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Press Information

Porsche 911 Carrera

Contents

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Highlights

The new Porsche 911 Carrera – evolution in design, revolution in technology

The new Porsche 911 Carrera is extending its position as the best in its class in terms of performance and efficiency. Advanced development of the flat engines into turbocharged units has given the world's best-selling sports car a boost in power along with significantly improved fuel economy. On its exterior, the 911 Carrera impresses with an evolutionary yet further sharpened design, while inside it features the new Porsche Communication Management system (PCM) for the first time with improved connectivity and real-time traffic information.

Drive system

Three-litre six-cylinder with bi-turbo charging, 370 hp (272 kW) of power in the 911 Carrera and 420 hp (309 kW) in the 911 Carrera S. In both models, that is 20 hp more than previously. The cars also offer a full measure of torque at 450 and 500 Nm, respectively. It is available from 1,700 rpm, and the engines have a usable speed range of up to 7,500 rpm. These are the characteristic data of exceptionally free-revving sports car engines.

Performance

New record sprint times: the 911 Carrera Coupé with Porsche Doppelkupplung (PDK) and the Sport Chrono Package has a zero to 100 km/h sprint time of 4.2 seconds (now 0.2 sec faster), and the S-model 3.9 seconds (0.2 sec faster). This is the first 911 Carrera to break the four-second barrier.

Efficiency

Fuel consumption per 100 km is around twelve per cent lower because of Porsche turbocharging technology. The 911 Carrera with PDK transmission now consumes just 7.4 litres of fuel per 100 km (0.8 litre less), while the S-model with PDK consumes 7.7 l/100 km (1.0 litre less).

Chassis

Ride height has been lowered ten millimetres, the further developed active PASM chassis is standard and rear-axle steering is an option in the Carrera S. The new 911 Carrera significantly extends the spread between sportiness and comfort once again. The new Automatic Post-Collision Braking System is standard.

Aerodynamics

The aerodynamics of the 911 improve efficiency and driving dynamics by virtue of new automatic cooling air flaps. Air drag and aerodynamic lift are reduced in interplay with the variable rear spoiler.

Infotainment

The new Porsche Communication Management system (PCM) with its state-of-the-art touchscreen is as easy to operate as a smartphone and offers new Porsche Car Connect features. They include traffic information in real time, Google Earth and Google Street View. The system can be readily networked with a smartphone, thus providing access to many more apps.

Seventh generation Porsche 911 Carrera

Innovative turbocharged engines, an advanced chassis, new Porsche Communication Management (PCM)

The 911 Carrera has been one of the world's best-selling sports cars for decades. Now the new generation has arrived to further extend this lead. The new 911 is exceedingly well equipped to do this with innovative turbocharged flat 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 production 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 in the Carrera S extends the range of driving dynamics emphatically.

Many exterior features of the 911 Carrera have been visually refined. They range from headlights with four-point daytime running lights to door handles without recess covers, a redesigned rear lid with vertical louvres 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.

New turbocharged engines: 20 hp more power with better fuel economy

The completely new engine generation with bi-turbo charging boosts driving pleasure in the 911 Carrera, making it an even more intense experience. 370 hp (272 kW) of power at the rear of the 911 Carrera is waiting to be unleashed and converted into sporty propulsion. The engine in the 911 Carrera S now delivers 420 hp (309 kW). In both cases, this represents a power increase of 20 hp (15 kW). Both engines have three litres of displacement. The greater power of the 911 Carrera S comes from turbochargers with modified compressors, a specially designed exhaust system and engine management tuning.

The new Porsche engines are characterised by significantly increased torque (60 Nm in each case) with maximum torque of 450 Nm and 500 Nm, respectively, delivered constantly from a low 1,700 rpm up to 5,000 rpm in both cases, thus ensuring excellent driving performance. At the same time, the maximum speed of 7,500 rpm in the new engine generation clearly exceeds the top speeds of conventional turbocharged engines – and it is underscored by typical sonorous Porsche engine sound.

Every new 911 generation also impresses with enhanced performance and efficiency compared to the previous generation. For example, depending on the model variant, the new engine generation is almost twelve percent more efficient: fuel consumption is reduced by up to a litre per 100 kilometres. The 911 Carrera with PDK transmission now consumes just 7.4 litres of fuel per 100 km (0.8 litre less), while the 911 Carrera S with PDK consumes 7.7 l/100 km (1.0 litre less).

The new 911 also boasts impressive performance: the 911 Carrera Coupé with Porsche Doppelkupplung (PDK) and Sport Chrono Package sprints from zero to 100 km/h in 4.2 seconds – making it two tenths of a second faster than its predecessor. The 911 Carrera S with PDK and Sport Chrono Package completes its showcase discipline in just 3.9 seconds (also 0.2 s faster). This means that it is the first 911 in the Carrera family to undercut the magic four-second mark. And the top speeds of both models have also been increased further: the 911 Carrera now has a top speed of 295 km/h (a six km/h increase), while the 911 Carrera S now even reaches 308 km/h (an increase of four km/h).

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 mode switch of the 918 Spyder. The mode switch consists of a rotary ring with four positions for the driving modes “Normal”, “Sport”, “Sport Plus” and “Individual”. Depending on the equipment, the latter setting enables drivers to configure their own individual vehicle set-up, for example the PASM, active engine mounts, PDK shifting strategy and sports exhaust system. In combination with the PDK transmission, the mode switch has an additional push button, the “Sport Response Button”. When this button is pressed, the drivetrain is pre-conditioned for maximum acceleration for 20 seconds, for example before overtaking manoeuvres. In this mode, the optimal gear is engaged and engine management is adjusted for even more spontaneous response for a brief period of time.

A standard feature: reengineered PASM chassis lowers the ride height by ten millimetres

The 911 Carrera sets the benchmark for driving dynamics among all-round sports cars. With each new generation, Porsche further increases the spread between everyday comfort and circuit track performance. For the first time, the new PASM (Porsche Active Suspension Management) chassis – which lowers the ride height by ten millimetres – is a standard fea-

ture on all Carrera models. It further improves stability during fast cornering. At the same time, the new shock absorber generation with its wider spread characteristics enhances comfort thanks to an even more precise response characteristic and also improves the body connection during dynamic driving. New standard wheels with five slender twin spokes have tyres with reduced rolling resistance and enhanced performance. Furthermore, on all variants the width of the rear rims has increased by 0.5 to 11.5 inches and the rear tyres of the 911 Carrera S now measure 305 instead of 295 millimetres.

