



PORSCHE



# The new 911 Turbo S Coupé and the new 911 Turbo S Cabriolet

Press Kit

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## Fuel consumption and emissions

**911 Turbo S:** Fuel consumption – urban 15.5 l/100 km, extra-urban 8.6 l/100 km, combined 11.1 l/100 km; CO<sub>2</sub> emissions combined 254 g/km

**911 Turbo S Cabriolet:** Fuel consumption – urban 15.9 l/100 km, extra-urban 8.6 l/100 km, combined 11.3 l/100 km; CO<sub>2</sub> emissions combined 257 g/km

All information refers to the EU model.

The consumption and CO<sub>2</sub> emission values were calculated according to the new Worldwide Harmonised Light Vehicle Test Procedure (WLTP). The NEDC values derived from this must continue to be specified for the time being. These values cannot be compared with the values calculated on the basis of the previously used NEDC test. Further information on the official fuel consumption and official, specific CO<sub>2</sub> emissions of new passenger cars is available in the publication entitled "Guidelines on fuel consumption, CO<sub>2</sub> emissions and power consumption of new passenger cars", which is available free of charge from all sales outlets and from Deutsche Automobil Treuhand GmbH (DAT).

## Highlights

# **The new 911 Turbo S Coupé and the new 911 Turbo S Cabriolet**

## **911 flagship with an extra 51 kW (70 PS).**

Currently, the most powerful 911 engine with two VTG turbochargers delivers 478 kW (650 PS). With this new model, the torque has increased by 50 newton metres to 800 Nm compared to the previous generation.

## **Improved dynamics in every way.**

With the Turbo-adapted eight-speed PDK, the sprint to 100 km/h has been cut to 2.7 seconds (0.2 s faster than before) while top speed remains 330 km/h. The new 911 Turbo S accelerates from zero to 200 km/h in just 8.9 seconds, taking a full second off its predecessor's time.

## **The all-round athlete among the production 911s.**

45 millimetre-wider front wings and a 20 mm-wider rear make the new 911 Turbo S the widest production 911 to date.

## **Larger tyres with Turbo-specific widths.**

Larger-diameter, 21-inch tyres on the rear axle optimise traction and lateral dynamics. Porsche uses 20-inch wheels at the front and, for the first time, independent tyre dimensions (255/35) for the 911 Turbo S.

## **Enhanced Porsche Ceramic Composite Brake (PCCB).**

The first Porsche 911 with 10-piston fixed callipers on the standard front ceramic brake discs.

**Sportier characteristics with new options.**

A PASM sports chassis, lowered by 10 mm, is available for the first time. The 911 flagship now has a sportier feel with a newly developed sports exhaust system for a distinctive sound.

**Enhanced aerodynamics.**

Adaptive Aerodynamics (PAA) now feature controlled cooling air flaps at the front, extended control strategy and a larger but lighter rear wing for even more downforce. The PAA also acts as an air brake in the event of emergency braking at high speeds.

**New lightweight and noise-insulated glazing.**

For the first time, newly developed lightweight and noise-insulated glazing is available for the 911 Turbo S Coupé, resulting in a weight saving of more than 4 kilograms.

**Exclusive equipment with unique leather package.**

The standard leather package includes Turbo-specific stitching. Standard equipment includes 18-way sports seats, GT sports steering wheel, Sport Chrono package and BOSE® Surround Sound system.

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## Summary

# Definitely a 911, definitely Turbo, definitely new: the Porsche 911 Turbo S

Porsche presents the new-generation 911 Turbo S S for unprecedented power, driving dynamics and comfort. The new range-topping 911 launches in Coupé and Cabriolet form and delivers 478 kW (650 PS). At the heart of the 911 Turbo S is a new 3.8-litre boxer engine with two VTG turbochargers, delivering 51 kW (70 PS) more than its predecessor. Maximum torque is 800 Nm (an increase of 50 Nm) and the sprint from zero to 100 km/h has been cut to 2.7 seconds (a drop of 0.2 s) with the Turbo-specific eight-speed PDK, while top speed remains 330 km/h. Right from the start, the 911 Turbo S is available as a Coupé and Cabriolet.

