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The New 911 Turbo

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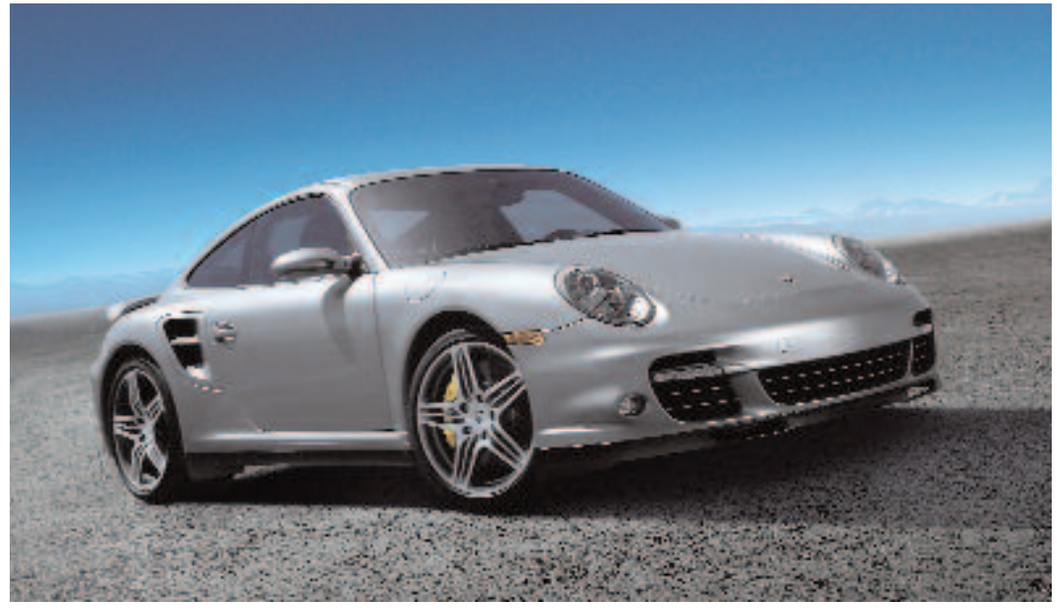


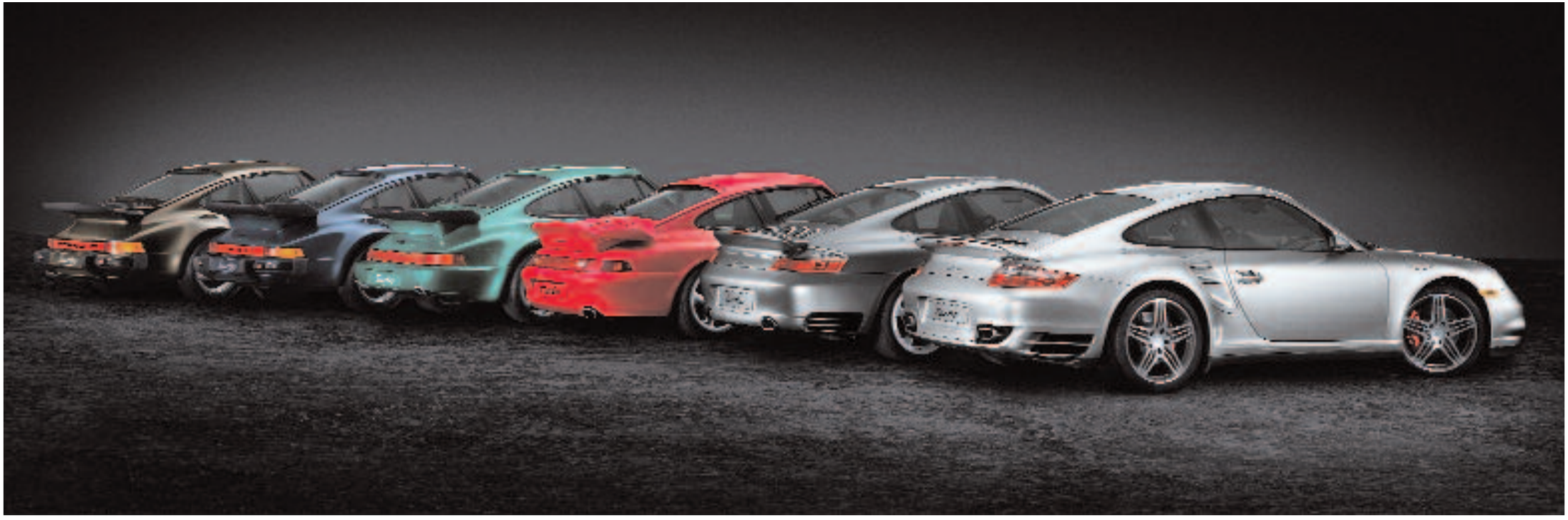
The New 911 Turbo

When Porsche develops a new Turbo, enthusiasts don't expect us to push the envelope. They expect us to shred it. The new 911 Turbo surpasses those expectations. It's the first 911 Turbo with Variable Turbine Geometry (VTG). The first with actively controlled all-wheel drive. The first to reach 60 mph in less than four seconds. Altogether, it's the most rewarding 911 Turbo yet.

The New 911 Turbo

What's past is prologue.

The new 911 Turbo.



We've all heard that "haste makes waste." But it took a Swiss engineer to realize that the opposite was also true: Waste exhaust could actually hasten an engine's acceleration. In 1905, Dr. Alfred Büchi filed the first successful patent for a turbocharged piston engine.

His invention channeled the engine's exhaust gases through a radial turbine. (Imagine it as a large pinwheel.) As the turbine spun, it drove a compressor that forced oxygen-dense air into the engine's intake system. The result: more power.

The idea takes flight.

Over the past century, the turbo concept has undergone multiple uses and refinements. It was first embraced by the aviation industry, which used turbochargers to provide more oxygen to engines during high-altitude flight.

In the 1930s, turbochargers were applied to diesel engines, to compensate for their relatively slow acceleration.

Porsche was among the first to realize the potential of the technology for racing engines. Using high-boost turbochargers, Porsche engineers developed small displacement engines that produced astounding power for their size and weight.

The 1974 911 Turbo 3.0, the new 911 Turbo

Porsche races ahead.

Porsche's first turbo racing car set the bar high, in every sense. The 917/10 was created for the 1972 CanAm Championship, which placed no restrictions on engine size or power. Porsche met the challenge with a five-liter, twin-turbo engine that developed 1,000 horsepower. It won half the series races and captured the championship. In 1973, Porsche fielded the 917/30. The most powerful Porsche ever, its 5.4-liter engine developed 1,100 horsepower. It proved practically unbeatable.

The first 911 Turbo.

One year later, the first 911 Turbo was born. Arriving in the midst of the first oil crisis, it was a bold statement—and looked the part. Wider wheel arches were essential, to accommodate larger tires capable of handling 253 lb.-ft. of torque, the highest ever achieved by a 3-liter engine at the time.

Aerodynamic changes were also a must. These included a fixed front spoiler and the now-legendary rear wing, which helped keep the tires planted at speed. Developing 260 horsepower, the car could sprint from zero to 62 mph (100 km/h) in just 5.5 seconds. The legend had begun.

Cooler, faster, stronger.

The second 911 Turbo arrived in 1977 with several notable advances. Its larger 3.3-liter engine was the first to feature an intercooler, which further improved intake air density and helped the car break the 300-hp barrier. With so much power on tap, brake performance was also enhanced with four-piston, aluminum fixed calipers and cross-drilled discs. In 1993, Porsche launched the last 911 Turbo to feature dedicated rear-wheel drive. Based on the latest 911 platform (Type 964), it used a 3.6-liter engine to achieve a major boost in output to 360 horsepower.

Tour de force.

A technological tour de force, the Type 993 Turbo arrived just two years later. This was the first 911 Turbo with twin turbochargers, which helped develop power more quickly and smoothly. Although displacement was unchanged, output leapt to 408 horsepower. It was also the first Turbo with all-wheel drive, providing greater active safety and driving dynamics.

A new millennium.

In 2000, a new Turbo was introduced based on the Type 996. Although it too was powered by a 3.6-liter engine with twin turbochargers, this was a radically new power plant, featuring the first application of water cooling and the first use of VarioCam Plus in a 911 Turbo. These advances improved fuel economy while boosting performance to 420 horsepower, propelling the car to 62 mph in just over 4.2 seconds. In 2005, a Turbo S version boosted power to 450 horsepower.

Introducing the new 911 Turbo.

For over 30 years, the 911 Turbo has established itself not as an icon, but as an iconoclast: Each generation has crushed old beliefs about the limits of sports car performance. The new 911 Turbo builds on that tradition. With its unprecedented acceleration and handling dynamics, it makes a thrilling leap forward in performance, ride comfort and visual presence.

More power, less weight.

While the engine's boxer layout and 3.6-liter displacement remain unchanged, its power has improved markedly. It delivers 480 horsepower at 6000 rpm, and 460 lb.-ft. of torque at just 1950 rpm, with no reduction in torque up to 5000 rpm.

Even more thrilling, this increased power is delivered in a lighter package. With its aluminum doors and trunk lid, the new 911 Turbo is 11 pounds lighter than its predecessor, giving it a power-to-weight ratio of 7.28 lbs./hp.

With a standard manual gearbox, the new 911 Turbo reaches 60 mph in just 3.7 seconds. Equipped with the latest evolution of the Tiptronic S transmission, the car is actually 0.3 seconds quicker. It can reach the 124 mph (200 km/h) benchmark in just 12.8 seconds, or 12.2 seconds with Tiptronic S.

A revolution in turbo technology.

To achieve these new benchmarks, Porsche first revisited the turbocharger concept. Choosing the optimum turbocharger has traditionally been an exercise in compromise. A small turbine accelerates more quickly at low engine speeds, due to its low mass. However, at high engine speeds, a large turbocharger creates less back pressure.

The new 911 Turbo provides an elegant solution to this dilemma: by applying Variable Turbine Geometry to a gasoline engine. By adjusting the turbine vanes inside each of the engine's twin turbochargers, Variable Turbine Geometry achieves the optimum profile as the engine speed rises or falls. In effect, a large turbo can be made to mimic the profile of a smaller turbo at low engine speeds; at high engine speeds, the profile can be increased.

Variable Turbine Geometry provides a range of performance benefits, including higher torque output at low engine speeds, greater top-end power and maximum torque delivery over a broader range of engine speeds.

An evolution in control.

To make the most of this potential, the new 911 Turbo features another innovation: our first actively controlled all-wheel-drive system, with Porsche Traction Management. PTM continuously adjusts the delivery of power between the front and rear axles by way of an electronically controlled multi-disc clutch. The result is a precise and transparent transfer of power through twists and turns, and improved control in wet and icy conditions. All-wheel drive with PTM thus improves both safety and driving enjoyment.

Other standard features on the new 911 Turbo include an evolution of Porsche Stability Management (PSM), which helps the driver keep the car on its intended course in extreme situations, and Porsche Active Suspension Management (PASM), which adjusts suspension dampers in response to changing road conditions. You may also choose to have your 911 Turbo equipped with an optional limited-slip differential for the rear axle.

Another benchmark technology on the new 911 Turbo is the braking system. The front and rear discs have a generous diameter of 13.78 in. (350 mm). On the optional Porsche Ceramic Composite Brake (PCCB), the front diameter is increased to 14.96 in. (380 mm).

An optional boost.

For even greater performance, you may choose to equip your 911 Turbo with the optional Sport Chrono Package Turbo. When engaged, it optimizes the car's systems for maximum performance. This includes a turbo overboost function, which provides as much as 45 lb.-ft. of additional torque.

The 911 Turbo's powerful potential is matched by exemplary ride quality on every type of road, a rare achievement among the world's super cars.

Exterior design.

A statement of purpose.

From the production of the first model in 1974, the 911 Turbo has never hidden its intent. The newest model continues this tradition with a design that is singularly powerful.

Like the turbochargers under its skin, the body of the 911 Turbo is a model of aerodynamic control. The body's aerodynamic profile has been painstakingly tested to create positive downforce at the rear, without speed-robbing drag. The drag coefficient is remarkably low at just 0.31.

Front view.

The new front is designed to put onrushing air to optimum use. Massive air inlets direct cooling air to the twin radiators located in the car's nose. High-powered lighting technology plays an important supporting role. The new headlamps echo the traditional 911 design, with the modern advantage of ultra-bright Bi-Xenon lighting and an integrated cleaning system. Compact fog lamps and turn indicators assist in creating undisturbed airflow.

Side view.

The side air intakes behind the doors provide efficient air delivery to the twin intercoolers. As is typical in Porsche racing cars, air ducts are also directed to both the front and rear brakes; their cooling action plays a key role in eliminating brake fade. Black plastic sills along the sides of the body provide effective protection against stone chips.

Rear view.

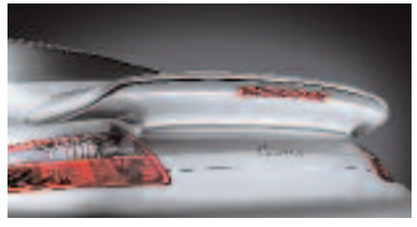
The new 911 Turbo is much wider across the rear than the front. The generous wheel track and wider tires provide for massive lateral grip. The new engine lid design features an integrated rear split-wing spoiler; the upper wing element is automatically raised at approximately 75 mph (120 km/h) and lowered at around 37 mph (60 km/h). The purposeful side air outlets and fully enclosed twin tailpipes are a further indication of the power within.

Distinctive wheels.

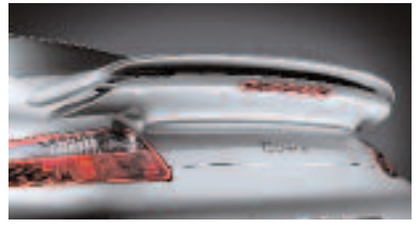
The 911 Turbo is distinguished by a new wheel design. The 19-inch forged alloys have a relatively small spoke cross-section, for lighter weight and improved air flow to the brakes. As a plus, they also provide an unobstructed view of the high-performance braking system. Standard tire dimensions are 235/35 ZR 19 for the front wheels, and 305/30 ZR 19 for the rear.

