



PORSCHE



2019 911 GT3 RS  
Press Kit

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## Summary

### **2019 Porsche 911 GT3 RS sets the benchmark for driving precision**

The 2019 Porsche 911 GT3 RS is the most powerful naturally aspirated road-going 911 ever. Weighing just 3,153 lb, its 4.0 liter flat-six engine now delivers an output of 520 hp. Developed by the Porsche motorsport department based on the road-going 911 GT3 and the 911 GT3 Cup race car, the RS has a clear focus on delivering the best possible performance and enthusiast focused driving experience. The new suspension setup as well as the latest generation of the naturally aspirated 4.0 liter flat-six contribute to this. The rear axle steering has been adapted to suit these changes, offering even greater agility while simultaneously enhancing stability. The appearance of the wide, weight-optimized body is characterized by an aerodynamic design with an emphasis on downforce. Even so, the GT3 RS is capable of up to 193 mph top track speed. The large rear wing as well as the widened front fenders fitted with louvers that reduce lift and aid ventilation, are made from ultra-lightweight carbon fiber. The interior also has a track-inspired feel, and the carbon fiber Full Bucket Seats provide a high degree of lateral support even during spirited cornering. Lightweight door panels and reduced sound deadening are further illustrations of the consistent dedication to lightweight construction.

#### Engine

The 4.0 liter flat-six engine used in the 2019 911 GT3 RS represents the most powerful naturally aspirated engine ever fitted to a road-legal 911 model. Generating 520 hp, it delivers 20 hp more than the engine in 2016 911 GT3 RS and in the current 2018 911 GT3. Capable of up to 9,000 rpm, the race-bred flat-six is closely related to the engine used in the 911 GT3 Cup and 911 GT3 R race cars.

#### Performance

The power-to-weight ratio of 6.1 pounds per hp results in outstanding straight line performance. The 2019 911 GT3 RS can accelerate from zero to 60 miles per hour in 3.0 seconds, which is 0.2 seconds quicker than the 2018 911 GT3 with PDK. In spite of the high amounts of downforce being generated, the 911 GT3 RS is capable of a top track speed of 193 mph.

#### Chassis

Racing-style ball joints on all key suspension links and arms provide even greater driving precision than conventional rubber bushings. Like the 911 GT2 RS, lightweight 20-inch wheels with 265/35 tires are mounted at the front axle to enhance agility and steering precision, while 21-inch wheels with 325/30 tires mounted at the rear axle improve traction. The tire dimensions on the current RS models, which were first used on the 2016 911 GT3 RS, provide around 20 percent larger contact patch than those of the 911 GT3. The standard rear axle steering improves agility when driving through corners, while also providing a high degree of stability at higher speeds.

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Body and aerodynamics	The wide body of the RS is taken from the 911 Turbo, which is about 1.1 inches wider than that of the 911 GT3. For the 911 GT3 RS, it is fitted with a magnesium roof and RS-specific aerodynamic components, underscoring the vehicle's status as a driving machine with a clear emphasis on motorsport. When the manually adjustable RS-specific rear wing is set to its steepest angle of attack for track use, it contributes to a maximum downforce of well over 1,000 lbs. at top track speed – 40 percent more than the 2016 911 GT3 RS.
Weissach package	The optional Weissach Package includes a lightweight roof with carbon-weave finish, carbon-fiber sway bars, a lightweight front luggage compartment lid with carbon-weave finish and SportDesign exterior mirrors with carbon-weave finish caps. In conjunction with the optional magnesium wheels, the Weissach Package reduces the weight of the 911 GT3 RS by about 40 pounds.
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 standard equipment – and offers access to Porsche Connect services.

Track-bred 911 with 520-hp naturally aspirated engine, race-derived chassis and lightweight construction

### **The 2019 Porsche 911 GT3 RS**

The latest 911 GT3 RS has a great heritage: The direct predecessor of this high-performance sports car, the 2016 911 GT3 RS, was Porsche's most capable vehicle to date. The latest generation raises the bar of performance once again.

Best possible performance and a highly emotional driving experience is the focus of Porsche's Motorsport department in Weissach. In development of the 911 GT3 RS, the engineers focused on these attributes down to the very last detail. The heart of the new high-performance sports car is a 520-hp naturally aspirated engine, the most powerful ever to drive a road-going production 911. The Porsche Doppelkupplung (PDK) dual-clutch transmission shifts more quickly than ever, and the chassis tuning is even more uncompromising. The aerodynamics and stability control systems have been further calibrated, and a new generation of tires offers even higher levels of grip.