The dimensions of the 911 Turbo S have been increased significantly in line with its enhanced driving dynamics: the body is now 45 mm wider above the front axle (for a total of 1,840 mm), and the overall width is 1,900 mm above the rear axle (an increase of 20 mm). Modified track widths, improved aerodynamics and new mixed tyres enhance the agility and sportiness of the Turbo S: the track is now 42 mm wider at the front axle and 10 mm wider at the rear. In addition, the adaptive aerodynamics now include controlled cooling air flaps at the front, while the larger rear wing has also been designed for even more downforce. For the first time, the 911 Turbo S transfers its power to the road with mixed tyres in two different sizes: it has 20-inch tyres with their unique 255/35 911 Turbo dimensions at the front and 21-inch 315/30 tyres at the rear. New equipment options underline the much sportier image of the all-wheel-drive 911. These include the Porsche Active Suspension Management (PASM) sports chassis lowered by 10 mm and the sports exhaust system with adjustable flaps, which guarantee a distinctive sound.

The completely new engine of the 911 Turbo S is based on the engine generation of the current 911 of the 991 generation. It features a completely redesigned charge air cooling system, new, larger VTG turbochargers in a symmetrical layout with electrically adjustable wastegate flaps, as well as the use of piezo injectors, which have significantly improved the car's characteristics with regard to responsiveness, power, torque characteristics, emissions behaviour and revving ability.

The new six-cylinder engine is aspirated by a new intake system. In this instance, the previous routing of process air and charge air cooling was swapped around; part of the process air now flows through the characteristic Turbo air intakes in the rear side sections. In front of the air filters, now situated in the rear wings, two other airflows have now also been incorporated, through the rear lid grille. This means the new 911 Turbo S has four intakes with a larger overall cross-section and lower resistance, helping to improve engine efficiency. Two symmetrical turbochargers with variable turbine geometry (VTG) and larger dimensions replace the previous identical parts, with the compressor and turbine wheels now rotating in opposite directions. The diameter of the turbine wheels has been increased by 5 mm to 55 mm, while the 61 mm compressor wheel is now 3 mm larger. The wastegate flaps are electrically controlled with stepper motors.

All of these modifications have been designed to create a driving machine that perfectly balances driving pleasure, dynamics and sportiness, both in everyday use as well as on the race track. The leap in performance of the new 911 Turbo S is particularly noticeable in its sprint from a standing start to 200 km/h: at 8.9 seconds, the new model knocks one full second off its predecessor's time. Thanks to the enhanced Porsche Traction Management (PTM) all-wheel-drive system, up to 500 Nm is now transferred to the front wheels. The new generation of the standard PASM chassis has also been improved: faster and more precisely controlled dampers provide significant dynamic advantages with respect to roll stability, roadholding, steering behaviour and cornering speeds.

The new front end with wider air intake openings has a characteristic Turbo look, with dual front light modules as well as standard LED matrix headlights. The redesigned, pneumatically extendible front spoiler and the larger rear wing deliver 15 per cent more downforce, while the muscular rear wing sections with integrated air intakes emphasise the sleek body of the Turbo S. Turbo-style rectangular twin tailpipes in high-gloss black round off the new look of the rear end.

The interior exudes sporty high quality. Standard equipment includes a full leather interior and carbon trim in combination with Light Silver accents. The 18-way sports seats have stitching that pays homage to the first 911 Turbo (Type 930). High-quality graphic elements and logos in the instrument cluster complete the characteristic Turbo S features. The centre screen of the PCM now measures

10.9 inches and can be operated quickly and without distraction thanks to its new arrangement. Further standard equipment highlights include the GT sports steering wheel, Sport Chrono package with newly integrated Porsche Track Precision app and the BOSE® Surround Sound system.



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## Body and aerodynamics

# Top-class athlete with new dimensions

The improved dynamics of the Porsche 911 Turbo S are clear to see – a 911 has never been wider. Its body now measures 1,900 mm (20 mm more than before) m while, thanks to unique wings, its width at the front has increased by 45 mm to 1,840 mm (previously 1,795 mm). Track widths have also widened: the distance is now 1,600 mm (10 mm) at the rear and 1,583 mm at the front (up by 42 mm). The 911 Turbo S has wider tyres and newly designed wheels because of its increased performance: 20-inch tyres with their new 255/35 size at the front and 21-inch tyres measuring 315/30 at the rear. The increases in length and weight are moderate: the new 911 Turbo S is 28 mm longer than the previous model and has an unladen weight according to DIN of 1,640 kg (Coupé). The additional 40 kg is mainly due to the new eight-speed PDK transmission, the cooled front axle transmission, the particulate filter (GPF) as well as the larger wheels.

