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**Press Information**

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Porsche 911 Carrera 4

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Porsche 911 Carrera 4 and 911 Carrera 4S

## **Sharper dynamics, greater agility**

In launching four new all-wheel drive 911 Carrera 4 models, Porsche is doubling the configurations of the new 911. Flared fenders house wheels controlled by Porsche Traction Management, which features a lightweight design and delivers superior driving stability to all wheels at all times. New engines and additional assistance systems further enhance driving enjoyment and vehicle control.

Porsche has attained new heights of efficiency and performance with the introduction of the new 911 Carrera 4. Despite increased power and torque across the range, all four models consume significantly less fuel than their respective predecessors.

Overview of the new models:

911 Carrera 4	3.4-liter boxer engine with 350 hp; seven-speed manual gearbox, optional seven-speed Porsche Doppelkupplungsgetriebe (PDK); active all-wheel drive Porsche Traction Management (PTM); 0-60 mph in 4.7 seconds (PDK: 4.5 seconds; PDK with Sport Chrono: 4.3 seconds); top speed 177 mph (PDK: 175 mph); fuel consumption 19/27 mpg, city/hwy; (PDK: 20/27 mpg, city/hwy).
911 Carrera 4 Cabriolet	3.4-liter boxer engine with 350 hp; seven-speed manual gearbox, optional PDK; active all-wheel drive Porsche Traction Management (PTM); acceleration from zero to 60 mph in 4.9 seconds (PDK: 4.7 seconds; PDK with Sport Chrono: 4.5 seconds); top speed 175 mph, (PDK: 173 mph); fuel consumption 19/26 mpg, city/hwy; (PDK: 20/27 mpg, city/hwy).
911 Carrera 4S	3.8-liter boxer engine with 400 hp; seven-speed manual gearbox, optional PDK; active all-wheel drive Porsche Traction

Management (PTM); acceleration from zero to 60 mph in 4.3 seconds (PDK: 4.1 seconds; PDK with Sport Chrono: 3.9 seconds); top speed 185 mph, (PDK: 184 mph); fuel consumption 18/26 mpg, city/hwy; (PDK: 19/26 mpg, city/hwy).

911 Carrera 4S Cabriolet 3.8-liter boxer engine with 400 hp; seven-speed manual gearbox, optional PDK; active all-wheel drive Porsche Traction Management (PTM); acceleration from zero to 60 mph in 4.5 seconds (PDK: 4.3 seconds; PDK with Sport Chrono: 4.1); top speed 183 mph, (PDK: 182 mph); fuel consumption 18/26 mpg, city/hwy; (PDK: 19/26 mpg, city/hwy).

The most distinctive identifying feature of the 911 Carrera 4 remains the wider rear section with subtly flared fenders. Beneath the cosmetic changes, Porsche Traction Management (PTM) delivers an even more intense driving experience with higher limits and greater safety. Using a multiplate clutch, PTM alters the distribution of power between the front and rear wheels within fractions of a second as road conditions dictate. In all conditions, the system gratifies with more driver involvement, higher limits of adhesion, and a wide safety net.

### **Torque distribution indicator**

Every 911 Carrera 4 now features a bar graph indicator in the instrument cluster illustrating the vehicle's front/rear torque split in real time. Drivers who choose to display this feature will know precisely how engine power is being apportioned to each axle; maximum torque is represented when ten segments on the graph are illuminated.

### **1.7 inch wider rear section**

The new 911 Carrera 4 is easy to recognize. Compared to the two-wheel drive 911 Carrera, the rear wheel arches extend an additional 1.7-inches (22 mm) to each side, while the rear wheels are each 10 mm wider. This results in an increased track width of 42 mm (911 Carrera 4) and 36 mm (911 Carrera 4S). This confident stance is complemented by a taillight panel unique to all 911 Carrera 4 models. The thin panel runs directly beneath the spoiler's edge. In addition to providing a distinct nighttime presence by connecting left and right taillights when illuminated, this lighting treatment draws attention to the aggressively-styled rear of the 911 Carrera 4 and provides for differentiation from the 911 Carrera.