The interior of the car is equally compelling and entirely designed around the driver. The high-quality surfaces include a full leather finish on the standard electric seats as well as the dashboard, doors and rear side panels. Two sports seat options are also available, one featuring an adaptive adjustment. The standard equipment package includes a new gear-knob design—created exclusively for the 911 Turbo—and a three-spoke sports steering wheel featuring 1.57 in. (940 mm) of height and reach adjustment.

Every detail of the new 911 Turbo is a direct expression of power, composure and comfort. The design makes a clear statement: A new era has arrived for this legendary sports car.



Rear wing retracted



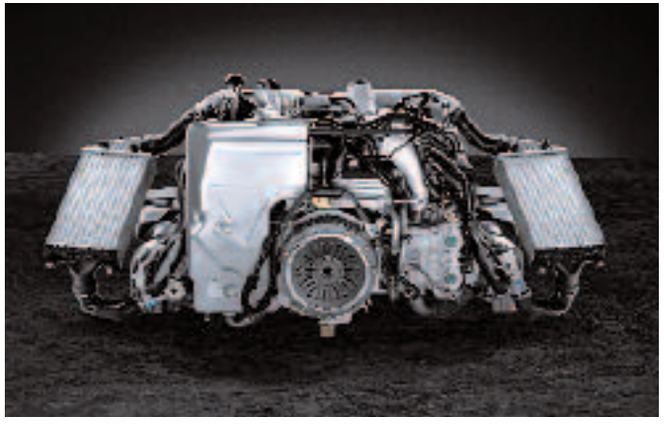
Rear wing deployed

Yes, the acceleration, braking and g-force numbers are impressive. But the sensation of driving the new Turbo can only be described as poetry. By combining strength with grace, intelligence with sensation, precision with soul, it raises performance to an art.

Performance

Engine.

A tradition of innovation.



911 Turbo engine

F. A. Porsche pushed the envelope far indeed when he designed the first 911. With its "flat-six" cylinder layout and rear-mounted location, it broke the mold of sports car design. The new Turbo engine stays true to those 911 essentials, and to the Porsche spirit of innovation.

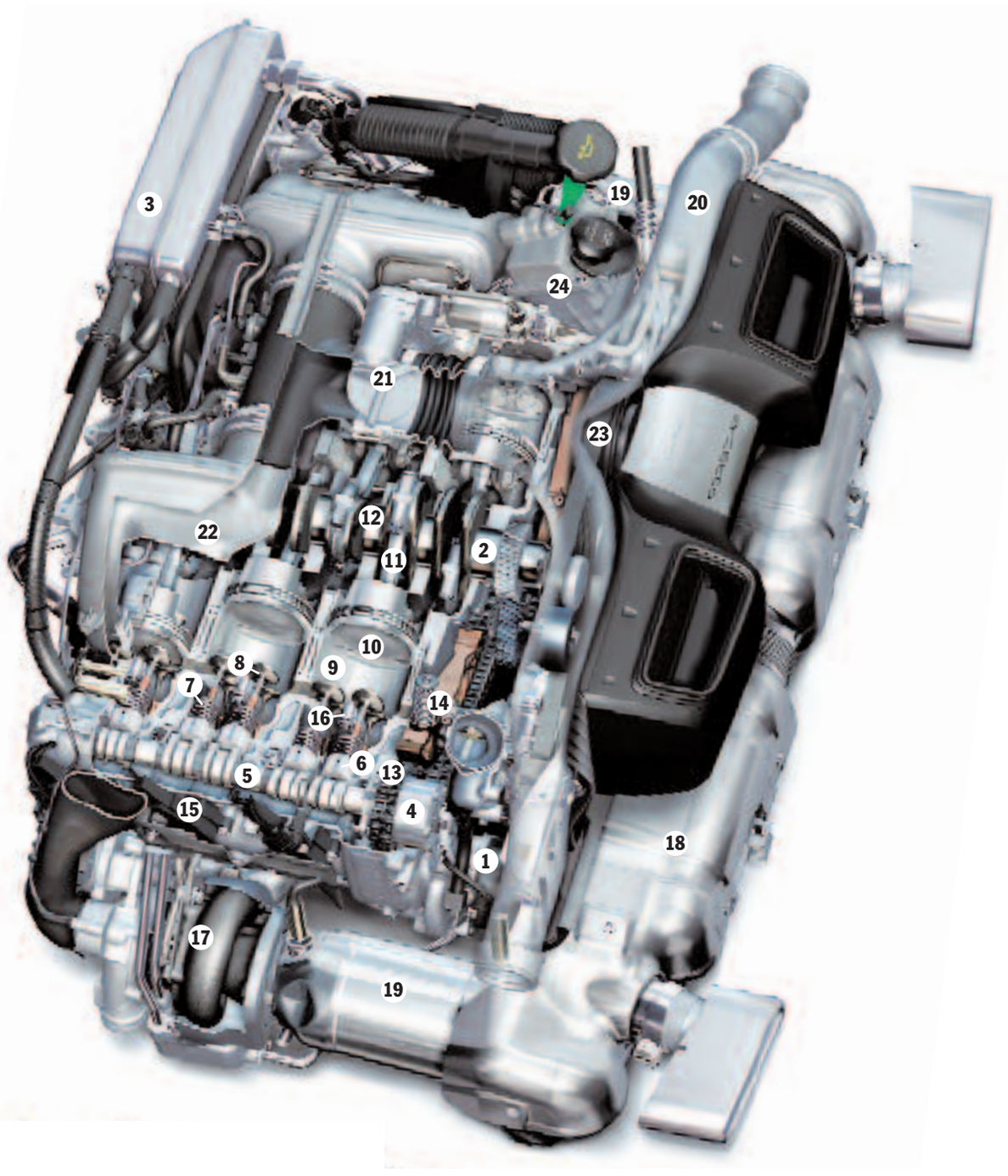
A higher peak.

Porsche, for the first time, is applying Variable Turbine Geometry (VTG) in a gasoline engine. By improving the efficiency of the car's twin turbochargers, Variable Turbine Geometry contributes to a 14 percent increase in peak power over the previous-generation 996 Turbo, with the same 3.6-liter displacement. Output thus increases to 133 horsepower per liter.

A broad plateau.

Peak power is just part of the advantage. With Variable Turbine Geometry and Porsche VarioCam Plus working in concert, the engine's astonishing 460 lb.-ft. of maximum torque is fully available from 1950 to 5000 rpm. This impressive torque plateau translates to commanding acceleration throughout the revolution band.

Acceleration, needless to say, is breathtaking. Equipped with Tiptronic S, the new 911 Turbo can accelerate from a standing start to 60 mph in just 3.7 seconds, reaching 124 mph in just 12.2 seconds. In appropriate track conditions, the car's maximum speed is 193 mph.



1. **Oil scavenge pump**
2. **Oil pressure pump (obscured)**
3. **Engine oil reservoir (dry-sump lubrication)**
4. **Camshaft adjuster (VarioCam Plus)**
5. **Intake camshaft**
6. **Tappets (with hydraulic valve clearance adjustment)**
7. **Valve springs**
8. **Intake valves**
9. **Nikasil-coated cylinder bore**
10. **Forged aluminum piston**
11. **Forged connecting rod**
12. **Crankshaft**
13. **Camshaft drive chain**
14. **Camshaft drive chain tensioner with guide rail**
15. **Single-spark ignition coil**
16. **Spark plug**
17. **Exhaust-gas turbocharger with Variable Turbine Geometry (VTG)**
18. **Exhaust system**
19. **Catalytic converter**
20. **Pressure pipe**
21. **Throttle valve (electronically actuated)**
22. **Plenum chamber**
23. **Ancillary drive belt**
24. **Fluid reservoir for power-steering system**

Lightweight, high strength.

Compared to conventional engines of similar displacement, the 911 Turbo engine has a wondrously compact design. Its two banks of cylinders are located on a horizontal plane, lowering its center of gravity. This “boxer” cylinder arrangement also provides good balance and reduced vibration.

Its compactness is complemented by lightweight materials. The crankcase, for example, is a lightweight alloy constructed in two main sections, one for each bank of cylinders. The pistons are aluminum. The cylinder heads are made from a lightweight alloy which is extremely resistant to high temperature.

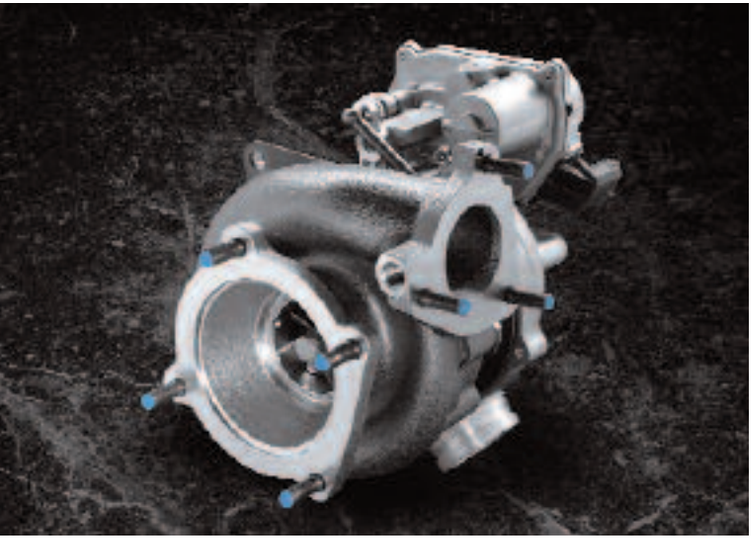
Frictional resistance is also notable. The pistons run in Nikasil-coated aluminum liners, featuring individual oil-spray cooling. As in all 911 engines, dry-sump lubrication ensures consistent oiling. Vibration is further minimized by a crankshaft running on eight main bearings.

Each bank of cylinders has two overhead camshafts driving a set of four valves—two inlet and two exhaust—on each individual cylinder. The valves are arranged in a “V” configuration and feature a highly efficient dual-spring design.

These time-proven elements of Porsche engine design provide the ideal platform for performance-enhancing technologies, such as VarioCam Plus and Variable Turbine Geometry.

Variable Turbine Geometry (VTG).

Advancing the turbo concept.



Turbocharger with Variable Turbine Geometry (VTG)

The turbocharger has undergone a continuous evolution in the hands of Porsche engineers. Variations in turbine size, the addition of the intercooler, the move to twin turbochargers and advances in engine-management systems have all extracted greater performance from the basic concept of an exhaust-driven compressor. In the new 911 Turbo, Variable Turbine Geometry (VTG) provides a revolutionary step forward.

The turbo dilemma.

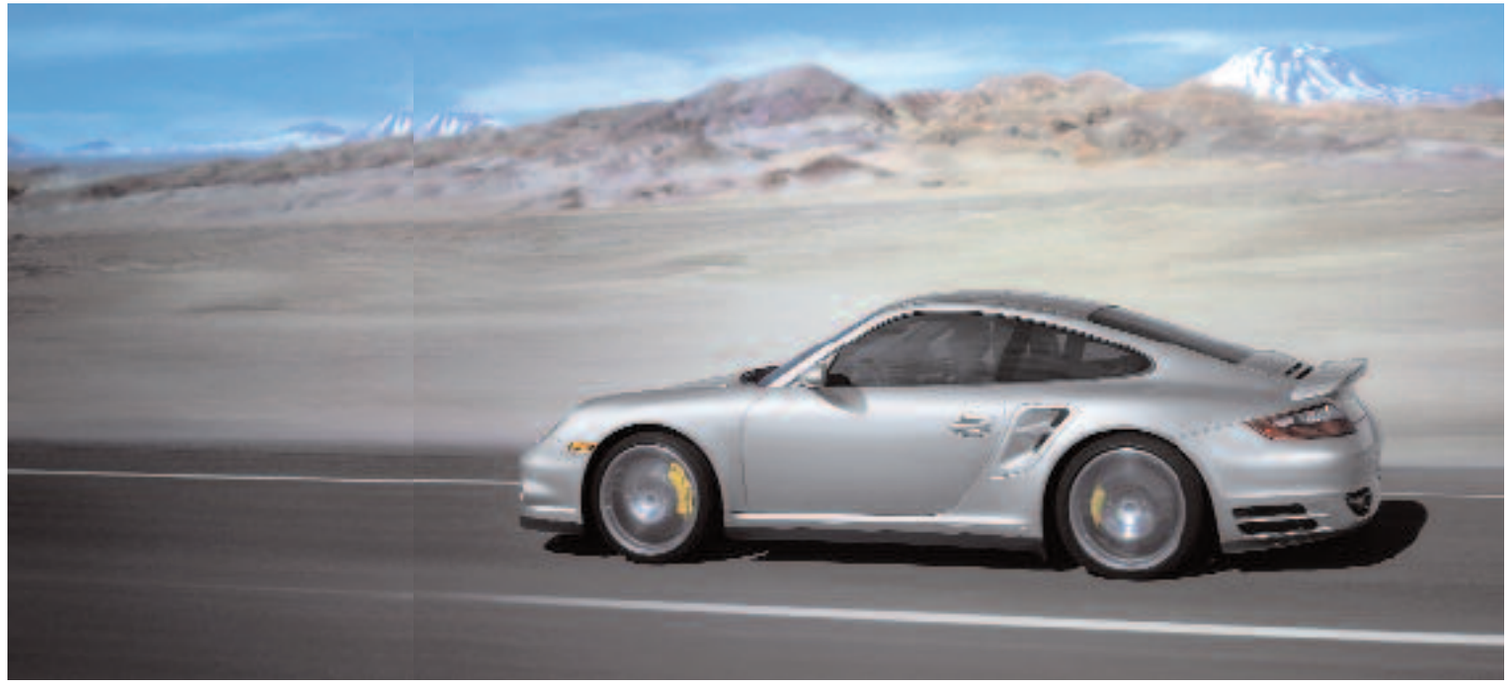
It's well understood that a smaller turbine will generally reach optimum speed more quickly than a larger, heavier turbine. But as engine revolutions continue to climb, exhaust flow tends to overwhelm the smaller turbine; the resulting backpressure robs the engine of power at high rpm.

