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Press Information

Porsche 911 Carrera

Highlights

The sports car legend enhanced: the new 2017 Porsche 911 Carrera

The new 2017 Porsche 911 Carrera cements its position as the best in its class in terms of combining exceptional performance, daily driveability, and efficiency. Brand new twin-turbocharged engines give the world's best-selling sports car a significant boost in power, the greatest increase in torque in the history of 911 models with the introduction of a new powertrain, as well as improved fuel economy. The new 911 models feature a sharpened exterior design and the new Porsche Communication Management system with a glass-covered touchscreen and online navigation.

Powertrain

Three-liter twin-turbo flat-six engine developing 370 hp in the 911 Carrera. Operating with the same displacement, the 911 Carrera S makes 420 hp. This represents a 20 hp increase compared to the previous models. The cars also offer their maximum torque from 1,700 rpm to 5,000 rpm and can rev up to 7,500 rpm. This data is characteristic of exceptionally free-revving sports car engines. All 911 Carrera and 911 Carrera S variants come with a seven-speed manual transmission as standard.

Performance

The 911 Carrera Coupe with the optional Porsche Doppelkupplung (PDK) and Sport Chrono Package accelerates from zero to 60 miles per hour in 4.0 seconds (0.2 sec faster than the previous model). With the same equipment, the 911 Carrera S takes just 3.7 seconds (0.2 sec faster). New PSM Sport mode provides a significantly higher intervention threshold. When equipped with all performance-enhancing options, the 911 Carrera S is capable of lapping the Nuerburgring-Nordschleife in 7:30 minutes – a full 10 seconds faster than its similarly-equipped predecessor.

Efficiency Fuel consumption has been reduced using Porsche turbocharging technology. For example, the 911 Carrera Coupe with PDK transmission achieves an EPA-rated 30 miles per gallon highway and 25 mpg combined. Both represent a 2 mpg improvement over the previous 911 Carrera Coupe with PDK.

Chassis Increasing the spread between compliant ride comfort and agile handling, Porsche Active Suspension Management (PASM) with adaptive dampers is now standard on all 911 Carrera models. This includes a 0.39 inch (10 mm) drop in ride height compared to the previous 911 Carrera without PASM. For the first time, the 911 Carrera S can now be ordered with rear-axle steering. A multi-collision brake system is standard.

Aerodynamics New active air flaps in the front cooling air intakes improve the aerodynamics of the 911 even further. Drag and aerodynamic lift are reduced in conjunction with the adaptive rear spoiler.

Infotainment The new Porsche Communication Management system with online navigation and a state-of-the-art touchscreen offers new connectivity and is as easy to operate as a smartphone. It includes traffic information in real time, Google Earth and Google Street View. It is very easy to network with a smartphone. Numerous apps are available.

Pricing and availability The 2017 911 Carrera has an MSRP of $89,400, while the 911 Carrera S starts at $103,400. The 911 Carrera Cabriolet costs $101,700, while the 911 Carrera S Cabriolet has an MSRP of $115,700. All prices do not include a $1,050 delivery, processing and handling fee. The 2017 911 Carrera models are on sale now.

Seventh generation Porsche 911 Carrera

Innovative turbocharged engines, enhanced suspensions, new Porsche Communication Management (PCM)

The 911 Carrera has been one of the world's best-selling sports cars for decades. The latest generation is equipped to continue this tradition with innovative turbocharged boxer engines, an advanced chassis that offers an even greater spread between performance and comfort and a new infotainment system. Thanks to over four decades of experience with turbo engines – in both motor racing and road-going sports cars – the engines of the new 911 Carrera set the benchmark in terms of performance, driving pleasure and efficiency. The rear-axle steering that is available for the first time as an option on the 911 Carrera S enhances performance further.

