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# Press Information

Porsche 911 Turbo and 911 Turbo S

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The new Porsche 911 Turbo and 911 Turbo S

## **The new standard for performance and efficiency**

The new generation 911 Turbo and Turbo S represents the pinnacle of technology and performance for the 911 model series. 40 years after the world premiere of the first Turbo prototype, the Porsche 911 Turbo has again expanded the limits of what is feasible in a sports car for everyday use.

Highlights of the new generation 911 Turbo include:

- Active rear wheel steering enhances agility on the street and the race course
- Adaptive aerodynamics improve performance, efficiency and everyday utility
- New all-wheel drive controls distribute power with more speed and precision
- Two versions of the new 3.8-liter twin turbo engine produce 520 hp (383 kW) and 560 hp (412 kW), respectively
- A 30 hp gain in engine power with a 16 percent reduction in fuel consumption compared to the previous model
- Reduced fuel consumption (U.S. EPA figures will be released later this year)
- 911 Turbo S has additional standard equipment, including active roll compensation (PDCC), ceramic brakes (PCCB), unique 20-inch wheels with center-lock hubs and full-LED headlights

Since its introduction 40 years ago, the 911 Turbo has possessed an uncanny blend of dynamic performance and efficiency, exclusivity and practicality as well as tradition and innovation. Improvements to existing technology and the introduction of new, active vehicle systems continue these traditions, pushing the envelope even further in every direction.

For example, on standard production tires, the lap time of the new 911 Turbo S at the North Loop of the Nürburgring has been reduced to well under 7 minutes, 30 seconds – performance previously reserved for exotic sports cars all but intolerable in daily driving.

The new top 911 models make a more unmistakable visual statement about their performance than ever before. The characteristic flared rear fenders of the new 911 Turbo generation are more than an inch wider than those of the 911 Carrera 4 models, making for an aggressive flat-topped fender extending well out from the C-pillar.

The new Porsche 911 Turbo and 911 Turbo S will be on sale in the United States at the end of 2013. The 911 Turbo is priced from \$148,300 while the 911 Turbo S is priced from \$181,100. Both prices do not include destination charges of \$950.

Design and body

## **Unique, sporty and dynamic**

The new 911 Turbo has an unmistakable look, differentiating it from other 911 models as well as from competitors. The front features large air intakes with separate, horizontally aligned lights and fins in the front air intakes. The new 911 Turbo S is further distinguished by additional front air scoops in black in the front air intakes. The front lights include a daytime running light (911 Turbo) and a position light (911 Turbo S). As well, both models have turn signals integrated into the front light assembly. The 911 Turbo S features standard full-LED lights with four-point LED daytime running lights, which are available as an option in the 911 Turbo.

The 911 Turbo and 911 Turbo S have a new front spoiler that is fully hidden in its retracted position, lending a more refined appearance in day-to-day driving. When extended for high-speed driving, however, the black front spoiler lends an aggressive look highlighted by the central “turbo” or “turbo S” badge on the spoiler lip.

While parked and in traffic there is no longer a front spoiler lip to disturb the pure 911 profile, while the unmistakable turbo intercooler air intake still resides ahead of the rear wheel. The pronounced 911 Turbo rear fender still marks the end point of the vehicle’s “fly line”, but less abruptly in the new generation. Shorter front and rear overhangs and a 100 mm (3.9 inch) longer wheelbase enhance the new models’ athletic appearance. New 20-inch two tone forged aluminium wheels have ten dual spokes on the 911 Turbo and those of the new 911 Turbo S feature a branched spoke design and a center hub lock.