The new front end with wider air intake openings has a characteristic Turbo look with dual front light modules. The newly designed, pneumatically extendible front spoiler ensures aerodynamic performance, while the muscular rear wing sections with integrated air intakes emphasise the sleek body. At the same time, although lightweight in appearance, the rear wing delivers the required downforce. The new rear end, with its typical Turbo-style rectangular twin tailpipes in high-gloss black, rounds off the appearance of the back of the car, together with a tail light bar that is characteristic of the current 911 generation.

The standard LED matrix headlights with dark interior inserts are another distinguishing feature of the new 911 Turbo S, with an even darker version available as an option. The 84-pixel module for dipped and high beam enables maximum illumination, with more than 300 lux and numerous functions. This allows individual and dynamic control of the headlight range and better illumination in bends. The motorway light, fog light and adverse weather light adapt the illumination of the field of vision according to the situation. Targeted dimming reduces the glare from road signs.

## **Adaptive aerodynamics with extended control strategy and additional functions**

The adaptive aerodynamics – launched as a world first on the previous model – have been further refined and extended for the new 911 Turbo S. New functions include Wet mode and air brake. If the standard sensors detect a wet road surface, the driver will be notified by a message in the instrument cluster. The driver can then activate Wet mode using the rotary switch on the steering wheel. The aerodynamic control systems then switch the balance to generate a higher downforce on the rear axle, which in turn increases the contact between tyres and road.

In addition, the 911 Turbo S features an air brake function. In case of emergency braking at high speeds, the front spoiler and rear wing are moved to the performance position. The higher drag force and increased downforce reduce the braking distance, depending on the initial speed and road conditions. Driving stability is also improved during braking.

The optimised design of the car's active systems enables even better adjustment of its aerodynamic properties to suit different driving requirements. The newly designed active front spoiler and rear wing have boosted downforce by 15 per cent to guarantee enhanced driving stability and dynamics at higher speeds. Maximum downforce in the performance position (Sport Plus mode activated) is now around 170 kg. When speeds exceed 260 km/h, the rear wing is adjusted to a slightly flatter angle in the performance position. This reduces the maximum load on the rear axle and improves race track performance. In conjunction with the other aerodynamic configurations – Eco, Speed and Wet modes as well as the air brake function – the new 911 Turbo S delivers a greater aerodynamic control range and adapts to the particular driving situation.

## **New cooling air flaps and larger and lower weight rear wing**

The newly developed controlled cooling air flaps in the front intakes make it possible to achieve lower drag and improved fuel consumption by closing completely at speeds between 70 km/h and 150 km/h. The most efficient configuration with a minimum drag coefficient (cd) value is achieved with closed flaps and retracted front and rear spoilers. The flaps open from 150 km/h

and are fully open at speeds above 170 km/h to improve aerodynamic balance at high speeds. The  $c_d$  varies depending on the aerodynamic setting from between 0.33 in Eco mode and 0.38 in the Performance setting.

All active aerodynamic elements have been newly developed. The revamped front spoiler extends by 10 mm further than on the previous model. Lightweight construction is also used on the rear wing: the distinctive Turbo feature has an eight per cent larger effective aerodynamic area while weight has been reduced by eight per cent or 440 g. The technical structure – over a foam core with forged inserts – consists of an upper side with two layers of carbon fibre-reinforced plastic (biaxial CFRP fabric) and a lower side with one layer of glass fibre-reinforced plastic (triaxial GFRP fabric).

### **New optional lightweight and noise-insulated glazing option for 911 Coupés**

Porsche has developed innovative lightweight and noise-insulated glazing for the 911 Turbo S. This composite glass weighs approximately 4 kg less than the glass in other models. The body weight in the area above the car's shoulder line, which is important for driving dynamics, is therefore reduced, lowering the car's centre of gravity. Compared to the regular production glass, the lightweight glass is made from thinner outer panes and chemically pre-stressed inner panes. This special glass structure is not just lighter but also more sound-absorbent and is an option that is expected to be offered for all 911 Coupé models from mid-2020.