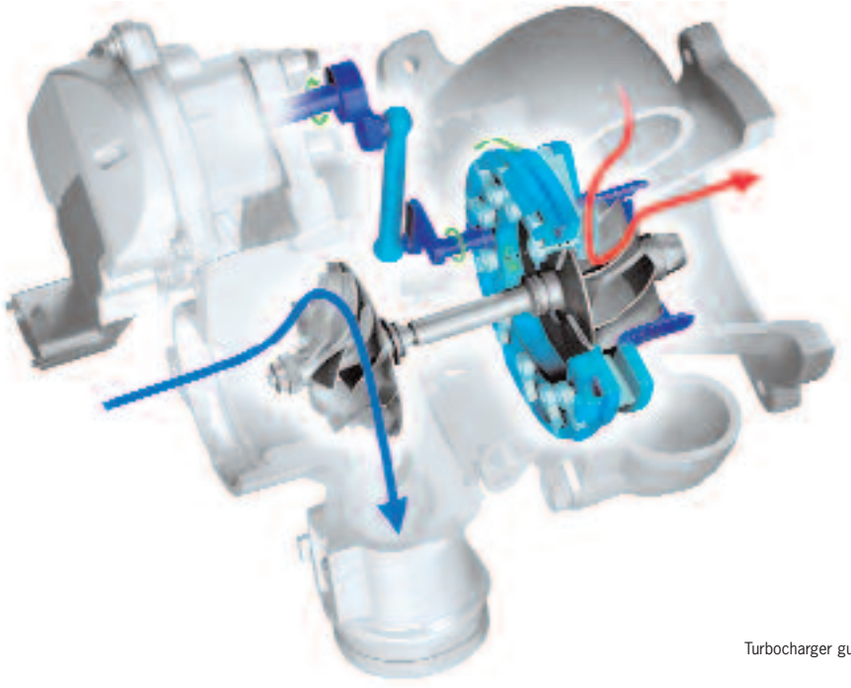
Larger turbo units have the opposite tendencies. They work well at mid- to high-range engine speeds, but it takes them longer to spin up to speed, resulting in "turbo lag."

A virtuoso performance.

The 911 Turbo offers a revolutionary solution to this dilemma. Its twin inter-cooled turbochargers feature the application of Variable Turbine Geometry (VTG). With Variable Turbine Geometry, the exhaust flow is channeled into the turbines by way of electronically adjustable guide vanes. By changing the angle of these vanes, the system can replicate the advantages of a small turbo at low rpm, and a larger turbo as the tachometer climbs.

While this technology has been used in diesel engines since 1996, Porsche uses Variable Turbine Geometry for the first time in the new Turbo. The system is capable of handling the significantly hotter exhaust from a gasoline engine by using heat-resistant materials first developed for aerospace.





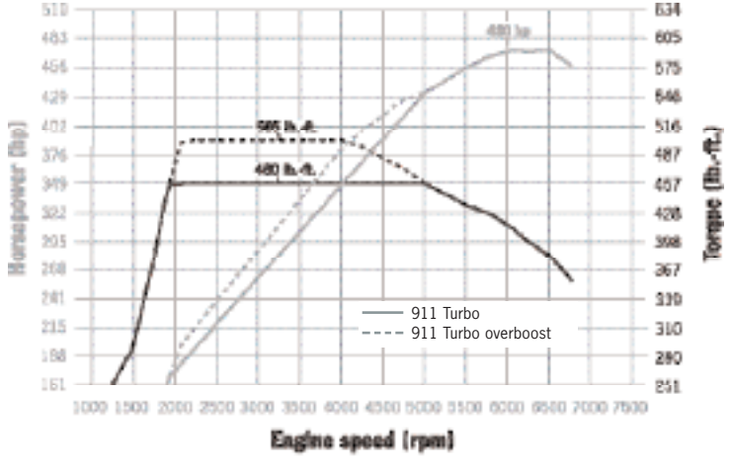
Turbocharger guide vane adjuster

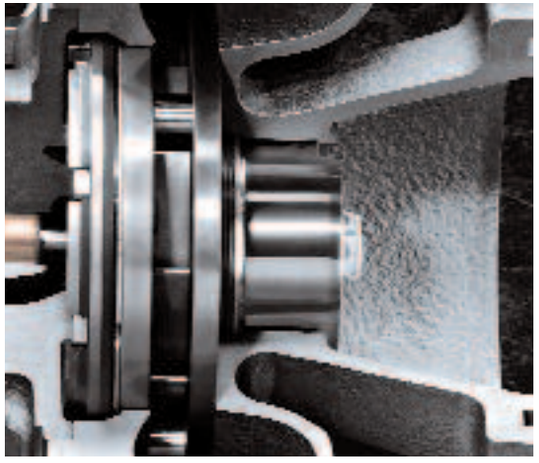
Commanding power.

In the new 911 Turbo, maximum torque is reached at a much lower rpm and retained across a wider revolution band. At every engine speed, throttle input is met with a commanding yet measured response. Once the boost pressure reaches its maximum value, the guide vanes are opened further. By varying the vane angle, it is possible to achieve and maintain the required boost pressure over the entire engine speed range. As a result, there is no need for a waste gate, as found on conventional turbocharged engines.

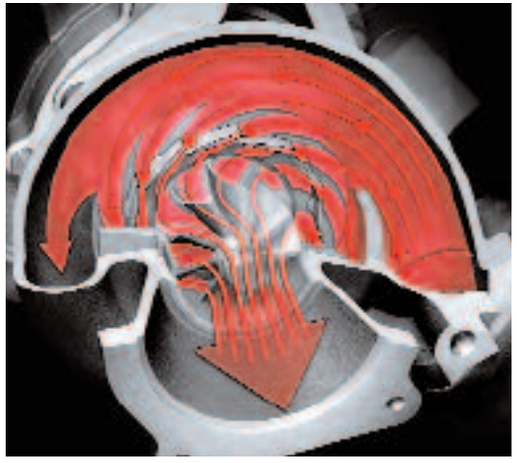
For brief bursts of additional power, the driver can select Sport mode on the optional Sport Chrono Package Turbo. Under full acceleration, this selection engages an “overboost” function for up to 10 seconds, temporarily raising the engine’s torque to an astounding 505 lb.-ft.

Surprisingly, Variable Turbine Geometry also contributes to the new 911 Turbo’s improved fuel efficiency, as well as its astonishing acceleration.

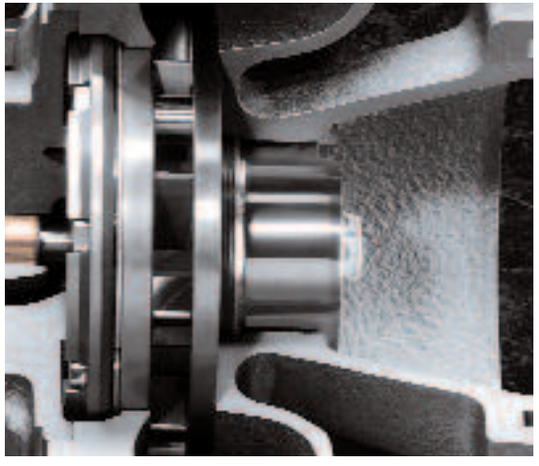




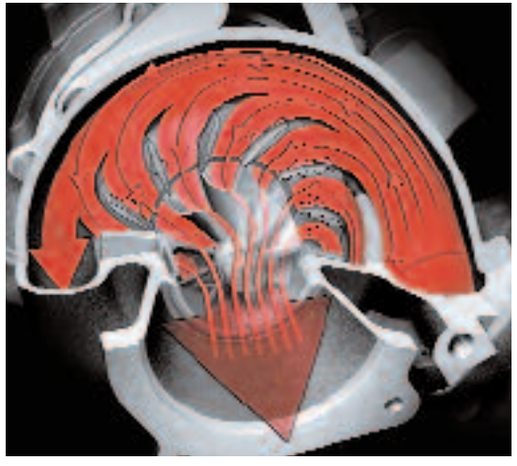
Guide vanes closed



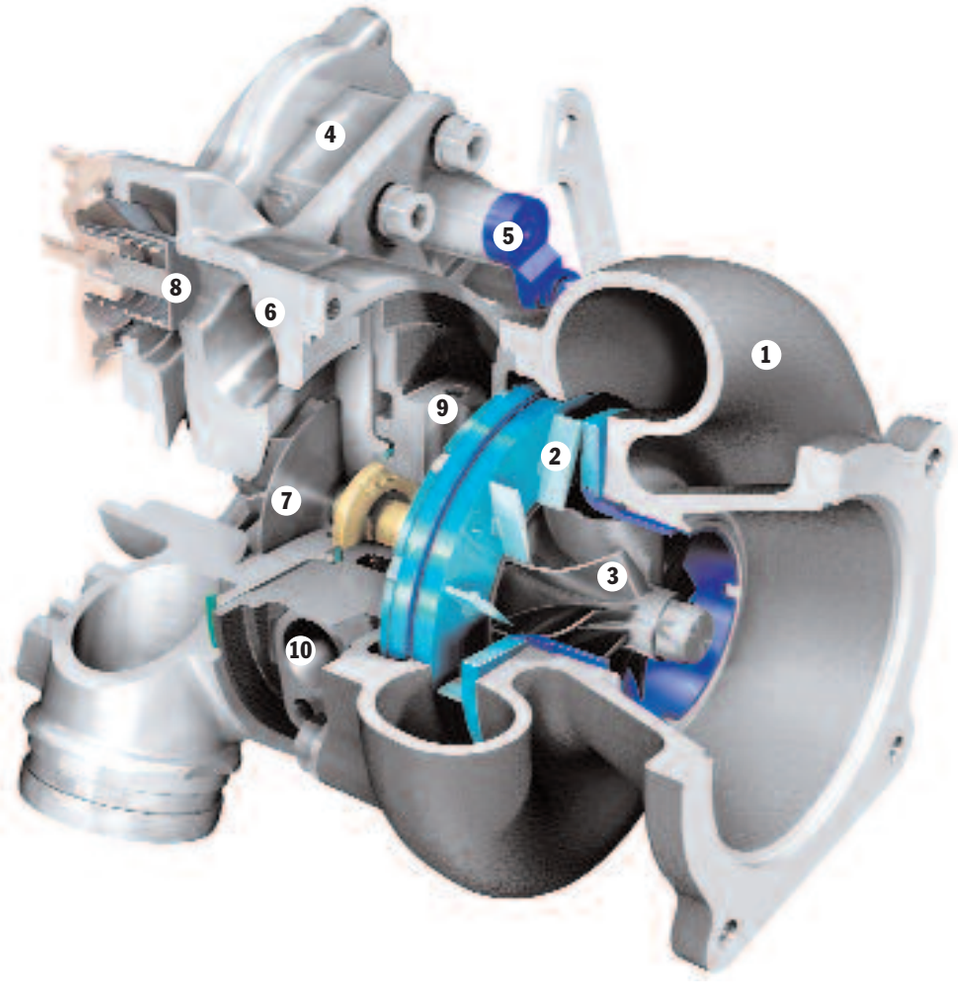
Guide vanes closed



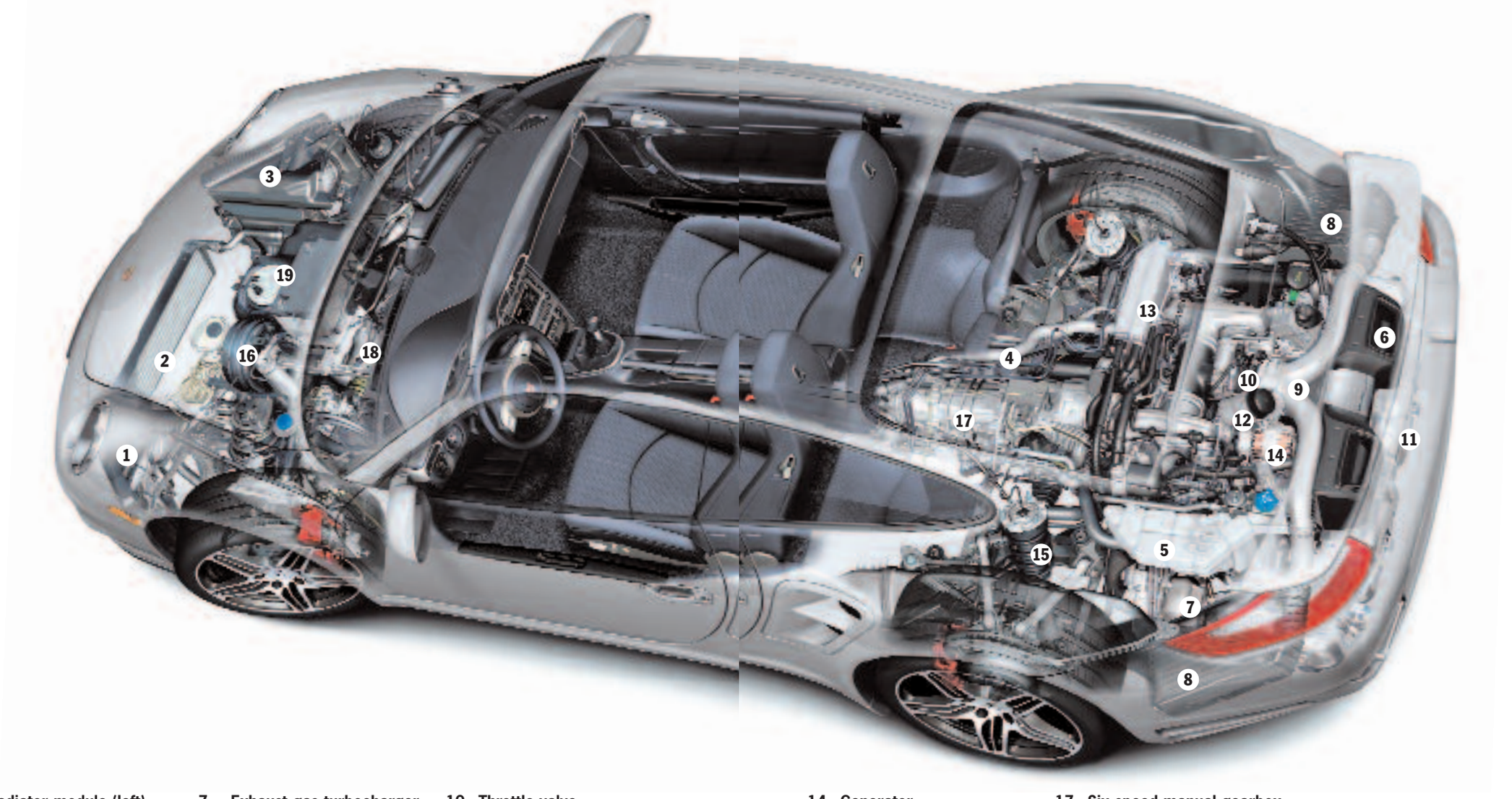
Guide vanes open



Guide vanes open



1. **Turbine casing**
2. **Movable guide vanes**
3. **Turbine wheel**
4. **Electric motor for guide vane adjustment**
5. **Guide vane adjuster**
6. **Compressor casing**
7. **Compressor wheel**
8. **Excess-pressure valve**
9. **Oil inlet**
10. **Coolant inlet**