The active rear-axle steering that is available as an option in the 911 Carrera S is chassis technology adopted from the 911 Turbo and 911 GT3. It further enhances the turn-in behaviour of the 911. In addition, it makes for high driving stability when changing lanes at high speeds. At the same time, it ensures better manoeuvrability in city traffic thanks to its smaller turning circle that has been reduced by 0.4 metres. The improved handling is transmitted to the driver via the new generation steering wheel with a design based on the steering wheel of the 918 Spyder. The basic steering wheel has a diameter of 375 millimetres, while the optional GT sports steering wheel measures 360 millimetres. For unlimited everyday practicality, Porsche offers a hydraulic lift system with integrated lifting cylinders in the struts of the front suspension. Pressing a button increases the ground clearance at the front by 40 millimetres within 5 seconds and thus prevents the vehicle underbody from hitting the ground, for example on steep garage exits.

New Porsche Communication Management (PCM) including online navigation

A standard feature of the new 911 Carrera models is the newly developed Porsche Communication Management System (PCM) including online navigation module and voice control. The PCM can be operated by performing multi-touch gestures on the seven-inch display, similar to operating a smartphone. User handwriting inputs are also possible. Mobile phones and smartphones can now also be connected via Wi-Fi. The smartphone tray that is integrated in the centre armrest for the first time also offers battery-saving charging and optimised mobile phone reception. Also new is the option of connecting an iPhone to the PCM to use Apple Car Play.

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 to this information. Google Earth and Google Street View are also being integrated for the first time to offer better orientation. Other components of the PCM are Porsche Car Connect and the Porsche Connect app, which can be used for such functions as remote control of vehicle functions, transfer of destinations to the PCM for navigation and use of music streaming services by third-party providers via the PCM.

New and extended optional assistance systems

Now the 911 Carrera can now be customised even more precisely to personal preferences with additional new and improved assistance systems. The optional cruise control system can now also brake moderately when the pre-set speed is exceeded, such as when driving downhill. Adaptive Cruise Control (ACC, option) now has a coasting function in conjunction with the PDK transmission. When driving in a queue of vehicles the clutches are disengaged, thus saving fuel with unpowered coasting. The optional lane departure warning assistant monitors traffic behind with radar and uses LED lamps in the left and right of the mirror triangles to warn the driver about approaching vehicles in the blind spot. In addition, Porsche is improving the active safety of its sports car with the automatic post-collision braking system as standard.

Design and aerodynamics

Play with light: sharpened lines make a clean appearance

Familiar – and yet different: The new 911 Carrera exhibits a further sharpened design. The basic theme: precision. The more pronounced arrow shape of the nose emphasises typical Porsche dynamism at the front end. Inspired by an aircraft wing, the sculpturally formed profile of the front spoiler extends over the entire vehicle width. The prominent light-refracting edges emphasise the new flaps in the air intakes; the 911 Carrera is the first Porsche since the 918 Spyder to feature these adaptive aerodynamic components. The radar eye of the optional Adaptive Cruise Control (ACC) is now more harmoniously integrated under the licence plate. The three-dimensional form of the front spoiler lip stands for even sportier aerodynamics. In vehicles with the optional sport chassis it reaches lower and further forward than before – like on the GT sports cars.

The further developed headlights give the 911 Carrera an even more focused expression. Four LED daytime running lights are grouped around the lens of the bi-xenon lights to form a typical Porsche light signature. At the same time, more finely designed lights in the front-end trim function as both position lights and indicators. Their entire surface lights homogeneously in white or yellow light, depending on the function being performed.

The most eye-catching new feature from a side perspective: the door does not have a door handle recess cover. Porsche developed a new outer door panel with an integrated handle recess for this purpose. It is complemented by a new, lean door handle with a fine light-refracting edge – which is symbolic of the sports car‘s lightweight design. Like the front position lights, the new side indicators in the front wings are made of LED units that project a very uniform light pattern.

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

The most significant changes are at the rear of the 911 Carrera. The new air intake screen is an attribute of the turbocharged engine, and the distinctive three-dimensional rear lights emit a light signature that is even more precise and typical of the brand. At the same time, the narrow band of LEDs that make up the third brake light underscore the wide rear sec-

tion of the 911. Together with the four-point brake lights of the newly designed rear lights, this creates a unique characteristic light signature of the 911 Carrera that can be made out even from a long distance.

The new rear lights are also distinguished by their aura effect. The interplay of three laser-etched lines with light conductors and reflectors give the light a fascinating depth effect. The rear apron accentuates the sporty look with its reflectors – which are also sculpted three-dimensionally and are positioned far to the sides – as does the rear diffuser panel with its powerful structure. Another identifying feature of the 911 Carrera models with turbo-charged engines are the exhaust vents of the intercooler that are positioned low and far to the sides.

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 louvres are opened in each front-end air intake by an actuator. If there is no extra need for more cooling air, they close at speeds above 15 km/h and open over several stages starting at 160 km/h, or starting at 120 km/h when the convertible hood is stowed or the sliding sunroof is open. When the louvres are closed, airflow around the front end is improved, and this lowers air drag and lift at the front axle.

The active aerodynamic system adjusts the angle of attack of the rear spoiler according to the flap position, to assure finely balanced lift 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 in-take ports for intercooling. When outside temperatures are high, the spoiler can even be extended starting at 60 km/h to increase the throughput of intercooling air.

New generation 911 Carrera engines

Performing under pressure: higher performance and better fuel economy by forced induction

Superior power even from low revs, spontaneous power development up into the highest rev ranges and yet significantly better fuel economy: that is how the completely new generation of engines adds a clearly perceptible boost to driving pleasure in the new 911 Carrera generation. 370 hp (272 kW) of power is waiting to be unleashed and converted into sporty propulsion at the rear of the 911 Carrera. The engine of the 911 Carrera S has a power output of 420 hp (309 kW). The power of both engines was increased by 20 hp (15 kW). The torque gains are even more impressive. At 450 Nm in the 911 Carrera and 500 Nm in the 911 Carrera S, the maximum torques of both engines have increased by 60 Nm. Meanwhile, the driver not only benefits from the boosted maximums but also from the full torque being available to be converted into sprinting power from a low 1,700 rpm. The maximum torque is available over the entire range up to 5,000 rpm. At the same time, the new generation of engines is significantly more fuel-efficient. Fuel consumption has been reduced by up to one litre per 100 km, depending on the version. The 911 Carrera with PDK transmission now consumes just 7.4 litres of fuel per 100 km (0.8 litre less per 100 km), while the 911 Carrera S with PDK consumes 7.7 l/100 km (1.0 litre less per 100 km).

