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2020 718 Cayman GT4 & 718 Spyder
Press Kit: PCNA

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Summary

The most powerful and exhilarating 718 models to date

Developed by the Porsche Motorsport department, the 2020 Porsche 718 Cayman GT4 and 718 Spyder represent the most powerful and engaging variants of the 718 line-up yet created. Offering a blend of pure, unfiltered driver's car character and track-oriented performance, both models are powered by a new 4.0-liter naturally aspirated flat-six engine, which develop 414 horsepower and 309 lb.-ft. of torque. For the first time, both the 718 Cayman GT4 and 718 Spyder share a technically identical base. Both are equipped with highly efficient aerodynamics, a track-bred GT chassis and powerful brakes.

High-revving and exciting naturally aspirated engine

At the heart of both models is the new naturally aspirated four-liter flat-six engine. It is based on the same engine family as the turbocharged motors in the 2020 911 Carrera S models. The new high-revving powerplant generates 414 hp – 29 hp more than the previous GT4. The third generation of the Boxster Spyder delivers 39 horsepower more than its predecessor. Peak torque of 309 lb.-ft. is available between 5,000 and 6,800 rpm. Both models are equipped with a six-speed manual transmission as standard. The 718 Spyder has a top track speed of 187 miles per hour, while the 718 Cayman GT4 can reach 188 miles per hour, and both accelerate from 0 to 60 miles per hour in 4.2 seconds. The enthralling character of this naturally aspirated engine stems from its linear power delivery and immediate responsiveness. It has a maximum engine speed of 8,000 rpm, accompanied by the characteristic flat-six sound. New additions include technical highlights such as a start-stop system and adaptive cylinder control. The latter temporarily interrupts the injection process under partial load in one of the two cylinder banks, helping to reduce fuel consumption.

For the first time ever, piezo injectors are used for direct fuel injection in a high-revving naturally aspirated engine. They split each injection process into up to five individual injections. This contributes to a particularly thorough combustion process. A variable intake system with two resonance valves ensures optimum gas exchange in the cylinders.

Aerodynamic efficiency: more downforce, same drag

Among the striking features of the 718 Cayman GT4 is the comprehensively improved aerodynamics package. The GT4 produces up to 50 percent more downforce than the previous model without adversely affecting drag – proof of outstanding efficiency. The aerodynamics of both models benefit enormously from the newly designed single-chamber arched rear muffler: it creates space for a functional diffuser, which accounts for about 30 percent of the downforce on the rear axle of the 718 Cayman GT4. The manually adjustable fixed rear wing is also characterized by its greater efficiency: it produces around 20 percent more downforce compared to the 2016 Cayman GT4. This corresponds to an additional 26 pounds of downforce at 124 miles per hour. The optimized front section maintains aerodynamic balance with a large front spoiler lip and so-called air curtains, which calm the airflow around the front wheels.

Porsche 718 Spyder: an open-top sports car with a lightweight fabric top

The new 718 Spyder is focused on unfiltered driving pleasure. Elevating this experience, it is equipped with a lightweight, manually operated fabric top that is sturdy enough to withstand high speeds. The 718 Spyder carries on the legacy of famous roadsters like the Porsche 550 Spyder and the 718 RS 60 Spyder. The roof is suitable for everyday use and can be stowed away under the rear decklid in just a few steps. Unlike the GT4, the 718 Spyder has an automatically deploying rear spoiler that comes up at 75 mph. Thanks to the functional diffuser, it is the first model in the Boxster family to generate aerodynamic downforce on the rear axle.