1. Radiator module (left)
2. Radiator module (center)
3. Radiator module (right)
4. Coolant pipe
5. Coolant expansion tank
6. Air filter
7. Exhaust-gas turbocharger with Variable Turbine Geometry (VTG)
8. Intercoolers
9. Pressure pipe
10. Throttle valve (electronically actuated)
11. Exhaust system
12. Oil filter
13. Engine oil reservoir (dry-sump lubrication)
14. Generator
15. Porsche Active Suspension Management (PASM) damper
16. Tandem brake booster
17. Six-speed manual gearbox
18. Front differential
19. Fuel tank

VarioCam Plus.

Optimum valve timing, optimum valve lift.

VarioCam Plus is an innovative system that continually adjusts valve timing and valve lift for optimum performance. Its benefits include increased power and torque at all engine speeds, smoother running, better fuel economy and reduced exhaust emissions.

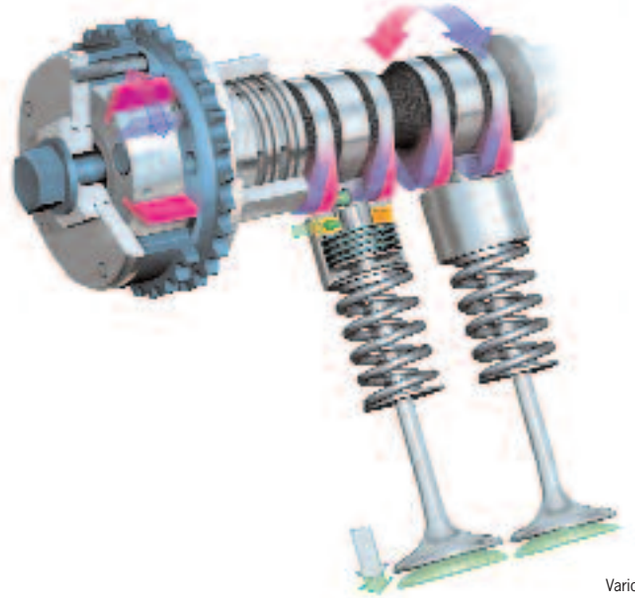
Essentially, VarioCam Plus offers two engines in one: one tuned for normal driving, the second tuned for high-performance road and track use. The system switches seamlessly between the two in response to driver input and conditions.

VarioCam Plus incorporates two cam profiles into each inlet camshaft. An electro-hydraulic mechanism engages the proper cam profile for a given engine speed. The timing of each valve is steplessly controlled by means of an electro-hydraulic rotary vane adjuster at the head of the corresponding camshaft. All operations are managed by a robust electronic control unit.

From the driver's perspective, the benefits of VarioCam are clear: copious torque when desired, with impressive fuel economy in daily driving, particularly compared to larger engines with similar output.

Dry-sump lubrication.

Oil is the lifeblood of a high-performance engine. With a classic dry-sump system, the new 911 Turbo ensures ideal oil pressure even under extreme g-force loads. After passing through the engine, every drop of oil is returned directly to an external reservoir. Flow to the reservoir is driven by two pairs of scavenge pumps in the cylinder heads and two pumps in the crankcase. A de-foaming device in the reservoir removes gases from the oil. The oil is returned to the lubrication points in the engine by means of a dedicated oil-feed pump. With a further scavenge pump in each of the twin turbocharger units, the new 911 Turbo has a total of nine separate oil pumps to assure continuous flow.



Variocam Plus

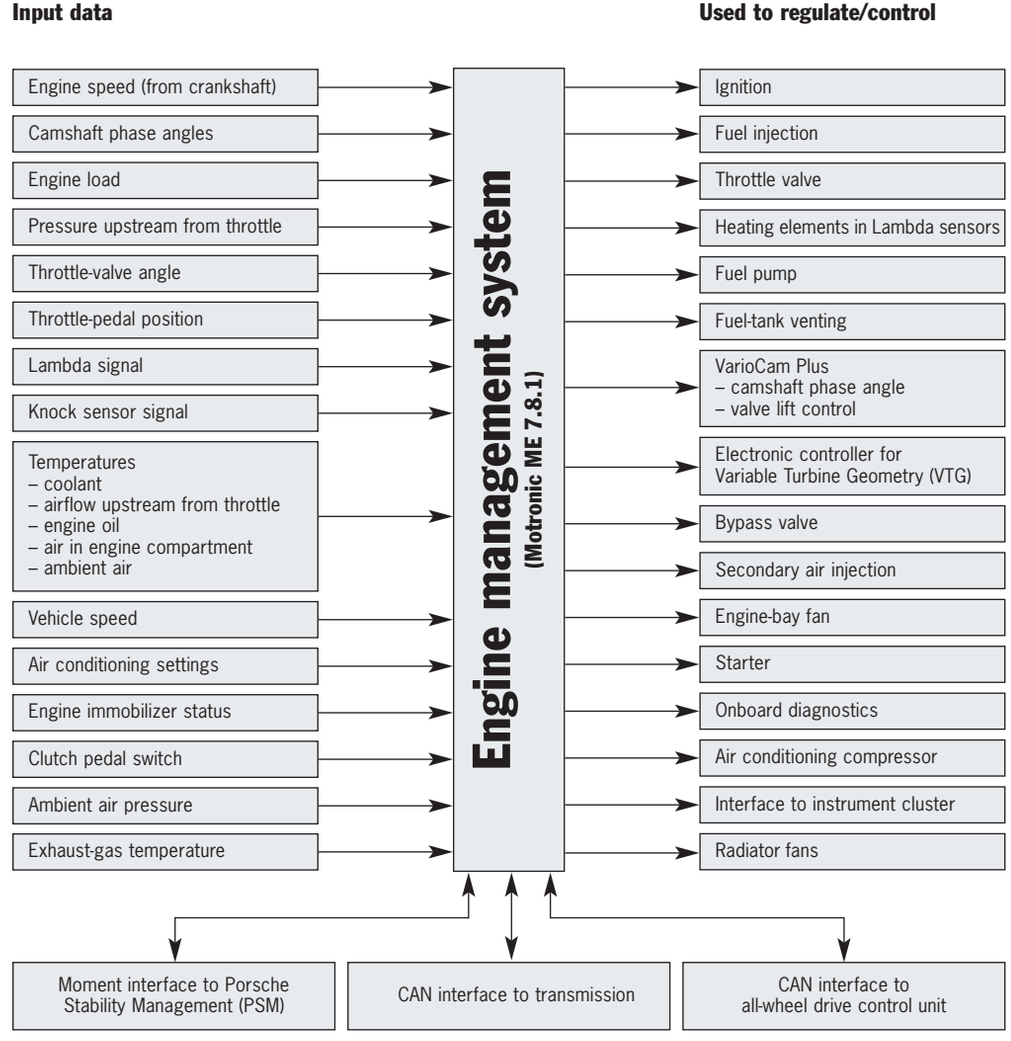
Engine cooling.

An advanced cross-flow water cooling system channels coolant separately to each individual cylinder, so that all six cylinders operate within the same temperature range. Consistent temperatures reduce the chance of pre-ignition knocking, extend valve life, improve fuel economy and lower emissions. Cleverly, the coolant channels are cast into the block, eliminating the need for hoses and related maintenance. Waste heat from the oil is transferred to the coolant via two oil/water heat exchangers. Coolant is routed through twin radiator units located ahead of the front wheels and a third unit placed in the car's nose.

Engine management.

In the 911 Turbo, an electronic brain assures optimum performance in all operating conditions. The Motronic ME 7.8.1 is the latest generation of Porsche's well-proven engine management system. On the new 911 Turbo, this powerful ECU is responsible for all engine-related functions and assemblies (see diagram). Key among these are the Variable Turbine Geometry (VTG), VarioCam Plus, the electronic throttle system and the Porsche Stability Management (PSM). The results: optimum economy, emissions and performance, regardless of driving style.

Another important task performed by the engine management system is cylinder-specific knock control. By preventing pre-ignition at high engine speeds, it can avert costly damage to the pistons and cylinders.



Fuel injection.

Fuel is supplied to each of the six cylinders by means of sequential fuel injection. The timing and volume of each injection is controlled by the engine management system. Adjustments are based on a range of variables, such as throttle position, engine speed, boost pressure, coolant temperature and exhaust-gas composition. In this way, both combustion and fuel consumption are optimized. A hot-film air mass sensor monitors the density of the incoming air to ensure the optimum air/fuel mixture, regardless of weather and altitude.

Ignition system.

The 911 Turbo is equipped with a static high-voltage ignition system. Each individual plug has a separate ignition coil, ensuring reliable combustion every time. The role of distributor is performed by the engine management system, which operates the coils directly to assure optimum performance with minimal fuel consumption.

Exhaust system.

The exhaust system plays the final role in maximizing engine performance. The 911 Turbo's all-stainless-steel exhaust system consists of two separate tracts, one for each bank of cylinders. The catalytic converters are extremely heat-resistant, yet quick to reach temperature from a cold start, assuring good performance. Twin Lambda sensors in each of the exhausts enable continuous monitoring of the combustion process. An additional pair of sensors is used to measure the efficiency of the catalytic converters.

Servicing.

Our engineers developed the 911 Turbo to deliver peak performance with minimal service required. Some examples of their thoughtfulness include timing chains that are maintenance-free for the life of the car, an ignition system that requires no servicing beyond fresh spark plugs every 60,000 miles, valves that self-adjust automatically, and a self-adjusting belt that drives the generator, power-steering pump and air conditioning compressor, which has an average service life of over 50,000 miles. Thanks to excellent filtration and high-endurance synthetic oil, oil-change intervals are an astonishing 20,000 miles.

Two engaging transmissions.

Six-speed manual transmission.

The new 911 Turbo features as standard equipment a new six-speed manual gearbox, meticulously adapted to handle high torque. Designed primarily for sports driving, it features the ideal spread between successive gear ratios. Gearshift throws are short and properly weighted, enabling rewarding and decisive shifting. The linkage provides a direct connection with the gearbox while insulating the lever from engine vibration. A dual-mass flywheel assures smooth power delivery and quiet idling in neutral. One final detail—the new gear lever design—is exclusive to the 911 Turbo.

Tiptronic S.

There was a time when the sports car buyer was forced to choose between the control of driver-executed gearshifts and the ease of automatic shifting. Porsche changed all that with the introduction of Tiptronic, a highly sophisticated automatic transmission with a manual shifting option.

The five-speed Tiptronic S, the latest advance of this technology, is now available as an option on the 911 Turbo. Far from compromising performance, its lightning-quick gearshifts actually reduce sprint times compared to that of the standard six-speed gearbox. Tiptronic S shaves 0.3 seconds in the sprint from 0 to 60 mph, and 0.8 seconds from 0 to 120 mph.

The Tiptronic S offers you the choice of fully automatic five-speed shifting or manual control. In manual mode, shifts are executed using controls on the steering wheel. Simply press up to upshift, down to downshift. The clutch function is fully automatic.

In automatic mode, Tiptronic S displays almost prescient awareness of the driving situation and road conditions. Drivers quickly develop a feel for the system, and quite soon find themselves managing gear selection through throttle input alone.

Based on your driving style, the system selects from a wide range of shift patterns, from a conservative fuel-saving pattern all the way to a dedicated “Sport” pattern. Unlike conventional automatics, Tiptronic S prevents mid-corner gearshifts and unexpected weight transfer, enhancing stability and safety. Under heavy braking, the system shifts down, using engine braking to slow the car, particularly

helpful when approaching a corner. Under prolonged braking, additional downshifts are performed based on the amount of brake force applied.

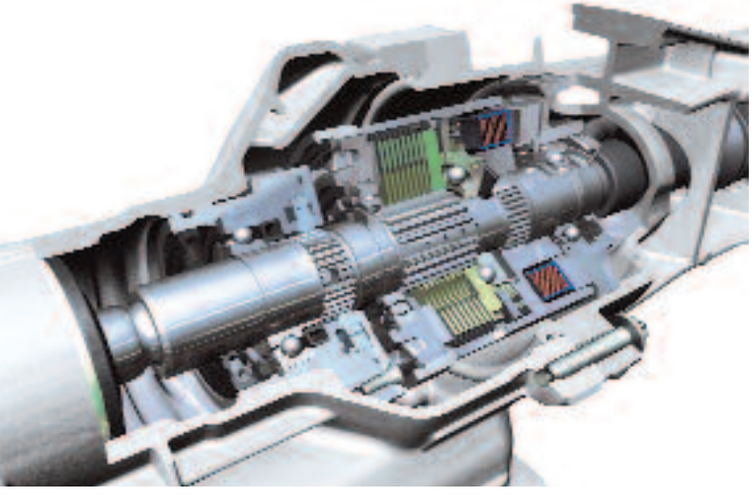
The system’s incline sensor improves uphill acceleration and makes better use of engine braking on descent, reducing the brake system load. If traction is lost under braking in rain or snow, Tiptronic S automatically shifts up to help restore lateral grip and bring the car back in line with the intended course.