Never before has a 911 looked so impressive from the rear. The new generation 911 Turbo has shoulders wider than those of any other 911. The body is now 85 mm (3.3 inches) wider at the rear wheels than at the front. Depending on the driving mode selected, the adaptive rear wing changes positions. It remains retracted in its sub-shell at moderate speeds; the adjustable rear wing is extended at top speeds and is also tilted at a greater angle when maximum downforce is required to keep the vehicle planted firmly on the road. The classic slotted wing was designed with sharper lines, and, together with a narrower base and a distinctive rear cover screen, the wing is well integrated into the rear body. Thin rear LED lights visually reinforce the broad shoulders of the new 911 Turbo models and are located further outboard.

**New body with greater rigidity and lower center of gravity**

The body of the new 911 Turbo models is based on the 911 Carrera body structure, which features Porsche intelligent lightweight design incorporating aluminium-steel composite construction. Along with extensive use of aluminium and polymer surfaces to reduce vehicle weight, the local use of ultra-high-strength steel offers high body rigidity for ideal occupant protection and excellent performance. The weight of the body-in-white is reduced 13 percent compared to the previous models.

Porsche intelligent lightweight design is a foundation for the substantial performance gains in the new 911 Turbo generation. Lengthening the wheelbase by 100 mm (3.9 inches) in conjunction with a wider track in front – 51 mm (2 inches) wider in the 911 Turbo and 49 mm wider (1.9 inches) in the 911 Turbo S – creates new suspension geometry with improved tracking and roll stability at high speeds on straightaways and through curves. A lowered center of gravity improves performance and agility, and the body's greater rigidity is the backbone for a highly precise chassis.

Engine and transmission

**Instantaneous, more powerful and efficient**

The turbocharged 3.8-liter six-cylinder with direct injection produces 520 hp (383 kW) in the 911 Turbo and 560 hp (412 kW) in the 911 Turbo S. Both engines feature dual variable vane turbochargers, a Porsche exclusive for gasoline engines. Power is transferred exclusively by a seven-speed Doppelkupplung (PDK) transmission, which in both 911 Turbo models now engages the stop-start function with engine shutoff earlier while coasting to a stop and more often while coasting at speed. These technologies, in concert with a new engine thermal management system, reduce fuel consumption significantly in both 911 Turbo models.

The 911 Turbo sees an increase of 20 hp (15 kW) compared to the previous model and a torque increase of ten Newton metres to 660 Nm (487 lb.-ft.). In the S model, power is increased 30 hp (22 kW), and torque ten Nm to 710 Nm (516 lb.-ft.) compared to the previous model. These increases are due primarily to higher compression ratios and new valve timing and ignition angle tuning, all of which improve efficiency as well. In the S model, turbo boost is increased to 1.2 bar (17.4 psi) and maximum engine speed has risen 200 rpm to 7,200 rpm, creating a more flexible engine with greater torque during maximum acceleration and following gear changes.

**Overboost: power is boosted at the press of a button**

With the Sport Chrono package, standard on the 911 Turbo S and optional on the 911 Turbo, maximum acceleration is aided by an overboost function that increases maximum turbo boost pressure by approximately 0.15 bar (2.2 psi) for up to 20 seconds in the engine's midrange, increasing max torque to 750 Nm (553 lb.-ft.). This is the first application of turbo overboost in the 911 Turbo S; engine durability during overboost is ensured with reinforced pistons and other modifications to ensure that the new 911 Turbo engines can withstand the greater power and torque. In all, peak pressure is increased over ten percent and internal efficiency has significantly improved.

### **PDK with virtual intermediate gears**

Further development of the Porsche Doppelkupplungsgetriebe (PDK) transmission plays a significant part in the 911 Turbo models' performance and fuel economy improvements. Porsche engineers supplemented the seven primary driving gears with virtual intermediate gears that further improve fuel economy and comfort. The virtual intermediate gears reduce engine speed during constant speed cruising when the next higher gear would reduce engine speed too much. This function is achieved by partially engaging two adjacent gears simultaneously while slipping both clutches slightly to achieve an effective gear ratio in-between them. When acceleration is called for, the Doppelkupplung rapidly exits this mode and downshifts. Since the PDK employs dual wet clutches (oil-bathed), the virtual intermediate gear function results in no added wear.