## Engine and transmission

# **New biturbo engine with major leap in performance**

The 911 Turbo S brings a significant leap in performance. The most powerful six-cylinder boxer engine now delivers 478 kW (650 PS), 51 kW (70 PS) more than its predecessor. Torque has also increased by 50 Nm to 800 Nm.

The newly developed unit is based on the current 911 Carrera's engine generation. In addition to achieving a significant increase in performance, the primary focus of development was on compliance with the latest emissions standards, with a gasoline particulate filter (GPF). The goals also included improvements to responsiveness, power, torque characteristic, emissions and revving ability. This has been achieved with new, larger VTG turbochargers in a symmetrical layout with electrically controlled wastegate flaps, a newly designed charge air cooling system and the use of piezo injectors.

The new six-cylinder engine features forced induction by a new intake system. For this purpose, the previous routing of process air and charge air cooling was swapped around: part of the process air now flows through the characteristic Turbo air intakes in the rear side sections. In front of the air filters, which are now situated in the rear wings, two other airflows through the rear lid grille have now also been incorporated. This means the new 911 Turbo S has four intakes with a larger overall cross-section and lower wind resistance, improving engine efficiency.

Two symmetrical turbochargers with variable turbine geometry (VTG) and larger dimensions are also new. The compressor and turbine wheels now rotate in opposite directions; the diameter of the turbine wheels has been increased by 5 mm to 55 mm, while the 61 mm compressor wheel is now 3 mm larger. The wastegate flaps are electrically controlled with stepper motors, the advantage being that active and complete opening of the wastegates after a cold start means that the catalytic converters light off earlier. Boost pressure control is also faster and more precise.

Further downstream in the intake system, the compressed air flows through the two repositioned charge air coolers, which are now 14 per cent larger. They are located directly over the engine in a central position under the rear wing. This new position significantly improves their cooling efficiency and permits improved air inflow and outflow of the cooling air.

### **New sports exhaust system available as an option**

For the first time, Porsche is offering an optional sports exhaust system for the 911 Turbo S. Like the standard system, it features electric, continually adjustable exhaust flaps for the first time, solving the conflict between driving style, interior noise comfort and legal requirements. The specially developed interior flow routing of the sports exhaust system creates a particularly distinctive sound typical of Turbo models. Two oval tailpipes in black (high gloss) or silver are a distinguishing visual feature. The standard exhaust system has two rectangular, black chrome-plated twin tailpipes.

### **New eight-speed dual-clutch transmission with Turbo specifications**

Up to 800 Nm of torque must be converted into drive reliably and with minimum losses. This is achieved with a new eight-speed dual-clutch transmission (PDK) together with a new front-axle transmission. The PDK in the new 911 Turbo S is based on the gearbox from the current 911 Carrera series and has been adapted to the power delivery of the flagship model's engine. The steel plates of the Turbo S dual clutch are corrugated and the number of plates has been increased from six to eight. The gear wheel set has also been reinforced. Compared with the seven-speed transmission in previous models, the new eight-speed PDK offers a host of improvements: the driver can immediately feel the difference in terms of comfort, performance and efficiency. In addition, all gears have new ratios, with first gear now shorter and last gear longer than before. This has made it possible to implement a longer final-drive ratio, thereby further reducing engine speeds in higher gears and improving comfort as well as fuel consumption.

The new lightning-fast gearshifts also offer added driving pleasure. As with the 911 GT sports cars, this means much shorter response times and faster gear changes. Lightning-fast gearshifts are generally used at high engine speeds and loads, both in manual mode and when Sport Plus mode is activated.

## **Sport Chrono package with the newly integrated Porsche Track Precision app**

Driving pleasure is given an additional boost with the standard Sport Chrono package. The various modes are activated on the steering wheel using the new mode switch with Sport Response button, and are displayed in the instrument cluster. The driver can also select the new Wet mode using the mode switch. The package also includes the PSM Sport mode, dynamic engine mounts as well as the stopwatch and the Porsche Track Precision app. The Porsche Stability Mode (PSM) stabilizes the car in extreme dynamic situations, ensuring a high safety level.