The design of the 911 GT3 RS is focused on a single purpose – generating maximum performance. Consistent lightweight construction and maximum downforce help to achieve this goal. Aerodynamic design characterizes the appearance of the wide body, which originates from the 911 Turbo and is about 1.1 inches wider than the body of the 911 GT3. The dominant rear

wing, like the front luggage compartment lid and rear decklid cover as well as the widened front fenders with louvers, is made of carbon fiber.

The close connection to motorsport, and thus to the 911 GT3 Cup race car, influenced the driving dynamics features of this new high-performance sports car. For example, the downforce values of the 2019 911 GT3 RS and 911 GT3 Cup are significantly higher than those of the 911 GT3. With the front air dam inserts removed and the manually adjustable rear wing angled to its steepest setting for track use, the total downforce of the RS model is over 400 pounds at 124 miles per hour (200 km/h). As such, the RS model generates more than twice as much downforce as the 911 GT3 (152 pounds or 69 kilograms at 200 km/h). The result is significantly higher aerodynamic grip, which is crucial for use on the track.

When it comes to engine power, the 2019 911 GT3 RS trumps the 2018 911 GT3, the 2016 911 GT3 RS as well as its racing counterpart the 911 GT3 Cup by 20 horsepower.

#### Powertrain

#### **The most powerful 911 engine**

The 4.0 liter naturally aspirated flat-six engine from Porsche used in the new 911 GT3 RS pushes the sports car to new limits. It delivers 20 hp more than the engine in the 2016 911 GT3 RS and in the current 911 GT3. Torque has been increased by 7 lb-ft to 346 lb-ft. The maximum power is generated at 8,250 rpm, and maximum torque at 6,000 rpm. Capable of speeds of up to 9,000 rpm, the six-cylinder is the most powerful road going 911.

Using Launch Control with the standard seven-speed Porsche Doppelkupplung (PDK) dual-clutch transmission, the 2019 911 GT3 RS accelerates from zero to 60 mph in just 3.0 seconds. The top track speed is 193 miles per hour. In addition to technologies that have been tried and tested in the 911, such as the variable valve timing system VarioCam, direct fuel injection and the variable resonance intake manifold, solutions taken from the world of motor racing make the engine of the 911 GT3 and 911 GT3 RS robust and durable at high speeds. Like in the 2018 911 GT3, 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 high engine-speed stability.

#### **Rigid valve train allows engine speeds of up to 9,000 rpm**

Like on the 2018 911 GT3, the change to a solid lifer 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 using rocker arms without hydraulic valve clearance compensation. The valve clearance is set 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 very high engine speeds, the engine is also subjected to particularly strong lateral and longitudinal acceleration

while driving on the race track. The dry-sump lubrication system uses a total of seven suction stages, which return the engine oil to the external oil tank quickly and efficiently. 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 motorsport.

### **911 Turbo body promotes ram air effect**

Using the 911 Turbo body for the 911 GT3 RS doesn't just allow for wide track widths and a high amount of downforce, but is also beneficial for the engine: The more process air that enters the combustion chambers, and the more compressed the process air is, the more power the engine creates. The air intakes in the rear quarter panels, taken from the 911 Turbo, also contribute 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 Sport Exhaust System with a rear muffler and two central tailpipes made from titanium. The large volume of the exhaust system reduces the exhaust gas pressure and thus increases engine performance.

## Chassis

### **Motorsport technology for exceptional driving dynamics**

Every Porsche is designed to deliver exceptional driving dynamics, particularly the RS models. With this in mind, the engineers in Weissach have developed a first-class motorsport chassis for the 2019 911 GT3 RS. Ball joints on all suspension links – also known as uniball bearings – provide even greater precision than conventional elastokinematic bushings. A MacPherson spring strut with helper springs and wheels suspended individually on the cross members and wishbones is used on the front axle. The rear axle is designed as a multi-link suspension with helper springs. The additional springs are used to pre-tension and ensure position of the lightweight springs during rebound of the suspension. The vehicle ride height, camber, toe angle, and sway bar stiffness can be set individually to provide optimum setup for individual tracks and driver preferences.