The PDK's enhanced stop-start functionality reduces fuel consumption by shutting off the engine while coasting to a stop. Both Turbo models also offer a coasting function that disengages the clutches while coasting at speed; in this mode, the engine idles while the vehicle coasts in neutral. The coasting function provides noticeably improved fuel economy especially during highway driving.

A dynamic engine speed adjustment feature delivers even quicker gear changes during downshifts and upshifts. In downshifts, the engine computer revs the engine to precisely match the selected gear ratio, delivering shock-free shifts that maintain chassis composure and deliver greater comfort especially in the basic setting. In SPORT and SPORT PLUS settings, this function is even quicker and more aggressive for uninterrupted driving. During upshifts, the engine speed adjustment functionality briefly curtails fuel flow in both the SPORT modes. During both upshifts and downshifts, dynamic engine speed adjustment gives shifts an aggressive acoustic signature.

**New all-wheel drive system with electro-hydraulic control**

For even quicker and more precise power distribution to both axles, Porsche enhanced its current all-wheel drive system (PTM) with the addition of electro-hydraulic control of its multi-plate coupling. This enables faster and more precise control of the coupling and, therefore, of power distribution to the front axle, benefitting traction, stability and handling. In addition, more power can now be sent to the front axle, which features a transfer case with a new water cooling system. The optimized interaction of the engine, transmission and all-wheel drive system further improves acceleration. With the optional Sport Chrono package, the 911 Turbo accelerates from zero to 60 mph in 3.0 seconds, a one-tenth second improvement over its predecessor.

Chassis and control systems

## **New vehicle dynamic limits**

The 911 Turbo models see their biggest improvements in vehicle dynamics. A wheelbase lengthened by 100 mm (3.9 inches), increased front track width – 51 mm (2 inches) wider in the 911 Turbo and 49 mm (1.9 inches) wider in the 911 Turbo S – increased rear track width by 42 mm (1.7 inches), and new suspension geometry with greater tracking and roll all contribute to more athletic handling, more driver confidence and greater comfort. Active systems work in conjunction with these improved mechanicals to adapt to all driving situations better than ever. New active rear axle steering, active aerodynamics and Porsche Torque Vectoring (PTV) Plus considerably improve the car's driving capabilities. Included in the Sport Chrono package, which is standard equipment on the 911 Turbo S, are PDCC roll stabilization, PCCB ceramic brakes and dynamic engine mounts. The Sport Chrono package is available as an option on the 911 Turbo.

### **Rear axle steering improves agility and stability simultaneously**

Active rear axle steering, powered by electromechanical actuators on either side of the rear axle, varies the steering angle of the rear wheels by up to 2.8 degrees opposite the front axle's steering angle or up to 1.5 degrees in the same direction. For reference, a steering angle of 2.8 degrees at the front wheels is equivalent to a 45-degree-from-center steering wheel angle.

Active rear axle steering achieves two effects. When the front and rear wheels turn in opposing directions, which occurs at speeds below 50 km/h (31 mph), the 911 Turbo handles like a vehicle with a considerably shorter wheelbase, exhibiting sharp responses and agility in turns as well as easier parking maneuverability. At 10.6 metres (34.8 feet), the new 911 Turbo models have a smaller turning circle than all competitors.

Beginning at 80 km/h, the front and rear wheels turn in the same direction, lengthening the vehicle's perceived wheelbase. This yields greater stability in lane changes and especially at high speeds. With both axles steering in the same direction, response to the steering wheel is especially rapid and yet less disruptive to the chassis. Further, the high lateral force potential at the rear axle allows a steering ratio that is ten percent more direct.

Rear axle steering deftly combines the competing goals of agility and stability. Benefits include better maneuverability, increased driving safety and more athletic responses across a wide range of driving situations. Rear axle steering has played a significant role in improving lap times at the Nürburgring.