Additional styling cues that set the 911 Carrera 4 apart from the rest of the 911 range are black recessed sill panels in side view and a modified nose with unique front air inlets.

### **New Adaptive Cruise Control**

With the debut of the 911 Carrera 4 range, Porsche is introducing a host of new features. Adaptive Cruise Control (ACC) is now available on vehicles with the PDK transmission. This system controls vehicle distance and speed in traffic, and is enhanced with the addition of Porsche Active Safe (PAS). Even with ACC turned off, PAS uses the ACC's front radar to avoid front-end collisions. It does this by using its front radar system to continually monitor traffic for significantly slower vehicles ahead. If the system detects the risk of a front-end collision, it will first prime the brake system and increase brake assist levels. If a collision appears imminent, PAS alerts the driver with an audible alert, a visual indicator, and a brake pedal jolt. If the driver still does not apply the brakes, PAS will apply the brakes with up to maximum force to avoid collision. The driver may choose to deactivate PAS.

ACC's front-mounted radar scans up to 656 feet in front of the vehicle. Using data from its scan of the lane ahead, ACC maintains one of four driver-selected distances to the vehicle ahead, automatically adjusting vehicle speed as necessary up to a full stop. When the vehicle ahead begins moving, the driver can follow in ACC mode again by selecting the Resume function on the steering column stalk or by tapping the accelerator. This feature helps reduce driver fatigue during long commutes and in stop-and-go traffic.

### **Panoramic sliding glass sunroof**

Now optional in the 911 Carrera Coupe is a glass sunroof that opens by sliding rearward. A wind deflector and a sunshade allow for open-roof motoring in a greater variety of driving conditions. Roof sections in front of and behind the sunroof are painted high-gloss black, giving greater visual emphasis to the sunroof.

### **911 Carrera 4: a history of technological innovation**

The previous generation (997) of the all-wheel drive Porsche 911 sold roughly 24,000 units, 34 percent of that generation's 911 sales. It was the 997 that ushered in gasoline direct injection, the PDK dual-clutch automated manual transmission (Porsche Doppelkupplungsgetriebe), and electronically-controlled Porsche Traction Management (PTM) to the 911 range. In July 2011 Porsche crowned the model series with the 911 Carrera 4 GTS, powered by a 3.8-liter engine rated at 408 hp.

All-wheel drive

## **Improved Porsche Traction Management**

Porsche Traction Management (PTM) has been improved. Drawing from technology in the Type 997 911 Turbo, PTM is now further optimized for reduced friction and improved fuel economy. Gentle driving prompts the system to direct the majority of drivetrain torque to the rear axle, improving fuel efficiency. In addition, as in other 911 models with the PDK transmission, the PTM clutch is decoupled when the vehicle is coasting. With the clutch decoupled, components in the all-wheel drive system are at rest, resulting in no parasitic drag and thus improved fuel efficiency.

PTM is one of the highest performance and lightest all-wheel drive systems on the market. It delivers the majority of engine torque to the rear wheels in high-traction situations (dry roads), delivering the experience that enthusiasts favor. If rear-wheel traction is compromised for any reason (sand, water, etc.), PTM sends engine torque to the front wheels in 100 milliseconds or less for seamless forward motion, keeping the driver on the intended course. The system's seamless integration results in a high level of agility on narrow country roads, excellent response on low-traction surfaces and confidence-inspiring handling during extreme high-speed maneuvers.

Consequently, PTM favors rear-wheel drive when conditions are favorable. Only when adverse slip friction values are sensed (wheelspin, longitudinal acceleration, transverse acceleration, over- or understeer) is torque sent to the front axle in the exact proportion needed to maintain the driver's intended path.

### Engine and transmission

## **More power, less consumption**

With the change to the latest generation of the 911 Carrera, all-wheel drive models have new engines displacing 3.4 and 3.8 liters. In addition to gasoline direct injection technology, these engines employ electrical system recuperation and electronic cooling system management. Electrical system recuperation is intelligent use of the alternator; the battery receives greater charge from the alternator during braking and coasting. When the battery is fully charged, the generator draws less mechanical energy from the drive belt, which in turn yields more power to the drivetrain for acceleration.