## **Innovative Wet mode provides assistance on wet road surfaces**

The Porsche 911 leads the way with an innovative system for detecting wet road surfaces. Wet mode uses acoustic sensors in the front wheel housings to recognise running water, and in this way can assess wetness on the road. This makes it fundamentally different from windscreen wiper rain sensors, which only react optically to water droplets on the windscreen independently of the road conditions. The response behaviour of the PSM and PTM systems is pre-conditioned if wet road conditions are detected. At the same time, the system informs the driver of the detected wetness and recommends manually switching to Wet mode. This function is integrated in the mode switch. If the driver activates Wet mode, the PSM, PTM, aerodynamics, PTV Plus and drive responsiveness are adapted to the conditions to guarantee the best possible driving stability. This means that the PTM transfers more torque to the front axle to increase traction and improve driving stability; the rear wing moves into the Wet mode position; the front spoiler is retracted; the accelerator pedal characteristic is flatter; and PSM Off or Sport mode are deactivated.

## **Performance-enhanced all-wheel drive**

The improved Porsche Traction Management (PTM) all-wheel-drive system in the new 911 Turbo S offers even more traction, safety and driving pleasure. With its additional water-cooling and reinforced steel plates, the front-axle transmission can transmit significantly more torque, now up to 500 Nm, to the front wheels. A new, lighter and more stable driveshaft with just one universal joint distributes power to the front axle.

## **New lithium-ion lightweight starter battery**

Lighter, more powerful, faster: the 911 Turbo S is equipped as standard with a lithium iron phosphate battery (LiFePO<sub>4</sub>). The new battery offers higher voltage stability and lower internal resistance in comparison with a conventional lead battery. For the driver, this translates into shorter response times and an improved auto start/stop function. Even when the battery charge level is low, the higher performance of the new power store also enables much longer operation of energy-intensive and electric on-board vehicle systems, such as the sound system, with the combustion engine switched off. This means fuel-saving stop phases can be activated more frequently. The LiFePO<sub>4</sub> battery has a service life of up to 2.5 times longer than lead-acid batteries and offers up to seven-times higher cycle stability. Thanks to the advanced battery technology and power density, 20 per cent less space is needed and the weight of the on-board battery is reduced by more than half, from 27 kg to 12.75 kg. These features made it possible to reduce the 95 Ah capacity of a conventional lead-acid battery to 60 Ah for the LiFePO<sub>4</sub> battery.

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## Chassis and chassis systems

# **Sportiest Turbo 911 with mixed tyres**

The new 911 Turbo S features a completely re-tuned chassis. The improved driving dynamics are a result of two key developments: first, the tyres on the front and rear axles differ not only in width but also in their wheel diameter, allowing the tyres to be more precisely optimised to the requirements of the drive and steering axles. The second significant development is the new-generation Porsche Active Suspension Management (PASM), with even faster and more precisely controlled dampers. In addition, the Porsche engineers at Weissach have for the first time developed an optional sports chassis, lowered by 10 mm, for the 911 Turbo S.

Tyres measuring 20 inches (size 255/35) sit on 9.5-inch-wide wheels at the front. At the rear, 21-inch tyres (size 315/30) on up to 12-inch wide wheels send most of the drive to the road. With the 911 Turbo S, Porsche is also introducing a new generation of forged wheels with an optimised centre lock.

The mixed tyres' wider tyre belt dimensions and larger rolling circumference increase temperature stability and load capacity. Also, reduced local deformations in the tyre belt at the contact patch produce a more homogeneous distribution of pressure. Another development goal was to optimise wet handling. All in all, the new tyres are better equipped to meet the driving dynamics balance requirements of the new 911 Turbo S.

## **Tyre temperature indicator on board for the first time**

Another new feature is the tyre temperature indicator, combined with the tyre pressure display. This new function helps drivers precisely adapt their driving style to the grip level of the tyres. At a low tyre temperature, the blue bars warn of reduced road grip. As the tyres warm up, the colour of the indicator changes to blue-white and then changes to white once the operating temperature has been reached and maximum possible grip is available. The system is deactivated and the bars are hidden when winter tyres are fitted.