911 Carrera S: more power with larger turbochargers

The new generation of six-cylinder flat engines owes its significantly extended spread between performance and fuel efficiency to an ingenious bundle of technical advances. For the first time, Porsche is using engines with bi-turbo charging in the 911 Carrera. One advantage of the turbocharged engine concept lies in its higher specific power. This made it possible to reduce engine displacement to three litres in both new 911 Carrera models. The greater power of the 911 Carrera S results from turbochargers with modified compressors, a model-specific exhaust system and specially tuned engine management. Both power versions reach their nominal power at 6,500 rpm, and the usable speed range extends up to 7,500 rpm. These are the characteristic data of exceptionally free-revving sports car engines.

Forced induction requires an entirely new airflow system at the rear of the 911 Carrera for both the combustion air and intercooling air. The engine gets its combustion air centrally in front of the rear spoiler. The air flows from two lateral ports on the air filter box into two induction channels that lead to the lower-mounted turbochargers. The turbochargers compress and thereby heat the air which then flows through two intercoolers located laterally behind the wheel arches and then into the engine‘s induction manifold via the throttle flap. Two other ducts guide the air for cooling the heated combustion air – also from the air screen in the rear lid – to the intercoolers.

New cylinder head with central injector and variable exhaust camshaft

In-depth modifications to the base engine further increase the six-cylinder engine‘s spread between sporty power reserves and exemplary efficiency. The new central position of the injector improves combustion, which has direct positive effects on fuel economy and emissions quality. Two fuel pumps – one per cylinder bank – supply the petrol direct-injection unit with a system pressure of up to 250 bar. Moreover, an adjustable exhaust camshaft makes it possible to control the charge exchange process even more precisely. On the intake side, Porsche continues to use the proven Vario Cam Plus, which variably adjusts both valve lift and valve opening duration. Another advantage of the dual-side, adaptive valve train with reduced friction: it enables even finer adjustment of the turbocharged engine‘s sporty, spontaneous response at low revs that is typical of a Porsche.

New gear ratios for manual transmission that has two-disc clutch for first time

The 911 Carrera traditionally stands for unadulterated sporty driving pleasure, but with a high level of shifting comfort. Therefore, Porsche developed a two-disc clutch for the new generation of engines. It enables comfortable actuation forces despite the high torques of the new turbocharged engines that are being transmitted. This lets drivers experience the dynamism of the sports car, such as on mountain roads with lots of bends or on circuit racetracks without spoiling shifting pleasure by requiring strenuous clutch work. The gear ratios were adapted to the modified engine characteristic. The longer gear ratios, which start with the third gear, enable good fuel economy without affecting the car‘s sportiness.

PDK has new operating logic and dual-mass flywheel

The top priority in further development of the PDK was on greater efficiency while maintaining high levels of sporty and comfort properties. For the driver, this is most apparent in the new shifting direction of the selector lever. As in the 911 GT3 and many Porsche race vehicles, pulling the lever back now means upshifting, while pressing it forward downshifts. For the first time, Porsche is using a dual-mass flywheel with a centrifugal pendulum for the PDK, as well as intelligent overrun cut-off and virtual gears. The centrifugal pendulum, which incidentally is also used with the manual transmission, is an adaptive vibration absorber that dampens drivetrain vibrations over a broad range of engine speeds. The effect: when driving slowly, the driver can drive in a higher gear with low revs without any jolts. This enhances drive comfort and also saves on fuel.

Better fuel economy:
intelligent overrun cut-off and extended automatic stop-start system

Intelligent overrun cut-off occurs in such situations as when the driver releases the accelerator pedal on a motorway descent. Initially, the drive control system switches to what is referred to as a coasting mode with open clutches and the engine idling. If the car‘s speed continues to increase, intelligent overrun cut-off is activated which engages the clutch and shuts off the engine. The automatic stop-start system has also learned to interrupt the flow of fuel early when rolling to a stop. The new functions lead to noticeably improved fuel economy – automatically and without the driver noticing changes in the car‘s handling.

The virtual intermediate gears have the same fuel-saving effect; they have already proven themselves in the 911 Turbo. They are employed during smooth, constant driving to reduce revs at times when shifting to the next higher gear would drop revs below the engine‘s lower rev limit. To employ the virtual gears, the transmission controller engages adjacent gear levels, controls both clutches for defined slip and transmits the drive power in this way. When the driver accelerates, the Porsche Doppelkupplung downshifts to the suitable gear at lightning speed. Since the PDK has oil bath clutches, this innovative transmission function is wear-free.

From the 918 Spyder: mode switch on steering wheel for Sport Chrono Package

In conjunction with the optional Sport Chrono Package, the 911 Carrera now has, for the first time, a mode switch on the steering wheel that was derived from the hybrid mode switch of the 918 Spyder. The mode switch consists of a ring that can be turned to four 90-degree positions for the driving modes “Normal”, “Sport”, “Sport Plus” and “Individual”. The latter setting lets drivers configure their own individual vehicle set-ups, e.g. of the PASM, active engine mounts, PDK shifting strategy and sports exhaust system, depending on the car‘s equipment. An LED integrated in the rotary switch shows the currently selected mode. The sports cars with PDK also adopt the central push button switch from the 918 Spyder, which the driver can use to precondition the drivetrain and chassis control systems for enhanced performance and even faster response – such as during overtaking manoeuvres. The engine and PDK parameters are pre-set for the best possible acceleration for a period of 20 seconds. An indicator in the cockpit informs the driver of the enhanced sprinting readiness and how much longer it will last.

This is how a sports car should sound: passionate sound inside and out

The new 911 Carrera models have not only made gains in power and efficiency. Forced induction also makes the sound characteristic of the engine and exhaust system more varied, both outside and inside the car. A sound duct – which is individually tuned for each model version – conducts the induction sound into the interior. The transition from naturally aspirated operation during idle to turbocharging with building revs extends the fullness of engine sound impressively. The exhaust systems deliver a complementary sound. The 911 Carrera has a main silencer with two oval tailpipes. The S model additionally has two integrated exhaust flaps and dual tailpipes. The new sport exhaust system (also switched) is available as an option. Its characteristic elements are two round dual tailpipes, which are now centrally located, and of course its incomparably sporty sound. By the way, this sound is not digitally modified, and it enables a very quiet and discreet style of driving for relaxed cruising.

Chassis of the new 911 Carrera

Lower, faster, more comfortable – and optionally with rear-axle steering

The 911 Carrera is the original all-round sports car, and for over five decades it has been the reference for driving dynamics. With each new generation, Porsche further increases the spread between everyday comfort and circuit track performance. This generation is no exception. The new standard chassis – with its ten millimetre lower ride height and PASM (Porsche Adaptive Suspension Management) – lowers the centre of gravity for even better cornering stability, and the further developed adaptive dampers provide even more sensitive control. The agility and stability benefits realised by active rear-axle steering – which is now being offered as an option for the first time in the 911 Carrera S – are substantial. At the same time, it improves handling by reducing the turning circle. The effectiveness of this innovative technology has already been proven in the current 911 Turbo and 911 GT3 models. Porsche is also further enhancing active safety in this classic sports car by offering the automatic post-collision braking system as standard.