High-performance GT chassis: optimized for the best driving dynamics

For the first time ever, the 718 Spyder benefits from the high-performance GT chassis of the 718 Cayman GT4. With its superior cornering dynamics, it provides a thrilling driving experience. Its further refined front and rear axles make use of racing technology such as lightweight struts and springs. The direct connection to the chassis is achieved by a partial use of ball joints. The Porsche Active Suspension Management damping system with a ride height 1.18 inches (30 mm) lower than standard 718 models lowers the center of gravity and improves lateral dynamics. The track-bred suspension sharpens the handling characteristics of the 718 Cayman GT4 and 718 Spyder. Porsche Stability Management (PSM) is specifically tuned to suit the performance and character of the two cars. As is typical for Porsche GT models, it can be deactivated in two stages. A mechanical limited slip differential as well as Porsche Torque Vectoring (PTV) further enhance longitudinal and lateral dynamics, cornering performance and driving pleasure.

Gripping: powerful brakes, ultra-high-performance tires

The high-performance braking system of the 718 Spyder and 718 Cayman GT4 provides consistent stopping power thanks to large aluminum monobloc fixed-caliper brakes. The Porsche Ceramic Composite Brake (PCCB) is also available as an optional extra. One new feature is that the 718 Spyder now runs on the same ultra-high-performance (UHP) tires as the 718 Cayman GT4 specially developed in cooperation with Porsche. They are part of the overall package that makes the 718 Cayman GT4 12 seconds faster than its predecessor at the legendary Nuerburgring Nordschleife.

Engine and performance

Powerful and thrilling

The high-revving heart of the new Porsche 718 Cayman GT4 and 718 Spyder is a specially developed, naturally aspirated 4.0-liter boxer engine. The naturally aspirated powerplant is based on the same engine family as the turbocharged motors in the current 2020 911 Carrera S models. With 414 hp and a linear power delivery, the most powerful and exciting engine in the 718 model range is characterized by its particularly direct responsiveness and striking sound. It is happy to rev up to 8,000 rpm (200 rpm higher than before) and reaches peak power at 7,600 rpm, developing 29 hp more than its 3.8-liter GT4 predecessor. The Spyder, which is powered by the

identical engine, has 39 hp more than the 2016 Boxster Spyder. The maximum torque of 309 lb.-ft. is available between 5,000 and 6,800 rpm.

This makes for thrilling performance. The new 718 Cayman GT4 reaches a top track speed of 188 miles per hour, while the 718 Spyder can reach 187 miles per hour. They both outdo their predecessors significantly, by 5 and 7 miles per hour, respectively. Both models are capable of accelerating from 0 to 60 miles per hour in 4.2 seconds.

Extensive changes to enable high rpms

The high-revving six-cylinder engine benefits from extensive modifications and refined components. Mechanically, an extremely rigid high-strength forged-steel crankshaft, geometrically optimized connecting rods and a generously sized crankshaft main bearing with a diameter of 67 mm (up from 63 mm on the 2020 911 Carrera S) provide a sturdy base. The robust composite oil sump weighs 36.5 percent less than the comparable cast part of the last model.

To make high engine speeds of up to 8,000 rpm possible, rocker arms with hydraulic valve clearance compensation operate the valves. The electronic engine management system adjusts the timing of the four VarioCam camshafts according to load requirement and engine speed. The adjustment range of the crankshaft on the outlet side is 30 degrees, for example. This ensures high power output and torque values across the entire engine speed range, thus improving drivability and engine responsiveness.

Direct fuel injection with piezo injectors

The centrally positioned injectors of the direct fuel injection (DFI) system are controlled by piezo elements for the first time in an engine capable of achieving these speeds. They open the injection valves by expanding upon application of a control voltage. When there is no current flowing, the crystals contract and the valve closes again. As a result, the fuel is finely atomized with a maximum fuel pressure of 2,900 psi (200 bar), and combustion is even more precise. The optimized spray pattern of the piezo injector reduces droplet formation on the cylinder walls and counteracts potential soot formation. The result? Fuel consumption and exhaust emissions are reduced, while the efficiency of the naturally aspirated engine is improved.

