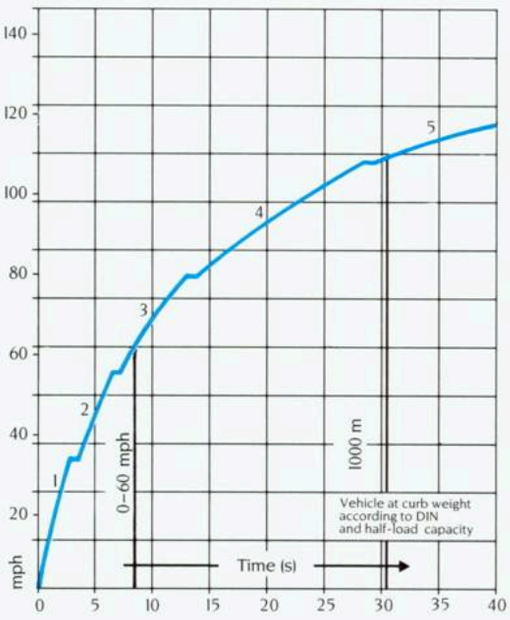
Technical specifications subject to change without prior notice.

*1987 EPA estimates expected. Compare these estimates to the "estimated mpg" of other cars. Your actual mileage will vary with speed, weather, and trip length. Highway mpg will probably be less.

Full-power Curve **924 S**



Acceleration Curve **924 S**
Manual gearbox



- Fuel consumption guage
- Quartz analog clock
- Reclining bucket seats with integrated headrest
- Modified rear seats
- Electric windshield wiper
- Heatable windshield washer nozzels
- Antenna with 4 speakers
- Protective body side molding

Porsche 924 S options: Customizing your Porsche the Porsche way.

A wide range of options is available to help you personalize your 924 S. Some of the choices have already been mentioned, such as the Porsche palette of body and interior colors. The following is a listing of additional options and accessories available for

- Three speed automatic transmission
- Blaupunkt AM/FM digital stereo cassette player
- Limited slip differential
- Removable sunroof with electric tilt
- Electric rear window wiper
- Anti-theft device for wheels
- Front center armrest cassette and coin holder
- Metallic paint

Ask your Porsche salesperson for complete details on these options.

In summary:

Today, as in the earliest chapters of automotive history, the name "Porsche" excites the imaginations of those who find exhilaration in driving a superb automobile. Given Porsche's traditions of revolutionary enginering innovations, it is not surprising that most divers describe their initial experience behind the wheel of a Porsche – any Porsche – as "astonishing". And yet, this can be merely the hint of a new relationship between owner and machine proving to be exceptionally satisfying in many dimensions.

It is possible to be so satisfying because of an all-encompasing attitude at Porsche AG, where quality has been shaped and nurtured over the years into a total commitment. A commitment demanding that the most aggressive quality controls be applied at virtually every step in the research-development-racing-testing-production chain. Quality applied by dedicated people precisely where it counts: In materials and componentry. In construction technology. In assembly, testing, final calibration. Even in a hundred-point final road check by a veteran factory driver.

Whether one is considering a 924 S, 944, 944 S, 944 Turbo, 911 Carrera, 911 Turbo, or 928 S, Porsche remains committed to setting new standards. For design, engineering, performance, handling, fuel economy, fit and finish, reliability, long life, resale value.

And most certainly for the sheer exhilaration of driving!

Limited warranty coverage for 1987. Reliability, durability, longlife and value have always been designed into every Porsche. Reliability of the entire automobile is backed by a limited 2-year, unlimited mileage warranty. Porsche's research and development on "longlife" car concepts during the 1970's resulted, in 1980, in a 6-year limited corrosion perforation warranty on production cars. The following year this was increased to 7 years of protection. In 1986 Porsche's limited corrosion warranty, already the longest in the industry, was further extended to 10 full years. Porsche again offers the 10 year limited corrosion warranty for 1987.

Porsche Cars North America, Inc. believes the specifications in this brochure to be correct at the time of printing. However, specifications, standard equipment and options are subject to change without notice. Some options may be unavailable when your car is built. Please ask your dealer for advice concerning current availability of options and verify that your car includes the optional equipment you ordered.

Note: Some of the vehicles shown have optional features that are supplied at extra charge. Porsche reserves the right to make changes in design, form and supply, as well as variations in color.

Porsche Cars North America, Inc., 200 South Virginia Street, Reno, Nevada 89501

Printed in West Germany, WVK 103121