The new 911 Carrera takes sportiness one level higher while simultaneously being considerably more comfortable than the previous model. Thanks to a new generation of active PASM dampers with broader characteristic spreads, the car body connection is further improved during dynamic driving, as is responsiveness on uneven road surfaces. Rebound buffer springs at all four wheel suspensions reinforce both of these properties: they not only reduce the tendency to roll and pitch, especially during sporty driving, but also improve rebound response. The new chassis tuning also includes modified main springs and anti-roll bars. The width of the standard rear tyres was increased by half an inch to 11.5 inches. Working together with the tyre industry, Porsche has developed a new generation of tyres for the 911 Carrera that exhibits much better performance in dry handling and braking as well as optimised wet driving properties. A sport chassis is available as an option; it lowers the ride height by ten millimetres compared to the new standard chassis, yet it also offers significantly better comfort due to its new tuning. For drivers with even sportier aspirations, Porsche Dynamic Chassis Control (PDCC) – an active roll compensation system – is available as an option.

Optional rear-axle steering enhances cornering dynamics

When equipped with the optional active rear-axle steering, the 911 Carrera benefits from the excellent cornering dynamics of the 911 Turbo and the 911 GT3. The 911 shows significant improvements in agility in tight bends, stability in high-speed lane changes and manoeuvrability in city traffic. If the driver turns into a bend at speeds under 50 km/h, the front and rear wheels turn in opposite directions. This leads to what is known as virtual wheelbase shortening. The sports car can be guided through the bend effortlessly with smaller steering wheel inputs. The 911 with rear-axle steering feels like a compact car when manoeuvring. Its turning circle is reduced by 0.4 metre to 10.7 metres. The approach is different for fast lane-changes at high speed. Starting at around 80 km/h, the front and rear wheels are turned in the same direction, giving the feeling that the sports car has a longer wheelbase. For the driver this means greater stability and more spontaneous and harmonious initiation of a change in direction due to the faster build-up of lateral forces at the rear axle.

Automatic post-collision braking system reduces severity of accidents

In the new 911 Carrera, the automatic post-collision braking system is making its debut in a Porsche sports car. The system can reduce the severity of a secondary collision by automatically braking the vehicle after an initial collision. The automatic post-collision braking system is triggered when the airbag sensors detect a collision of a specific severity. Then the system autonomously initiates braking at a maximum deceleration rate of 0.6 g. The driver can override the automatic post-collision braking system at any time. Its functionality is deactivated when the driver presses the accelerator pedal, for instance. It is also deactivated if the driver initiates hard braking at an even higher rate of deceleration. Essentially, the assistance system applies the brakes until a residual vehicle speed of ten km/h is reached.

New steering wheels and optional lift system for front axle

The improved handling is transmitted to the driver via the new generation steering wheel whose design is based on the steering wheel of the 918 Spyder. The basic steering wheel has a diameter of 375 millimetres, while the optional GT sport steering wheel measures 360 millimetres. To make it easy to drive in parking structures or garages with steep ramps,

Porsche offers a hydraulic lift system with integrated lifting cylinders in the struts of the front axle. At the push of a button, it increases ground clearance at the front spoiler lip by 40 millimetres within five seconds. If the driver does not manually deactivate the lift function, the system automatically lowers the front body to the normal position when the vehicle reaches a speed of 30 km/h.

Whenever the performance of a Porsche car is enhanced, Porsche also boosts its braking ability to guarantee best-in-class deceleration. The front brakes of the 911 Carrera have new, larger four-piston brake callipers, which grip brake discs (330 mm x 34 mm) that are six millimetres thicker. At the same time, the brake pad surface was enlarged by 17 per cent. In the S model, 16 per cent larger pads from the 911 Turbo are used in combination with 20 mm larger diameter brake discs whose dimensions are 350 mm x 34 mm. They are joined by pins to a new aluminium brake bell, which reduces unsprung masses and thereby contributes toward better driving dynamics. The optional ceramic brake system (PCCB) now comes entirely from the 911 Turbo, so it includes larger brake discs (front: 410 mm x 36 mm, rear: 390 mm x 32 mm) and larger brake callipers to match.

Porsche Stability Management with new “PSM Sport” mode

The sharpened sportiness of the 911 Carrera carries over into the control system of Porsche Stability Management (PSM). In conjunction with the Sport Chrono Package, the system offers a separate mode setting known as “PSM Sport” that is accessed by pushing the PSM button on the centre console. Its functionality differs significantly from the normal “PSM On” mode. When the PSM Sport mode is activated an indicator in the instrument cluster and the yellow “PSM Off” lamp are lit to inform the driver. The new PSM Sport mode lets drivers with racing aspirations approach the performance limits of the 911 even closer – such as on a circuit track. Compared to PSM On, the new function permits much larger yaw movements about the vertical axis and more slip at the drive wheels. This makes it unnecessary for even ambitious sports car drivers to fully deactivate PSM. However, the PSM Off mode is still available, which is selected by a long activation of the PSM button. But even in the PSM Off mode and new PSM Sport mode, hard braking within the ABS control range activates the full range of stabilising assistance by PSM until the brakes are released.

The new Porsche Communication Management (PCM)

Optimal infotainment with easy operation

A standard feature of the new 911 Carrera models is the newly developed Porsche Communication Management System (PCM) with online navigation, a seven-inch multi-touch screen and voice control. Users can operate the PCM with multi-touch gestures, similar to those used with smartphones. User handwriting inputs are possible, for instance. Mobile phones and smartphones can now also be connected via Wi-Fi. The smartphone tray that is being integrated in the centre armrest for the first time also offers battery-saving charging and optimised mobile phone reception. Also new is the ability to connect an iPhone to the PCM to use Apple Car Play. In addition, real-time traffic information is now available, which gives the driver a continual overview of the traffic situation both locally and along the planned route.

Access to the new PCM is provided by a touchscreen with multi-touch operation. In addition to short, long and multiple finger taps, it also recognises wiping and sliding as well as two-finger scaling and rotating. The touchscreen reacts as soon as the user‘s hand approaches, switching from the active overview mode to an operating mode. In the case of audio playback, for example, it shows buttons for pause, skip, play and reverse. The driver and front passenger may control the PCM with the new functions, but do not have to. As alternatives, there are still eight fixed operating keys beneath the monitor, two rotary/push-button controls and voice control for navigation and phone functions.