Many exterior features of the 911 Carrera have been visually refined. They range from Bi-Xenon™ headlights with four-point daytime running lights to door handles without grip shells, a redesigned rear lid grille with longitudinal vanes in black and new rear lights. Inside, the new standard Porsche Communication Management system (PCM) with a multi-touch display offers a considerably expanded range of functions and greatly simplified operation.

Performing under pressure: 20 more horsepower, significantly increased torque and better fuel economy through turbocharging

The new generation of horizontally-opposed six-cylinder engines owes its significantly enhanced spread between performance and fuel efficiency to a number of ingenious technical improvements. For the first time, the engines in the 911 Carrera models are turbocharged, continuing a success story that began in 1974 with the launch of the first 911 Turbo. Developed in motorsports, where it led to numerous victories, it has been installed in all top-of-the-range Porsche models, enabling each generation to set new benchmarks for power and fuel economy. One advantage of a turbocharged engine is its higher specific output, making it possible to achieve the same power as a naturally aspirated engine with less displacement. Therefore, the new 911 Carrera models draw their power from a three liter engine. Both versions develop maximum horsepower at 6,500 rpm and can rev to 7,500 rpm – figures that are characteristic of free-revving sports car engines.

Twin-turbo technology requires an entirely new airflow system at the rear of the 911 Carrera – for the combustion air as well as the intercoolers. The position of the rear spoiler and the opening for the cooling ports in front of it result in ram air pressure directed towards the air intakes. The angle of the rear spoiler adapts depending on the cooling air requirements, and therefore the effect of the charge-air coolers can be varied. As a result, the rear spoiler now has an additional thermodynamic charge-air cooling function in addition to and aerodynamic function. The cooling air is taken in via openings behind the engine grille, fed through the intercoolers which are positioned behind the rear wheels and discharged through the air outlets in the bottom part of the rear fascia. This design maintains effective charge-air cooling without the need for additional air intake openings in the rear quarter panels, improving aerodynamics.

New cylinder heads with central injectors and variable exhaust camshafts

In-depth modifications to the engine further increase the six cylinder engine's spread between performance and optimal efficiency. The cylinder heads have optimized intake and exhaust ports to improve flow properties and ensure efficient cross-flow cooling. The new central position of the fuel injector (previous models had the injector to the side) improves combustion, which benefits fuel economy and reduces emissions. Due to this change, the secondary-air injection system which was used to heat the catalytic convertors used on the previous car could be

omitted. Two high pressure fuel pumps – one per cylinder bank – supply the direct-injection unit with a system pressure of up to 2,900 psi (200 bar). On the intake side, Porsche continues to use the proven VarioCam Plus, which variably adjusts both intake valve lift and intake camshaft timing. The VarioCam Plus system has been further enhanced to provide continuous adjustment of the exhaust camshaft timing – a feature not previously found on 911 Carrera models. Another advantage of the dual-side, adaptive, reduced friction valve train: it promotes quick throttle response at low revs, a key characteristic of Porsche engines.

By using a new cylinder wall coating process, where a plasma beam coats the cylinder surface with iron, friction and thereby the consumption of fuel and oil has been reduced. Traditionally, lightweight technology also plays a central role in the design of the engine. The aluminum crankcase with a new alloy that increases rigidity weighs 3.3 pounds less than before, and the new composite oil pan is 4.4 pounds lighter than the previous version.

Expansion manifold system

With the traditional resonance intake manifold, more air translates into more power. The compression effect is utilized to press as much air as possible into the cylinder. The disadvantage is that the air heats up during compression, and the air-fuel mixture in the cylinder is not optimally ignited in terms of performance. The geometry used in the expansion manifold system of the new 911 reverses this principle. The distributor tube is longer and narrower, and the intake ports are shorter. The means the air vibrations are used in a different way. Instead of the compression phase, the expansion phase is used in front of the combustion chamber – because the air cools down when it expands. The result is that the air-fuel mixture in the combustion chamber is cooler and can be ignited more efficiently for performance. The expansion reduces the amount of air that gets into the cylinders. Slightly increased boost pressure compensates for this. In turn, the optimized intercooler counteracts the heating of the air due to increased boost pressure. After this technology was used in the 911 GT2, it was extended to the 911 Turbo and now to the 2017 911 Carrera models.

