



944  
944 S  
944 Turbo



Many considered it an anachronism when we began building sports cars at the end of the 1940's. These were not the right times for such vehicles to succeed, they said. But, with our small production quantities, lovingly manufactured by hand, we could afford to build Porsches to our own personal preferences. Happily, we sold all we could build. Today, we are still pleased to find out that there are many drivers who share these preferences with us, and that our cars continue to grow in popularity.

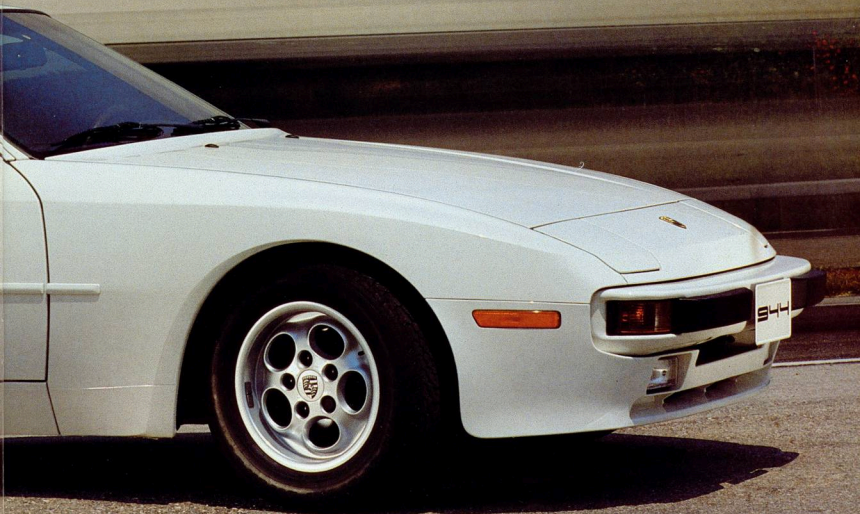
The feeling that all Porsche drivers are, in essence, members of the "Porsche family", as we fondly call it, is still today based on mutual tastes. Over the years, this family has grown much more than we ever could have imagined. Its members are spread all over the world, and include those many Porsche enthusiasts who feel "related" to it, so to speak.

This growing popularity is naturally no reason for us to rest on past laurels. That's why, every year, we invest large amounts in research and development of new technologies – a demonstration of our continuing commitment to do justice to our clients' wishes in the future.

Yours sincerely,  
Ferry Porsche

A handwritten signature in blue ink, appearing to read "Ferry Porsche". The signature is fluid and stylized, with a long horizontal stroke at the end.









## Driving in its finest form: the Porsche 944 Series.

Since its introduction in 1981, the Porsche 944 has been described by many as the benchmark of modern sports cars. A car so well conceived that *Car & Driver* magazine heralded it "one of America's 10 best" four years running, and "...the best sports car value going." Editors from the same magazine drove the 944 Turbo, then pronounced it "...a 217 horsepower, 157 mph road rocket..." and "...clearly, Porsche engineers have done their homework, creating yet another car that is not only fast, but also well rounded." Now, for 1987, Porsche adds the 944 S: with its stunning new 4-valve engine producing 188 horsepower, and drivetrain upgraded to handle the added power. All in the engineering tradition unique to Porsche—to provide driving in its finest form.

### A perfect synthesis of design solutions.

Every Porsche 944 – whether the 2-valve normally aspirated model, the new 4-valve 'S' or Turbo – is a uniquely successful blending of advanced driveline and suspension technology. Of economy. Of superb quality in design, engineering and manufacturing. Of reliability and everyday driveability. Driver and passenger comfort. Ease of control. And design features affording substantial active and passive safety.

The 944 Series is based on a perfect synthesis of desirable characteristics that at first glance might seem contradictory. For example, responsive handling and economy, or high performance and everyday reliability. This perfect synthesis is anything but

a product of chance. Rather, at Porsche, this synthesis is based on extensive knowledge gained on several fronts: Knowledge from Porsche research and development covering every aspect of automobile manufacturing. Knowledge from Porsche's rigorous involvement in motor sports. And knowledge possible only through consistent worldwide communication with Porsche owners. All of this experience and knowledge, perhaps unparalleled in the industry today, flows consistently into every 944 Series sports car.

Porsche designers, engineers and builders proudly endowed the 944 Series with these qualities considered so desirable in a sports car. Qualities that will one day destined the Porsches of the 944 Series to become classics in the finest sense of the word.

Perhaps the most immediately obvious of these qualities is the now-popular 944 "styling." Porsche designers gave the 944 Series a clarity of line and a functional elegance that sets it apart. That's why the 944 has clearly drawn lines instead of sharp contours. Softly rounded surfaces instead of energy-consuming rectangular planes. All defining the distinctive individuality of this Porsche. But the appeal of the 944 goes far beyond its outer appearances. Porsche engineers gave the 944 a technical foundation assuring the successful achievement of every engineering goal. Creating, in the process, a sports car designed from its very inception for a long and rewarding life.







## Aerodynamics and road behavior.

The aerodynamic qualities of the Porsche 944 go far beyond its impressive appearance. The clean, functional, aerodynamically efficient design common throughout the Series has a significant influence on the fuel consumption, performance and handling characteristics of these high performance sports cars.

### New, higher standards of progressive body design.

Concentrating on a low coefficient of drag alone may result in unstable handling at higher speed. Therefore, to meet every 944 performance goal, Porsche designers sought an optimum blending of significant aerodynamic factors such as friction, turbulence and induced drag. Reducing total wind resistance, which in turn reduces fuel consumption and increases performance, is achieved through a combination of the drag coefficient and the total frontal area. Thus, equal attention was focused on both factors.