Likewise, intelligent control of the cooling system for both the engine and transmission ensures that both reach their operating temperatures sooner. This reduces friction, leading to improved efficiency in part-load conditions with no disadvantages in full-load operation.

Porsche has also introduced automatic engine start/stop functionality in the new 911 Carrera lineup for both manual and automated manual (PDK) transmissions. Other fuel-saving measures include friction-minimizing engine components, reduced rolling resistance tires and the introduction of electro-mechanical power steering.

As mentioned previously, the Porsche Traction Management (PTM) clutch is decoupled when PDK-equipped vehicles are coasting. In this context, coasting refers to vehicle movement

absent input from the engine. While coasting, the engine consumes only enough fuel to remain at idle, allowing the vehicle to use kinetic energy during certain portions of a drive. In practical terms, this can result in fuel savings of nearly one half a mile per gallon when the vehicle is driven conservatively. Coasting is initiated by slowly releasing the accelerator or by selecting an upshift while already in the highest gear; it is ended by accelerating, braking or downshifting.

### **Sound Symposer**

The unmistakable character of Porsche's horizontally-opposed six cylinder engine finds its way directly into every 911 Carrera's cabin via the Sound Symposer. When activated by pressing the standard Sport or optional Sport Plus control button, this passive system uses an acoustic channel to direct sound from the engine's air intake plumbing to a membrane located inside the cabin, near the rear window. The membrane acts like a speaker, vibrating at the same frequency as the intake pulses generated by all six cylinders and thus transmitting those soundwaves into the cabin.

### **Sport exhaust system**

A sport exhaust system is optional for the new all-wheel drive models. Pressing the sport exhaust system button, located on the center console, gives the six-cylinder boxer engine a deeper, more intense sound and reduces backpressure for better performance. Upon activation, the sound symposer is also activated. The sport exhaust system operates by merging the two exhaust lines and opening a less restrictive path for all exhaust gases. Unique dual twin tailpipes identify the presence of this option.

### **Seven speed transmissions**

Two seven-speed transmissions deliver sport and efficiency in equal measure: the world's first seven-speed manual gearbox in a production passenger car and the Porsche Doppelkupplungsgetriebe (PDK). Higher gears with tall ratios in both transmissions mean fuel savings of up to ten percent at constant speeds. The manual includes a shift gate lock to seventh gear, preventing unintended selection of that ratio when shifting quickly from fourth to fifth. With both transmissions, an instrument cluster display indicates the gear selected.

### Chassis and control systems

#### **Wider track enhances stability**

In developing the new generation 911 Carrera, preparations were made from the early design phase to allow for driven front wheels in Carrera 4 models. Therefore, the Carrera 4 is very similar to its rear-wheel drive brethren, the notable exception being the wider rear track (42 mm wider on the 911 Carrera 4, 36 mm on Carrera 4S). Together with PTM all-wheel drive, this combination offers even higher stability in corners, even during rapid acceleration.

As in all 911 models, the lengthened wheelbase – 100 mm greater than the previous model – provides for greater high speed stability. Other systems that work in combination for optimal performance – some standard and some optional depending on the model – are the enhanced Porsche Active Suspension Management (PASM), dynamic engine mounts, Porsche Dynamic Chassis Control (PDCC), electro-mechanical power steering, Porsche Torque Vectoring (PTV), a high-performance brake system and upgraded wheels and tires.

**PASM sport chassis with downforce at the rear axle**

The PASM sport chassis – which features a 20 mm lower ride height and a unique aerodynamic package – is also offered in the new 911 Carrera 4 models. A unique front spoiler lip works in conjunction with a higher setting for the deployable rear spoiler for enhanced aerodynamics. Together, these enhancements produce less lift at the front axle and significant downforce at the rear axle, resulting in zero lift. The 911 Carrera 4 with PASM sport chassis delivers exceptional road contact at high speeds and reacts immediately to steering inputs, making it an ideal vehicle for competitive driving.

**Electro-mechanical steering**

The primary benefit of electro-mechanical steering (introduced in the new 911 Carrera) compared to traditional hydraulic power steering is reduced fuel consumption. The new system retains excellent road feel while filtering out negative or unnecessary disturbances.