The variable intake system supports rapid gas exchange in the combustion chambers. It features two resonance valves, which open individually or simultaneously depending on the engine load and adapt the frequency of the pulsating air column on its way to the valves, depending on the engine speed. This improves the fill level in the cylinders and results in more impressive torque characteristics.

Sport exhaust system

On the outlet side, the new sport exhaust system provides several advantages thanks to its sophisticated design: Its large cross-section reduces exhaust backpressure and increases power

while the special arched design of the sports exhaust system provides the necessary clearance for an efficient and effective rear diffuser (see the Body and Aerodynamics section below).

To accommodate the diffuser, the two main mufflers, which were separated on the last GT4, have been combined to form a central component, which surrounds the diffuser in the shape of a saddle and makes the best possible use of the limited amount of available space. Nevertheless, the volume of the muffler is sufficient to meet the most current noise requirements. Thanks to the valve controller, the characteristic boxer sound remains as thrilling as ever: depending on the engine temperature and load requirements, it combines optimum power delivery with exhilarating acoustics, particularly at high engine speeds.

Adaptive cylinder control

A special innovation to reduce emissions and fuel consumption is the adaptive cylinder control. At engine speeds between 1,600 and 3,000 rpm and a maximum torque use of up to 73 lb.-ft., it temporarily interrupts the injection process of one of the two banks, and the six-cylinder engine temporarily operates in three-cylinder mode. At constant load, the cylinder bank is changed every 20 seconds to ensure a uniform load and flow through the catalytic converters. The switch is almost imperceptible to the driver, and only accompanied by a slight change in sound. The effect, however, is notable: the adaptive cylinder control can reduce the CO₂ emissions by around 11 grams per kilometer. It can be deactivated at the touch of a button together with the start/stop function, which is featured for the first time in the 718 Cayman GT4 and 718 Spyder.

Six-speed manual transmission as standard

The power of the naturally aspirated six-cylinder engine is distributed to the rear wheels by a six-speed manual transmission with a dual mass flywheel. The shift lever is 0.78 inches (20 mm) shorter than on standard 718 models, offering a particularly direct and crisp feel when changing gears. Dynamic transmission mounts minimize the transfer of oscillations and vibrations from the drivetrain to the body and also reduce unwanted movements of the powertrain when driving in a spirited manner. The six-speed manual offers an "Auto Blip" function that automatically matches gearbox and engine speeds during a downshift. This feature can be individually activated or deactivated at the touch of a button labeled AUTO BLIP on the center console. The dual mass flywheel has been carried over from the 911 GT3.

Aerodynamics

Efficient downforce

With its sophisticated aerodynamics package, the new 718 Cayman GT4 takes important insights that Porsche has gained with the GT4 Clubsport and adapts them for the new production car. It resolves a classic conflict of objectives: although it generates 50 percent more downforce that contribute to significantly improved lateral dynamics, particularly in high speed corners, the coefficient of drag remains virtually unchanged. This paves the way for the marked increase in top track speed.

A centerpiece of the aerodynamics of the GT4, which have been optimized in detail, is the functional diffuser, which is also used on the 718 Spyder. Thanks to a sport exhaust system featuring a single-chamber, saddle-shaped rear muffler, it forms a rising duct in the rear section. The air is accelerated through this duct and is fed selectively to, or from the enclosed underbody by means of guide elements. The negative pressure generated through this sucks the vehicle onto the road, accounting for 30 percent of the downforce that the 718 Cayman GT4 produces on the rear axle – with virtually no detrimental effect on drag.

The generously sized fixed rear wing and its integrated winglets underscore the performance capability of the new 718 Cayman GT4. The wing itself produces roughly 20 percent more downforce compared to the last GT4, which corresponds to an additional 26 pounds of downforce at 124 miles per hour. At the car's top track speed, it generates a total of 268 pounds of rear downforce. Sideblades for the lateral air intakes improve the supply of processed air and cool the engine compartment of the Cayman GT4.

