



PORSCHE



The new 911 GT3 RS

Press Kit

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Fuel consumption and emissions

911 GT3 RS: fuel consumption urban 19.2 l/100 km; extra urban 9.0 l/100 km;
combined 12.8 l/100 km; CO₂ emissions 291 g/km

Summary

New 911 GT3 RS sets the benchmark for driving precision

The new Porsche 911 GT3 RS is synonymous with precision at the very highest level. This high-performance 911 weighs just 1,430 kilograms and its six-cylinder engine now delivers an output of 383 kW (520 hp). Developed by the Porsche motorsport department based on the 911 GT3 and its racing colleague the GT3 Cup, the RS has a clear focus on delivering optimum race track dynamics. Among the features that help deliver this emphasis are the enhanced four-litre flat engine and the new running-gear setup. The rear-axle steering has been adapted to suit the new tuning and also supports the agile design of the vehicle, while simultaneously enhancing stability. The appearance of the wide, weight-optimised body is dominated by an aerodynamic design with an emphasis on downforce. And despite the strong downforce, the GT3 RS can achieve a top speed of 312 km/h. The large rear wing, like the widened front wings with high-mounted ventilation slits, is made from ultra-lightweight carbon. The interior is also dominated by a racing feel, and the full bucket seats made from carbon provide secure lateral support even when strong lateral forces are present. Lightweight door panels and reduced sound absorption are further illustrations of the consistent lightweight construction.

Engine The four-litre, six-cylinder naturally aspirated engine from Porsche used in the new 911 GT3 RS pushes the sports car to new limits. The flat engine delivers 15 kW (20 hp) more than the engine in the previous model and in the 911 GT3. With a speed range of up to 9,000 rpm, the six-cylinder engine is the ideal choice as an efficient thoroughbred sports engine.

Performance The weight-to-power ratio of 3.74 kilograms/kW (2.75 kilograms/hp) delivers superior longitudinal and lateral dynamics on the race track. The high-performance 911 can accelerate from zero to 100 km/h in 3.2 seconds. And despite the strong downforce, the vehicle has a top speed of 312 km/h.

- Chassis** Racing-style ball joints on all arms provide even greater driving precision than conventional elastokinematic bearings. 20-inch lightweight wheels with 265/35 tyres on the front axle enhance agility and steering behaviour, while 21-inch wheels with 325/30 tyres at the rear axle improve traction. The rear axle steering improves agility when driving around bends, while also ensuring stability when manoeuvring at high speeds.
- Body and aerodynamics** The wide 911 Turbo body with magnesium roof and RS-specific aerodynamic add-ons underlines the vehicle's status as a driving machine with a clear racing emphasis. The aerodynamic alignment with the RS-specific rear wing increases the total downforce to 144 kilograms at 200 km/h, some 75 kilograms more than the 911 GT3.
- Weissach package** The optional Weissach package includes a lightweight roof with carbon-weave finish, magnesium wheels, carbon-fibre anti-roll bars, a lightweight bonnet with carbon-weave finish, a bolted titanium roll cage at the rear and SportDesign exterior mirrors with carbon-weave finish upper shells. When the optional magnesium wheels are fitted, the weight of the 911 GT3 RS is reduced by around 30 kilograms.
- Infotainment** The Porsche Track Precision app that comes as standard provides the driver with a detailed overview via smartphone of performance data such as lap times. The PCM is connected to the Internet via the Connect Plus module – also delivered as standard – and offers access to Porsche Connect services.

Racing-style 911 with 520-hp naturally aspirated engine, racing chassis and lightweight construction

The new 911 GT3 RS

The new 911 GT3 RS comes from a great heritage: The direct predecessor of this high-performance sports car was Porsche's most successful RS vehicle to date. And now we welcome the seventh generation of the 911, which is raising the bar once again.

This is the aim with which the Porsche motorsport department in Weissach has developed the new 911 GT3 RS, giving the vehicle their full focus down to the very last detail. At the heart of the new high-performance sports car is a 383-kW (520-hp) naturally aspirated engine, the most powerful ever to drive a series-production 911. The Porsche Doppelkupplung (PDK) shifts even faster, and the chassis tuning is even more uncompromising. The aerodynamics and control systems have been improved, and the tyres have been further developed.