The 944 low 0.35 drag coefficient and a frontal area of 20 sq ft. combine to produce exceptionally modest fuel consumption figures\* for a 131 mph automobile: 21 estimated mpg, 30 estimated mpg highway (manual transmission). The 944's acceleration is equally impressive: 0 to 60 mph in 8.3 seconds.

Because lift increases with speed and affects a car's handling, reducing lift was another design objective for the Porsche 944 Series. Porsche had already made extensive wind tunnel studies on widely differing types of race and production cars.

Results of these wind tunnel tests on many body shapes helped refine the 944 into an exceptionally good handling car. A car that Car and Driver magazine called "the best handling production sports car in America."

At Porsche, solutions are synthesized until they solve multidimensional needs. In the case of the 944

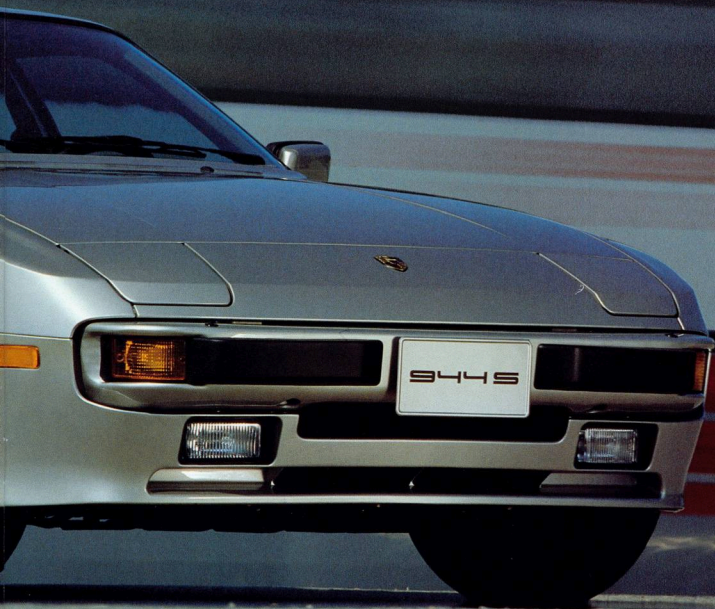


Turbo, a wing apron, specially developed for this ultrahigh-performance automobile and situated below the rear bumper, fulfills three tasks at once: air flow under the vehicle is improved; side-wind behavior is stabilized; and the transmission and muffler are effectively cooled.

\*These values are Porsche projected estimates. Official EPA approved values were not available at the time of printing. 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.









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*Aerodynamics proven in the wind tunnel.*

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Wind tunnel research shows the specific flow patterns over the body and the various air pressure zones produced by the air stream. The Porsche 944's body was wind tunnel-optimized in the "raw body shell" so that lift forces, even at high speed, would not affect the directional stability of the car. Spoilers at the front and rear augment

the basic body shape to provide particularly good air flow cutoff. Tire adhesion and directional stability thus are improved even further.

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**Technical functions of this advanced design.**

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Aerodynamic research also allowed Porsche engineers to compute precisely the size and position of 944 details such as air intakes for engine cooling, and fresh air and exhaust circulation requirements for the interior of the car. A characteristic body feature of the Porsche 944 design is the large pressure difference between the cooling





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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 situated in the low-pressure zone between the front fenders and the doors.

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**Other benefits of superb aerodynamics.**

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In the final aerodynamically compatible 944 design, 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.









*The key word is ergonomics.*

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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 944 Series based on continuing research in ergonomics and relevant experience gained in motor racing. The resulting achievement is intel-

ligently coordinated comfort and operating convenience.

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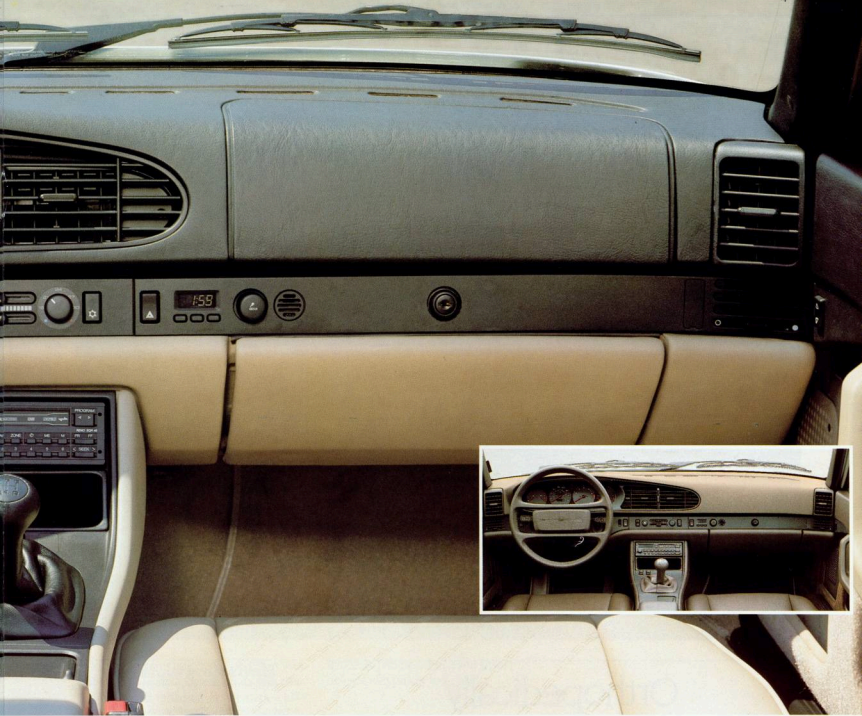
#### **The driver's position.**

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The driver's environment in the cars of the Porsche 944 Series

was designed to be compatible with individual driving habits and the shape and size of the driver. To optimize the driving position as well as general visibility and safety belt usage, the distance between the steering wheel and the seat is electrically adjustable in height. To permit the driver to concentrate on traffic without being distracted, instruments,





switches and controls are logically positioned. 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. In the Porsche 944 Series, the result is a Porsche that is safer and more fun to drive.