With the 718 Spyder, the functional diffuser generates 50 percent of the downforce on the rear axle: instead of the rear wing, the open-top two-seater has a rear spoiler that extends automatically at 75 miles per hour. It is the first Boxster model to generate downforce on the rear axle.

The front section, which has been significantly redesigned in the GT style, reduces lift on the front axle in both models, thus maintaining the aerodynamic balance of the car. Special bypasses on the outer sides of the front fascia – the so-called air curtains – allow the air to exit in a targeted manner in front of the front wheels through an inner duct. The generated airflow counteracts any detrimental turbulence in the wheel housings and generates downforce on the front axle. The central opening in the front fascia guides the air flow upwards through the center radiator to an outlet in front of the front luggage compartment lid, which has long been a characteristic of Porsche GT models. An additional Gurney flap generates a vacuum that sucks air from the outlet. Even the honeycomb structure of the air intake grills has been optimized for best possible air flow.

The pronounced front spoiler lip has also been redesigned and features a recessed “GT4” or “Spyder” logo. It comes in different sizes for the two models to correspond to the difference in downforce on the rear axle. At the front end, the special surface on its underside is dimpled, reminiscent of that of a golf ball. As a result, the airflow follows the contour more precisely, reducing drag. The underbody of the 718 Cayman GT4 and 718 Spyder also employs another aerodynamic feature: NACA ducts. These supply cooling air to the engine compartment without impairing the vehicle's drag coefficient.

Chassis and control systems

Performance oriented design and calibration

For the first time, the 718 Spyder is based on the GT chassis of the 718 Cayman GT4. Inspired by the Porsche 911 GT3, it features technology developed and tested in motor racing. Many details of the 2016 Cayman GT4 have been refined for use in the new GT4. The result is dynamic

handling and confidence-inspiring stability. The 718 Spyder and 718 Cayman GT4 set new standards in agility and driving pleasure.

The 718 Cayman GT4 has set a new fastest lap on the Nordschleife at the Nürburgring. Its lap time of 7:28 minutes on the legendary 12.9-mile racetrack was 12 seconds quicker than the predecessor, quicker even than the Carrera GT supercar. Whereas the pure increase in power of the GT4 would have resulted in an improvement of only around three seconds, the overall package of aerodynamics, tires and chassis-tuning made it possible to better the previous time by 12 seconds.

A lightweight spring-strut suspension, designed to endure high loads, guides the front wheels with a high degree of precision and provides direct steering response. Spring struts are also used on the reinforced lightweight rear axle. Both the upside-down shock absorbers and the longitudinal and transverse control arms are taken from the 911 GT3, as are the subframes. The same applies to the special ball joints, which allow mounting of the chassis without play. The rear axle's wheel knuckles have a unique design and provide additional stability.

GT developed suspension

Lower ride height, greater performance

The adaptive PASM (Porsche Active Suspension Management) sport suspension is included as standard equipment on the 718 Spyder and 718 Cayman GT4. It features two settings. In the standard setting, it combines excellent driving dynamics and agility with enough ride comfort for everyday use on the roads. Sport mode is specifically designed for use on enclosed roads and tracks: it sharpens the car's handling characteristics, optimizes traction and allows higher cornering speeds. Compared to a standard 718 Boxster or 718 Cayman, the ride height of the 718 Cayman GT4 and 718 Spyder is 1.18 inches lower. This improves the center of gravity and the vehicle's handling characteristics.

Porsche Stability Management

The 718 Spyder and 718 Cayman GT4 also come with Porsche Stability Management (PSM) as standard. This combines Electronic Stability Control (ESC) and Traction Control (TC) and stabilizes the limits of dynamic driving by means of selective braking on individual wheels. To do this, PSM uses sensor data on driving direction and lateral acceleration as well as road speed and yaw rate to calculate the actual direction of movement and constantly adjusts this to the desired line. In the 718 Cayman GT4 and 718 Spyder, the PSM system is specifically calibrated for each model. As is customary for Porsche GT models, the system can be turned off completely in stages. That being said, most drivers are not able to achieve significantly faster lap times with the PSM deactivated, underscoring the precision of the system.