The design of the 911 GT3 RS is based around a single purpose – generating maximum performance. Consistent lightweight construction and maximum downforce help to achieve this goal. Aerodynamic design determines the appearance of the wide body, which originates with the 911 Turbo. The dominant rear wing, like the front and rear lid and the widened front wings with high-mounted ventilation slits, is made from carbon. The natural habitat of the 911 GT3 RS is the race track.

The close connection to motorsport, and thus to the 911 GT3 Cup, affects all the driving dynamics features of this new high-performance sports car. For example, the downforce values of the 911 GT3 RS and 911 GT3 Cup are significantly higher than those of the 911 GT3. The total downforce of the RS model is 144 kilograms at 200 km/h. As such, the RS model generates twice as much downforce as the 911 GT3 (69 kilograms at 200 km/h). The result is a significantly higher aerodynamic grip, which is crucial for use on the track. Conversely, the resulting higher drag coefficient means that the 911 GT3 road specialist can reach a higher top speed.

When it comes to engine power, the new 911 GT3 RS trumps both the 911 GT3 and its racing counterpart the 911 GT3 Cup by 15 kW (20 hp).

Powertrain

Porsche's most powerful naturally aspirated engine at 520 hp

The four-litre, six-cylinder naturally aspirated engine from Porsche used in the new 911 GT3 RS pushes the sports car to new limits. The flat engine delivers 15 kW (20 hp) more than the engine in the previous model and in the current 911 GT3. Torque has been increased by 10 Nm to 470 Nm. The maximum power is achieved at 8,250 rpm, and maximum torque at 6,000 rpm. Together with its speed range of up to 9,000 rpm, the six-cylinder engine was the ideal choice as a thoroughbred sports engine.

Used in conjunction with the standard seven-speed Porsche Doppelkupplung (PDK), the new 911 GT3 RS accelerates from zero to 100 km/h in just 3.2 seconds. The top speed is 312 km/h. In addition to technologies that have been tried and tested in the 911, such as VarioCam, direct fuel injection and the variable resonance intake manifold, it is primarily solutions taken from the world of motor racing that make the engine of the 911 GT3 RS so robust and so stable at high speeds. A crankshaft with larger bearing diameters, wider connecting rod bearings, plasma-coated cylinder liners to reduce friction losses and wear and a significantly improved oil supply all contribute to the increase in load capacity and speed stability.

Fixed valve train enables speeds of up to 9,000 rpm

The switch to a fixed valve train with an adapted valve spring design ensures that the maximum engine speed of 9,000 rpm is fully available even when the engine is pushed to its limits. With this type of gas exchange control system, the valves of the engine are actuated via rocker arms without hydraulic valve clearance compensation. The valve clearance is adjusted just once during production of the engine, using shims, and is designed to last for the entire life of the engine.

The oil supply of the engine is also based on motorsport principles: In addition to revving at very high speeds, the engine is also subjected to particularly strong lateral and longitudinal accelerations while driving on the race track. The dry-sump lubrication uses a total of seven suction stages, which quickly

and efficiently return the engine oil to the external oil tank. The oil pump ensures the optimum oil pressure for every operating condition. Another new feature is the particularly efficient oil supply to the connecting rod bearings, which are placed under significant load. These are supplied with oil via a central oil supply into the crankshaft directly from the oil pump. The defoaming of the oil before it is fed to the separate oil tank via a centrifuge is also a completely unique feature in this vehicle class and originates from high-performance motorsport.

911 Turbo body promotes ram air effect

Using the 911 Turbo body for the 911 GT3 RS also brings benefits in terms of the engine: The more process air enters the combustion chambers, and the more compressed the process air is, the more powerful the engine becomes. The air intakes in the rear fenders, taken from the 911 Turbo, also make a contribution here. At higher speeds, the intakes generate a ram air effect, which increases the flow rate and enhances performance.

As standard, the 911 GT3 RS features a sports exhaust system with rear silencer and two central tailpipes made from titanium. The large volume of the exhaust system reduces the exhaust gas pressure and thus increases performance.