Navigation system recognises handwriting and word fragments

The advantages of the new touchscreen are especially apparent when operating the navigation system. The system also masters handwriting recognition, so the driver can write a destination with a finger. It is no longer necessary to input the entire address here. The intelligent algorithm of the PCM also recognises word fragments and compares them to earlier destination inputs, for example. If possible, the system recommends multiple routes to the driver, and the driver can select one by simply touching the desired route. The driver can also enter intermediate destinations. The map that is displayed may be shifted, rotated or zoomed on the monitor by multi-touch finger gesture control.

New and standard equipment: online navigation and real-time traffic information

In the new 911 Carrera, navigation has been significantly enhanced compared to the previous model by services such as real-time traffic information, Google Earth and Google Street View as well as an online search function for navigation destinations. The navigation system not only processes TMC and TMCpro data as previously; it also considers information from the GPS data of vehicle fleets and mobile internet devices. Real-time traffic information obtained in this way gives the driver a continual overview of the current traffic density in the immediate vicinity and along the route. Google Earth and Google Street View are also part of online navigation. They give the driver and front passenger 360-degree and satellite views of the terrain, buildings and roads – similar to the familiar browser versions of these services.

Making its debut in the 911 Carrera: Porsche Car Connect

Porsche Car Connect is an app for iOS and Android smartphones that is used to remotely control certain vehicle functions and access vehicle data. Porsche Car Connect includes Remote Services, Safety Services and Security Services, which are functions for remote control and for traffic and vehicle safety and security. Remote Services enables remote access to relevant vehicle information such as the current fuel tank level, remaining driving range, odometer reading, average fuel consumption and average speed. It is also possible to control specific vehicle functions from the app, such as folding of the optional electric door mirrors and locking of the doors. The app can also help users navigate back to the vehicle – which may involve activating the horn or hazard lights to quickly find the vehicle, e.g. in crowded parking lots. Safety Services include automatic roadside service. If the car breaks down, the vehicle‘s location and relevant vehicle information are automatically transmitted to Porsche. In case of an accident, the telematics systems integrated in the vehicle transmit the vehicle‘s location and information to a “Secure Operating Centre” that immediately makes an emergency call if necessary.

Not only does Porsche Car Connect enhance safety for the driver and front passenger; it also protects the vehicle from theft. Thanks to the Porsche Vehicle Tracking System that is integrated in the vehicle, unauthorised vehicle movement is immediately detected, and it is reported to the driver by push notification and to a central alarm centre. This ensures that

the vehicle can be localised and then be recovered in coordination with local authorities. Porsche Car Connect is currently available in 44 European countries including Russia, the USA, Canada and South Africa. In some countries certain functions of Porsche Car Connect can also be operated by Apple Watch in addition to the smartphone app.

Porsche Connect App: perfect interface between driver and vehicle

The Porsche Connect App is also part of the new PCM. It lets users store addresses from a smartphone calendar and address book in a personal favourites list and, when the vehicle's Wi-Fi connection is active, call them up via the PCM for navigation. It is also possible to adopt navigation destinations from images in the photo gallery of the smartphone, provided that the image was stored with GPS coordinates. A Google search integrated in the app also makes it possible to use destinations from Google search results. In addition, the smartphone's calendar can be displayed via the PCM. Calendar entries for which an address is stored may be set as navigation destinations. Another component of the Porsche Connect App is Music Services. It lets users play back music from various music streaming providers via the PCM's music player. In some cases, it is necessary to install apps from the providers on the smartphone beforehand and to register with the providers.

Very easy integration of smartphones

The new PCM offers a number of ways to connect a smartphone: by cable, Bluetooth or, for the first time, by Wi-Fi connection. A SIM card is needed to use a data connection via Wi-Fi. The smartphone's SIM card can be used for this. As an alternative, a card reader beneath the PCM display is available for an external SIM card.

All users of an Apple iPhone, version 5 or higher, can also use their iPhone apps while driving thanks to Apple Car Play. To use CarPlay, the iPhone must be connected to the PCM via a USB cable. Then apps such as the phone, news and music apps can be used safely during the drive using either PCM controls or Apple's Siri voice control. Messages, for example, will then be input or read exclusively via Siri while driving.

To ensure that data reception in the vehicle is essentially interference-free, the PCM integrates a smartphone tray in the centre console for optimised mobile phone reception. When there is an active connection, the smartphone‘s antenna signal is transmitted to the vehicle‘s outside antenna, and this significantly enhances connection quality.

Touchscreen with user-customised display

Practically all configurable vehicle functions can be set via the PCM, e.g. creating a trip log, and users can select individual parameters for the optional Sport Chrono Package and evaluate its data. The new MyScreen function lets users individually configure up to three different screen layouts. Entertainment features include analogue and digital radio (DAB) with 15 pre-set stations, a CD/DVD drive and a jukebox with an SSD hard drive that can store around 3000 songs. Two SD card readers, a USB interface in the glove compartment and an AUX port give the driver other input sources for the PCM.

As alternatives to the standard sound system, Porsche is also offering two other audio systems in combination with the new PCM – each with twelve loudspeakers. The Bose system has an output power of 445 watts, and the high-end Burmester system has a power output of 821 watts.

Optional assistance systems

New: Lane departure warning assistant improves safety

For the new 911 Carrera, Porsche is expanding its line-up of optional assistance systems by adding the lane departure warning assistant, which enhances safety on multi-lane motorways. The system uses radar sensors to monitor the zone behind the vehicle and in the blind spot. Operational over a speed range from 30 km/h to 250 km/h, the assistant informs the driver of any vehicles that are approaching quickly from the rear or are driving in the blind spot. It does this via a glowing warning indicator in the car's mirror triangle. During this hazardous condition, if the driver sets the turn indicator or the system detects that the driver is making a lane change, the warning signal lights four times in succession. The lane departure warning assistant thereby enhances comfort and safety, especially on motorways. However, it does not intervene in vehicle control, and it can be deactivated at any time.

The further developed optional cruise control system can now brake and thereby maintain a constant speed even on route segments with steep descents. The control range of the cruise control system is from 30 km/h to 240 km/h. 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 begins to idle, and the sports car coasts in the queue of vehicles without engine propulsion, thereby saving on fuel.

Overview of the Porsche 911 Carrera

Brief profile

The 911 Carrera is the brand icon of Porsche. Powered by bi-turbo engines for the first time, it sets new benchmarks in performance and efficiency. The further developed chassis – with standard active damping (PASM) and a ten millimetre lower ride height – delivers an even broader spread of characteristics between sporty and comfortable. The rear-axle steering, which is available as an option for the first time, greatly extends the range of driving dynamics. Many exterior features of the 911 Carrera have been visually refined. Inside, the new standard Porsche Communication Management (PCM) infotainment system with multi-touch display offers a considerably expanded range of functions and greatly simplified operation.