## **New PASM shock absorbers with extended control**

The controlled shock absorbers of the Porsche Active Suspension Management (PASM) have been completely revamped. The main stage valve and the pressure chambers for the rebound and compression stages are controlled within a few milliseconds by means of a high-precision control valve, which is continuously adjustable using magnetic force. This enables precise adjustment of the damping force at any time. In addition, the Porsche chassis specialists have developed a separate software control system for the new damper technology, which has been programmed specially for the 911 Turbo S. The system calculates and adjusts the damping several hundred times a second depending on the driving situation and for each wheel. Driver control functions are also integrated for special driving situations with drive and braking effects and for launch control starts.

When required, the new PASM offers significantly softer damping in both the compression and rebound stages than the previous system, which translates into greater comfort. At the same time, the new PASM can make the dampers act more firmly, resulting in improved roll stability, roadholding, steering behaviour, and possible cornering speeds.

## **New sports chassis lowered by 10 mm**

For the first time, Porsche is offering an optional PASM sports chassis for the 911 Turbo S. This development was made possible mainly by the new, faster-switching active dampers. This has allowed the 911 to maintain its characteristic Porsche driving comfort despite lowering the chassis by 10 mm. The sports chassis includes shorter springs with more dynamic spring rates and a new set-up of the standard active roll compensation system PDCC. To guarantee maximum grip at all times, 'helper' springs are additionally mounted on the rear axle which ensure adequate spring pre-loading of the main springs for full rebound.

## Enhanced ceramic brakes as standard

The dynamic characteristics of the 911 Turbo S are not just dictated by its power delivery, but also by its braking capacity. Parallel to the engine's increase in output, the new flagship 911 also brakes with an improved PCCB ceramic brake system. It is the first 911 to be equipped with brake callipers with 10 pistons. The front brake discs now have a larger, 420 mm diameter. At the rear are four-piston brake callipers and 390 mm brake discs.

## Optional lift function – soon with intelligent GPS control

A lift function is still available as an option. With the electrohydraulic system on the front axle, the front apron now benefits from 40 mm higher ground clearance. Porsche is planning to extend this function to turn it into a smart lift system, where the system will save a location's GPS coordinates at the push of the button. If the driver approaches the location from the same direction again, the front of the car will lift up automatically.

The active rear axle steering has also been re-tuned. The steering ratio has been increased by six per cent for improved steering precision. This gives the sports car more agility, especially on twisty roads.

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## Interior and equipment

### **High-quality ambience with enhanced ergonomics**

The interior of the new 911 Turbo S is finished to a high quality. Its standard equipment includes a full leather interior and carbon trim combination with Light Silver accents and, paying homage to the first 911 Turbo (Type 930), its door trim inlays have diagonal stitching. Centre seat panels feature transverse stitching, while high-quality graphics and logos in the instrument cluster round off the the characteristic Turbo S features. 18-way sports seats with 'turbo S' lettering on the headrests combine comfort on long journeys with lateral support for dynamic driving.

The new range-topping 911 adopts the enhanced ergonomics of the latest 911 generation with features such as the switch panel above the centre console, the instrument cluster with free-standing, freeform displays facing the driver and the new Porsche Communication Management (PCM) with 10.9 inch centre screen. The functions of the five touch keys differ depending on equipment, while the standard GT sports steering wheel, which features switch paddles and Sport Chrono mode switch, is available in different designs.

### **New PCM with intuitive operation**

The online navigation-equipped Porsche Communication Management (PCM) combines simple and intuitive operation with a multitude of infotainment functions. The system is intuitive to use and can be adapted to suit personal tastes. The PCM also allows you to swipe or to zoom in or out and rotate the display using two fingers. The display can recognise handwriting and many of its functions can be operated via voice control.

The standard BOSE® Surround Sound system guarantees excellent acoustic entertainment. With 12 speakers, the high-end amplifiers deliver a total output of 570 watts and a well-balanced, true sound experience. The ultimate option is the Burmester® High-End Surround Sound system, which has thirteen speakers and boasts a total output of 855 watts.

## **Porsche Track Precision app for individual training on the race track**

Porsche is launching an enhanced Track Precision app with the 911 Turbo S; with Apple CarPlay®, the driver can now access the app functions directly on the PCM. More than 300 international race tracks are stored and lap times are recorded automatically using a precise GPS signal from the PCM. The app enables detailed recording, display and analysis of driving data on a smartphone. Drivers can also film their laps on GoPro cameras via Bluetooth. The videos can then be synchronised with the recordings and drivers can export the data and videos and share them on their smartphones, while detailed analysis is also now possible on the updated iPad app.