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#### **A comfortable interior climate.**

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A high capacity heating and ventilation system quickly brings the 944'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.





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## Orthopedically designed seating.

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The carefully designed seats for the driver and passenger in the Porsche 944 Series meet two important ergonomic requirements: optimum seating position and information transmission to the driver. The electrical height adjustment of the driver's seat provides suitable adjustments for body size and individual driving habits. The seat height

under the knees and under the back rest can be adjusted individually over a 1.5-inch range.

The anatomically correct design of both front seats ensures relaxation even during long trips, and firm lateral support when driving through curves. The elaborately bolstered driver and passenger seats compose a care-

fully matched functional unit compatible with ride characteristics deriving from the 944'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 unnecessary.

For drivers with a sportier driving style, especially contoured sports seats also offering electrical height adjustment are available as optional equipment. All electrically adjustable driver and passenger seats are also available with integral heating units.



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**Generous proportions.**

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As a true sports car, the Porsche 944 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 even can accommodate adults on a short trip. 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.



944 Turbo

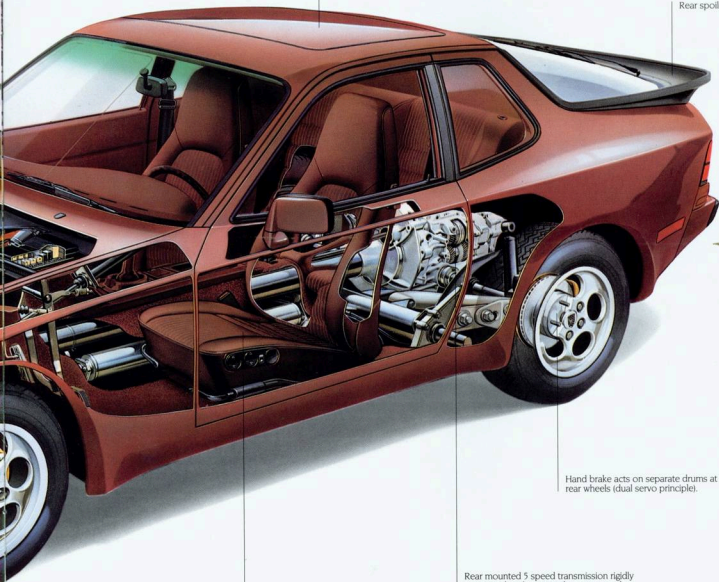
4-cylinder, water-cooled alloy engine with two balance shafts for vibration damping, digital fuel injection and ignition, four-valve design, 2.5 litres displacement, 188 net SAE HP, unloaded fuel 91 CLC (99 RON).



Front suspension: independent with alloy tie rods and McPherson struts, 20 mm thick stabilizer bar, dual circuit brake system with floating frame brakes in internally vented discs, cast alloy wheels 71 x 15 with tires 215/60 VR 15.

Unitized zinc-galvanized steel body,  
drag coefficient  $CD=0.35$ , frontal area  
 $A = 1.82 \text{ m}^2$ , top track speed 142 mph,  
acceleration 0-60 mph 7.7 sec.

Rear spoiler mounted on hatchback.



Hand brake acts on separate drums at the  
rear wheels (dual servo principle).

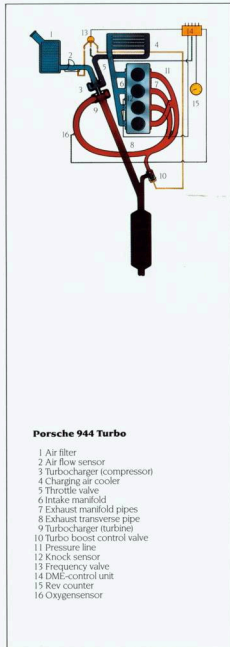
Rear mounted 5 speed transmission rigidly  
connected to the engine by a torque tube,  
rear suspension: independent, alloy dia-  
gonal trailing arms, one torsion bar for each  
wheel mounted in the axle cross tube, alloy  
cross tube mounts.

Seats of cloth, leather and leather-grained  
vinyl, drivers seat with electrical height  
adjustment.





## Engine technology by Porsche.



### Porsche 944 Turbo

- 1 Air filter
- 2 Air flow sensor
- 3 Turbocharger (compressor)
- 4 Charging air cooler
- 5 Throttle valve
- 6 Intake manifold
- 7 Exhaust manifold pipes
- 8 Exhaust transverse pipe
- 9 Turbocharger (turbines)
- 10 Turbo boost control valve
- 11 Pressure line
- 12 Knock sensor
- 13 Frequency valve
- 14 DME-control unit
- 15 Rev counter
- 16 Oxygensensor

Left:  
Motor of the Porsche 944 S

As they did when designing the revolutionary engine for the 928 S, Porsche engineers again broke new ground in designing the high-technology engine destined to be used throughout the Porsche 944 Series. 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 tolerances between the pistons and cylinder walls 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. A benefit of interest to every Porsche 944 Series owner is the above-average service intervals made possible by such advanced engineering – 15,000 miles for the 944 and 944 S, and 7,500 miles for the 944 Turbo.