### **Specially tuned active chassis systems**

All active chassis systems in the 911 GT3 RS are specially tuned. Porsche Active Suspension Management (PASM) is tuned specifically to the 911 GT3 RS and controls the rate of damping on each wheel. Like on the other 911 models, the driver can choose between two modes. Normal mode is tuned for spirited driving on the road and for wet track conditions. Sport mode tunes the dampers for maximum lateral acceleration and best possible traction on closed circuits.

The standard rear axle steering actively ensures greater agility in tighter corners, while optimizing the car's stability at higher speeds, for example during a lane change maneuver.

The Porsche Stability Management (PSM) system is tuned for spirited driving in the GT3 RS. PSM can be deactivated in two stages using the ESC OFF and ESC+TC OFF functions. In the first deactivation stage, “ESC OFF”, stability control is deactivated to increase potential driving dynamics on closed courses. The longitudinal dynamics control functions tuned for spirited driving are retained in “ESC OFF” mode. In the second deactivation stage, “ESC+TC OFF”, all driving dynamics control systems are deactivated.

Porsche Torque Vectoring Plus (PTV Plus) has also been specially tailored for the new 911 GT3 RS, and features an electronically controlled, fully variable rear differential lock, or limited slip differential. Numerous driving parameters are taken into account for active control of the differential in order to ensure peak performance at the limits of the vehicle's driving dynamics. Therefore, PTV Plus increases traction, increases lateral dynamics, and significantly increased driving stability during load changes both in corners and during lane changes. On the race track, the system mainly stabilizes 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 mounts. A hard engine mount is particularly important for spirited driving, as it allows for more precise, predictable handling when the vehicle is being driven aggressively. On public roads, a soft engine mount helps to reduce oscillations and vibrations, which makes the ride more comfortable.

### **Chassis options: Weissach Package and front axle lift system**

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

A hydraulic front axle lift system is available as an option. Fitted with this system, the front end of the vehicle can be raised by around 1.18 inches (30 millimeters), up to a speed of approximately 37 miles per hour, to better clear driveways and other entrances where increased ground clearance can be beneficial.

### **High performance brake system with fixed calipers and composite rotors**

The standard brake system for the 911 GT3 RS, with fixed calipers and composite rotors, is tried-and-tested in the field of motorsport. Porsche always uses monobloc aluminum calipers 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 stable pressure point behavior under extreme loads, while also providing high resistance to fading. The six-piston brake calipers at the front axle press the brake pads against the brake rotors, with four-piston brake calipers doing the same at the rear. Front and rear grey cast iron brake rotors have a diameter of 380 millimeters. Their two-part design with aluminum hubs reduces the weight and therefore 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 adapted brake booster, and the ABS control unit has been specifically calibrated 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 system. The perforated ceramic composite brake rotors have a diameter of 410 millimeters at the front and 390 millimeters at the rear. The six-piston fixed brake calipers on the front axle and four-piston fixed brake calipers on the rear axle — all of which are finished with yellow paint — ensure very high and consistent brake pressure during deceleration. The brakes maintain a high resistance to fading, even under maximum stress.

### **Specially developed UHP tires with two-fold tire composition**

The 2019 911 GT3 RS is fitted with staggered two-fold UHP (ultra-high performance) tires as standard; the rear tires are not only wider but also larger in diameter than the front tires. The 911 GT3 RS has 265/35 ZR 20 tires on 9.5J x 20-inch wheels at the front, and 325/30 ZR 21 tires on 12.5J x 21-inch wheels at the rear, and shares these dimensions as well as the tires with the 911 GT2 RS. The standard UHP tires developed specifically for the RS models offer a 20 percent larger contact patch than those of the regular 911 GT3 and give spirited drivers two major advantages: They guarantee not only significantly improved road-holding performance on dry roads, but also greater consistency. 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 of the tire, especially in tight corners, harder elastomers on the inside of the tire ensure optimized steering precision and road-holding performance on wet roads. The outer shoulder of the tire is also strengthened with a particularly abrasion-resistant special rubber compound. The result is a tire that offers a very high and consistent level of grip, even during intense use on closed courses, and excellent durability for a UHP tire.

### **Optional: Road-approved Michelin Pilot Sport Cup 2 R N0 track tires**

Porsche is offering a new road-approved track tire as an option via Tire Rack for the 911 GT3 RS and 911 GT2 RS. This special tire is based on the design of a UHP tire, but uses a different rubber compound and tread pattern that is aimed primarily at pure race track usage. Compared to the standard UHP tire, the road-approved track tire offers even better performance characteristics on a dry race track.