Limited slip differential and Porsche Torque Vectoring (PTV)

A mechanical limited slip differential is included as standard equipment on the 718 Spyder and

718 Cayman GT4. The locking ratios are the same as on the previous models: 22 percent in traction and 27 percent in overrun. This improves both longitudinal and lateral dynamics, increases traction exiting a corner and enhances driving pleasure. Additionally, Porsche Torque Vectoring assists steering precision and agility through targeted braking applications to the inner rear wheel.

Porsche Active Drivetrain Mounts (PADM)

Like the 718 GTS, the 718 Cayman GT4 and the 718 Spyder also come equipped with the PADM system. Dynamic transmission mounts minimize vibrations in the engine/ transmission area and reduce movements that could affect driving dynamics as a result of the total mass of the drivetrain. PADM combines the advantages of hard and soft transmission mounts by enabling more precise and stable handling during changes in load and in corners, while promoting ride comfort on bumpy roads.

Powerful braking system

The powerful braking system of the new 718 Spyder and 718 Cayman GT4 matches the impressive performance of the two sports cars. Its generously sized aluminum monobloc fixed calipers are painted red and operate with six pistons on the front wheels and four on the rear. The composite grey cast iron brake rotors – internally vented and perforated for better cooling – have aluminum brake hubs at the front and rear and a diameter of 380 mm. These allow for consistent braking performance.

The Porsche Ceramic Composite Brake (PCCB), which has been tried and tested on the track, is also available as an optional extra on both models. It offers an ever higher resistance to fade, even under extreme loads. The most striking advantage of their perforated, ceramic composite brake rotors, which measure 410 mm at the front and 390 mm at the rear, is their low weight. They are about 50 percent lighter than comparable cast iron parts, which has a positive effect on the unsprung and rotating masses. This is an effect the driver will notice as the PCCB increases agility and improves both handling as well as ride. At the same time, the aluminum monobloc brake calipers, six pistons at the front and four at the rear, are painted yellow and ensure a high and consistent braking pressure.

20-inch alloy wheels and ultra-high-performance tires

For the first time, the Porsche 718 Spyder will run on the same 20-inch ultra-high-performance (UHP) tires that are also included as standard on the 718 Cayman GT4. Their new N1 specification features an advanced, even more high-performance tread compound that offers a clear performance advantage on dry roads compared to standard summer performance tires. 245/35 ZR 20 tires are used on the front axle, whilst the rear wheels are fitted with 295/30 ZR 20 tires. The silver-colored 20-inch alloy wheels on the 718 Spyder feature wheel hub covers with a monochrome Porsche crest. The 718 Cayman GT4 comes with 20-inch wheels in Satin Platinum finish with “GT4” wheel hub covers as standard.

Chrono Package and Porsche Track Precision App

The Chrono package comes as standard on the 718 Spyder. Porsche offers it as an optional extra for the 718 Cayman GT4. In addition to the analog and digital stopwatch on the dashboard, it also includes another performance feature for the Porsche Communication Management (PCM) system, which displays, stores and evaluates recorded lap times in conjunction with the optional navigation system. At the same time, the Chrono package can also record any distances and define reference routes.

In the 718 Cayman GT4, the Chrono package also comes prepared to operate in combination with the lap trigger, which Porsche offers through its Tequipment accessory range. It draws on technology from the GT racing cars and allows exact and automatic measurement of lap times, without distracting the driver.

The Porsche Track Precision app enables even more detailed analysis of individual track performance. When combined with the optional navigation system of PCM and Porsche Connect, it allows detailed recording and subsequent analysis of driving data on a smartphone using a precise 10 Hz GPS signal. In addition to sector times and lap times, the app also visualizes deviations from a defined reference lap, and allows for video analysis. Just like in professional motor racing, this data analysis helps the driver improve their own driving skills and performance, and also enables a comparison with other drivers.