Electronically controlled all-wheel drive with Porsche Traction Management.

The synthesis of brains and brawn.

An engine's twisting power is of limited use unless it can be turned into forward motion. This is no small challenge in the new 911 Turbo. To apply the engine's 460 lb.-ft. of torque to the road, Porsche engineers have developed a new traction control system for the car's full-time all-wheel drive.

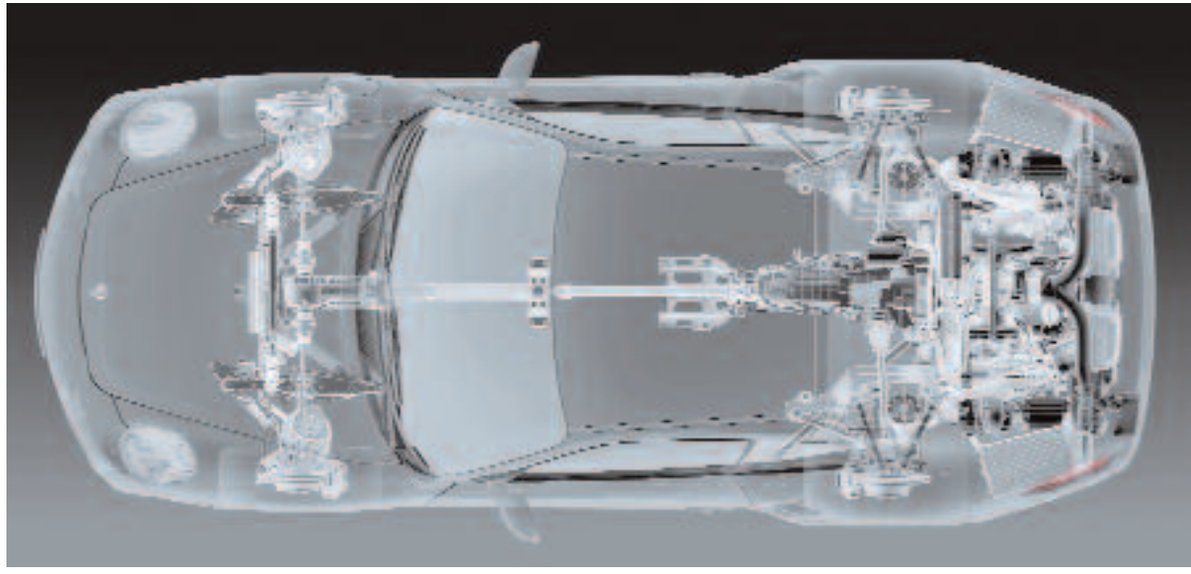
In the previous 911 Turbo (Type 996), a viscous multi-disk clutch responded to relative front/rear speed differences to determine how much torque to apply at either axle. The new 911 Turbo, by contrast, employs an electronically controlled multi-disk clutch that responds to traction changes almost instantaneously. Onboard sensors measure a range of values, including the rotational speed of all four wheels, the car's lateral and longitudinal acceleration, and the current steering angle. The sensor data is analyzed in real time, enabling immediate adjustments in the torque split between the front and rear axles.



Electronically controlled multi-plate clutch

Balanced performance.

The benefits are wide-ranging. For example, if the rear wheels lose traction under acceleration, more drive torque is instantly transmitted to the front axle. The integral Anti-Slip Regulation (ASR) function also minimizes wheel-spin. When cornering, Porsche Traction Management (PTM) adjusts drive to the front wheels in order to maintain optimum lateral grip. On variable-grip surfaces, traction is enhanced using the Automatic Brake Differential (ABD) function. For optimum traction, manual transmission cars can also be equipped with an optional mechanical limited-slip rear differential.



All-wheel-drive system

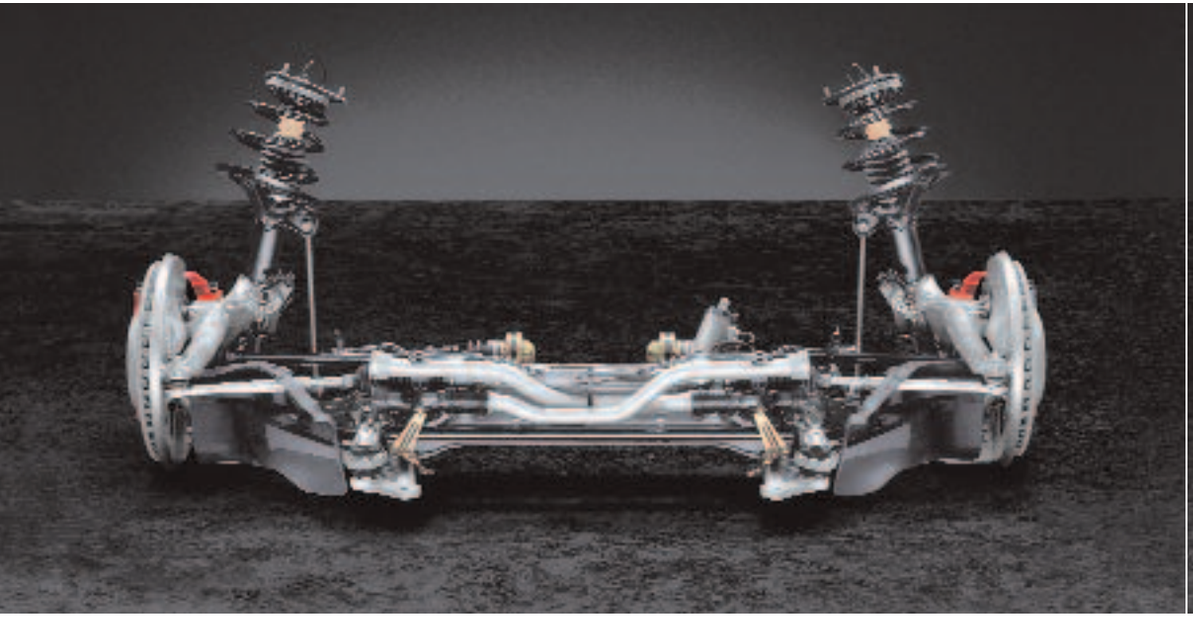
Assisting Porsche Traction Management is an upgraded version of Porsche Stability Management. Combined, these systems ensure optimum torque distribution as the road changes beneath you—through long straightaways, hairpin bends and the challenge of changing levels of road grip. The traction benefits of the new electronically controlled system are particularly apparent in the wet or on snow.

Active safety.

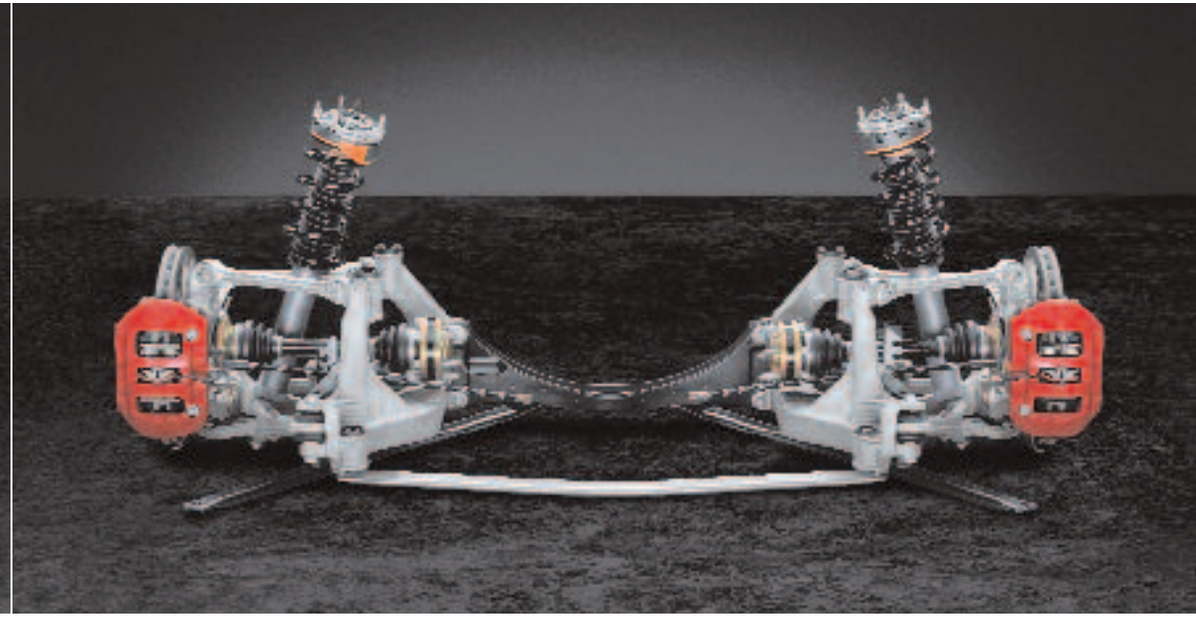
The system also plays a role in emergency braking. When the anti-lock braking system is activated, Porsche Traction Management cuts all torque to the front axle, so that each front wheel can be controlled separately by the ABS without being influenced by the rear-wheel dynamics.

Suspension.

Precision, strength and lightweight design.



Front axle of the 911 Turbo



Rear axle of the 911 Turbo

These sculpted forms represent the ultimate evolution of Porsche suspension design. Their sporting prowess begins with sound geometry and lightweight materials. Reducing weight, particularly of the unsprung masses, brings significant benefits in driving dynamics.

At the front axle, MacPherson struts work in concert with longitudinal and transverse links to keep the tire patches firmly planted over the road's twists, turns and bumps. Brake spoiler elements provide efficient cooling for each of the front brake units.

The rear axle assembly is a race-proven, multi-link design known as LSA—for lightweight, stable and agile. Its kinematics improve stability under acceleration by reducing excessive compression. Virtually all moving parts in the axle assemblies are made from light yet robust aluminum.

To suit changes in road conditions and driving style, the new 911 Turbo is equipped with an electronic damping system called Porsche Active Suspension Management (PASM).

With a suspension ideally tuned to the car's potential, the 911 Turbo delivers both the exhilaration of controlled high-performance driving, and the extra margin of safety that comes from driving a highly responsive, well-mannered sports car.

Steering.

Communication between car and driver.

In a high-performance car, the steering must do more than respond with precision; it must also communicate back to the driver the interaction of tire and road. The power-assist steering in the 911 Turbo achieves these objectives with true finesse.

One of the key features of the new steering system is its variable-ratio gearing. Around the straight-ahead position, the ratio is less direct, enabling smoother maneuvers at highway speeds. Turn the wheel harder and the ratio becomes more direct, enabling better manageability through twisting back roads or in tight parking situations.

Sensitive, accurate and engaging, the steering is everything you expect from a 911 Turbo.

Wheels.

Strong and light, the standard 19-inch forged alloy wheels were engineered to extract every ounce of the 911 Turbo's thrilling performance potential. Their new design features a two-tone finish that further distinguishes the Turbo from other 911 models: The sides of each spoke are painted in a titanium tone, while the entire front surface, including the flange, has a polished finish.

The front wheel dimensions are 8.5J x 19, and are shod with 235/35 ZR 19 tires. As befits the car's rear bias, the rear wheels are a wider specification, 11J x 19, with 305/30 ZR 19 performance tires.

A range of optional 18- and 19-inch winter wheels (all snow chain-compatible) are available from Porsche Tequipment. Vehicles equipped with the optional Porsche Ceramic Composite Brake (PCCB) may only be fitted with the larger 19-inch winter wheels.

Tire Pressure Monitoring System.

The standard Tire Pressure Monitoring System (TPMS) informs the driver of pressure loss through the onboard computer display as well as a separate indicator light.

19-inch wheel

Porsche Active Suspension Management (PASM).

From ultimate comfort to optimum performance.

For the ultimate in comfort and control, the 911 Turbo is equipped with Porsche Active Suspension Management (PASM) as standard equipment. This system provides continuous adjustment of the damping force at all four corners of the car to suit your driving style and changing road conditions.

Porsche Active Suspension Management has two driver-selectable modes, “Normal” and “Sport,” which share a minimal degree of overlap. In either mode, PASM reacts to changes in the road and your driving style by varying damping force at each wheel. The system uses a range of sensors to monitor the car’s longitudinal and lateral acceleration, braking, steering angle, brake-pedal pressure and engine torque. A dedicated control unit analyzes all this data, and adjusts damping to suit the situation, within the parameters of the driver-selected mode.

Further driver input is not required, even if road conditions change. If Sport mode is selected, for example, the suspension is set to a harder damper rating. If the quality of the road surface falls below a certain threshold, the system immediately changes to a softer rating within the Sport range. This adjustment enhances occupant comfort as well as traction and grip. When the road surface improves, PASM automatically reverts to the original, harder rating.

Likewise, if Normal mode is selected and the car is driven more assertively, PASM automatically switches to a harder rating within the Normal setup range. As the dampers become stiffer, the car becomes more stable, ensuring higher levels of active safety and responsiveness.

With Porsche Active Suspension Management, agility is enhanced, without compromising overall ride quality. The result is a new level of harmony between comfort and control.

Limited-slip differential.

For enhanced grip in high-performance driving, Porsche offers an optional mechanical limited-slip rear differential for the 911 Turbo with manual gearbox.

Key benefits include greater rear-end traction when exiting hairpin bends, and improved traction on variable-grip surfaces. It also compensates for changes in wheel loads caused by throttle modulation when cornering.

Rebound in Normal mode—damper piston with bypass valve open

Rebound in Sport mode—damper piston with bypass valve closed

Compression in Normal mode—damper piston with bypass valve open

Compression in Sport mode—damper piston with bypass valve closed

Porsche Stability Management (PSM).