Efficiency gains: water pump and air conditioning compressor can be deactivated

Auxiliary components also contribute to increased efficiency. The water pump now has a shroud that is controlled by the thermal management system. At low coolant temperatures, the pump remains closed and does not circulate coolant. This helps the engine to reach its operating temperature more quickly. The air conditioning

compressor has also been revised, and can now be completely deactivated with a clutch. Disengaging the compressor reduces serpentine belt load and reduces engine power losses.

New gear ratios for the manual transmission, new two-disc clutch

The standard seven-speed manual transmission has been adapted to suit the new engine's powerband and characteristics. Longer ratios for gears three through seven reduce fuel consumption without affecting the car's responsiveness. Furthermore, the mechanical design of the manual transmission was adapted to the higher torque of the new engines. A new two-disc clutch has been installed as well. It enables comfortable clutch engagement despite the high torque of the new turbocharged engines. This lets the driver extract the full performance, particularly on roads requiring frequent shifting, without strenuous clutch work.

PDK has new operating logic, dual-mass flywheel and intermediate virtual gears

Emphasis in the continued development of PDK was on greater efficiency while maintaining both a high level of performance and shifting comfort. For the driver, this is most apparent in the new shifting direction of the gear lever. As in the 911 GT3, 911 GT3 RS and many Porsche race cars, pulling the lever back initiates an upshift, while pushing it forward commands a downshift. Furthermore, the transmission does not upshift automatically when reaching the rev-limiter in manual mode, giving the driver full control.

For the first time, Porsche is using a dual-mass flywheel with a centrifugal pendulum in conjunction with the PDK, as well as intelligent overrun cut-off and virtual gears. The centrifugal pendulum, which is also used on models with the manual transmission, is an adaptive vibration absorber that dampens vibrations in the drivetrain over a broad range of engine speeds. The effect: when driving slowly, the driver can engage a higher gear with low revs and minimal vibration. This enhances comfort and saves fuel.

Better fuel economy: intelligent overrun cutoff and extended auto start/stop system

Intelligent overrun cutoff occurs when the driver lifts off the throttle when coasting downhill. First, the system switches to a coasting mode, opening the clutches and letting the engine idle. If the car's speed still increases, intelligent overrun cutoff shuts off the engine. The auto start/stop system also cuts the flow of fuel early

when rolling to a stop. The new functions improve fuel economy – without affecting the car's behavior or functionality.

Virtual intermediate gears were first used on the 911 Turbo and are employed during steady state driving to reduce revs whenever shifting to the next higher gear would cause revs to drop below the engine's lower rev limit. To employ the virtual gears, the transmission controller engages the higher gear, controls the relevant clutch for defined slip and transmits the power in this way. When the driver accelerates, the dual clutch transmission immediately downshifts to the proper gear. Since the PDK has oil bathed clutches, this innovative transmission function does not create additional wear.

Exceptional performance, improved efficiency

The completely new three liter, twin-turbocharged engine generation makes driving the 2017 911 Carrera models an even more pleasurable and engaging experience. Operating with up to 13.1 psi (0.9 bar) of boost pressure, the 911 Carrera develops 370 horsepower, while the powerplant in 911 Carrera S now delivers 420 horsepower using up to 16 psi (1.1 bar) of boost pressure. This represents a 20 horsepower improvement over the respective predecessors. The 50 horsepower increase of 911 Carrera S compared to the 911 Carrera comes from turbochargers with larger impellers, a model-specific exhaust system, and a different tune for the engine management system.