Chassis

Motorsport technology for optimum driving dynamics

Exceptional driving dynamics is the domain of every Porsche, and none more so than the RS models. It forms the basis for motorsport success. With this in mind, the specialists in Weissach have developed a first-class motorsport chassis for the new 911 GT3 RS. Ball joints on all arms – known as uniball bearings – provide even greater precision than conventional elastokinematic bearings. A McPherson spring strut axle with helper springs and wheels suspended individually on the crossmembers and wishbones is used at the front. The rear axle is designed as a multi-link suspension with helper springs. The additional springs are used for pretensioning and fixing the position of the lightweight springs during rebound of the suspension. The vehicle height, camber and tracking, as well as the anti-roll bars, can be set individually in order to find the optimum setup for each race track.

Specially tuned active chassis systems

All active chassis systems in the 911 GT3 RS are specially tuned. The PASM active suspension system allows the driver to choose between two programs. Normal mode is designed for sporty driving on public roads and race tracks in wet conditions. The tuning of the "Sport" mode supports maximum lateral acceleration and the best possible traction on a dry race track. The active rear-axle steering ensures greater agility on tight bends, while optimising the car's stability during fast sections.

In the new 911 GT3 RS, the interventions of PSM deliver extremely sensitive and precisely dosed control – which can be completely disengaged in two stages. The system is so sophisticated that even experienced drivers do not achieve slower lap times on the race track with PSM activated, compared to their times with the system deactivated.

Porsche Torque Vectoring Plus (PTV Plus) has also been specifically tailored for the new 911 GT3 RS, and features an electronically controlled, fully variable rear differential lock. Numerous driving parameters are taken into account for the active control of the differential lock, in order to ensure, at the limits of

the vehicle's driving dynamics, more traction, an increase in lateral dynamics and significantly increased driving stability during load changes on bends and during lane changes. On the race track, the system mainly stabilises the rear, and in doing so enables the driver to push the vehicle close to its limits.

The electronically controlled dynamic engine mounts also make a significant contribution to the dynamics and handling of the 911 GT3 RS. They unite the benefits of hard and soft engine mountings. A hard engine mounting is particularly important for race track use, as it allows for more precise, predictable handling when the vehicle is being driven to its limits. On public roads, a soft engine mounting helps to reduce oscillations and vibrations, which makes the ride more comfortable.

Chassis options: Weissach package and lift system

The optional Weissach package further optimises the handling of the 911 GT3 RS. Among the features included in the package are front and rear anti-roll bars and coupling rods made from carbon-fibre-reinforced plastic (CFRP), which reduce the unsprung weight. Porsche is currently the only manufacturer to offer this technology in a road-approved vehicle.

A hydraulic lift system for the front axle is available as an option; the system significantly reduces the risk of bottoming on kerbs, ramps or garage entrances. Once fitted with this system, the front end of the vehicle can be raised by around 30 millimetres, up to a speed of approximately 50 km/h.

Stable brake system with fixed callipers and composite discs

The standard brake system for the 911 GT3 RS, with fixed callipers and composite discs, is tried-and-tested in the field of motorsport. Porsche always uses monobloc aluminium callipers manufactured from a single piece, which offer enormous benefits for race track driving in particular. The high level of rigidity, which goes hand in hand with the design, ensures very good pressure point behaviour under extreme loads, while also providing high resistance to fading. The six-piston brake callipers at the front axle press the brake pads against the brake discs, with four-piston brake callipers doing the same at the rear. The composite brake discs have a diameter of 380 millimetres. Their two-part design with aluminium brake chambers reduces the weight and therefore the unsprung and rotary masses. They are perforated and internally ventilated, so they can easily dissipate any heat that builds up.

In addition to the purely mechanical components of the brake system, the electronics used also play an important role in the brake performance. The 911 GT3 RS uses a specially calibrated brake booster. The ABS control unit has been specifically adapted for use on the race track.

Optional: Porsche Ceramic Composite Brake (PCCB)

The braking performance of the 911 GT3 RS can be increased even further with the optional PCCB. The perforated ceramic composite brake discs have a diameter of 410 millimetres at the front and 390 millimetres at the back. The six-piston fixed brake callipers on the front axle and four-piston fixed brake callipers on the rear axle, both of which are finished with yellow paint, ensure very high and, above all, consistent brake pressure during deceleration. High resistance to fading is guaranteed, even under maximum stress.