Body and interior

Focused on maximum driving pleasure

The new Porsche 718 Spyder reflects the essence of an open-top sports car: with its purist character, it combines unfiltered driving experience with outstanding performance and an unmistakable design. The two-seater continues the legacy of famous roadsters including the Porsche 550 Spyder and the 718 RS 60 Spyder, sharing their classic styling elements. From a purely visual perspective, its special features include its breathtaking silhouette with the dynamic streamliners and the lightweight fabric top, which is usable even at high speeds.

The flat flyline, characteristic of a mid-engined car, defines the side view of the 718 Spyder. It goes hand-in-hand with the aerodynamically optimized streamliners. The two intakes on the rear decklid are reminiscent of the shape of the roll bar, which allows an elegant taper to the rear and evokes the style of 1950s racing cars. The lateral air intakes behind the doors provide cooling and combustion air for the engine compartment.

The compact roof of the Spyder is fully suitable for everyday use. It can handle both high speeds and car washes, and can be stowed away under the rear decklid in just a few steps. Its flexible plastic window, reduced insulation and minimalist headliner underscore the lightweight design concept. To reduce weight, the 718 Spyder also forgoes the automated fabric top of the 718 Boxster models in favor of a manually operated top. After electrically unlocking the roof and rear

decklid, five steps is all it takes to retract and stow the top completely. The process is similar in reverse until the two side fins clip back into their respective mountings and tighten the roof skin.

The cockpit is focused on the driver. The rim of the 14.1-inch GT Sport steering wheel is covered in Alcantara, as are the centers of the standard Sport Seats Plus which feature more pronounced side bolsters and “Spyder” logos embroidered on the headrests. The Adaptive Sports Seats Plus with electric 18-way adjustment are available as an optional extra. Porsche also offers Full Bucket Seats for the 718 Spyder, which are equipped with thorax airbags and feature visible carbon surfaces.

The “Spyder” logo also graces the black dial of the central tachometer, the markings and needle of which are white. The door panels feature black door pulls as standard. The shortened gear lever of the manual six-speed transmission bears a “718” badge and the trim of the center console, dashboard and doors is painted in body color. Other trims such as carbon fiber are optional. Porsche Communication Management (PCM) with a 7-inch color screen, mobile phone adapter and audio interfaces is standard.

The optional Spyder Classic Interior Package sparks memories of historic race cars and gives the interior an individual character. It features two-tone leather upholstery in Bordeaux red and black, complemented by extended Alcantara trim in black, which covers the lid of the storage compartment and the entire door panel. The seat centers are kept in black Alcantara, while headrests and side bolsters are upholstered in Bordeaux red leather. GT silver metallic trim provides a classy supplement. A two-tone roof in red and black is also available in combination with the Spyder Classic Interior Package.

Porsche 718 Cayman GT4 interior

The black interior of the 718 Cayman GT4 with Alcantara elements and contrasting stitching in silver (other stitching colors optionally available) emphasizes the performance-oriented nature of the vehicle. The GT4 Sport steering wheel features black spoke inserts and a black 12 o'clock marker for the Alcantara steering wheel rim. The titanium-colored central tachometer has a GT4 logo and yellow instrumentation highlights and dial needles. The silver colored door opening loops are inspired by motor sports. Like on the 718 Spyder, Sport Seats Plus are standard, while Adaptive Sport Seats Plus or Full Bucket Seats can be fitted as an option. An extended leather and Alcantara interior with different contrasting stitching colors is also available.

Pricing and availability

The 2020 718 Cayman GT4 and 718 Spyder are available to order now and are expected to reach U.S. dealers in spring 2020. The MSRP for the 718 Spyder is \$96,300, while the 718 Cayman GT4 retails for \$99,200 – both prices exclude the \$1,350 delivery, processing and handling fee, which is subject to change.