Enhancing the art of driving.

The latest evolution of Porsche Stability Management (PSM) is standard equipment on the 911 Turbo. While PSM cannot overcome the laws of physics, this advanced system can provide the driver with additional control in extreme situations.

PSM remains an invisible feature in most everyday driving. However, it is constantly monitoring a host of dynamic variables—including the car's direction, speed, yaw velocity (the speed at which the car rotates around its vertical axis) and lateral acceleration.

Staying on course.

If PSM perceives that the car is diverging from the driver's intended course, it applies selective braking at individual wheels to help bring the car in line. Porsche Stability Management also assists when accelerating on a slippery surface, applying the integrated Automatic Brake Differential (ABD) and Anti-Slip Regulation (ASR) functions to help maintain traction and stability. Whenever PSM intervenes, an indicator light is illuminated.

Enhanced braking.

Anti-lock Braking (ABS) is an integral function of Porsche Stability Management. If a wheel approaches the threshold of skidding under braking, PSM applies selective ABS braking to that wheel, to shorten the braking distance and enhance directional control. The ABS function is smooth and precise.

Active safety is further enhanced by two additional brake functions: electronic brake prefill and brake assist.

The prefill function is automatically enabled whenever the throttle pedal is suddenly released. The pressure in the brake lines is marginally increased, and brake pads come into light contact with the discs. Should the driver choose to brake, the system is thus prepared to apply the maximum force without delay.

The brake assist function is specifically designed for use in emergency stops. When the pressure on the brake pedal exceeds a predefined threshold, the brake assist function uses the PSM hydraulics to apply the pressure required for maximum deceleration. The result: shorter braking distances.

Raising the threshold.

When Sport mode is selected on the optional Sport Chrono Package Turbo, PSM's threshold for intervention is raised, allowing greater driver involvement.

If you'd rather enjoy your 911 Turbo unassisted, PSM can be set to standby at any time. In this case, it will only intervene under heavy braking, where both front wheels exceed the ABS threshold.

All PSM inputs are restrained, preserving the natural agility of the car. While safe driving is ultimately the driver's responsibility, PSM can provide an extra margin of safety when you need it most.

Sport Chrono Package Turbo.

Our idea of a command performance.

Like every Porsche, the new 911 Turbo has plenty of performance in reserve. To help you further explore its potential, we offer the Sport Chrono Package Turbo. With this option, you have the ability to reprogram the car's electronic systems for maximum performance at the touch of a button, and to record performance figures.

Key features of the Sport Chrono Package Turbo include a swivel-mounted timer located on the dashboard, a "Sport" select button on the console, a performance display in the standard Porsche Communication Management (PCM), a personal memory function in PCM, and a special overboost function unique to the new 911 Turbo.

One-button control.

When Sport mode is selected, the engine management system modifies the throttle map, and engine variables are adapted to create a more aggressive level of power response. Under full acceleration, the overboost function temporarily increases (aprox. 10 sec.) the available boost pressure by approximately 3 p.s.i. The overboost is applied across the medium rev range, raising the standard 460 lb.-ft. of torque to as much as 505 lb.-ft.

Suspension variables are also retuned to the demands of more assertive driving. Porsche Active Suspension Management (PASM) switches to the firmer-damping Sport mode, enabling faster turn-in and flatter cornering. The all-wheel-drive system applies a greater proportion of drive torque to the rear, and the threshold for engagement of Porsche Stability Management (PSM) is raised, allowing a greater degree of throttle steer. For maximum maneuverability, PSM can be set to standby.

On vehicles with Tiptronic S, the basic gearshift pattern is automatically switched to high-performance mode. The gearshift action is virtually instantaneous, while the shift points are timed for maximum acceleration.

Recording your performance.

To help you monitor the car's increased performance, the timer includes an analog face and a digital field that can split times to the hundredth of a second. Times can be viewed, stored, compared and analyzed. Other useful features include a memory function that stores personal preferences for a range of features, including daytime running lights, "welcome home" lighting, climate control and door-locking functions.

Sport button on center console

The 911 Turbo performs best when it matters most—when your safety is at stake. With its hardened steel passenger cell and its direct and composed handling, it is the ideal platform for some of the most advanced active and passive safety technologies available in a road car.

Safety

First, avoid harm.

Active safety in the 911 Turbo.

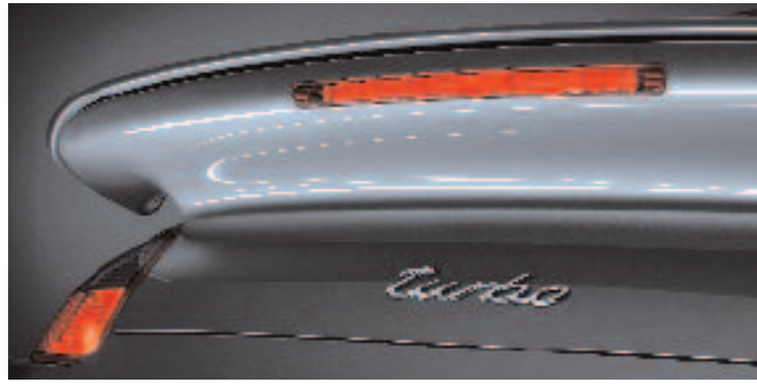
The best method of protecting a car's occupants is to aid the driver in avoiding accidents altogether. In the 911 Turbo, a poised, predictable chassis, responsive engine, powerful brakes, and electronic driver's aids all contribute to a generous reserve of safety. Lighting systems to see and be seen also assist in making a safer driving evironment.

Lighting systems.

The most advanced headlights available, Bi-Xenon gas-discharge lamps are standard on the 911 Turbo. Nearly twice as bright as halogen, Bi-Xenon's blue-white light is virtually identical to the spectrum of daylight, improving color perception and reducing eye strain. In the 911 Turbo, the light's swath is also wider and more consistent than that of conventional beams. To prevent the dazzling of oncoming traffic, dynamic headlamp leveling automatically adjusts the beams to compensate for changes in vehicle attitude during acceleration or braking. Integrated headlamp washers keep the lens crystal clear.

Equal care was taken in designing other lighting systems. The turn indicators feature bright and crisp LEDs for optimum visibility. Compact front fog lights are an effective and distinctive feature. At the rear of the car, the high-level third brake light is also equipped with fast-response LEDs. When either door is opened at night, a white curb light shines downward, lighting your way, while a red safety light warns cars approaching from behind that the door is open.

Bi-Xenon headlight



Third brake light

Braking system.

Always quick when you have to be slow.

The braking ability of the 911 Turbo is every bit as impressive as its acceleration. Powerful, precise braking begins with four massive discs. Measuring 13.78 in. (350 mm), each of the four discs is internally vented and cross-drilled for maximum cooling under heavy brake use and reliable braking in wet conditions.

Next come the calipers. A single block of aluminum forms the body of each monobloc caliper—a design that is extremely rigid, robust and lightweight to further reduce unsprung mass. The calipers feature six pistons in front and four in the rear. The brakes are quick to apply and release, while the pedal travel is short, precise and consistent. Air channels deliver cooling air to keep the system fade-free.

Finally, we add the latest driver's aids. Braking distances are reduced by the anti-lock braking system and the electronic brake prefill and brake assist systems, which are integral to Porsche Stability Management (PSM).

Standard brake unit

Porsche Ceramic Composite Brake (PCCB).

For the ultimate in high-performance braking technology, the 911 Turbo can be equipped with the optional Porsche Ceramic Composite Brake system.

The key components in PCCB are the molded ceramic discs, which are a larger 14.96 in. (380 mm) at the front, and 13.78 in. (350 mm) at the rear. As a result of an extremely complex manufacturing process, they are harder, more resistant to high temperatures, and only about half the weight of grey cast-iron discs—three reasons composite brakes are widely used in today's most advanced racing cars. The ceramic material is also corrosion-resistant and offers excellent acoustic damping properties.

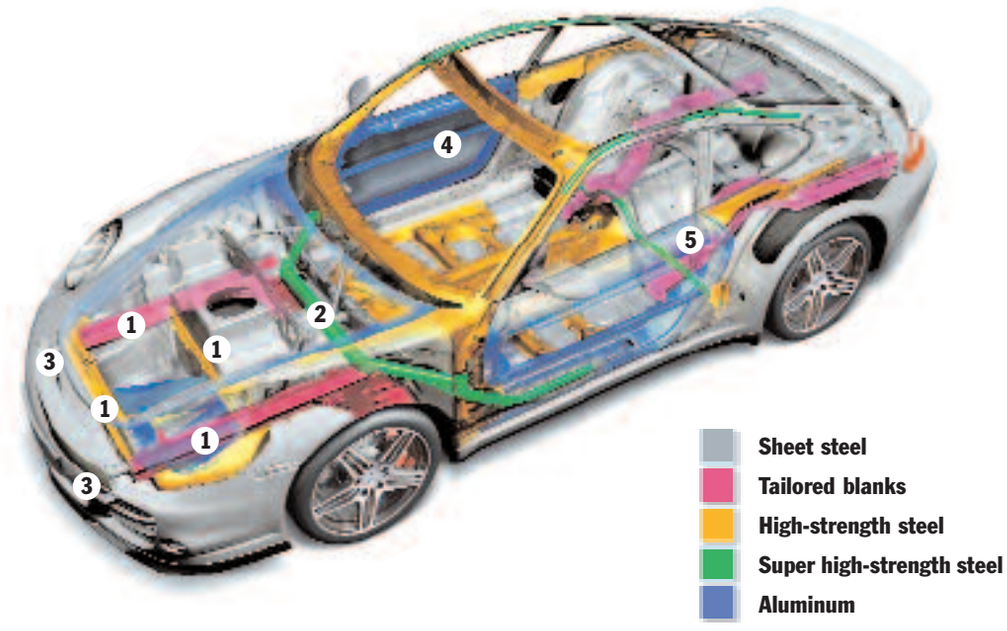
PCCB

The carbon-composite discs work in concert with a special brake-pad compound, offering rapid deceleration and consistent friction properties. The pads are mounted in six-piston monobloc aluminum fixed calipers at the front, with four-piston units at the rear.

The ultimate advantages of PCCB are an extremely high braking force that remains exceptionally consistent under heavy use, and a significant reduction in unsprung mass, which improves the chassis's responsiveness. To distinguish Porsche Ceramic Composite Brakes at a glance, the calipers are painted yellow.

Body structure.

Lighter, yet stronger.



As a global benchmark in performance, the 911 Turbo is designed to meet the word's most stringent crash-safety regulations—including statutory requirements for frontal, side, diagonal, rear-impact and rollover protection. The reinforced bodyshell is designed around a highly resilient passenger cell, offering exceptional crash protection.

Frontal protection.

At the front of the car, the cell is protected by a patented system of longitudinal and transverse members **(1)**. In the event of an accident, energy is absorbed by three separate load paths, one above the other, which disperse the force of impact and minimize deformation of the passenger cell.

Foot and leg protection.

Additional features include an ultra-rigid bulkhead cross-member **(2)** made from super high-strength steel. This element is designed to absorb impact forces from the longitudinal members to protect the front footwells. In a minor collision, a system of easily replaceable impact absorbers **(3)**

prevents costly damage to the underlying bodyshell structure.

Door strength.

The upper section of each door features additional reinforcements **(4)** which enhance the rigidity of the car. An additional load path **(5)** is used to channel energy through the upper part of the shell and protect the passenger cell. In 1985, Porsche began using super high-strength steel elements in its door design to provide greater occupant protection. On the new 911 Turbo, this integral reinforcement is made from robust yet lightweight aluminum. By increasing the proportion of aluminum alloys and high-strength steel, we've also improved the car's power-to-weight ratio. No less than 20% of the new 911 Turbo is made from aluminum.

Corrosion protection.

In 1975, Porsche was the first auto manufacturer to use a dual-sided hot-dip galvanized steel shell. This was with the introduction of the 911 "J-Series." This exacting process is fundamental to the legendary durability of our cars, and ensures a consistently high standard of crash protection—even after many years on the road. To underscore our confidence in this exceptional build quality, Porsche provides a 10-year anti-corrosion warranty, 3-year paint warranty and 4-year/50,000-mile warranty on the car as a whole.

Comprehensive passive safety systems.

More than a decade ago, Porsche was among the first manufacturers to outfit its entire range of production models with airbags as standard equipment.

A new-generation airbag system is found in the new 911 Turbo. Comprising an array of six airbags, the system uses a non-azide gas generator to inflate the airbags. In addition to making the airbags lighter and more compact, this organic propellant also makes them easier to recycle.

Frontal crash protection.

The dual front Advanced Airbags provide upper-body protection with an added degree of intelligence: A weight sensor in the passenger seat automatically switches off the passenger airbags when the seat is fitted with a child seat or is unoccupied.

Side-impact protection.

Complementing the front airbags is the latest generation of Porsche Side Impact Protection (POSIP). This comprehensive package includes two side airbags for each front seat and thorax airbags in the side of each backrest. Door panels protected by Boron steel side beams also include airbags that inflate to form a barrier between the occupants and the doors, while providing head protection over the entire seat-adjustment range.

Additional safety features.

Other standard features include integrated head restraints updated to complement three-point, height-adjustable seat belts, seat belt pretensioners and force limiters, an energy-absorbing steering column and dashboard structures, and flame-retardant materials throughout the interior.


S IQ 911

For the Porsche owner, a passion for exhilarating performance can comfortably coexist with a passion for the environment.

Environment

A new take on “pure performance.”

Since the 1960s, Porsche has devoted considerable effort to developing cars that are compatible with our desire for cleaner air, quieter roadways, and reduced chemical and landfill waste. The new 911 Turbo continues this tradition with several notable advances, including reduced fuel consumption, cleaner emissions, fewer pollutants and greater use of recyclables.

Exhaust control.

Among the cleanest sports cars in the world today, the new 911 Turbo easily complies with both the United States emissions regulation, LEV II, and the stringent Euro 4 standard in the European Union.