Specially developed sports tyres with two-fold tyre mixing

The new 911 GT3 RS is fitted with two-fold mixed tyres as standard; the rear tyres are not only wider but also larger in diameter than the front tyres. In terms of specific dimensions, the vehicle has 265/35 ZR 20 tyres on 9.5J x 20-inch wheels at the front, and 325/30 ZR 21 tyres on 12.5J x 21-inch wheels at the rear. The standard sports tyres developed specifically for the 911 GT3 RS give drivers with sporting ambitions two major advantages that mainly come to light on the race track: They guarantee not only significantly improved road-holding performance on dry roads, but also greater consistency on longer journeys. This is made possible with a tread featuring two different rubber compounds. While strongly linked elastomers with optimum hardness guarantee exceptional grip on the outside, especially on tight corners, harder elastomers on the inside of the tyre ensure optimised steering precision and road-holding performance on wet roads. The outer shoulder of the tyre is also strengthened with a particularly abrasion-resistant special rubber compound. The result is a tyre that offers consistently good grip, even during intensive use on the race track, and excellent durability for a sports tyre.

Optional: Road-approved track tyres

Porsche is offering a new road-approved track tyre as an option for the 911 GT3 RS. This special tyre is based on the design of a sports tyre, but uses a different rubber compound that is aimed primarily at pure race track usage. In comparison with the sports tyre, the road-approved track tyre offers even better performance characteristics on a dry race track. The tyre is expected to be available from Q3 2018 via the Porsche sales network.

Forged aluminium wheels as standard; magnesium wheels as an option

Porsche delivers the 911 GT3 RS as standard with forged aluminium wheels that are secured with a central locking mechanism featuring "RS" lettering. As an option, in conjunction with the Weissach package, the 911 GT3 RS can be fitted with magnesium forged wheels of the same dimension; these wheels reduce the weight of the vehicle – and therefore also the rotary masses that are particularly relevant in terms of driving dynamics – by a further 11.5 kilograms.

The Tyre Pressure Monitoring (TPM) system is included as standard and issues a warning in the event of gradual or sudden pressure loss; it also has a race track mode, which takes into account the lower air pressure of cold tyres at the start of the track session.

Body and aerodynamics

Wide, lightweight body with magnesium roof and carbon-fibre wings

The new 911 GT3 RS is built for high-performance driving dynamics. Just one look at the body, with its RS-specific rear wing and its impressive width, illustrates the status of the RS as a driving machine with a clear racing emphasis. The dimensions at the rear axle are the same as those of the 911 Turbo, on which the body is modelled. In contrast, the carbon front wings protrude a little further on each side, by an additional 25 millimetres. A characteristic feature of the RS model is the wheel arch vents, which are protected by slats at the top. These reduce the overpressure generated by the turning wheels, and therefore increase the downforce at the front axle. Two "NACA" inlets in the bonnet improve the ventilation of the brake system without negatively affecting the drag coefficient. The front spoiler lip, which has been widened further compared to its predecessor, combines with the wider side skirts to increase the surface area of the vehicle's underbody, thereby increasing downforce. Overall this results in more stable driving behaviour.

The 911 GT3 RS is one of the few road-approved sports cars with aerodynamics that can be adjusted in the same manner as with a racing car. In order to improve performance on fast bends, the fixed rear wing, with its wing supports made from forged aluminium and painted in black, can be moved into a performance position. In this position, 40 per cent more downforce is generated than with the predecessor model.

Weight savings through intelligent mix of materials

The seventh generation of the 911 GT3 RS is another perfect example of lightweight construction. Despite boasting a number of additional performance-enhancing features compared with the predecessor model, with a lowest-possible weight of 1,430 kilograms, this new high-performance sports car is one of the lightest vehicles in the competitive environment. The aluminium-steel composite construction keeps the body weight low, while at the same time ensuring the required vehicle rigidity. As in the 911 GT3, the front and rear sections are made from lightweight polyurethane with hollow

glass spheres and carbon-fibre elements. The high-tech material is not only particularly stable, but also extremely light. CFRP is used in the contoured front lid, the front wings and the rear lid, as well as in a wide range of components in the interior.