### High-speed balance shafts for inherent smoothness.

The 2.5-liter displacement of the Porsche 944 Series engine makes it one of the largest four-cylinder engines in use today. Such large-displacement 4 cylinder engines traditionally are associated with high vibration levels. Yet automotive journalists have reported the 944 engine to be as quiet and smooth as a six-cylinder engine. Porsche achieved such vibration-free characteristics via a pair of high-speed balance shafts mounted in a vertically staggered arrangement.

The balance shafts operate at twice the engine speed, rotating in the opposite direction, thus counteracting 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 944 engine is – as all modern engines should be – powerful, yet economical, with low emission values, high dependability and durability. Working in concert with highly developed aerodynamic and chassis technologies, the engine is responsible for stimulating performance such as the following:

944: acceleration, 0-60 mph, 8.3 seconds; top speed 131 mph.  
944 S: acceleration, 0-60 mph, 7.7 seconds; top speed 142 mph.  
944 Turbo: acceleration, 0-60 mph, 6.1 seconds; top speed 152 mph.

### Special characteristics of the new 944 S 4-valve engine.

In the new 1987 Porsche 944 S, the "breathing capacity" of the standard 944 engine is dramatically improved by doubling the number of valves normal to 4-cylinder engines. This newly modified engine now has two inlet and exhaust valves for each cylinder, a total of 16 valves. The engine thus has correspondingly high power reserves, responding instantly to the throttle – particularly in the higher rpm range. (Indeed, when Porsche engineers at the Weissach Development Center had completed development work on the new 4-valve "S" engine, one said: "The already



944

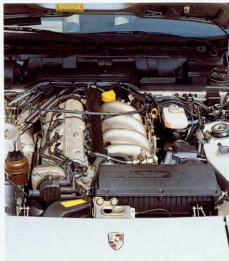
bullish character of the 944 engine is now extended by almost another 1,000 rpm.) The roof-shaped combustion chambers with centrally arranged spark plugs cause particularly efficient combustion resulting in minimal emission pollution. The result: driving is remarkably economical and environmentally safe at the same time.

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#### Anti-Knock control for the 944 S and the 944 Turbo.

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Detonation, or a "knocking" condition from low-octane fuel, can cause excessive engine wear. The 944 S and 944 Turbo's designers countered this tendency through more ingenuity: a special sensor, mounted on the crankcase between cylinders 2 and 3. Individual cylinder knocking conditions are sensed, and corrected, instantly. As one or more cylinders approach knocking, the Motronic engine management system electronically retards the ignition timing for the affected cylinders and for simultaneously controls the turbocharger boost. This new technology allows the 944 S and 944 Turbo's engine to operate continuously in the ideal efficiency range – with optimized performance, fuel con-



944 S

sumption and emission values. It even allows operation over short periods of time on fuel having an octane rating as low as 91 CLC (95 RON) with the lowest possible loss of power.

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#### Special characteristics of the 944 Turbo engine.

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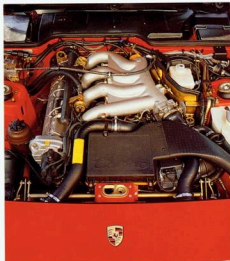
Like all other Porsche 4-cylinder models, the 944 Turbo achieves impressive performance at average engine speeds. In the Turbo engine, the engine transition from the unturbocharged to turbocharged operating conditions is exceptionally smooth. Thus, the Turbo provides adequate power at all times to enjoy particularly economical motoring at low rpms, and more than adequate safety reserves for rapid maneuvering or passing.

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#### Turbo boost pressure regulation.

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The 944 Turbo also incorporates leading-edge technology allowing ideal control of boost under all conditions. Under partial load, only that



944 Turbo

boost pressure is produced to meet operating needs, optimizing fuel consumption. Under acceleration, dynamic torque increase is provided via short-term peak boost. Boost pressure is always regulated absolutely, under all conditions, independently of altitude above sea level.

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#### Minimum-maintenance valves.

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Because less vibration means quieter running and less wear, the 944 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 to zero and that adjustments will

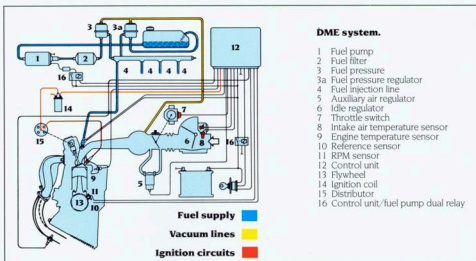
rarely be required. Wear of the valves or the valve seats is automatically compensated for, contributing to extended intervals between servicing.

The valve train receives oil under pressure from the engine oil pump. The pressurized lubrication system in all 944 Series models guarantees optimum lubrication at every lubrication point, even while driving around extremely fast corners.

### Computerized engine management: the digital motor electronics system.

Porsche is one of the few car manufacturers in the world which 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 operating data is automatically factored into every command executed by the system.

The advantages of the digital motor electronics system are fully exploited in the Porsche 944 Series 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. Proper idle speed is automatically maintained by an electronic idle speed regulator whenever accessories such as lights or the air conditioning compressor are turned on or off, changing the load on the engine.



### The engine cooling system.

The 944 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, together with the low specific load on all accessory units, helps ensure highly reliable operation while permitting longer than average inspection and oil change intervals.