This is achieved in part through VarioCam Plus. This valve lift and timing technology not only wrings more power from each ignition cycle, it also reduces emissions at the combustion source. After leaving the engine, the gases are cleaned by catalytic converters and monitored for oxygen levels by four Lambda sensors.

Materials and recycling.

Porsche has always considered lightweight design essential in the development of high-performance sports cars. Through the use of aluminum alloys and high-tensile metals, we’re able to build cars that are lighter and stronger than those made of conventional steel—so they require less material to manufacture and burn less fuel every mile they’re on the road.

All told, about 85% of the car’s components can be recycled using today’s technology. All synthetics are clearly labeled to simplify the recycling process.

The 911 Turbo is entirely free of asbestos, CFCs, or components manufactured using CFCs. Water-based paints are used throughout the car. This reduces the need for chemical solvents during production at the factory.

Noise.

In the 911 Turbo, precision engineering can be measured by high power output—and low noise output, which complies with worldwide noise restrictions. Instead of encapsulating the engine in heavy sound-deadening materials, Porsche engineers eliminate noise at its source. Rigid engine components, light moving parts, and tight tolerances prevent vibration and resonance. Highly durable, stainless-steel mufflers minimize exhaust noise throughout the life of the car. What comes through is the pure and distinct sound of a Porsche engine.

Fuel system.

Key developments in the fuel system include a further reduction in the evaporation of hydrocarbons. This is achieved through a combination of an active carbon filter and a specially coated fuel tank. All the fuel lines carrying liquid are made from aluminum, while those carrying vapors use multi-layer plastic.

In the 911 Turbo, the familiar elements of good cockpit design are taken to a new level of refinement. With a host of personalization options, you can make an extraordinary car truly one of a kind.

Comfort and Personalization

Interior.

Engage your senses in the art of driving.

At Porsche we've always believed that a great sports car would be incomplete without a fully engaged driver. Inside the 911 Turbo, our legendary attention to driver ergonomics is enhanced by rewarding materials.

Ergonomically designed seats assure excellent lateral support and adjustability. Perfectly placed for hand and eye, the instruments and controls facilitate fluent communication between car and driver.

Tinted front glass and an expansive rear window create a refreshing sense of openness, and provide views of the road around you. The front side windows have a water-repellent finish that automatically disperses moisture and dirt to help keep the view clear in rainy weather.

Sense and sensibility are both gratified by the abundance of hand-stitched leather—the standard material for the seats, dashboard, doors and rear side panels of the 911 Turbo. Matching leather is also used on the exclusive Turbo gearshift and the three-spoke sports steering wheel, which offers both telescopic and tilt adjustment.

The center console features the latest evolution of Porsche Communication Management (PCM), an integrated system that combines audio, onboard computer, satellite navigation and, if desired, an optional telephone module, electronic logbook and CD changer.

Instruments.

The instrument cluster in the 911 Turbo integrates new technologies within a time-honored shape. Five dials are all neatly combined inside the steering wheel, allowing the driver to take in essential information at a glance. The large analog gauges are embellished by digital displays featuring the latest dot-matrix technology for higher-resolution icons and text. Legibility is further enhanced with brilliant-white backlit illumination.

In keeping with Porsche tradition, the tachometer assumes its center position. Within its face you'll note the standard onboard computer display. This multi-purpose field contains a permanent digital speedometer, and can also display a wide variety of information summoned on cue—from performance boost pressure to the title of the CD track you're listening to. When "Sport" mode is selected on the optional Sport Chrono Package Turbo, the temporary increase in torque is indicated using an arrow symbol in the boost pressure display.

Standard seat with power adjustments

Adaptive Sports Seat

Standard seats.

Finished in hand-stitched leather, the standard seats are easily adapted to a wide range of driver and passenger sizes, thanks to full electric adjustment of fore/aft position, height, backrest angle, seat angle and lumbar support. The lowered seat base also provides added headroom for taller drivers. All-day driving comfort is assured by excellent lateral support and a dedicated spring system specifically designed to complement the car's suspension characteristics.

Sports Seats.

Available as a no-cost option, the Sports Seats offer firmer upholstery than that on the standard seats, together with higher side bolsters on the backrest and seat for added lateral support. In the Sports Seat, the fore/aft position and height are manually adjustable, while the backrest is electrically controlled.

Adaptive Sports Seats.

This seat option offers full electric adjustment of fore/aft position, seat height, backrest angle, lumbar support, seat side bolsters and backrest side bolsters. By varying the side bolsters, you can increase occupant comfort on long-distance journeys or maximize support on the racetrack. A driver memory function includes the exterior mirror position on the driver side and all driver seat settings, except for the bolster depth.

Rear seats.

There are many extraordinary features in the 911 Turbo. Often overlooked are the rear seats—which make this the rare supercar that can be enjoyed by a family. The folding seats are surprisingly comfortable. Folding down both rear seats reveals an extra 6.71 cubic feet (190 liters) of storage space.

Child safety seat.

We've given special consideration to your children's safety and comfort. The front passenger seat is engineered to accommodate a LATCH child safety seat. Our Tequipment program features a range of infant, child and booster seats, all with automatic passenger-side airbag deactivation. Ask your Porsche dealer for more information.

Hidden storage.

Some of the Turbo's interior design is cleverly hidden. A gentle touch reveals dual cupholders neatly concealed within the dashboard trim. A generous and lockable glovebox features useful CD storage. It is complemented by additional closable storage compartments in each door and in the center console. Three 12-volt sockets provide convenient power for digital accessories.

Rear seat and storage area

"Welcome Home" lighting.

This standard feature illuminates the fog lights and taillights for 30 seconds following the locking or unlocking of your 911 Turbo with the key remote. The duration is user-adjustable in vehicles equipped with the optional Sport Chrono Package Turbo.

ParkAssist.

This optional parking aid uses six ultrasonic sensors to monitor the distance to obstacles behind your car. Shift the car into reverse, and an audio signal increases in frequency as objects draw near, helping you safely back into tight spaces.

HomeLink.®

This convenient standard feature integrates a garage-door opener into the roof console and stores remote settings for up to three devices. The system can also control compatible home-lighting and alarm systems.

Rear wiper.

Available as a no-cost option, the rear wiper features a streamlined blade that blends with the curves of the car.

Auto-dimming mirrors.

All three rearview mirrors on the new 911 Turbo feature auto-dimming glass as standard equipment. The interior mirror also includes an integrated rain sensor for the front-wiper system.

Slide/tilt sunroof.

Extensive wind-tunnel testing helped determine the ideal tilt position for the standard electronic sunroof. It offers passengers adjustable views and the thrill of open-air driving, without excessive wind buffeting.

Luggage compartment.

In addition to the cargo space provided by the folding rear seat, the new 911 Turbo has a generous amount of space in the front luggage compartment. Lined with high-quality, scratch-resistant materials, the trunk accommodates 3.35 cu. ft. (95 liters) of luggage—enough for two suitcases. Panels inside the trunk conceal and protect the amplifier for the standard Bose® Surround Sound System and the standard navigation module DVD drive. The trunk is also designed to easily accommodate the optional CD autochanger.

Roof Transport System.

The optional roof transport system allows you to get away from it all while leaving nothing behind. Made from lightweight aluminum, the load-carrying bars accommodate a range of fitted attachments, including a roof box and carriers for bikes, snowboards and skis. The system can securely carry up to 165 pounds of gear.

Anti-theft protection.

Your 911 Turbo is well protected from intrusion and theft. An electronic immobilizer prevents the engine from starting after the key is removed from the ignition, while three levels of security—from contact-sensitive protection outside to radar monitoring inside—protect your car and its contents from unwanted attention.

Roof Transport System

Porsche Communication Management.

Precision control for auxiliary systems.

Precise control is the hallmark of a Porsche sports car. It's also characteristic of Porsche Communication Management (PCM), a standard feature of the 911 Turbo.

The centerpiece of PCM is a high-resolution color monitor that displays simple menus in plain language. A button array offers one-touch access to the standard Bose® Surround Sound System, satellite navigation system, onboard computer and other PCM systems.

PCM also provides central control for optional equipment, including a six-disc CD autochanger, a telephone module, an extended navigation module and an electronic logbook.

Porsche navigation.

The 911 Turbo is famous for reducing travel times. With a DVD/GPS navigation system now standard, you may get there even more quickly. To begin, pinpoint your destination by entering a street address, selecting a point of interest from any of several categories, or simply by pointing and clicking on a location displayed on the onscreen map. A progressive map and spoken instructions guide you to your destination. A GPS antenna inside the dashboard establishes a satellite link to show you the way to almost any location in the continental United States and Canada.

The system will automatically select the quickest route; or, if you prefer, it will avoid freeways and tolls. Tour planning and dynamic rerouting have also been enhanced with memory for 50 presets and additional zoom options. (With a separate DVD drive for the navigation system, you do not have to interrupt your favorite CD music.)

The optional Extended Navigation System includes additional functions for automatic route recording and back-trace navigation. This module facilitates navigation in areas not covered by the DVD software, with the aid of a digital compass and GPS system.

Onboard computer.

The 911 Turbo comes standard with an onboard computer, offering a wide range of information that is displayed in the main instrument cluster. A control stalk on the steering column allows the driver to display average fuel consumption, average speed, remaining fuel range, Tire Pressure Monitor data and other useful information. The same control stalk is used to operate the timing functions in the optional Sport Chrono Package Turbo.

Porsche CD autochanger.

The optional Porsche CD autochanger holds up to six CDs for hours of uninterrupted listening pleasure. Concealed securely in the trunk and protected by an insulating panel, it features superb shock resistance and rapid CD changes.

Antenna diversity.

The PCM system includes four radio antennae that are discreetly encased in the windscreen glass.

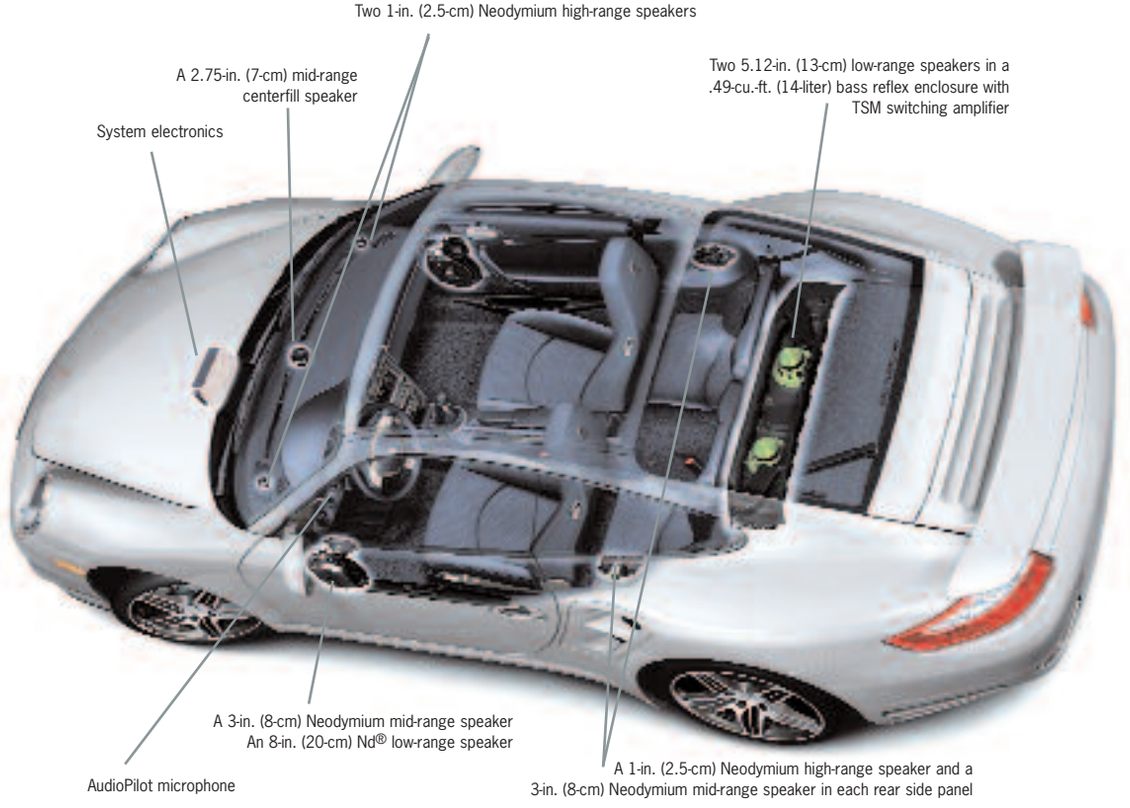
Telephone module.

The optional GSM phone is easily installed in the PCM unit. It features a hands-free microphone and backlit keypad. A passive handset with Leather-finish console is also available as an option.

Electronic logbook.

This option is ideal for the professional who logs business miles. The electronic logbook automatically logs the details of each journey, including the mileage, date and time, starting location and destination. Data can be downloaded using the PCM's infrared port, then evaluated on your PC using the software supplied.

The Bose Surround Sound System.



The standard Bose® Surround Sound System transforms the Sports Seats of your 911 Turbo into front-row concert seats. Created expressly for the car's unique acoustics, this system offers amazing sound reproduction, regardless of driving conditions.

The Bose approach to acoustic design mirrors our own philosophy: First, engineer each component to the highest standards of performance, then integrate them in such a way that the whole becomes greater than the sum of its parts.

Thousands of measurements from every conceivable angle were used to determine the precise placement of each component to counter road, wind and engine noise.

A total of 13 individual speakers, enhanced by individual front and rear channels, creates a panorama of sound that duplicates the quality of live music.

The system is powered by a seven-channel digital amplifier and active equalization that match the sound to the cabin's acoustics. A fiber-optic network beneath the dashboard integrates 5x25-watt linear amps and a single 100-watt switching unit with sparkling signal quality, while a second switching amp in the active subwoofer offers an additional 100 watts of power.

Low-range and mid-range speakers harmonize with Neodymium tweeters to flood the cockpit with deep, rich bass and sparkling high-range notes. The sense of depth is increased further with the aid of Bose Signal Processing and Centerpoint® technology that can split stereo recordings into five separate channels.