Turbo engine

In the development of charged six-cylinder flat engines, Porsche can call upon over 40 years of experience. Thanks to this practical experience – in both motor racing and production sports cars – the newly engineered turbo-engines in the new 911 Carrera set new standards in terms of performance, driving pleasure and efficiency.

Technical highlights

- 911 Carrera with three-litre six-cylinder engine, bi-turbo charging, 370 hp (272 kW) and 450 Newton metres of torque. 911 Carrera S with three-litre six-cylinder engine, bi-turbo charging, 420 hp (309 kW) and 500 Newton metres of torque. Both engines offer 20 hp more power and 60 Nm more torque than the respective previous models.
- Specially tuned turbocharger for each engine. 911 Carrera S has larger compressor wheel for a greater air mass flow rate.
- PASM chassis has ten millimetre lower ride height, and rear-axle steering is offered as an option. Gains in sportiness and comfort are based on a new generation of dampers with greater sensitivity.

- New gear ratios for the seven-speed manual gearbox with two-disc clutch for reduced pedal forces. Centrifugal pendulum in the flywheel optimises vibration behaviour.
- Optional Sport Chrono Package has mode switch from the 918 Spyder mounted on the steering wheel and, for the first time, individual configuration capability.
- New automatic post-collision braking system reduces severity of accidents by automatically braking after an initial collision.
- Porsche Stability Management (PSM) offers extended Sport mode for drivers with racing aspirations.

Design highlights

- Front and rear apron have more pronounced design profiles
- New headlights and rear lights have further developed light signatures
- New exterior door panels have integrated handle recesses
- New air intake screen with louvres on its longitudinal axis

Equipment

- New PCM with multi-touch display and extended functions of Porsche Car Connect as standard.
- Optional lane departure warning assistant with radar sensors warns of collision hazards on motorways.

Specifications Porsche 911 Carrera*

Body:

Two-plus-two seat coupé; lightweight body in aluminium-steel construction with doors, boot and bonnet lids made of aluminium; two-stage driver and front passenger airbags; side and head airbags for driver and front passenger.

Aerodynamics:

Drag coefficient c_d:	0.29
Frontal area A:	2.02 m^2
c_d x A:	0.59

Engine:

Water-cooled flat-six engine; aluminium engine block and cylinder heads; four overhead camshafts, four valves per cylinder, variable inlet and outlet valve timing; inlet valve lift (Vario Cam Plus); hydraulic valve clearance adjustment; direct petrol injection; bi-turbo charging; one three-way catalytic converter per cylinder bank, each with two oxygen sensors; engine oil 13.1 litres (refill volume 8.0 litres); electronic ignition with solid-state ignition distribution (six active ignition modules); thermal management for coolant circulation; auto start/stop function.

Bore	91.0 mm
Stroke	76.4 mm
Displacement	2,981 cm^3
Compression ratio	10:1
Engine power	370 hp (272 kW) at 6,500 rpm
Max. torque	450 Nm at 1,700 – 5,000 rpm
Power output per litre	124.1 hp/l (91.2 kW/l)
Max. engine speed	7,500 rpm
Fuel type	super plus

Electrical system:

12 Volt; alternator 2,450 W; battery 80 Ah; electrical system recuperation.

* Specifications may vary according to markets

Status: November 2015

Transmission:

Engine and transmission bolted together to form a single drive unit; rear wheel drive; seven-speed manual transmission with two-plate clutch; optional seven-speed dual clutch transmission (PDK).

Gear ratios	Manual transmission	PDK
1st gear	3.91	3.91
2nd gear	2.29	2.29
3rd gear	1.58	1.58
4th gear	1.18	1.18
5th gear	0.94	0.94
6th gear	0.79	0.79
7th gear	0.62	0.62
Reverse	3.55	3.55
Constant RA ratio	1.11	1.11
Total RA ratio	3.44	3.44
Clutch diameter	228 mm	202/153 mm

Chassis:

Front axle: strut suspension (MacPherson type, Porsche optimised) with wheels independently suspended by transverse links, longitudinal links and struts; cylindrical coil springs with internal dampers; electromechanical power steering; optional front axle lift system.

Rear axle: multi-link suspension with wheels independently suspended on five links; cylindrical coil springs with coaxial internal dampers.

Porsche Active Suspension Management (PASM) with electronically controlled dampers; two manually selectable damping programmes.

Brakes:

Dual-circuit brake system with separate circuits for front and rear axles; Porsche Stability Management (PSM); vacuum brake booster; brake assistant; electric duo-servo parking brake; auto-hold function; post-collision braking system.

Front axle: four-piston aluminium monobloc brake callipers, perforated and internally ventilated brake discs with 330 mm diameter and 34 mm thickness.

Rear axle: four-piston aluminium monobloc brake callipers, perforated and internally ventilated brake discs with 330 mm diameter and 28 mm thickness.

Wheels and tyres:	front	8.5 J x 19	with	235/40 ZR 19
	rear	11.5 J x 19	with	295/35 ZR 19

Weights:	Unladen weight (DIN)		1,430 (1,450) kg
	Permissible gross weight		1,875 (1,890) kg
Dimensions:	Length		4,499 mm
	Width		1,808 mm
	Width with door mirrors		1,978 mm
	Height		1,303 mm
	Wheelbase		2,450 mm
	Track widths	front	1,541 mm
		rear	1,518 mm
	Luggage comp. capacity	front	145 l
		rear	260 l
	Fuel tank capacity		64 l

Values in brackets refer to vehicles with PDK transmission

Performance:	Top speed	295 (293) km/h
	Acceleration	
	0 – 100 km/h	4.6 (4.4) s
	with Sport Plus and PDK	4.2 s
	0 – 200 km/h	15.3 (14.8) s
	with Sport Plus and PDK	14.5 s
	0 – 60 mph	4.4 (4.2) s
	with Sport Plus and PDK	4.0 s
	1/4 mile (400 m)	12.8 (12.6) s
	with Sport Plus and PDK	12.3 s
Fuel consumption:	Combined	8.3 (7.4) l/100 km
(NEDC)	Urban	11.7 (9.9) l/100 km
	Extra-urban	6.3 (6.0) l/100 km
CO_2 emissions:	Combined	190 (169) g/km
Emissions class:		Euro 6

Values in brackets refer to vehicles with PDK transmission

Specifications Porsche 911 Carrera S*

Body:

Two-plus-two seat coupé; lightweight body in aluminium-steel construction with doors, boot and bonnet lids made of aluminium; two-stage driver and front passenger airbags; side and head airbags for driver and front passenger.