Even at low speeds, active steering wheel return automatically brings the steering wheel back to the center position. When braking on split-traction surfaces, the system delivers a pulse to the wheel indicating the direction to steer to maintain the intended course. The optional power steering plus provides extra steering assistance at speeds below 31 mph to ease parking maneuvers.

**Porsche Torque Vectoring**

Standard in the 911 Carrera 4S and optional in the Carrera 4 is Porsche Torque Vectoring (PTV). Cars with manual transmissions receive mechanically locking differentials, while those with the PDK receive an electronically controlled, fully variable differential lock (PTV Plus). PTV and PTV Plus strategically brake the inside rear wheel through turns to aid agility and steering precision during aggressive driving, while the differential lock improves acceleration coming out of turns.

**Sport button and Sport Chrono package**

All 911 Carrera cars feature a Sport button; activating Sport mode alters multiple vehicle settings for improved performance. The optional Sport Chrono package features a Sport Plus button, eliciting even more engaging response from the vehicle. The Sport Chrono

package also features dynamic engine mounts and includes analog and digital chronometers; the optional PCM includes a performance indicator with memory function.

Activating the Sport Plus button results in delayed transmission and PSM (on PDK-equipped models) intervention for more driver control. The optional PASM, PTV Plus, PDCC and dynamic engine mounts switch to sport mode for stiffer damping and chassis control. Engaging the standard Sport button increases accelerator pedal responsiveness, activates the Sound Symposer and optional sport exhaust system, and deactivates the auto start/stop and coasting functions. Finally, the optional Porsche Dynamic Light System is preconditioned for quicker reactions with the Sport button engaged.

Vehicles with PDK receive additional features. Launch Control shortens the sprint from 0 to 60 mph by 0.2 seconds. The Sport Plus button also activates the PDK “race course” shifting mode, providing quicker and later shifts for maximum acceleration and performance.

### **Downshifting with double declutching**

New to the Sport Chrono package on 911 Carrera models equipped with a manual transmission is a double declutching feature, which operates during downshifts in Sport Plus mode. This function rapidly matches engine speed to the lower gear ratio selected, making for seamless driving during downshifts.

### **Porsche Dynamic Chassis Control**

An optional feature of the 911 Carrera 4S, Porsche Dynamic Chassis Control (PDCC) nearly eliminates body roll up to maximum lateral acceleration through a variable stabilizer system. This feature is best experienced when entering and driving through a curve aggressively, and during rapid lane changes. By constraining body roll, wheel camber change is minimized, resulting in maximum tire-to-road contact. The greater traction afforded increases maximum vehicle speeds through curves. The system also offers greater steering feel and precision. Overall, PDCC results in a more stable vehicle especially in aggressive driving.

Body and roof

## **Lightweight design, refined form**

The innovative lightweight body of the new 911 Carrera range was developed for top driving characteristics across Coupe, Cabriolet, rear-wheel and all-wheel drive models with only

minor modifications needed between them. All models share the advantages of reduced weight and increased rigidity from an aluminum and steel construction. Cabriolets receive extra structural reinforcements to make up for the loss of a solid roof. By using the right materials in the right places, all models enjoy significantly lower weight compared to previous models. The new 911 Carrera 4 models are up to 143 lbs. lighter than previous models.

### **911 Cabriolet - unique fabric roof**

All 911 Cabriolet models feature a new Porsche development – a panel bow top that lends a coupe-like roof arch with both aesthetic and aerodynamic advantages. Despite being longer and offering more cabin isolation when raised, the weight of the top nearly matches that of the previous model. It can be opened or closed in about 13 seconds at speeds of up to 31 mph as in previous models, and is operated by a button on the center console.

With the top raised, interior isolation is greater than ever before, afforded in part by an insulation layer under the roof fabric. The magnesium panel bows are covered on the inside by trim which convey a pleasant feeling in the interior space. The side panels are also fully covered with a fabric liner, so that none of the mechanical parts are visible when the top is up. Head room is also similar to that of the Coupé interior.

All 911 Cabriolets now have an electrically deployed wind deflector, making manual installation and removal a thing of the past.