The new engines are characterized by significantly higher torque. The 2017 911 Carrera develops 331 lb.-ft, a 44 lb.-ft. improvement over the predecessor and more than the previous 911 Carrera S and 911 Carrera GTS (325 lb.-ft.). The 911 Carrera S has a maximum torque of 368 lb.-ft., which is 43 lb.-ft. more than before. Both engines deliver this torque from a low 1,700 rpm up to 5,000, ensuring excellent driving performance and greatly improving responsiveness in daily driving. At the same time, the maximum engine speed of 7,500 rpm showcases the high-revving nature of the new powerplant – and it is underscored by characteristic, sonorous Porsche sound.

In addition to its enhanced performance, every new 911 generation also strives to offer improved efficiency compared to the previous generation – and the latest version is no exception. For example, the 911 Carrera with PDK transmission now achieves an EPA-rated 30 miles per gallon on the highway and 25 mpg combined. Both represent an improvement of 2 mpg over the last 911 Carrera PDK.

The performance of the new 911 Carrera models is impressive: the 911 Carrera Coupé with Porsche Doppelkupplung (PDK) and Sport Chrono Package accelerates from zero to 60 miles per hour in 4.0 seconds – making it two tenths of a second faster than its predecessor. The 911 Carrera S with PDK and Sport Chrono Package takes just 3.7 seconds (also 0.2 s faster). And the top track speeds of both models have also been increased: the 911 Carrera now has a top track speed of up to 183 miles per hour (a four mile per hour improvement), while the 911 Carrera S now reaches up to 191 mph (3 mph faster).

Porsche's engineers have gone to great lengths to ensure that the responsiveness of the new turbocharged engines is as quick as possible. The turbochargers are pre-loaded under partial load during spirited driving: the bypass valves are closed, while the timing angle as well as the throttle valve angle are reduced. Therefore, the supplied drive torque remains the same, while the boost pressure and air flow through the engine are increased. When the driver reapplies the throttle, a higher boost pressure and level of torque are immediately available. When easing off the throttle (in overrun), the throttle valve is kept partially open, retaining boost pressure and making it available more quickly when throttle is reapplied.

In conjunction with the optional Sport Chrono Package, the 911 Carrera now has a mode switch on the steering wheel for the first time, derived from the hybrid map switch of the 918 Spyder.

The mode switch consists of a rotary dial with four positions for the driving modes "Normal", "Sport", "Sport Plus" and "Individual". A menu in the instrument cluster can be used to combine individual settings for the PASM, PDCC, auto stop-start function and Sport Exhaust System with the preferred driving modes. If the car is equipped with a PDK transmission, the mode switch has an additional button, the "Sport Response Button". When it is pressed, the drivetrain is set up for maximum acceleration for a time period of 20 seconds. A display in the instrument cluster uses a countdown timer to show the driver how long this feature is still available. After 20 seconds, the vehicle switches back to the previously selected drive mode. The driver can also deactivate the feature at any time while it is active by pressing the Sport Response button again.

The new 911 Carrera models are not only more powerful and more efficient. Forced induction also varies the sound characteristic of the engine and exhaust system to a greater extent, both outside and inside the car. A sound duct – which is individually tuned for each model version – transmits the induction sound into the interior. The transition from idling to climbing revs under increasing boost extends the depth of the engine sound impressively. The exhaust systems follow suit. The

911 Carrera has a main muffler with two oval tailpipes. The S model has two integrated exhaust flaps and dual tailpipes. The new Sport Exhaust System (also operating with flaps that open around 3,300 rpm) is available as an option. It can be clearly identified by two centrally mounted, chrome plated tailpipes that produce an incomparably sporty sound. This sound is not digitally modified, and even the Sport Exhaust System still allows for a very quiet and discreet driving style during relaxed cruising.