### The Turbo cooling system.

The intake air cooling system – or “intercooler” – in the Porsche 944 Turbo was designed expressly to meet one of the most important prerequisites for rapid throttle response in a turbocharged engine during all possible operating conditions. The hot pressurized intake air is cooled as it flows from the turbine to the throttle body, to a lower temperature via an intercooler. This device draws fresh air from a small but extremely efficient air collector duct located in the center section of the vehicle nose. To keep the engine at the right operating temperature even under extreme temperature

conditions, the 944 Turbo engine is further equipped with an external engine oil cooling system with thermostatic regulator. This system is cooled by another separate air inlet in the nose section.

### 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 944 Series. Refinement in engine technology has resulted in, among other things, the Porsche 944 S being capable of meeting all U.S. emission requirements via a Lambda oxygen sensor coupled with a three-way catalytic converter with no loss in performance.



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# Safety, sport and comfort.

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Porsche engineers sought the best possible synthesis between active safety, dynamic handling and a higher level of driving comfort. One approach to this ideal goal was 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, or "transaxle," contributing to the safe qualities of these sports cars in many dimensions.

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## Active safety.

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The power reserve typical of each Porsche in the 944 Series 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. Even without frequently changing gears, all Porsche 944s accelerate smoothly and rapidly even from low rpm's. Passing is accomplished in the shortest period of time for greatest safety.

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## Active safety and the transaxle design.

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Each Porsche 944's inherent active safety is augmented by its transaxle unit which distributes the mass 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. The resultant high polar moment of inertia combined with the low center of gravity ensures superb directional control.

All Porsche 944s exhibit a stable, straight course at all speeds. This balanced weight distribution allows the 944 driver to use the effects of steering and acceleration to maintain optimum control.

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## Safety through excellent visibility.

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Faultless visibility in all weather conditions is provided to the Porsche 944 driver by a large laminated glass windshield with extensive windshield wiper coverage. The wiper axes are designed to prevent the wiper blades from losing contact, even at high speeds, and the wash system nozzles are heated. In darkness, the driver can rely on the powerful halogen headlamps. In the 944 Turbo, a special headlamp cleaning system ensures unimpeded lighting when dirty water is thrown onto the headlights. Instead of wipers, which could break off or become frozen in winter, a separate high-pressure pump directs cleaning solvent directly onto the headlamps. The nozzles are positioned immediately in front of each headlamp, ensuring that the water jets apply the stream precisely where it is needed.

The anti-glare rear view mirror, electrically adjustable exterior mirrors and the large heatable rear window provide a good view to the rear. The exterior mirrors are automatically heated when the rear window defroster is switched on.

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## Interior safety.

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The Porsche 944'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.

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## Body passive safety.

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The Porsche 944 Series 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 absorbing tubes. The hood of the vehicle is preprogrammed to fold upon impact. The transaxle unit 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 944 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.

An air bag restraint system, new for 1987, designed to deploy in a major frontal impact, is standard equipment on the 1987 Porsche 944 Turbo. The system includes a driver's air bag mounted in the steering wheel hub; the passenger's air bag is mounted above the glove compartment. The system may be ordered as an option on the 944 and the 944S, for both driver and passenger.



## Precise steering and braking systems.

The precise and spontaneous steering characteristics of the Porsche 944 are based on the long-proven rack and pinion system. This system provides optimum operating efficiency and excellent response between the steering wheel and tires. The steering system operates from lock to lock with virtually no play. Negative steering roll radius allows excellent straight line stability on all road surfaces, even when one wheel is driven over a road surface of differing traction characteristics.

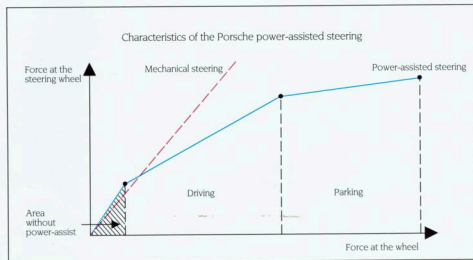
### Finer points of Porsche power-assisted steering.

Every Porsche 944 is equipped with progressive power-assisted steering as standard. The 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 944 driver thus is provided with full sensitivity for everything that occurs between the road and the 944's tires. The result is that limiting characteristics of the vehicle and slippery-surface performance are transmitted fully and accurately to the driver.

### Servo assistance automatically matched to the driver's needs.

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 944 to the driver's inputs.

When driving straight ahead with lower torsional forces, the Porsche 944's power system works just like its mechanical equivalent – the precise steering characteristics assure a trouble-free straight line stability and an optimum feel for the center point: the awareness of the steering wheel's center position.

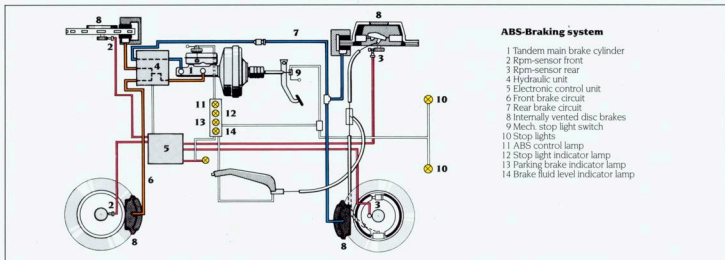
### Superbly reliable high performance brake systems.

The dual circuit brake systems of the Porsche 944 and 944 S are 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

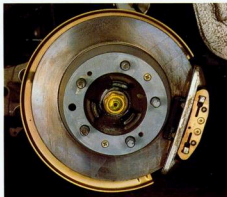
there is only one contact surface between piston and brake pad and the cylinder is cooled in the air stream. Internal venting of the discs helps prevent brake fading (that is, the loss of brake effectiveness after their repeated use at high speeds).

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.