**More traction when exiting a corner: PTV Plus**

Depending on the driving situation, active rear axle steering works in concert with Porsche Torque Vectoring Plus. PTV Plus consists of an electronically controlled, fully variable rear differential lock with individual brake applications at the right or left rear wheel on road surfaces with low grip. When steering into a turn, the system slightly brakes the inside rear wheel. The relative increase in drive power at the outside rear wheel adds a turning force in the steered direction (oversteer), reducing the vehicle's resistance to turning at low to moderate vehicle speeds. At high speeds and when accelerating out of corners, the rear differential lock also delivers greater stability.

**PDCC: Practically zero body roll through turns**

Porsche Dynamic Chassis Control (PDCC) is standard on the 911 Turbo S and optional on the 911 Turbo. This active anti-roll system blends the lowest possible body roll angle in aggressive driving situations with a high level of comfort in straight-line driving by substantially decoupling the anti-roll bars in the latter condition. On uneven road surfaces, PDCC resists suspension spring compression, improving handling by compensating for body roll up to the limits of adhesion. This feature also ensures ideal tire contact to the road surface, enabling more lateral grip and increasing speed through turns. This results in reduced race course lap times. PDCC provides greater steering feedback and precision. When the SPORT Plus mode is activated, the PDCC system reacts more aggressively.

### **Dynamic engine mounts prevent undesirable engine surges**

Porsche is implementing another active system for improving vehicle dynamics in the new 911 Turbo S: The 911 Turbo S features dynamic engine mounts, components of the standard Sport Chrono package. Dynamic engine mounts use existing sensors to detect aggressive driving and respond by stiffening the liquid-filled engine mounts; magnetic particles suspended in the liquid increase its viscosity when exposed to an electric current. Mount damping is automatically increased by selecting SPORT or SPORT Plus. The SPORT Plus setting is particularly useful for road courses, where it increases the stiffness of the engine mounts.

### **Large wheels with larger contact surfaces**

Compared to the 19-inch wheels of the previous model, the current 20-inch wheels are one-half inch wider on the 911 Turbo S. The front tires are wider for both 911 Turbo and 911 Turbo S models. All tires thus feature larger road contact patches, improving grip and driving dynamics. New generation tires used on all models combine low rolling resistance, high performance, short braking distances and low weight. The 911 Turbo S continues to use wheels with a center lock.

Adaptive Aerodynamics

## **Playing with the wind**

The new Porsche 911 Turbo is the world's first sports car to feature adaptive aerodynamics, helping it achieve superior usability, efficiency, and performance. Without active components, aerodynamic tuning always represents a compromise between efficiency and performance. Porsche Active Aerodynamics (PAA) – based on a unique combination of a front spoiler that can be extended in multiple stages and a rear slotted wing that is adjustable in height and attack angle – allows the 911 Turbo to adapt its aerodynamics at the press of a button. The 911 Turbo is the first vehicle that can switch between different aerodynamic modes while preserving the balance of aerodynamic lift between the front and rear axles.

PAA controls the front spoiler and rear wing in three basic modes. Initially, both are fully retracted. With the front spoiler retracted, a significantly larger approach angle of 10.3 degrees is possible (compared with 7.8 for the last generation). Ground clearance is now 156 mm (6.1 inches) instead of 139 mm (5.5 inches). This significantly minimizes scraping and impacts on steep ramps, driveways and curbs.

PAA stays in the initial mode up to a vehicle speed of 120 km/h (75 mph) unless the driver manually intervenes and activates the aerodynamic or SPORT Plus button, at which point the Speed mode is initiated. Speed mode extends the two outer segments of the three-part front spoiler. This diverts more air around the body, which reduces aerodynamic lift at the front axle. Simultaneously, the rear wing is extended 25 mm (1 inch) upwards. In Speed mode, the total drag coefficient of the new 911 Turbo is very low, improving fuel economy and enabling a maximum speed of 315 km/h (196 mph) and (318 km/h (198 mph) in the S model). When the car's speed drops below 80 km/h (50 mph), PAA automatically switches back to the initial setting.