The roof is made from magnesium and, like the front lid, features expansive contouring a few millimetres deep. This contouring is not simply a visually distinctive feature for the lightweight components, but also increases the rigidity of the material. The rear window and rear side windows are made from lightweight glass. The material is similar in weight to polycarbonate, but offers much better scratch and break resistance as well as significantly lower bulging at high speeds.

On the race track in particular, repeated acceleration and braking manoeuvres place a strain on the vehicle components. It therefore follows that a lighter vehicle not only brakes and accelerates more effectively, but also places a lower load on the powertrain and brakes. This is particularly advantageous if more than two or three fast laps are planned. Every kilogram off the weight of the vehicle also counts in terms of lateral dynamics. The lighter the vehicle, the less mass there is to push outwards on bends. The cornering forces to be transferred by the tyres are lower, and the potential cornering speeds are higher.

Interior design for the race track

The interior of the new 911 GT3 RS is designed with functionality and good ergonomics for the race track in mind. The sports steering wheel can be adjusted axially and vertically by up to 40 millimetres, allowing optimum customisation to the driver's specific needs. The steering wheel rim made of black Alcantara® is not only a visual highlight, but also ensures optimum grip. The yellow marking at the twelve o'clock position shows the driver the current steering angle on the race track. The large gear-shift paddles with their clearly defined pressure point ensure precise shifting operations, and give the driver the confidence that the correct gear has been selected with their clean feedback.

As standard, the driver and passenger are seated in full bucket seats made from CFRP and featuring a carbon-weave finish and optimum lateral support on the race track. The seat centre is covered with black, perforated Alcantara®; the headrests are embroidered with a "GT3 RS" logo in Silver Grey. If the customer selects the adaptive Sports seats Plus, the seat centre section is made from Black Alcantara without perforation like for all interior design configurations.

Clubsport package available at no extra charge

As with the 911 GT3 and the 911 GT2 RS, a Clubsport package is also available for the new 911 GT3 RS. It includes a rear roll cage with DMSB certification (from Germany's motor racing governing body) and a battery disconnect switch. The package also includes a motorsport manual fire extinguisher and a six-point seat belt, both of which already meet the future requirements of the International Automobile Federation (FIA – Fédération Internationale de l'Automobile).

Optional: Weissach package and magnesium wheels

With the optional Weissach package and the optional forged magnesium wheels, a further weight reduction of around 30 kilograms can be achieved compared with a 911 GT3 RS equipped with a Clubsport package. With this option, the rear wing, the front lid, the roof and the upper shell of the SportDesign exterior mirrors are made from carbon-fibre reinforced plastic (CFRP) in a carbon-weave finish. The anti-roll bars and coupling rods at the front and rear are also made from CFRP. The unmistakable trademark of the Weissach package is the large "PORSCHE" lettering on the rear wing.

The interior is dominated by the bolted titanium roll cage, which is approximately twelve kilograms lighter than the steel roll cage featured in the Clubsport package. Even small details have been optimised to minimise weight, such as the ultra-light gearshift paddles and the steering wheel cover made from CFRP, both of which come in a carbon-weave finish. Even the floor carpet has been reduced. In the interior, the Weissach package logo on the headrests and the badge on the cup holder trim also indicate that this 911 GT3 RS has been optimised as far as possible in terms of its weight.

The 911 GT3 RS comes with PCM as standard, including online navigation, voice control and mobile phone preparation, as well as Porsche Connect Plus with access to a wide range of services. PCM can be deselected at no extra charge to facilitate further weight reduction. In this case, a storage compartment is included in the central console instead.

Training with virtual support: Porsche Track Precision app

The standard Porsche Track Precision app allows the detailed recording, display and analysis of driving data on a smartphone. Lap times can automatically be stopped and compared on a smartphone using PCM or manually using the operating lever of the optional Chrono package. A lap trigger, available via Porsche Tequipment as an option, enables even more precise lap timing.

Once the vehicle is out on the track, the app displays the driving dynamics directly on the smartphone. In addition to sector and lap times, deviations from the set reference lap are also displayed. Graphical analysis of the driving data and a video analysis help the driver to continuously improve driving performance. Recordings, lap profiles and driver profiles can be managed and shared directly via a smartphone.