## **Improved air conditioning with open convertible top**

As with the latest 911 Carrera models, air conditioning functionality has been significantly improved for the new 911 Turbo S Cabriolet, with automatic adjustment and regulation of the automatic climate control when the roof is down. Blower control, temperature control and air distribution are adjusted depending on outside temperature, sunlight intensity and many other parameters.

## **New lightweight package and sports package on-board as options for the first time**

Lightweight noise-insulated glazing is also part of the new lightweight package for the Coupé, which gives a weight advantage of over 30 kg overall. The package also includes lightweight full bucket seats, reduced insulation and omission of the rear seats. Other features include new PASM sports suspension, which is lowered by 10 mm, and the sports exhaust system with black tailpipes.

A comprehensive Sport package is also new and emphasises the dynamic attributes of the new flagship 911. It is based on the Sport Design package but also offers, among other things, exclusive design tail lights and numerous high-gloss black body details. Dark Silver Turbo S wheels, 20 inch diameter at the front and 21 inch at the rear, are fitted, while the Coupé also comes with a lightweight carbon fibre roof. Both packages will be optionally available at a later date.

## **New Porsche Exclusive Manufaktur leather interior available to order**

The Porsche Exclusive Manufaktur underlines the timelessly modern character of the 911 Turbo S with a new interior concept developed together with design experts from the Development Centre in Weissach. The two-tone interior embodies the stylish lifestyle of the Turbo and is characterised by a coordinated interplay of colours, materials and individual enhancements. The headrests with embossed Porsche Crest and the Race-Tex seat belt exit trim plates (for the Coupé models) define individual accents. The storage compartment in the centre console is also embossed with the "Porsche Exclusive Manufaktur" logo. The concept is completed by the interior additional packages for the dashboard and door panels as well as the leather steering column trim.

## **Numerous assistance systems ex-works or available at extra charge**

The 911 Turbo S offers numerous assistance systems such as cruise control or the camera-assisted warning and braking assistant as standard. Optional systems include adaptive cruise control with stop-and-go function, lane-keeping assist with road sign recognition, Night Vision with thermal imaging camera and a reversing camera.

## History

# **The 911 Turbo: Career of a top-class sports car**

At the Paris Motor Show in 1974, Porsche presented a high-performance sports car that set new benchmarks in terms of power and luxury: the 911 Turbo 3.0. It delivered 191 kW (260 PS) and had a top speed of 250 km/h, making it Germany's fastest road sports car for a considerable period of time.

That was a courageous step back then. Although turbocharged engines weren't new to motor sport, at the time only one manufacturer had dared to fit a road car with a turbo engine. The massive amount of power generated by the turbocharger was usually associated with a drastically reduced engine life expectancy, extreme throttle sensitivity and even more capricious handling. In short, it was believed that a turbocharged engine couldn't be 'tamed'.

The engineers at Porsche solved the issues: they countered the drawbacks of the turbocharged engine, such as its power and acceleration weakness at low engine speeds, by means of boost pressure control via an exhaust bypass valve, which was something that had only been used in motor sport until then. This complex control system allowed the turbocharger to be designed so that pressure could build up even at low engine speeds, enabling the generation of more torque at the same time. To rein in this high power, Porsche also called on its extensive experience in the field of motor sport and installed internally vented disc brakes with aluminium brake callipers behind the wheels. These brakes had originally proved extremely successful on the Porsche 917 race car.

## **1977: The Porsche Turbo reaches the magical 300 PS**

In spring 1975 Porsche started production of the 911 Turbo, followed by the 911 Turbo 3.3 in 1977, which managed to reach the magical threshold of 221 kW (300 PS) thanks to its larger charge air-cooled engine. These sports cars, which bear the type designation 930, are still legendary even today. From 1987, a Targa version and Cabriolet were also offered for the first time on the Turbo, which had previously been available only as a Coupé.