**“Performance” – a new, more aggressive setting for PAA**

The “Performance” mode adds an entirely new aerodynamic dimension to PAA in the 911 Turbo. In this mode, at 300 km/h (186 mph), the active aerodynamics generate 132 kg (291 lb.) of downforce. By pressing the vehicle even more forcefully to the road, maximum lateral grip is increased by ten percent at this speed.

To generate the extra downforce in Performance mode, the middle section of the front spoiler is extended, joining the two side sections. Even more air is diverted around the vehicle, generating a low pressure zone behind the spoiler. Simultaneously, the rear wing is extended to a height of 75 mm (3 inches) and angled forward seven degrees.

The aerodynamic capabilities of the new 911 Turbo now place its performance to levels previously reserved for Porsche GT sports cars. Switching from the “Speed” mode to the “Performance” mode shortens lap times on the North Loop of the Nürburgring by two seconds.

Interior and features

## **Driving enjoyment in an exclusive ambience**

The interior was completely redesigned in both 911 Turbo models and is based on the design of the 911 Carrera family. The focus was to clearly convey the vehicle's extreme performance capabilities while providing high levels of comfort and an ambience of exclusivity. Acoustics play an important role in the driving experience; with the SPORT button pressed, the standard Sound Symposer transmits sound waves from the intake manifold to the interior via a diaphragm.

The 911 Turbo features standard driver and passenger 14-way electric sport seats are adjustable for tilt, depth, and 4-way lumbar. The S model has standard Adaptive Sport Seats Plus with 18-way adjustment; these seats have prominent side supports with adjustment to the seat cushion and seatback for optimal lateral support in every driving situation. Both seats include the Memory package and electric steering column adjustment. The Memory package stores a large number of seat, steering column and vehicle settings.

As standard equipment, the new 911 Turbo S has an exclusive two tone leather interior in black and carrera red. In addition, the seatback shells are trimmed in leather with double cap seams, and the gearshift and door panels and the center console are finished in Carbon look.

### **Instrument cluster with extended displays**

The 911 Turbo and Turbo S include a sport design steering wheel with aluminium shift paddles. Based on the current 911 generation design, the instrument cluster differs is unique to the Turbo models and includes black dials with aluminium-coloured outer rings and a tachometer with a silver-colored decorative ring and illuminated "turbo" or "turbo S" logo. The 4.6-inch, high-resolution colour display offers extensive display options including turbo boost pressure and other performance data. The new "Performance" display indicates available engine torque in real time with a moving dot on the screen. In addition, a high beam assistant for the LED headlights (standard in 911 Turbo S, optional in 911 Turbo) can be activated or deactivated from a submenu of vehicle settings.

Porsche Communication Management (PCM) with navigation remains standard. The latest PCM generation offers features such as a universal audio interface, three-dimensional navigation map including City and Terrain models with overlaid satellite map, map-based speed limit display and controls for the standard Bose® Surround Sound system. The high-performance system has a total of twelve speakers, eight amplifiers, and features a 100-Watt active subwoofer with Class-D amplifier integrated in the body-in-white.

New technologies and options

## **Full-LED headlights with continuous leveling adjustment**

Porsche offers a number of highly developed systems and features for the new 911 Turbo models. Full-LED headlights (standard on the 911 Turbo S and optional on the 911 Turbo) differ significantly from the bi-xenon system standard on the 911 Turbo. With a beam color very similar to daylight, they yield superior visual contrast that reduces driver fatigue. Integrated in the headlight housing is a four-point daytime running light, a style unique to the Porsche brand.