Chassis and suspension of the new 911 Carrera

Greater agility, more comfort, and optional rear-axle steering

The uniqueness of the 911 Carrera stems from its ability to blend refined everyday comfort with exceptional handling. On the new generation, Porsche has increased the spread between these two seemingly opposites even further than before. The revised PASM chassis (Porsche Active Suspension Management), which lowers the ride height by 0.39 inches (ten millimeters) compared to the previous 911 Carrera without PASM, is a standard feature. It improves stability during fast cornering. The agility and stability benefits realized by active rear axle steering – now being offered as an option for the first time on the 911 Carrera S – are significant. At the same time, it improves handling by reducing the turning radius from 36.7 to 35.1 feet. This innovative technology has already proven itself in the current 911 Turbo and 911 GT3 and GT3 RS models, where it is standard. Additionally, the standard automatic post-collision braking system enhances the safety of the new 911 models.

Despite being considerably more comfortable than the previous model, the handling of the new 911 Carrera has reached an even higher level. Thanks to a new generation of active PASM dampers offering a broader spread between ride comfort and agile handling, body roll is reduced further during spirited driving, while the responsiveness on uneven road surfaces is improved. Rebound buffer springs at all four wheel corners not only reduce the tendency to roll and pitch, but also improve rebound response. The new chassis tuning also encompasses modified coil springs and anti-roll bars. The width of the rear wheels has been increased by half an inch to 11.5 inches. Working together with its tire suppliers, Porsche has developed a new generation of tires for the 911 Carrera that offer improved dry handling and braking as well as optimized wet handling characteristics and reduced rolling resistance.

Optionally available on the S models is PASM Sport Suspension; it lowers the ride height by another 0.39 inches (ten millimeters) compared to the new standard PASM suspension, but also offers significantly better comfort than before due to its new calibration. As before, Porsche Dynamic Chassis Control (PDCC) is also available as option on the 911 Carrera S. The PDCC system minimizes body roll of the vehicle when cornering. The system is especially adept at reducing lateral instability on uneven surfaces or sudden lane changes, promoting particularly neutral and agile handling.

When equipped with the optional active rear axle steering, the 911 Carrera S exhibits excellent cornering dynamics similar to those of the 911 Turbo and the 911 GT3, which are equipped with this feature as standard. The system significantly improves agility in tight corners, stability during high-speed lane changes and the maneuverability of the car in city traffic. If the driver enters a corner at speeds below 31 miles per hour, the front and rear wheels turn in opposite directions. Effectively, this is similar to shortening the car's wheelbase. As a result, the car can be guided through corners with reduced steering input. Additionally, the turning radius is reduced by 1.6 feet to 35.1 feet. At higher speeds, the operating principle of the active rear wheel steering is reversed; above 50 miles per hour, the front and rear wheels are turned in the same direction, which has a similar effect to lengthening the wheelbase. The result: greater stability and more spontaneous and harmonious lane changes due to the faster build-up of lateral forces at the rear axle. Between 31 and 50 miles per hour, the wheels steer in the opposite or same direction, depending on what the particular driving situation requires.

The active rear-wheel steering is operated by two electro-mechanical actuators on the left and right sides of the rear axle instead of conventional toe control arms. These allow the steering angle of the rear wheels to be varied by up to approximately two degrees, depending on vehicle speed. By comparison, a steering angle of two degrees at the front wheels is comparable to turning the steering wheel 32 degrees from the center position. The high lateral force potential of the steered rear axle made it possible to make the steering ratio 10 percent more direct on-center, further enhancing agility.

Multi-collision brake reduces severity of accidents

The new 2017 911 Carrera is the first 2-door Porsche sports car to come standard with a multi-collision brake system. Studies have shown that in nearly a quarter of all rear-impact collisions, the first collision is followed immediately by a second,

such as with the car driving ahead or with other obstacles. This is precisely where the multi-collision brake system comes in. It brakes the vehicle automatically after the airbag control unit detects a collision of a specific intensity. Then the system autonomously initiates braking at a maximum deceleration rate of 0.6 g to reduce impact energy as much as possible. The assistance system generally applies the brakes until a residual vehicle speed of 6 miles per hour is reached. The driver can override the system at any time by braking even harder or by accelerating.