Bose signal processing modifies bass output to compensate for the reduced sensitivity of the human ear at lower volumes. The result is an amazing clarity of sound at all volumes, and natural voice reproduction. The system can even reach concert-hall volumes with no audible noise distortion.

Even at speed, the Bose system ensures that you never miss a beat. Ingenious AudioPilot® Noise Compensation Technology continuously monitors the cockpit for ambient noise and automatically adjusts tone and volume levels to filter it out. Like the 911 Turbo, it's tuned for the highest levels of performance.

Specifications

Specifications

	911 Turbo
Engine	
Type	**Rear-mounted, twin-parallel exhaust gas turbocharged, water-cooled, horizontally opposed six-cylinder with aluminum-alloy block, heads and pistons, dual overhead camshafts, four valves per cylinder with VarioCam Plus variable-valve timing system, two intercoolers**
Induction	**Twin turbocharger with intercooling**
Displacement	**3.6 liters (3,600 cc)**
Horsepower (SAE)	**480 hp @ 6000 rpm**
Torque (SAE)	**460 lb.-ft. @ 1950–5000 rpm (With optional Sport Chrono Package Turbo—Torque overboost: 505 lb.-ft.@ 2100–4000 rpm)**
Bore/Stroke	**3.94/3.01 in. (100/76.4 mm)**
Compression Ratio	**9.0:1**
Engine Management	**Motronic ME 7.8.1 system with electronic throttle (E-gas), high-voltage ignition with individual coils, sequential injection, variable-valve lift mechanism, boost pressure control, cylinder-selective knock control and stereo Lambda exhaust regulation, Variable Turbine Geometry and onboard diagnostics (OBD II)**
Chassis	
Front Suspension	**Independent MacPherson struts with forged aluminum control arms, coil springs, stabilizer bar and negative steering roll radius**
Rear Suspension	**Independent LSA multi-link with stabilizer bar, coil springs and self-stabilizing toe control**
Steering	**Variable steering ratio, power-assist (hydraulic)**
Turning Circle Diameter	**35.76 (10.0 m)**
Brakes	**Internally ventilated brake disc, six-piston monobloc aluminum fixed calipers at the front and four-piston monobloc aluminum fixed calipers at rear. Brake calipers in red. ABS 8.0. Optional PCCB: Internally ventilated ceramic brake disc, six-piston monobloc aluminum fixed calipers at the front and four-piston monobloc aluminum fixed calipers at rear. Brake calipers in yellow. ABS 8.0.**
Disc Diameter	**13.78 in. (350 mm) front and rear. PCCB: 14.96 in. (380 mm) front, 13.78 in. (350 mm) rear**
Wheels	**Forged alloy 8.5J x 19 ET 56 front, 11J x 19 ET 51 rear**
Tires	**235/35 ZR 19 front, 305/30 ZR 19 rear**
Transmission	
Drivetrain	**Actively controlled all-wheel drive, Porsche Traction Management (PTM), including ABD and ASR. Optional mechanical rear differential lock. 6-speed manual transmission or optional 5-speed Tiptronic S dual mode transmission.**
Gear Ratio	

	Manual	Tiptronic S
1st gear	**3.818**	**3.60**
2nd gear	**2.14**	**2.19**
3rd gear	**1.48**	**1.41**
4th gear	**1.18**	**1.00**
5th gear	**0.97**	**0.83**
6th gear	**0.79**	**—**
Final Drive (front/rear)	**3.33/3.44**	**2.96/3.06**

	911 Turbo
Safety	
Active	**Actively controlled all-wheel drive, Bosch ABS 8.0, Porsche Stability Management (PSM)**
Passive	**Dual front Advanced Airbags, head and thorax side airbags, front and rear deformation zones, side-guard door beams, seat-belt pretensioners and load limiters, exterior/interior alarm system, central locking and Bi-Xenon headlights**
Weights and Dimensions	
Curb Weight	**3,494 lbs. 3,572 lbs. With Tiptronic S**
Front/Rear Weight Distribution (%)	**Manual: 39.1% Front/60.9% Rear Tiptronic: 38.6% Front/61.4% Rear**
Length	**176.26 in. (4,477 mm)**
Width (w/o mirrors)	**72.91 in. (1,852 mm)**
Height	**51.18 in. (1,300 mm)**
Wheelbase	**92.52 in. (2,350 mm)**
Track (19-inch wheels)	**58.66 in. (1,490 mm) front, 60.94 (1,548 mm) rear**
Cargo Area Volume	**3.35 cubic feet (95 liter) trunk**
Fuel Tank Capacity	**17.7 gal. (67 liters)**
Performance	
0–60 mph	**Manual: 3.7 sec. Tiptronic S: 3.4 sec.**
Top Track Speed	**193 mph (310 km/h)**
Warranty	
To underscore our confidence in the quality of our cars, all new Porsche vehicles are covered by a 4-year/50,000-mile (whichever comes first) limited warranty and Roadside Assistance program. This warranty covers any defect in materials and workmanship. Porsche's limited corrosion warranty extends a full 10 years, regardless of mileage.	

Exterior Equipment

Performance	911 Turbo	Option Code
6-speed manual transmission	s	–
Porsche Active Suspension Management (PASM)	s	–
Limited-slip rear differential lock (mechanical)	o	220
Porsche Ceramic Composite Brakes (PCCB) with yellow calipers	o	450
Short Shifter	o	XCZ
Sport Chrono Package Turbo (includes overboost function)	o	640
Stainless steel, chrome-plated exhaust pipes	o	X54
Standard-colored brake calipers	Red	–
Tiptronic S transmission	o	249
Safety		
Anti-theft system with immobilizer, interior sensor and remote control	s	–
Bi-Xenon headlights with dynamic leveling and headlight washers	s	–
Central locking with remote control	s	–
Dual front and side Advanced Airbags and side-impact protection beams (POSIP)	s	–
Fire extinguisher	o	509
Heated and electrically adjustable outside mirrors	s	–
Porsche Stability Management (PSM) system	s	–
Rain-sensing windshield wipers, heated washer nozzles	s	–
Rear ParkAssist system	o	635
Rear window wiper (with aero blade)	w	425
Self-dimming rearview and driver side mirrors	s	–
Tire Pressure Monitoring System (TPMS)	s	–
Exterior		
Automatically controlled integrated rear-split-wing spoiler	s	–
Deletion of model designation	w	498
Exterior metallic paint	s	Color code
Exterior special colors	o	Color code
Exterior “color to sample” paint	o	98/99
Power-operated sliding steel sunroof	s	–
Roof Transport System	o	549
Wheels		
19-inch Turbo wheels (forged two-tone)	s	–
Wheels painted in exterior body color	o	XD9

Interior Equipment

Comfort and Convenience	911 Turbo	Option Code
Adaptive Sports Seats—*Fully electric with driver side memory*	o	P01
Sports Seats—*Manual seat adjustment*	w	P77
Heated front seats	o	342
Automatic climate control with carbon filter	s	–
Cruise control	s	–
Floor mats	o	810
Folding rear-seat backrests and storage shelf behind rear seats	s	–
Illuminated vanity mirrors	s	–
Instrument dials	s Aluminum	–
Integrated dual cupholders	s	–
Lockable glovebox and storage compartment behind handbrake lever	s	–
Power windows with one-touch up/down and anti-jam feature	s	–
Rear section of center console in exterior color—*Rear section of center console, ashtray cover, on-door storage bin, door opener trim;* ***Leather*** *handbrake lever recess trim*	o	XME
Windshield with grey top tinting	s	–
Electronics		
AM/FM radio with CD player (digital)	s	–
Bose Digital Surround Sound System with 13 speakers	s	–
Antenna	w	461
HomeLink® *(programmable garage-door opener)*	s	–
Remote 6-disc CD autochanger	o	692
Porsche Communication Management (PCM)		
Porsche Communication Management (PCM) with MP3 and CD capabilities	s	–
Navigation module (DVD)	s	–
Electronic logbook *Recording features include trip time and distance*	o	641
Extended Navigation System *System includes route-recording and back-tracing*	o	672
PCM integrated phone—*GSM-based phone, requires SIM card*	o	666
Passive handset for telephone module	o	668

s = standard feature w = no cost option o = optional feature – = no code needed

Interior Equipment (cont.)

Leather interior options	911 Turbo	Option Code
Leather Interior	s	Color code
Door finisher in Leather—***Leather-finish*** *door opener trim*	o	XTV
Dome light in Leather	o	XZD
Inner sill parts and trunk release in Leather	o	XTG
Instrument surround in Leather	o	XNG
Leather dash switch-trim package—***Leather-finish*** *side air vents, side air vent slats, central air vent including switch-trim, central air vent slats, loudspeaker finisher on center switch panel, defroster trim, switvh-trim panel including cupholder trim*	o	EAA
Leather interior in special color	o	Color code
Leather interior in special color (two-tone)—*Black/Stone Grey, Black/Sand Beige, Black/Terracotta*	o	Color code
Leather interior in Natural Leather color	o	Color code
Leather interior in color to sample	o	Color code
Leather rear center console—***Leather-finish*** *rear section of center console including ashtray cover, storage tray rear section of center console, handbrake lever recess trim*	o	XMZ
Leather Sports Seat backrests	o	XSB
Leather sunvisors with lighted mirror	o	XMP
Steering wheel column in Leather	o	XNS
Three-spoke multifunction steering wheel including airbag cover in Leather	o	431
Three-spoke steering wheel including airbag cover in Leather	w	459
Three-spoke sports steering wheel including airbag cover in Leather	s	–
Three-spoke (thicker) sports steering wheel including airbag cover in Leather	o	XPA
Porsche Communication Management handset in leather	o	XEA
Porsche Crest embossed in headrest	o	XSC
Roof liner in Leather interior color (coupe only)	o	XMA
Seats in Soft-Look Leather with ruffled seat centers	o	982
Carbon Fiber interior options		
Carbon Fiber package—***Carbon Fiber-finish*** *handbrake lever, switch-trim panel including cupholder trim, gear lever/selector*	o	803
Carbon Fiber dash switch-trim package—***Carbon Fiber-finish*** *side air vents, central air vents;* ***Leather-finish*** *side air vent slats, central air vent slats including switch trim, loudspeaker finisher on center switch panel, defroster trim including* ***Carbon Fiber*** *inlay*	o	EAD
Carbon Fiber rear center console—***Carbon Fiber-finish*** *rear section of center console including ashtray cover, storage tray rear section of center console;* ***Leather-finish*** *handbrake lever recess trim**	o	XMJ
Door entry guards in Carbon Fiber	o	X69
Door finisher in Carbon Fiber—***Carbon Fiber-finish*** *front of door handle, lid of storage bin including lid extension of storage bin, door opener trim*	o	XTL
Three-spoke multifunction steering wheel in Carbon Fiber	o	453

s = standard feature w = no cost option o = optional feature – = no code needed

Aluminum-Look/Stainless Steel interior options	911 Turbo	Option Code
Aluminum-Look dash switch trim package—***Aluminum-finish*** *side air vents, central air vent including switch-trim, instrument surround;* ***Leather-finish*** *side air vent slats, central air vent slats, loudspeaker finisher on center switch panel, defroster trim*	o	EAE
Aluminum-Look rear center console—***Aluminum-finish*** *rear section of center console including ashtray cover, storage tray rear section of center console;* ***Leather-finish*** *handbrake lever recess trim*	o	XCK
Aluminum interior footrests	o	XXZ
Aluminum-Look Sports Seat backrests	o	XCG
Door entry guards in stainless steel	o	X70
Door finishers in Aluminum-Look—*Front of door handle, lid of storage bin including extension of storage bin, door opener trim*	o	XTW
Gear lever and handbrake lever in Aluminum-Look*	o	ECA
Instrument surround in Aluminum-Look	o	XCL
Three-spoke multifunction steering wheel with Aluminum-Look trim	o	XPV
Dark wood (Makassar) interior options		
Makassar package—***Makassar-finish*** *handbrake lever, switch-trim panel including cupholder trim, gear lever/selector*	o	801
Door finishes in Makassar—*Front of door handle, lid of door storage bin including extension of storage bin, door opener trim*	o	XTT
Makassar dash switch-trim package—***Makassar-finish*** *side air vents, central air vent;* ***Leather-finish*** *side air vent slats, central air vent slats, including switch-trim, loudspeaker finisher on center switch panel;* ***Leather-finish*** *defroster trim with* ***Makassar*** *inlay*	o	EAB
Makassar rear center console—***Makassar-finish*** *rear section of center console including ashtray cover, storage tray;* ***Leather-finish*** *handbrake lever recess trim*	o	XJT
Three-spoke multifunction steering wheel in Makassar	o	451
Light wood (Sycamore) interior options		
Sycamore package—***Sycamore-finish*** *handbrake lever, switch-trim panel including cupholder trim, gear lever/selector*	o	802
Door finisher in Sycamore—***Sycamore-finish*** *front of door handle, lid of door storage bin including extension of door storage bin, door opener trim*	o	XTU
Sycamore dash switch-trim package—***Sycamore-finish*** *side air vents, central air vent;* ***Leather-finish*** *side air vent slats, central air vent slats including switch-trim, loudspeaker finisher on center switch panel;* ***Leather-finish*** *defroster trim with* ***Sycamore*** *inlay*	o	EAC
Sycamore rear center console—***Sycamore-finish*** *rear section of center console including ashtray cover, storage tray rear section of center console;* ***Leather-finish*** *handbrake lever recess trim*	o	XJU
Three-spoke multifunction steering wheel in Sycamore	o	452
Special Color options		
Instrument dials in interior color—*Sand Beige*	o	XFD
Instrument dials in exterior color—*Speed Yellow, Carrara White*	o	XFH, XFJ
Seat Belts in Silver-Grey, Guards Red or Speed Yellow	o	XSH, XSX, XSY
Sports Seat backs painted in exterior color	o	XSA

*Available 10/2006. Please check with your dealer.

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Christophorus
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