Instead of a spherically shaped light housing with a round projection lens, the LED units have two vertically stacked, tube-shaped light housings with upper and lower cut lens contours. The base portion in the upper tube is part of the low beam light that illuminates the roadway with a broad and uniform swath of light. The second part of the low beam light is in the Porsche Dynamic Light System (PDLS) module located beneath the first. The auxiliary main beam light in the upper section of the headlight consists of two sub-components to the left and right of the base module; its high position offers even better illumination of the roadway. Each daytime running light consists of four LED spots surrounded by a light ring.

In combination with the full-LED headlights, the Porsche Dynamic Light system was enhanced to include a dynamic main beam, so it is known as PDLS Plus.

## **Camera-based assistance for parking and road sign recognition**

The Park Assistant option will be offered for the first time in all 911 Turbo models and exclusively for Porsche sports cars. Along with ultrasonic sensors in the front and rear body trim, this option also utilizes a camera above the rear licence plate; images are displayed on the PCM monitor, and the driver can select a view with superimposed guideline marks to help orient the vehicle accurately during parking maneuvers. The guideline marks indicate the driving path based on steering angle.

**Auto stop-start, Burmester sound system**

The adaptive cruise control system with Porsche Active Safe (PAS) now integrates an auto stop-start function to conserve fuel. In the new 911 Turbo models, the driver-defeatable system automatically shuts off the engine after the vehicle comes to a stop. The engine restarts automatically when the driver presses the accelerator pedal or engages the ACC steering column control stalk.

As in the 911 Carrera models, the Burmester® High-End Surround Sound system is optional in the new 911 Turbo and 911 Turbo S. Based on experience gained from the many award-winning systems from the Panamera and Cayenne, this system offers unparalleled output power and sound quality for the sports car segment. The system includes twelve individually driven speakers, including an active body-in-white subwoofer with a 140 mm diameter diaphragm and integrated 300-Watt Class-D amplifier, 16 amplifier channels and a total system power of 821 Watts.

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40 years of the Porsche 911 Turbo

## **Fast, sporty, comfortable – and unique**

In 1973 at the International Motor Show (IAA) in Frankfurt, a silver car was on display that attracted considerable attention. On its trunk lid was an audacious rear wing perforated with air slots and framed by a thick rubber lip. The vehicle was reminiscent of the 911 Carrera RS 3.0, which had just come onto the market, but the badges on the rear fenders made it clear that this was an entirely different model: “Turbo” was the word that would from that point forward captivate the sports car world.

What lay behind the prominent rear wing gave even veteran Porsche drivers pause: a turbocharged 3.0 liter flat-six engine with 260 hp, capable of 250 km/h (155 mph). The Porsche 911 Turbo was thus the fastest German street sports car and triggered newfound enthusiasm for turbocharged engines.

Though the Turbo was only a prototype, the decision had already been made to bring it to market the following year. This was a bold move: although turbocharged engines were not unusual in racing by that point, only one carmaker had attempted turbocharging for a street car, and failed miserably. Drivability, durability, and linearity had all been turbo shortcomings in street cars – the turbo engine was considered too wild to be tamed.

### **The fundamental idea: a race car for the streets**

Porsche engineers knew how to solve the shortcomings associated with turbocharged street engines. A short production run was planned for street legal vehicles derived directly from motorsports. The GT motorsport regulations of those times prescribed the construction of 400 units, and Porsche could not sell so many vehicles to race car drivers. Therefore, it was decided that the racing vehicle would be made street legal with just a few compromises in comfort. The turbo engine was specified from the start. Porsche had already gained experience with turbocharging technology from the twelve-cylinder engines of the legendary “917/10” and “917/30” race cars with up to 1200 hp. As well, the two-liter, 130 hp 911 engine from 1963 was no longer turbocharged but had enough potential for further power increases to be victorious in motorsport.