Aerodynamics:

Drag coefficient c_d:	0.30
Frontal area A:	2.02 m^2
c_d x A:	0.61

Engine:

Water-cooled flat-six engine; aluminium engine block and cylinder heads; four overhead camshafts, four valves per cylinder, variable inlet and outlet valve timing; inlet valve lift (Vario Cam Plus); hydraulic valve clearance adjustment; direct petrol injection; bi-turbo charging; one three-way catalytic converter per cylinder bank, each with two oxygen sensors; engine oil 13.1 litres (refill volume 8.0 litres); electronic ignition with solid-state ignition distribution (six active ignition modules); thermal management for coolant circulation; auto start/stop function.

Bore	91.0 mm
Stroke	76.4 mm
Displacement	2,981 cm^3
Compression ratio	10:1
Engine power	420 hp (309 kW) at 6,500 rpm
Max. torque	500 Nm at 1,700 – 5,000 rpm
Power output per litre	140.9 hp/l (103.7 kW/l)
Max. engine speed	7,500 rpm
Fuel type	super plus

Electrical system:

12 Volt; alternator 2,940 W; battery 80 Ah; electrical system recuperation.

* Specifications may vary according to markets

Status: November 2015

Transmission:

Engine and transmission bolted into combined drive unit; rear-wheel drive; seven-speed manual transmission with two-plate clutch, mechanically locking rear differential and Porsche Torque Vectoring (PTV); optional seven-speed dual clutch transmission (PDK) with controlled rear locking differential and PTV Plus.

Gear ratios	Manual transmission	PDK
1st gear	3.91	3.91
2nd gear	2.29	2.29
3rd gear	1.58	1.58
4th gear	1.18	1.18
5th gear	0.94	0.94
6th gear	0.79	0.79
7th gear	0.62	0.62
Reverse	3.55	3.55
Constant RA ratio	1.16	1.16
Total RA ratio	3.59	3.59
Clutch diameter	228 mm	202/153 mm

Chassis:

Front axle: strut suspension (MacPherson type, Porsche optimised) with wheels independently suspended by transverse links, longitudinal links and struts; cylindrical coil springs with internal dampers; electromechanical power steering; optional front axle lift system.

Rear axle: multi-link suspension with wheels independently suspended on five links; cylindrical coil springs with coaxial internal dampers; optional rear-wheel steering.

Porsche Active Suspension Management (PASM) with electronically controlled dampers; two manually selectable damping programmes.

Brakes:

Dual-circuit brake system with separate circuits for front and rear axles; Porsche Stability Management (PSM); vacuum brake booster; brake assistant; electric duo-servo parking brake; auto-hold function; post-collision braking system.

Front axle: six-piston aluminium monobloc brake callipers, perforated and internally ventilated brake discs with 350 mm diameter and 34 mm thickness.

Rear axle: four-piston aluminium monobloc brake callipers, perforated and internally ventilated brake discs with 330 mm diameter and 28 mm thickness.

Wheels and tyres:	front	8.5 J x 20	with	245/35 ZR 20
	rear	11.5 J x 20	with	305/30 ZR 20

Weights:	Unladen weight (DIN)		1,440 (1,460) kg
	Permissible gross weight		1,900 (1,915) kg
Dimensions:	Length		4,499 mm
	Width		1,808 mm
	Width with door mirrors		1,978 mm
	Height		1,302 mm
	Wheelbase		2,450 mm
	Track widths	front	1,543 mm
		rear	1,518 mm
	Luggage comp. capacity	front	145 l
		rear	260 l
	Fuel tank capacity		64 l

Values in brackets refer to vehicles with PDK transmission

Performance:	Top speed	308 (306) km/h
	Acceleration	
	0 – 100 km/h	4.3 (4.1) s
	with Sport Plus and PDK	3.9 s
	0 – 200 km/h	13.7 (13.2) s
	with Sport Plus and PDK	12.9 s
	0 – 60 mph	4.1 (3.9) s
	with Sport Plus and PDK	3.7 s
	1/4 mile (400 m)	12.5 (12.3) s
	with Sport Plus and PDK	12.0 s
Fuel consumption:	Combined	8.7 (7.7) l/100 km
(NEDC)	Urban	12.2 (10.1) l/100 km
	Extra-urban	6.6 (6.4) l/100 km
CO_2 emissions:	Combined	199 (174) g/km
Emissions class:		Euro 6

Values in brackets refer to vehicles with PDK transmission

Specifications Porsche 911 Carrera Cabriolet*

Body:

Two-plus-two seat cabriolet; lightweight body in aluminium-steel construction with doors, boot and bonnet lids made of aluminium; fully automatic panel bow top; two-stage driver and front passenger airbags; side and head airbags for driver and front passenger.

Aerodynamics:

Drag coefficient c_d:	0.30
Frontal area A:	2.02 m^2
c_d x A:	0.61

Engine:

Water-cooled flat-six engine; aluminium engine block and cylinder heads; four overhead camshafts, four valves per cylinder, variable inlet and outlet valve timing; inlet valve lift (Vario Cam Plus); hydraulic valve clearance adjustment; direct petrol injection; bi-turbo charging; one three-way catalytic converter per cylinder bank, each with two oxygen sensors; engine oil 13.1 litres (refill volume 8.0 litres); electronic ignition with solid-state ignition distribution (six active ignition modules); thermal management for coolant circulation; auto start/stop function.

Bore	91.0 mm
Stroke	76.4 mm
Displacement	2,981 cm^3
Compression ratio	10:1
Engine power	370 hp (272 kW) at 6,500 rpm
Max. torque	450 Nm at 1,700 – 5,000 rpm
Power output per litre	124.1 hp/l (91.2 kW/l)
Max. engine speed	7,500 rpm
Fuel type	super plus

Electrical system:

12 Volt; alternator 2,450 W; battery 80 Ah; electrical system recuperation.

* Specifications may vary according to markets

Status: November 2015

Transmission:

Engine and transmission bolted together to form a single drive unit; rear wheel drive; seven-speed manual transmission with two-plate clutch; optional seven-speed dual clutch transmission (PDK)

Gear ratios	Manual transmission	PDK
1st gear	3.91	3.91
2nd gear	2.29	2.29
3rd gear	1.58	1.58
4th gear	1.18	1.18
5th gear	0.94	0.94
6th gear	0.79	0.79
7th gear	0.62	0.62
Reverse	3.55	3.55
Constant RA ratio	1.11	1.11
Total RA ratio	3.44	3.44
Clutch diameter	228 mm	202/153 mm

Chassis:

Front axle: strut suspension (MacPherson type, Porsche optimised) with wheels independently suspended by transverse links, longitudinal links and struts; cylindrical coil springs with internal dampers; electromechanical power steering; optional front axle lift system.

Rear axle: multi-link suspension with wheels independently suspended on five links; cylindrical coil springs with coaxial internal dampers.

Porsche Active Suspension Management (PASM) with electronically controlled dampers; two manually selectable damping programmes.