Optional: Chrono package with performance display

Porsche also offers an optional Chrono package for the 911 GT3 RS. In addition to the analogue and digital stopwatch in the dashboard, it includes functions for the display, storage and analysis of measured lap times, as well as a performance display. This provides the driver with information about the time and distance of the current lap, as well as the previous lap time and the times achieved so far. The fastest lap and the remaining fuel range are also displayed. Any lap routes can be recorded and reference laps can also be set.

[Direct link with motorsport](#)

Successful on the race track and perfected for the roads

The most obvious link between Porsche's racing cars and series-production models is created by the 911 GT3 RS. No other derivative of the current 911 model line offers such a big overlap of thoroughbred racing heritage and unrestricted everyday practicality. And no other GT model comes closer to the 911 GT3 Cup, 911 GT3 R and 911 RSR competition variants in terms of driving precision and dynamics. Certain features are almost a tradition: A host of components and technologies that have delivered a proven performance benefit in tough racing conditions are unveiled to customers for the first time in the 911 GT3 RS before finding their way into subsequent series-production models from Porsche. The new 911 GT3 RS illustrates this feature particularly well.

The new 911 GT3 RS is a driving machine par excellence. Its handling and its braking and steering behaviour outstrip the already superior performance of the 911 GT3 once again, and are closer than ever before to that of the 911 GT3 Cup. Among the features that the road version has to thank for this impressive performance are the uniball joints that connect the chassis arms on the front and rear axle to the body. They have been transferred across almost unchanged from the one-make series racing car, but are fully encapsulated to protect against corrosion. As they are particularly rigid and offer virtually no play, they provide a particularly direct connection with the road. The benefit here is that the driver still receives immediate feedback and the 911 GT3 RS responds to steering commands with unparalleled precision for a series-production vehicle.

The spring-damper tuning of the 911 GT3 RS further illustrates the close relationship with the racing car for the Porsche Mobil 1 Supercup plus 20 other national and regional Porsche Carrera Cups around the world. The spring rates are significantly higher than in the predecessor model and are now almost equal to the racing car set-up for the Nordschleife. In addition, Porsche Active Suspension Management (PASM) now offers greater spread, for active and continuous regulation of damper force. In NORMAL mode this offers sufficient ride comfort for driving on both motorways and country roads, while the set-up in SPORT mode is noticeably more rigid than in the 911 GT3 and is almost on a par

with racing-style tuning. It has been designed to support maximum lateral acceleration and the best possible traction on a dry race track. The front axle is particularly responsive. The re-tuned rear-axle steering responds just as quickly, helping to maintain balanced handling.

With the optional Weissach package, which reduces unladen weight by 18 kilograms, the similarities between the chassis on the racing and road versions become even more apparent. In this instance, the chassis set-up of the series-production vehicle includes anti-roll bars and coupling rods made from ultra-lightweight carbon-fibre composite materials. Porsche is currently the only manufacturer to offer this technology in a road-approved vehicle. Working in conjunction with the optional magnesium rims and Porsche Ceramic Composite Brake (PCCB), these chassis components considerably reduce both the unsprung and rotary masses. The effect here is that the 911 GT3 RS is more agile, spontaneous and stable in any acceleration, braking and steering situation.

The aerodynamics of the 911 GT3 RS also borrow clearly from the 911 GT3 Cup. Compared with the predecessor model, the adjustable rear wing alone generates up to 40 per cent more downforce. As with the 911 GT3 R racing car used in customer racing, "louvre vents" in the front wings provide improved ventilation for the side radiators; working in conjunction with the front spoiler lip that has also been widened, they create additional downforce at the front axle. At 200 km/h, the GT3 RS exerts a total of 144 additional kilograms on the road, and this figure increases to 416 kilograms at 300 km/h.

The engine used in the new 911 GT3 RS provides the most unapologetic transfer of technology from the race track to the road: The six-cylinder engine is based on the same GT engine set-up as the 4.0-litre engines used in the 911 GT3 Cup, 911 GT3 R and 911 RSR, which are designed for competition. At 383 kW (520 hp), it is the most powerful naturally aspirated direct-injection engine that Porsche has ever built for use in series production. The one-make series car surpasses the series-production sports car by 26 kW (35 hp). All four powertrains feature the high-rev concept developed and tested for motor racing. The engine in the RS unleashes its maximum performance at 8,250 revs, with a maximum engine speed of 9,000 rpm – this is unique even among thoroughbred sports car engines.