New steering wheels and optional front axle lift system

Two new steering wheels whose design is based on that of the 918 Spyder are available on the 911 Carrera models. The standard steering wheel has a diameter of 375 millimeters (14.8 inches); the optional GT Sport steering wheel measures 360 millimeters (14.1 inches) in diameter. To ease entering or exiting parking structures or steep driveways, Porsche offers an optional hydraulic lift system with integrated lifting cylinders in the front axle struts. At the push of a button, this increases ground clearance at the front spoiler lip by 40 millimeters (1.5 inches) within five seconds. If the driver does not manually drop the ride height, the system automatically lowers it to the normal position when the vehicle reaches a speed of approximately 37 miles per hour.

On the 911 Carrera S, a Sport Package consisting of rear-axle steering, Sport Exhaust system, Sport Chrono Package, GT Sport steering wheel and SportDesign exterior mirrors is available.

Whenever the performance of a model is enhanced, Porsche also upgrades the brakes to match. The front brakes of the 911 Carrera have new, larger four-piston brake calipers as well as brake rotors that are six millimeters or 0.24 inches thicker (13.0 x 1.34 inches) than before. At the same time, the pad surface has been enlarged by 17 percent. On the S model, 16 percent larger pads from the 911 Turbo are used in combination with brake rotors that are 0.43 inches (10 millimeters) larger in diameter than before (13.8 x 1.34 inches). They are joined by pins to a new aluminum rotor hub, which reduces unsprung masses and contributes to better driving dynamics.

On the previous generation 911 Carrera models, 13.8 inch rotors were used when equipped with PCCB. The optional ceramic brake system (PCCB) is now adopted entirely from the 911 Turbo S, including larger rotors (front: 16.1 x 1.42 inches, rear: 15.4 x 1.26 inches) and larger brake calipers to match. The composite brake rotor material represents the third generation of PCCB, just like on the 918 Spyder, 911 Turbo, and 911 GT3 and GT3 RS models, offering increased brake

performance and longevity compared to the previous generation. Ceramic brakes are available in conjunction with 20-inch wheels.

Porsche Stability Management with new “PSM Sport” mode

The enhanced performance of the 911 Carrera extends to the Porsche Stability Management (PSM) system. When equipped with the optional Sport Chrono Package, the stability control system offers a new mode known as “PSM Sport” that is activated via the PSM button on the center console. Its functionality differs significantly from the normal “PSM On” mode. To inform the driver, a warning light in the instrument cluster lights up when PSM Sport mode is activated, and the yellow “PSM Off” symbol up when PSM is switched off. The new PSM Sport mode lets spirited drivers approach the performance limits of the 911 – such as on an enclosed race track. Compared to PSM On, the new function allows much larger yaw movements and more wheelspin. This lets drivers experience the sports car's dynamic performance to a fuller extent and makes it unnecessary to fully deactivate PSM. Of course, the PSM Off mode is still available, and it is activated by pressing and holding down the PSM button, staying true to the Porsche philosophy that a driver should be able to fully deactivate stability control systems if they wish. As a safety feature, hard braking which triggers ABS will activate the full range of stability control systems in any mode until the brakes are disengaged again.

Cutting-edge connectivity and infotainment

New Porsche Communication Management with online navigation

A standard feature on the new 2017 911 Carrera models is the newly developed Porsche Communication Management (PCM) system, including an online navigation module. The PCM can be operated with multi-touch gestures on the seven inch display, similar to a smartphone. Handwritten user inputs are recognized. Mobile phones and smartphones can now also be connected via Wi-Fi. Also new is the option of connecting an iPhone® to the PCM to utilize Apple CarPlay™.

Real-time traffic information is available for significantly improved navigation. It gives the driver a quick overview of the traffic situation and guarantees dynamic adaptation of the route. Google™ Earth and Google™ StreetView are also being integrated for the first time to offer better orientation. Porsche Car Connect and the Connect Plus module can be used to remotely control vehicle functions, transferring destinations to the PCM for navigation and streaming music using third-party service providers via the PCM.