Porsche overcame some disadvantages of turbocharging by regulating boost pressure via an exhaust bypass valve, a technique that had only been used in motorsports. This vastly improved drivability at lower engine speeds, ensuring linear power and torque curves that avoided surges and gaps in acceleration. As well, this control system increased boost and torque at low engine speeds. To ensure equally high-performance braking, Porsche called upon its extensive motorsport experience and installed internally-vented disc brakes with aluminium brake calipers behind the wheels, which had originally delivered excellent braking in the Porsche 917 race car.

At first, plans called for 400 units – then 1,000 – of the 911 Turbo 3.0. This was way off-target as, by 1977, a total of 2,876 units of the 911 Turbo 3.0 had been built. The car was luxuriously equipped for the times and included factory-installed electric windows and a stereo cassette radio.

### **1977: Porsche Turbo reaches milestone power of 300 hp**

When delivery of the Porsche 911 Turbo began in early 1975, no one believed that there would be demand for even more power. Yet there was, and Porsche obliged in 1977 with the 911 Turbo 3.3, whose larger engine produced 300 hp and incorporated an intercooler. This sports car was known as the “930” model and remains a legend. In 1987, a Targa and a Cabrio joined the Coupe.

After a production break of two years, a new 911 Turbo was again offered in 1991, based on a new 911 platform dubbed “964”. It retained the 3.3-litre engine, which had been uprated to 320 hp. In 1993, Porsche modified this model, enlarging displacement to 3.6 liters and increasing power to 360 hp. In 1995 the next generation, “993”, was released and set new standards in sports car manufacturing. The 3.6 liter engine made 408 hp with the help of twin turbochargers, accelerate from zero to 100 km/h (0-62 mph) in 4.3 seconds, and on to a top speed of 293 km/h (182 mph). For the first time, it made use of an all-wheel drive system adapted from the 911 Carrera 4.

**2000: more power, lower consumption**

When a new 911 Turbo generation (“996”) was introduced in February 2000, it carried the accolade of the world’s lowest emissions automobile. This was made possible by four valves per cylinder technology, a switch from air to water cooling and above all by the first use of VarioCam Plus. Porsche retained all-wheel drive and bi-turbo technology. Its performance data: 420 hp, 0 to 100 km/h (0-62 mph) in 4.2 seconds and a 305 km/h (190 mph) top speed.

February 2006 marked the introduction of the sixth generation 911 Turbo (“997”). It was the first production car with a gasoline engine to feature variable geometry turbochargers. It produced 480 hp, delivered to the ground via an all-wheel drive with a new control system. Acceleration caused a minor sensation. For the first time, acceleration with the Tiptronic S automatic transmission was quicker from zero to 100 km/h (62 mph) than with the six-speed manual transmission. At 3.7 seconds, its advantage was one-tenth of a second. Top speed for both transmissions was 310 km/h (193 mph).

**2009: Turbo engine completely redesigned to yield 500 hp**

The most recent 911 Turbo generation was launched in 2009. The new car was more powerful, faster, better-handling, lighter, and more fuel efficient. A larger, 3.8 liter engine saw power swell to 500 hp; it was the first completely redesigned 911 Turbo engine in the model’s history and featured gasoline direct injection. The traditional automatic transmission was replaced with an optional Porsche Doppelkupplung (PDK) transmission, featuring two automated clutches for rapid gear changes and high efficiency. Improved fuel consumption made the 911 Turbo very unique among its competitive set, avoiding the U.S. gas guzzler tax despite remarkable power. Depending on the vehicle configuration, it consumed just 11.2 to 11.5 l/100 km (21 to 20 mpg).

The 911 Turbo had a prominent fan from the start: Professor Ferry Porsche drove his first-generation 911 Turbo, chassis number 930 770 088, until June 16, 1980 for a total of 8,200 kilometres (5,095 miles). Since then, this Porsche, which was equipped with a steel sliding sunroof, air conditioner, brown leather upholstery and many other extras, has been part of the collection in the company museum.