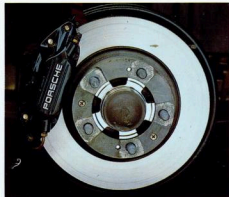
Servo assistance limits the driver's effort to a minimum, and a brake force regulator for the rear axle also guarantees that the 944 can be braked sensitively, even from higher speeds.



Brake 944, 944S, front



Brake 944, 944S, rear



Brake 944 Turbo, front

### The four-piston fixed caliper brake system of the 944 Turbo.

To most precisely match stopping power with performance, Porsche engineers specified top quality four-piston fixed caliper brakes on the front and rear axles of the 944 Turbo. Working in conjunction with the transaxle concept, this newly developed brake system concept can withstand extreme loads while guaranteeing optimum braking values at the same time.

The front brakes are provided with additional ventilation via a ventilation duct from the front section to the wheel house, supplying cooling ram air to the internally ventilated disks.

### An optional extra: anti-lock braking system ("ABS").

Any 944 model may be ordered with an anti-lock braking system. The system regulates the rear wheels' braking force jointly while the front wheels, having to transmit more braking force, are controlled individually. The extent of control is determined by the rear wheel with the least traction on the road at the moment the brakes are applied (select-low principle). As a result, a higher lateral guiding force is transmitted to the other wheel, so that the vehicle is provided with increased directional stability when the brakes are applied, particularly when braking while cornering.

The controlled differential speed of the wheels as compared with the vehicle speed provides an optimum braking effect, simultaneously maintaining full steerability. Obstacles on the road can be avoided without locking the wheels even when all the brakes are fully applied.

The entire braking process is optimally controlled regardless of the load carried by the vehicle.



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## Options: custom-tailoring the Porsche 944 Series.

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Some of the optional extras have already been mentioned on the previous pages, some in great detail – such as sports seats and heated seats, and the ABS brake system. Here you will find more information on further optional accessories for the Porsche four-cylinder models.

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### **The limited-slip differential.**

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As optional equipment, any Porsche 944 Series car 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, on wet or soft roads and over rough pavements. 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.

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### **Anti-theft devices.**

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The electronic anti-theft system for the Porsche 944 protects both doors and the rear hatch, the engine hood and starter system. Alloy wheels are protected by lockable wheel nuts as standard on all 944 models.

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### **Automatic transmission.**

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The three-speed automatic transmission available on the Porsche 944 accommodates those drivers who prefer this feature over the stick shift without eliminating the capability for the car to be driven as a true sports car. The 944 reaches the same top speed, and acceleration values are modified only slightly compared with the five-speed manual transmission.

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### **Cruise control.**

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The optionally available cruise control makes driving more comfortable and economical on roads with low traffic density or on freeways.

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### **The tilting sunroof.**

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The large tilting sunroof can be adjusted and locked electrically, or removed and stowed in the luggage compartment.



# Technical Data.

	944	944 S	944 Turbo		944	944 S	944 Turbo
<b>ENGINE</b>				<b>ELECTRONIC SYSTEM</b>			
Number of cylinders.....	4	4	4	Battery voltage.....	12 V	12 V	12 V
Bore.....	3.94 in. (100 mm)	3.94 in. (100 mm)	3.94 in. (100 mm)	Battery capacity.....	63 Amp/hr	63 Amp/hr	63 Amp/hr
Stroke.....	3.11 in.	3.11 in.	3.11 in.	Alternator output.....	115 Amps, max output 1610 watts	115 Amps, max output 1610 watts	115 Amps, max output 1610 watts
Displacement.....	(78.9 mm) 151 cu. in. (2479 cm <sup>3</sup> )	(78.9 mm) 151 cu. in. (2479 cm <sup>3</sup> )	(78.9 mm) 151 cu. in. (2479 cm <sup>3</sup> )	Ignition system.....	Fully electronic, DME controlled	Fully electronic, DME controlled	Fully electronic, DME controlled
Compression ratio.....	9.7 : 1	10.9 : 1	8.0 : 1	<b>DRIVE TRAIN</b>			
Max. power SAE net.....	147 hp (110 kW) at rpm.....	188 hp (140 kW) 6000	217 hp (162 kW) 5800	Clutch.....	Single disc, dry	Single disc, dry	Single disc, dry
Max. torque SAE net.....	140 ft. lbs. (190 Nm)	170 ft. lbs. (230 Nm)	243 ft. lbs. (330 Nm)	Transmission.....	Transaxle, rear	Transaxle, rear	Transaxle, rear
at rpm.....	3000	4300	3500	Number of gears.....	5 forward, 1 reverse (Manual)	5 forward, 1 reverse	5 forward, 1 reverse
Fuel requirement.....	Unleaded, minimum octane ratio 87 CLC (95 RON)	Unleaded, minimum octane ratio 91 CLC (95 RON)	Unleaded, minimum octane ratio 91 CLC (95 RON)	<b>Final Drive</b>			
Engine Design.....	Water-cooled, 4 cylinder in line, front-mounted, 2 balance shafts	Water-cooled, 4 cylinder in line, front-mounted, 2 balance shafts	Water-cooled, 4 cylinder in line, front-mounted, 2 balance shafts	Clutch.....	Single disc, dry	Single disc, dry	Single disc, dry
Crankcase, cylinders.....	Light alloy	Light alloy	Light alloy	Transmission.....	Transaxle, rear	Transaxle, rear	Transaxle, rear
Valve placement.....	Overhead valves	Overhead valves	Overhead valves	Number of gears.....	5 forward, 1 reverse (Manual)	5 forward, 1 reverse	5 forward, 1 reverse
Valve train.....	Overhead cam- shaft, hydraulic lifters	Double over- head camshaft, hydraulic lifters	Overhead cam- shaft, hydraulic lifters	<b>Final Drive Ratio</b>			
Camshaft drive.....	Spur belt drive	Spur belt drive	Spur belt drive	Hypoid drive in tunnel console	Hypoid drive in tunnel console	Hypoid drive in tunnel console	Hypoid drive in tunnel console
Crankshaft.....	Forged, 5 main bearings	Forged, 5 main bearings	Forged, 5 main bearings	3.889 : 1 (Manual)	3.889 : 1	3.889 : 1	3.375 : 1
Engine lubrication.....	Crankshaft driven, crescent gear pump	Crankshaft driven, crescent gear pump	Crankshaft driven, crescent gear pump	<b>Final Drive Ratio</b>			
Fuel supply.....	Electronic fuel injection, DME controlled	Electronic fuel injection, DME controlled	Electronic fuel injection, DME controlled, KKK exhaust turbo- charger	3.455 : 1 (Automatic)	3.455 : 1 (Automatic)	3.455 : 1 (Automatic)	3.455 : 1 (Automatic)
Emission system.....	3-way catalyst, oxygen sensor	3-way catalyst, oxygen sensor	3-way catalyst, oxygen sensor	<b>CHASSIS, SUSPENSION</b>			
				<b>Body design.....</b>			
				Welded, unitized construction; doubled-sided zinc-galvanized steel	Welded, unitized construction; doubled-sided zinc-galvanized steel	Welded, unitized construction; doubled-sided zinc-galvanized steel	Welded, unitized construction; doubled-sided zinc-galvanized steel
				<b>Front suspension.....</b>			
				Independent coil/shock absorber struts	Independent coil/shock absorber struts	Independent coil/shock absorber struts	Independent coil/shock absorber struts
				<b>Rear suspension.....</b>			
				Independent diagonal trailing arm, one tor- sion bar each	Independent diagonal trailing arm, one tor- sion bar each	Independent diagonal trailing arm, one tor- sion bar each	Independent diagonal trailing arm, one tor- sion bar each
				<b>Shock absorbers.....</b>			
				Double-acting hydraulic shock absorbers, front and rear	Double-acting hydraulic shock absorbers, front and rear	Double-acting hydraulic shock absorbers, front and rear	Double-acting hydraulic shock absorbers, front and rear