The core of the new PCM is the glass-covered touchscreen with multi-touch operation. In addition to short, long and multiple finger taps, it also recognizes swiping and sliding as well as two-finger scaling and rotating. The touchscreen reacts to a hand in close proximity, switching from the active overview mode to the operating mode. When playing music or other audio files, it shows buttons for pause, skip, play and reverse. The driver and passenger can choose to control the PCM with the new on-screen buttons, but don‘t have to. As an alternative, there are still eight operating buttons beneath the display as well as two rotary/pushbutton controls.

Sharper design and less drag

The front fascia of the new 911 has a striking new form with a much stronger profile. This makes the front look wider and more modern. This effect is underscored by the narrowed front lights positioned above the cooling air intakes. These redesigned lights contain the park/positioning lights and the direction indicators. The newly designed Bi-Xenon™ headlights with integrated 4-point LED daytime running lights make the 911 instantly recognizable as a Porsche, even from a distance. The center part of the new front fascia features two horizontal vanes that underscore the width of the 911. In the top part of the front fascia, design elements that form the lines of the V-shaped profile stand out. The airblades and the active cooling air vanes optimize utilization of cooling air while also improving aerodynamics. The three-dimensional form of the front spoiler lip stands for even sportier aerodynamics. As before, vehicles equipped with the optional PASM Sport Suspension are fitted with a larger front spoiler lip, which improves downforce in conjunction with a rear-spoiler that operates with adjustable angles of attack.

When glancing at the new 911 models from the side, the unmistakable flyline is complemented by redesigned wheels. The 911 Carrera has newly designed 19-inch Carrera wheels, while the 911 Carrera S is fitted with new 20-inch Carrera S wheels. The door handles now do without grip shells, giving the door a cleaner, more defined and harmonious appearance.

Characteristic features highlight the turbocharged engine: new air intake, additional air exhaust vents

The most significant visual changes have been made to the rear of the 2017 911 Carrera. The new air intake grille's geometry with longitudinal vanes in high-gloss black ensures the best possible air flow to the intercoolers and the engine. Another distinguishing feature of the turbocharged technology are the air outlets of the intercooler at the lower sides of the rear fascia.

The redesigned taillights take their cues from the 918 Spyder and now have a three-dimensional look. This gives the vehicle a more modern appearance. Its night design is characterized by a delicate feature in the lower section of the light that further accentuates the effect of depth and gives the car a particularly sporty look.

Featuring an additional edge above the reflectors emphasizing the width of the vehicle and its greater power, the rear fascia appears sharper.

Active aerodynamics: less air drag for better efficiency

The new 911 Carrera is the first Porsche production sports car to adopt the concept of active cooling air flaps from the 918 Spyder. They enable better control of the sports car's aerodynamics and heat management for even greater driving dynamics and efficiency. When the car is at a standstill, three flaps are opened in each front-end air intake by an actuator. If there is no need for additional cooling air, they close at speeds above 9 miles per hour. The flaps open over several stages starting at 100 miles per hour, or starting at 75 miles per hour when the convertible roof is retracted or the sliding sunroof is open. When the flaps are closed, airflow around the front end is improved, reducing drag and lift at the front axle. In Sport mode, Sport Plus mode or when PSM is in Sport mode or fully deactivated, the flaps are automatically opened.

The active aerodynamic system adjusts the angle of attack of the rear spoiler according to the flap position, to assure finely balanced aerodynamic control at the front and rear axles in every situation. The variable spoiler performs another task with the introduction of turbocharged engines: by adjusting the angle of attack, the air stream is redirected so that more air enters the intake ports for intercooling. When outside temperatures are high, the spoiler can even be extended starting at 37 miles per hour to increase the throughput of intercooling air.