Brakes:

Dual-circuit brake system with separate circuits for front and rear axles; Porsche Stability Management (PSM); vacuum brake booster; brake assistant; electric duo-servo parking brake; auto-hold function; post-collision braking system.

Front axle: four-piston aluminium monobloc brake callipers, perforated and internally ventilated brake discs with 330 mm diameter and 34 mm thickness.

Rear axle: four-piston aluminium monobloc brake callipers, perforated and internally ventilated brake discs with 330 mm diameter and 28 mm thickness.

Wheels and tyres:	front	8.5 J x 19	with	235/40 ZR 19
	rear	11.5 J x 19	with	295/35 ZR 19

Weights:	Unladen weight (DIN)		1,500 (1,520) kg
	Permissible gross weight		1,925 (1,940) kg
Dimensions:	Length		4,499 mm
	Width		1,808 mm
	Width with door mirrors		1,978 mm
	Height		1,297 mm
	Wheelbase		2,450 mm
	Track widths	front	1,541 mm
		rear	1,518 mm
	Luggage comp. capacity	front	145 l
		rear	160 l
	Fuel tank capacity		64 l

Values in brackets refer to vehicles with PDK transmission

Performance:	Top speed	292 (290) km/h
	Acceleration	
	0 – 100 km/h	4.8 (4.6) s
	with Sport Plus and PDK	4.4 s
	0 – 200 km/h	16.0 (15.5) s
	with Sport Plus and PDK	15.2 s
	0 – 60 mph	4.6 (4.4) s
	with Sport Plus and PDK	4.2 s
	1/4 mile (400 m)	13.0 (12.8) s
	with Sport Plus and PDK	12.5 s
Fuel consumption:	Combined	8.5 (7.5) l/100 km
(NEDC)	Urban	11.9 (9.9) l/100 km
	Extra-urban	6.5 (6.2) l/100 km
CO_2 emissions:	Combined	195 (172) g/km
Emissions class:		Euro 6

Values in brackets refer to vehicles with PDK transmission

Specifications Porsche 911 Carrera S Cabriolet*

Body:

Two-plus-two seat cabriolet; lightweight body in aluminium-steel construction with doors, boot and bonnet lids made of aluminium; fully automatic panel bow top; two-stage driver and front passenger airbags; side and head airbags for driver and front passenger.

Aerodynamics:

Drag coefficient c_d:	0.30
Frontal area A:	2.02 m^2
c_d x A:	0.61

Engine:

Water-cooled flat-six engine; aluminium engine block and cylinder heads; four overhead camshafts, four valves per cylinder, variable inlet and outlet valve timing; inlet valve lift (Vario Cam Plus); hydraulic valve clearance adjustment; direct petrol injection; bi-turbo charging; one three-way catalytic converter per cylinder bank, each with two oxygen sensors; engine oil 13.1 litres (refill volume 8.0 litres); electronic ignition with solid-state ignition distribution (six active ignition modules); thermal management for coolant circulation; auto start/stop function.

Bore	91.0 mm
Stroke	76.4 mm
Displacement	2,981 cm^3
Compression ratio	10:1
Engine power	420 hp (309 kW) at 6,500 rpm
Max. torque	500 Nm at 1,700 – 5,000 rpm
Power output per litre	140.9 hp/l (103.7 kW/l)
Max. engine speed	7,500 rpm
Fuel type	super plus

Electrical system:

12 Volt; alternator 2,940 W; battery 80 Ah; electrical system recuperation.

* Specifications may vary according to markets

Status: November 2015

Transmission:

Engine and transmission bolted into combined drive unit; rear-wheel drive; seven-speed manual transmission with two-plate clutch, mechanically locking rear differential and Porsche Torque Vectoring (PTV); optional seven-speed dual clutch transmission (PDK) with controlled rear locking differential and PTV Plus.

Gear ratios	Manual transmission	PDK
1st gear	3.91	3.91
2nd gear	2.29	2.29
3rd gear	1.58	1.58
4th gear	1.18	1.18
5th gear	0.94	0.94
6th gear	0.79	0.79
7th gear	0.62	0.62
Reverse	3.55	3.55
Constant RA ratio	1.16	1.16
Final drive ratio	3.59	3.59
Clutch diameter	228 mm	202/153 mm

Chassis:

Front axle: strut suspension (MacPherson type, Porsche optimised) with wheels independently suspended by transverse links, longitudinal links and struts; cylindrical coil springs with internal dampers; electromechanical power steering; optional front axle lift system.

Rear axle: multi-link suspension with wheels independently suspended on five links; cylindrical coil springs with coaxial internal dampers; optional rear-wheel steering.

Porsche Active Suspension Management (PASM) with electronically controlled dampers; two manually selectable damping programmes.

Brakes:

Dual-circuit brake system with separate circuits for front and rear axles; Porsche Stability Management (PSM); vacuum brake booster; brake assistant; electric duo-servo parking brake; auto-hold function; post-collision braking system.

Front axle: six-piston aluminium monobloc brake callipers, perforated and internally ventilated brake discs with 350 mm diameter and 34 mm thickness.

Rear axle: four-piston aluminium monobloc brake callipers, perforated and internally ventilated brake discs with 330 mm diameter and 28 mm thickness.

Wheels and tyres:	front	8.5 J x 20	with	245/35 ZR 20
	rear	11.5 J x 20	with	305/30 ZR 20

Weights:	Unladen weight (DIN)		1,510 (1,530) kg
	Permissible gross weight		1,950 (1,965) kg
Dimensions:	Length		4,499 mm
	Width		1,808 mm
	Width with door mirrors		1,978 mm
	Height		1,298 mm
	Wheelbase		2,450 mm
	Track widths	front	1,543 mm
		rear	1,518 mm
	Luggage comp. capacity	front	145 l
		rear	160 l
	Fuel tank capacity		64 l

Values in brackets refer to vehicles with PDK transmission

Performance:	Top speed	306 (304) km/h
	Acceleration	
	0 – 100 km/h	4.5 (4.3) s
	with Sport Plus and PDK	4.1 s
	0 – 200 km/h	14.4 (13.9) s
	with Sport Plus and PDK	13.6 s
	0 – 60 mph	4.3 (4.1) s
	with Sport Plus and PDK	3.9 s
	1/4 mile (400 m)	12.7 (12.5) s
	with Sport Plus and PDK	12.2 s
Fuel consumption:	Combined	8.8 (7.8) l/100 km
(NEDC)	Urban	12.3 (10.2) l/100 km
	Extra-urban	6.7 (6.5) l/100 km
CO_2 emissions:	Combined	202 (178) g/km
Emissions class:		Euro 6

Values in brackets refer to vehicles with PDK transmission