Following a break in production for the 1990 model year, a new 911 Turbo was launched as a Coupé in the 1991 model year. Again fitted with a 3.3-litre engine, but this time delivering 235 kW (320 PS), this new model was based on the Type 964 911. Porsche revamped this model in 1993; as the 911 Turbo 3.6, it now delivered 265 kW (360 PS). In 1995 the next 911 Turbo set new benchmarks in sports car construction. The engine of the 993 Generation Turbo delivered 300 kW (408 PS) from 3.6 litres and two turbochargers. It could accelerate from zero to 100 km/h in 4.5 seconds on its way to a top speed of 290 km/h, and was fitted with the ground-breaking all-wheel drive system adopted from the 911 Carrera 4.

### **2000: more power, lower fuel consumption**

The first generation of the 911 Turbo after the turn of the century was presented in February 2000 and was heralded as the “world’s cleanest car”. This was achieved by four-valve technology, water cooling and the first ever use of VarioCam Plus. Porsche also retained the all-wheel drive and biturbo layout for this Type 996 model, helping it achieve 309 kW (420 PS), zero to 100 km/h in 4.2 seconds and a top speed of 305 km/h.

The sixth generation of the 911 Turbo followed in February 2006. This 997-generation flagship was fitted with a turbocharger with variable turbine geometry (VTG) for an output of 353 kW (480 PS), delivered to the road with the new, electronically controlled all-wheel drive. For the first time, the automatic Tiptronic S transmission was faster from zero to 100 km/h than the six-speed manual transmission; at 3.7 seconds, the automatic was two tenths of a second faster. Both transmission variants had the same top speed: 310 km/h.

### **2010: A completely new turbo engine with 500 PS**

2010 brought a key improvement for the 911 Turbo. The new Turbo wasn’t just stronger, faster and more dynamic, it was also lighter and more economical. At the heart of this new model was a larger 3.8 litre engine with 368 kW (500 PS). The engine had been designed from scratch for the first time in the history of the 911 Turbo and featured direct petrol injection. The six-cylinder unit could also optionally be combined for the first time with the Porsche dual-clutch transmission (PDK). Uniquely in this market sector, fuel consumption was reduced by up to 16 per cent compared with its prede-

cessor – depending on the car's configuration, the new top model had a consumption of just 11.4 to 11.7 l/100 km. Critically, the Porsche 911 Turbo was below the fuel consumption limit values of the so-called 'gas guzzler tax' in the USA.

### **2013: The first 911 Turbo with rear axle steering and active aerodynamics**

On the 50th anniversary of the 911, Porsche presented two new range-topping models of the latest 911 generation: the 911 Turbo and 911 Turbo S. Together with new active aerodynamics, an all-new lightweight body with a 100 mm longer wheelbase, active rear axle steering for the first time and larger, 20-inch wheels, performance soared to new levels. PDCC active roll compensation was standard equipment on the 911 Turbo S, along with the Sport Chrono package Turbo with dynamic engine mounts and the PCCB ceramic brakes. The result was that the new 911 Turbo S cut the lap time on the Nürburgring Nordschleife track to under 7.30 minutes – on road tyres.

Meanwhile, engine developments were paired with the new PTM all-wheel-drive system. The turbo-charged 3.8-litre six-cylinder engine with direct petrol injection delivered 383 kW (520 PS) in the 911 Turbo and 412 kW (560 PS) in the S model. Porsche remained the only manufacturer to combine two variable turbine geometry (VTG) turbochargers with a petrol engine. The seven-speed dual-clutch transmission (PDK) handled the entire power transmission.

Porsche revamped the 911 Turbo at the end of 2015. The facelifted 991 series received an extra 20 PS, a sharper design and enhanced equipment. The biturbo six-cylinder engine in the 911 Turbo now produced 397 kW (540 PS), achieved by modifying the intake channels in the cylinder head, fitting new injection nozzles and increasing fuel pressure. Meanwhile, thanks to a new turbocharger with larger compressor, the 911 Turbo S reached 427 kW (580 PS). The 911 Turbo's appearance evoked the distinctive design of the current Carrera models.



## **Evolution instead of revolution: the 911 Turbo has always remained true to its roots**

The character of the 911 Turbo hasn't changed in four and a half decades and remains the technological pioneer in the 911 series to this day. Extreme sporting prowess, outstanding acceleration and supreme luxury, quality and residual values have enabled the 911 Turbo to establish itself as a classic vehicle over the past 45 years – and it occupies a unique place in automotive development history.