In order to ensure precise gas exchange even at very high speeds, the Porsche engineers developed "rigid valve control": Instead of being supported on hydraulic balancing elements, the rocker arms are seated on axles. The correct valve clearance is set at the factory using replaceable shims, and no subsequent re-adjustment is required. This reduces the maintenance effort both on the race track and in everyday use. This technology feature of the new 911 GT3 RS is also taken directly from motorsport.

The tradition behind the GT3 RS models

Sporty road vehicles with a racing finish

For 46 years, Porsche has been bestowing the RS abbreviation exclusively on 911 series-production models that serve as the link between the road-going sports cars and the successful GT racing cars of the brand. The cars are athletes through and through, raising driving precision to new heights with each new generation. A 911 GT3 RS is a model athlete with motorsport DNA – showing its full potential on the race track but also stealing the show in everyday driving. For more than half a century, the engineers at Porsche have held the same ambition when developing a new 911 generation: To be the benchmark for driving dynamics once more.

It was back in 1972. This is when the first 911 RS model made its debut: The 911 Carrera RS 2.7 has long since become an icon of automotive history. A well-maintained example of this model can command a seven-figure price. In its day, this very pure car cost 33,000 Deutsche Marks. It weighed barely 900 kilograms in its road-ready configuration, and delivered 210 hp and a top speed of 240 km/h; it was also the first to feature a fixed rear spoiler. Demand clearly exceeded the 500 units required for sport type approval. Ultimately, Porsche built 1,036 of these vehicles.

It was twelve years before another 911 bore the RS logo on its bonnet: The 911 SC RS saw Porsche unveil a pure homologation model for rally driving, and only 21 were made. It weighed 960 kilograms and boasted a 3.0-litre engine and 250 hp. It was followed in 1991 by the 260-hp 911 RS 3.6, based on the 964 model line. This marked the debut of technology from the Carrera Cup racing car in a series-production vehicle. A 3.8-litre variant with 300 hp followed shortly afterwards. From 1995 onwards, Porsche offered this engine with the identical output in the 277-km/h RS version of the Type 993 911. In turn, this vehicle provided the basis for the Porsche Carrera Cup and Porsche Supercup one-make series. So the direct link with motorsport was never lost.

911 (1996) GT3 RS, 2003: The first of its kind

After the 911 GT1 – the series-production version of the Le Mans winner of 1998 – and the 911 GT2, in 1999 Porsche introduced a model that was set to revolutionise the future of motorsport: The 911 GT3 based on the 996 model line triggered a flood of comparable GT models that make for great diversity on today's race track. In 2003, with the first 911 GT3 RS, Porsche took things to the next level. This model used the high-rev 3.6-litre flat engine from the 911 GT3, now with an output of 381 hp, and was available exclusively with a white roll cage. All the exterior lettering was kept in blue or red, in tribute to the famous predecessor. There were also additional components from the later racing version, such as a front apron with integrated ventilation slits, an optimised chassis geometry with special wheel mounts and split wishbones on the front and rear axle, a single-mass flywheel, and targeted measures to ensure lightweight construction: The rear window was made from polycarbonate, and the bonnet and the rear wing from carbon fibre. At 1,360 kilograms, the fully fuelled 911 GT3 RS was a further 50 kilograms lighter than the GT3 Clubsport version. Driving performance was equally impressive: It sprinted from zero to 100 km/h in just 4.4 seconds, and had a top speed of 308 km/h.

911 (1997) GT3 RS, 2006: The pure gauge

Compared with the initial GT3 model, the RS version based on the 997 model line took to the grid with the 44-millimetre-wider body of the Carrera 4. The rear axle track was subsequently 34 mm wider, allowing greater lateral acceleration and increasing the roll stability – and at 1,375 kilograms still weighed 20 kilograms less. This was made possible by features such as the adjustable carbon rear wing and a rear lid and rear window made from plastic. The wishbones on the rear axle were once again split, allowing more precise tuning of the chassis for use on the race track. The highlights of the relatively spartan interior were lightweight bucket seats made from carbon-fibre composite materials, adapted from the Carrera GT, and the roll-over bar fitted as standard. The 415-hp, 3.6-litre engine used in the RS, which had a maximum speed of 8,400 rpm, was taken unmodified from the GT3. The six-speed manual transmission with single-mass flywheel offered narrower step ranges, which resulted in very high revs. With a weight-to-power ratio of 3.3 kilograms/hp, the GT3 RS sprinted from zero to 100 km/h in 4.2 seconds and achieved a top speed of 310 km/h. It conquered the Nordschleife of the Nürburgring in 7:48 minutes.