As before, the 911 Carrera Cabriolet and 911 Carrera S Cabriolet employ a retractable roof with a lightweight magnesium frame. This innovative technology enables a Coupe-like arch to the roof to be preserved when the top is closed. This arch, which offers advantages in terms of aerodynamics, is not feasible using conventional construction techniques. The roof opens and closes in around 13 seconds, at speeds of up to 31 mph.

Optional assistance systems

New: Lane Change Assist improves safety

For the new 911 Carrera, Porsche is expanding its lineup of optional assistance systems by adding the lane change assistant, which enhances safety on the highway. The system uses radar sensors to monitor the blind spots as well as the area to the sides and the rear of the vehicle. Operational over a speed range from approximately 19 miles per hour to 155 miles per hour, the assistant informs the driver of any vehicles in these areas. If the system detects another vehicle in the adjacent lane, it informs the driver of this with a visible signal in the mirror attachment point finisher. The system can be activated or deactivated via the onboard computer in the instrument cluster.

The standard cruise control can now brake and maintain a constant speed even on steep descents. The control range of the cruise control system is from 19 miles per hour to 150 miles per hour. Adaptive Cruise Control (ACC) in conjunction with Porsche Doppelkupplung (PDK) can now also perform the typical Porsche coasting functionality. At the appropriate speed, both clutches disengage, the engine idles, and the vehicle coasts in the queue of vehicles, saving fuel.

Overview of the 2017 Porsche 911 Carrera

Brief profile

The 911 Carrera is the brand icon of Porsche. Powered by twin-turbocharged flat-six engines for the first time, it sets new benchmarks in performance and efficiency. The enhanced suspension – with standard active damping (PASM) and a 0.43 inch (ten millimeter) lower ride height – offers improved ride comfort as well as more agile handling. Rear-axle steering, which is available as an option for the first time on the 911 Carrera S, enhances performance even further. Many design elements of the 911 Carrera have been visually refined. Inside the vehicle, the new standard Porsche Communication Management (PCM) infotainment system with a glass-covered touchscreen offers a considerably expanded range of functions and greatly simplified operation.

Turbo engine

In the development of turbocharged flat-six cylinder engines, Porsche can look back upon over 40 years of experience in both motorsports and road-going sports cars. As a result, the powerplants of the 2017 911 Carrera set new standards in terms of performance, driving pleasure and efficiency.

Technical highlights

• 911 Carrera with three-liter six-cylinder engine, twin-turbochargers, 370 hp and 331 lb.-ft. of torque. 911 Carrera S with three-liter six-cylinder engine, twin-turbo chargers, 420 hp and 368 lb.-ft. of torque. Both engines offer 20 hp more power and up to 44 lb.-ft. torque than the respective predecessors.
• Specific turbochargers for each engine. 911 Carrera S has larger impellers that provide greater airflow.
• PASM suspension has 0.39 inch (ten millimeter) lower ride height than the previous standard suspension with passive dampers, and rear axle steering is offered as an option on the 911 Carrera S. Improvements in handling and ride comfort thanks to a new generation of dampers with greater fidelity.
• New gear ratios for the seven-speed manual gearbox with two-disc clutch for reduced clutch engagement effort. Centrifugal pendulum in the flywheel minimizes vibrations at

low engine speeds.
• Optional Sport Chrono Package has a mode switch mounted on the steering wheel. Individual mode lets drivers configure and store their preferred settings.
• New multi-collision brake system reduces severity of accidents by automatically braking after an initial collision.
• Porsche Stability Management (PSM) offers extended Sport mode with significantly higher intervention threshold.

Design highlights

• Front and rear fascia have sharper profiles
• New headlights and taillights
• New exterior door panels do without grip shells
• New rear decklid grille with longitudinal air vanes in high-gloss black

Equipment

• New PCM with glass-covered touchscreen and extended functions of Porsche Car Connect as standard.
• Optional Lane Change Assist