## Standard appointments geared to Porsche's highest level of luxury.

### Porsche 944, 944 S and 944 Turbo:

- 2.5 liter four cylinder all aluminum water-cooled overhead cam front-mounted engine with 2 internal balance shafts
- Fully integrated electronic ignition and fuel injection (DME)
- Engine knock regulator (944 S, 944 Turbo)
- Engine oil cooler
- Five-speed fully synchronized rear transaxle
- Four-wheel independent suspension, MacPherson struts front, torsion bars rear
- Front stabilizer bar
- Welded, unitized construction; double-sided zinc-galvanized steel body
- Steel-belted radials
- Power-assisted vented 4-wheel disc brakes
- Power-assisted rack and pinion steering
- Cast alloy wheels

- Integral front air dam
- Rear spoiler
- Protective side moldings
- Integrated fog lights
- Electric release for rear hatch
- Brake pad wear indicator light
- Upshift indicator light for manual transmission (944, 944 S)
- Anti-theft device for wheels
- Front center armrest, cassette and coin holder
- Windshield with graduated tint
- Pop-up Halogen headlights
- All glass lift-up hatchback
- Electrically adjustable and heatable outside rearview mirrors
- Power windows
- Air conditioning
- Automatic full climate control

- Tinted glass all around
- Electric rear window defroster
- Fully carpeted
- Rear luggage area with fold-down seatback
- Luggage compartment cover
- Storage pockets in doors
- Inertial-reel 3-point seat belts, front and lap belts, rear
- 4-spoke leather sport steering wheel
- Leather covered shift-lever
- Vanity mirrors
- Transistorized tachometer
- Coolant temperature and oil pressure gauge
- Trip mileage odometer
- Digital quartz clock
- Reclining bucket seats
- Electric windshield wiper with intermittent wiper cycle
- Windshield antenna, 4 speakers, suppression, wiring