911 (997 II) GT3 RS, 2009: Nothing but the truth

The 911 GT3 RS introduced in 2009 continued the series production of uncompromisingly sporty 911 derivatives. It was based on the facelifted 997 model line and now offered a 3.8-litre, six-cylinder flat engine. Boasting 450 hp instead of 435 hp, the naturally aspirated engine was for the first time more powerful than the one offered in the 911 GT3, and with its specific output of 118 hp/litre it set new standards for series-production vehicles. The top speed was 8,500 revs. The Sport button on the centre console increased torque in the mid range by 35 Nm to up to 465 Nm. To benefit the lateral dynamics, the track of the GT3 RS was also widened at the front axle; the vehicle also had a large brake system with aluminium brake chambers and a specifically tuned PASM chassis. Porsche adapted the PSM vehicle stability system accordingly: Its independent control algorithm, which could be disengaged in two stages, was developed specifically for use on the race track. Lightweight components such as the titanium rear silencer and the single-mass flywheel that had been reduced in weight by a further 1.4 kilograms reduced the unladen weight compared with the narrower 911 GT3 by 25 kilograms to 1,370 kilograms. The vehicle's weight was reduced a further 10 kilograms by using the optional lithium-ion battery, which replaced the heavy lead battery in race track operation. The 911 GT3 RS with a top speed of 310 km/h tackled the Nordschleife in 7:33 minutes. The vehicle demonstrated its race track potential in 2010 during the 24-hour race at the Nürburgring: This series-production model rose to the epic challenge in the Eifel region and crossed the line in an impressive 13th place overall – including arrival and departure on public roads.

911 (997 II) GT3 RS 4.0, 2011: Maximum discipline

2011 saw the debut of the third GT3 RS development stage of the Type 997 911. It had a limited production run of 600 units and was the first series-production 911 to have a 4.0-litre engine. The vehicle featured thoroughbred racing technology: The crankshaft was straight from the six-cylinder engine in the 911 GT3 RSR racing car, and titanium connecting rods joined it to the forged pistons. The result was peak performance of 500 hp at 8,250 rpm and a new specific naturally aspirated engine best value of 125 hp/litre. The bonnet, the front wings and the bucket seats were made from ultra-lightweight carbon as standard. With a fully fuelled weight of 1,360 kilograms, the 911 GT3 RS 4.0 with a weight-to-power ratio of 2.27 kilograms/hp cracked the magic limit of three kilo-

grams per hp. The progress in figures: From zero to 100 km/h in 3.9 seconds, Vmax 310 km/h and a Nordschleife lap in 7:27 minutes. These figures make the GT3 RS faster than the Carrera GT super sports car.

911 (991) GT3 RS, 2015: Limits pushed

The next 911 GT3 RS was launched in 2015, with the 991 new model generation. It featured the same 500-hp, 4.0-litre engine as its predecessor, but for the first time combined it with the seven-speed PDK transmission, including paddles on the steering wheel and the wide body of the 911 Turbo. The RS model once again set new standards for lightweight construction and aerodynamics: The front fenders and luggage compartment lid were made from carbon fibre and the roof – an important focal point – was even made from magnesium and characterised by a 30-cm wide depression that also shapes the bonnet. Another characteristic feature was the wheel arch vents – louvre vents – in the front wings: Just like in a pure racing car, they optimise downforce at the front axle. The chassis was designed for maximum driving dynamics and precision, and benefitted from the new rear-axle steering and Porsche Torque Vectoring Plus with fully variable rear differential lock. The 310-km/h 911 GT3 RS accelerated from zero to 100 km/h in just 3.3 seconds and completed the Nürburgring Nordschleife in 7:20 minutes.