### **Forged aluminum wheels as standard; optional magnesium wheels**

Porsche delivers the 911 GT3 RS as standard with forged center lock aluminum wheels. As an option and in conjunction with the Weissach Package, the 911 GT3 RS can be fitted with forged magnesium 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 25 pounds.



The Tire 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 programmable race track mode, which takes into account the lower air pressure of cold tires at the start of a track session.

#### Body and aerodynamics

### **Wide, lightweight body with magnesium roof and carbon fiber front fenders**

The 911 GT3 RS is built for high-performance driving dynamics. The RS-specific rear wing and the impressive width of the car illustrate the status of the RS as a driving machine with a clear track-bred emphasis. The rear width of the car matches that of the 911 Turbo, on which the body of the RS models is based. Up front, the carbon fiber fenders extend outward a little further by 25 millimeters. A characteristic feature of the RS model is the wheel arch vents, which are covered by louvers at the top of the fenders. These vents reduce the air pressure and thus lift generated by the turning wheels, and increase the downforce at the front axle. Two “NACA” ducts in the front luggage compartment lid 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, works in conjunction with the wider side skirts to increase the surface area of the vehicle’s underbody, thereby increasing downforce. Overall, this results in a higher degree of stability.

The 911 GT3 RS is one of the few road-approved sports cars with aerodynamics that can be adjusted in the same manner as on a race car. In order to improve performance in high speed corners, the fixed rear wing, with black wing supports made from forged aluminum, can be adjusted in several stages. With the wing adjusted to its steepest angle and the air duct inserts underneath the front of the car removed, the 2019 911 GT3 generates up to 40 percent more downforce than the 2016 911 GT3 RS.

### **Weight savings through intelligent mix of materials**

The sixth 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 3,153 pounds, this new high-performance sports car is one of the lightest vehicles in its class. The aluminum-steel composite construction keeps the body weight down, while ensuring the required rigidity. Like on the 911 GT3, the front and rear fasciae are made from lightweight polyurethane with hollow glass spheres and carbon fiber elements. This high-tech material is not only particularly stable, but also extremely light. CFRP is used in the contoured front luggage compartment lid, the front fenders, the rear decklid, the rear wing, as well as in a wide range of components in the interior.

The roof is made from magnesium and features a recessed contour along the center, like the front lid. 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.

Repeated high-load acceleration and braking maneuvers place a strain on the vehicle components. A lighter vehicle not only brakes and accelerates more effectively, but also places a lower degree of load on the powertrain and chassis. Every pound spared also counts in terms of lateral dynamics. The lighter the vehicle, the less mass there is to push it towards the edge of the corner. The cornering forces that need to be transferred by the tires are lower, and the potential cornering speeds are higher.

### **Interior design inspired by racing**

The interior of the 2019 911 GT3 RS is designed with functionality and good ergonomics for the race track in mind. The Sport steering wheel adjusts axially and vertically by up to 40 millimeters, allowing optimum adjustment to meet 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. The large gearshift paddles with their clearly defined pressure point ensure precise shifting operations, and their clean feedback gives the driver confidence that the correct gear is selected.

As standard, the 911 GT3 RS is fitted with Full Bucket Seats made from CFRP. They feature a carbon-weave finish and provide the best possible lateral support during spirited cornering. The seat center is upholstered with black, perforated Alcantara®; the headrests are embroidered with a "GT3 RS" logo in Silver Grey. If a customer selects the Adaptive Sport Seats Plus, the seat center section is made from Black Alcantara without perforation.

### **Optional: Weissach Package and magnesium wheels**

With the optional Weissach Package and the optional forged magnesium wheels, weight can be reduced by an additional 40 pounds. When this option is selected, the standard magnesium roof is replaced with one made from carbon fiber, which saves about 1.1 pounds (0.5 kilograms) of weight. The rear wing and the front luggage compartment lid, which are already made of carbon fiber and painted in body color as standard, are clear coated on the Weissach Package to make the material visible. The upper shell of the SportDesign exterior mirrors are also made from carbon fiber reinforced plastic (CFRP) in a carbon-weave finish when selecting this option. The unmistakable trademark of the Weissach Package is the large "PORSCHE" lettering on the rear wing.

Even small details have been optimized to minimize weight via the Weissach Package, 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 carpeting 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 optimized 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.

**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 recorded 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 analog 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.