	944	944S	944 Turbo		944	944S	944 Turbo
Stabilizer	Front 20 mm	Front 20 mm	Front 22.5 mm, rear 18 mm	Length	168.90 in. (4290 mm)	168.90 in. (4290 mm)	168.90 in. (4290 mm)
Brake system	Dual circuit, power-assisted ventilated discs, front and rear	Dual circuit, power-assisted ventilated discs, front and rear	Dual circuit, power-assisted ventilated discs, front and rear	Width	68.31 in. (1735 mm)	68.31 in. (1735 mm)	68.31 in. (1735 mm)
Wheel rims	71 x 15 pressure cast alloy	71 x 15 pressure cast alloy	Front 71 x 16, rear 81 x 16, cast alloy	Height (unloaded)	50.20 in. (1275 mm)	50.20 in. (1275 mm)	50.20 in. (1275 mm)
Tire size	215/60 VR 15	215/60 VR 15	Front 205/55 VR 16, rear 225/50 VR 16	Ground clearance at maximum load	4.72 in. (120 mm)	4.72 in. (120 mm)	4.72 in. (120 mm)
Steering	Power-assisted rack and pinion	Power-assisted rack and pinion	Power-assisted rack and pinion	Turning circle - curb to curb	33.80 ft. (10.30 m)	33.80 ft. (10.30 m)	33.80 ft. (10.30 m)
Coefficient of drag	0.35	0.35	0.33				
<b>CAPACITIES</b>							
Engine coolant	9.0 US qt. (8.5 ltr)	9.0 US qt. (8.5 ltr)	9.0 US qt. (8.5 ltr)	<b>WEIGHT</b>			
Engine oil	6.3 US qt. (6.0 ltr)	6.3 US qt. (6.0 ltr)	6.3 US qt. (6.0 ltr)	Curb weight	2778 lbs.	2866 lbs.	2998 lbs.
Transmission	2.1 US qt. (2.0 ltr) (Manual)	2.1 US qt. (2.0 ltr) (Manual)	2.1 US qt. (2.0 ltr) (Manual)	<b>PERFORMANCE</b>			
Fuel tank	21.1 US gal. (80.0 ltr) (Automatic)	21.1 US gal. (80.0 ltr)	21.1 US gal. (80.0 ltr)	Top track speed	131 mph (210 km/h)	142 mph (228 km/h)	152 mph (245 km/h)
Windshield washer tank	6.3 US qt. (6.0 ltr)	6.3 US qt. (6.0 ltr)	6.3 US qt. (6.0 ltr)	Acceleration 0 - 60 mph	8.3 sec. (Manual), 9.8 sec. (Automatic)	7.7 sec.	6.1 sec.
				Fuel consumption*			
				All states	Manual 21 city mpg, 30 highway mpg, Automatic 19 city mpg, 24 highway mpg	Manual 20 city mpg, 28 highway mpg	Manual 19 city mpg, 27 highway mpg
<b>DIMENSIONS</b>							
Wheelbase	94.49 in. (2400 mm)	94.49 in. (2400 mm)	94.49 in. (2400 mm)	Technical data subject to change without prior notice.			
Track, front	58.20 in. (1477 mm)	58.20 in. (1477 mm)	58.20 in. (1477 mm)	*These values are Porsche projected estimates. Official EPA approved values were not available at the time of printing. 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.			
Track, rear	57.10 in. (1451 mm)	57.10 in. (1451 mm)	57.10 in. (1451 mm)				

#### Additional standard appointments.

##### Porsche 944 Turbo:

- KKK exhaust turbocharger
- Intake air intercooler
- Rear underbody spoiler
- External engine oil cooler
- Four-piston fixed caliper disc brakes
- Wider rims and tires
- Rear stabilizer bar
- Headlight washers
- Air bag system for driver and side passenger
- Boost pressure gauge

#### Customizing your Porsche the Porsche way.

##### Porsche Options 944, 944S and 944 Turbo:

A wide range of options is available to help you personalize your 944 and 944S.

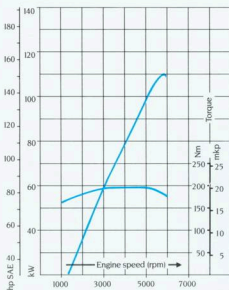
- Automatic transmission (944 only)
- Full leather interiors
- Leather or cloth sport seats
- Blaupunkt digital cassette radios
- Heated seats, front
- Heavy duty front and rear stabilizer bars
- Sport shock absorbers
- Limited slip differential
- Metallic paint
- Forged alloy wheels
- Headlight washers
- Automatic cruise control
- Electric door-locking system
- Removable top with electric tilt

- Alarm system
- Electric rear window wiper
- Air bag system for driver and side passenger
- Antilocking braking system (ABS)

Ask your Porsche salesperson for complete details on these options.

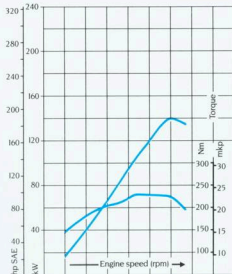
**Full-power Curve**

**944**



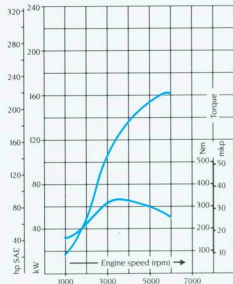
**Full-power Curve**

**944 S**



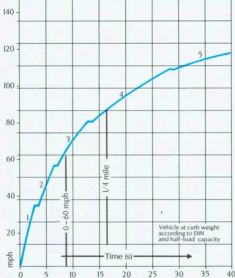
**Full-power Curve**

**944 Turbo**



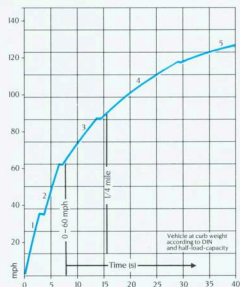
**Acceleration Curve**  
Manual gearbox

**944**



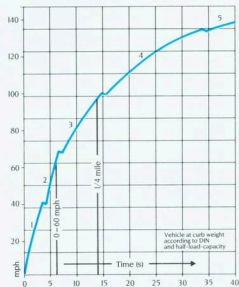
**Acceleration Curve**  
Manual gearbox

**944 S**



**Acceleration Curve**  
Manual gearbox

**944 Turbo**



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## An invitation to a test drive.

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There are many dimensions to Porsche fascination. One of these is the pure joy of breaking away from the mass of uniformity. Other dimensions are the highest possible blending of quality, technology and its inherent safety; superb reliability and the famous Porsche 10-year anti-corrosion long-life guarantee; economical and low-pollution performance; and driving and operating comfort.

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the hands-on experience of driving a Porsche. Your Porsche dealer will be delighted to arrange such a test drive for you. And answer any remaining questions you may have. We invite you to make an appointment today...

And discover the many dimensions of "Porsche fascination".



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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.

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