Interior and features

## **Intuitive, engaging, satisfying**

The 911 lineup features Porsche's new generation interior. The interior's central design element is a center console that rises to meet the dash, provides excellent ergonomics, and integrates driver and passenger. The design concept: uncomplicated and intuitive control of key vehicle functions.

The dashboard has a classic layout. The cluster features the traditional five round instruments that provide all key vehicle information. A 4.8-inch high-resolution TFT color monitor in the instrument cluster to the right of the central tachometer provides a comprehensive list of configurable display options: all-wheel drive, vehicle status, audio, telephone, navigation, map display, trip computer and tire pressure indicator. With the Sport Chrono Package, users can display a G-Force monitor which graphically illustrates longitudinal and transverse acceleration.

In vehicles with the manual transmission, a shifting assistant display aids the driver in optimizing performance. The standard running lights assistant can automatically switch from the daytime running lights to low beams at dusk or during tunnel passages.

### **Sport seats**

All 911 Carrera models receive sport seats with electric recline and seat height adjustments. Optional sport seats with electric 14-way adjustment add electric adjustment fore and aft, cushion angle and depth, and four-way adjustment of lumbar support. Optional Adaptive Sports Seats Plus feature 18-way adjustment and prominent side supports for excellent lateral support in every driving situation. Both versions include the memory package and electric steering column adjustment. Seat ventilation is also available for all sport seat versions in conjunction with optional seat heating.

### **Sound Package Plus**

Acoustic information and entertainment are provided by the standard CDR-31 audio system featuring nine speakers with the Sound Package Plus. With the exception of volume, all other functions of the CDR-31 can be selected by touching the seven-inch TFT color touchscreen display. Those who prefer manual control can access all radio functions in traditional fashion by the rotary push knob on the right. The standard universal audio interface offers the option of connecting an external audio source (i.e. iPod, MP3 player) through an AUX interface.

**Options: Top sound systems from Burmester® and BOSE®**

Porsche developed its top sound system in cooperation with Burmester® and specifically for the 911 Carrera. Drawing on the award-winning systems in the Panamera and Cayenne, this sound system raises the bar for the sports car segment. It features twelve individually-controlled speakers including an active “body-in-white” subwoofer with a 140 mm cone diameter and integrated 300 Watt Class D power amplifier. In all, the system has 12 amplifier channels and a total output of over 800 Watts.

The BOSE® Surround Sound System is also offered as an option. It also has twelve speakers including an active body-in-white integrated 100-Watt active subwoofer with a Class-D power amplifier and 130 mm cone diameter. This system has a total output of 445 Watts.

**Patented subwoofer concept**

The highlight of the optional sound systems from BOSE® and Burmester® is the patented body-in-white subwoofer. This system eliminates the previous separate subwoofer boxes in favor of the body-in-white body structures of the vehicle’s cowl frame. This solution saves 9-11 lbs. in system weight, reduces the required installation space and at the same time improves bass performance.

**Porsche Dynamic Light System**

The Porsche Dynamic Light System (PDLS) provides for even better illumination at night. It includes dynamic cornering lights and speed-dependent running light control, which adjusts lighting pattern and intensity based on driving speed for better visibility. The dynamic cornering lights are activated starting at a speed of about 3 mph; main headlamps are swiveled into the curve by up to 15 degrees depending on steering angle and vehicle speed. In conjunction with the optional Sport Chrono Package, the dynamic cornering lights react quicker to the driver’s steering inputs while in Sport Plus mode. The cornering light remains active even while the main beam is turned on, improving visibility.

An inclement weather light remains standard and is illuminated when the rear fog lights are activated. It reduces glare in poor weather conditions, such as thick fog, by swiveling the left headlamp eight degrees towards the outside and emitting a horizontal light distribution. In addition, the headlight power is reduced to 33 watts and the cornering lights are deactivated.

**Park Assistant**

Along with the rear Park Assistant, which is standard on the 911 Carrera Cabriolet and incorporates an acoustic distance warning, there is now a Park Assistant front and rear with Top-View optional in 911 Carrera models. In addition to an acoustic warning, it features an overhead display of the distance to other vehicles in front of and behind the vehicle via a color display in the central monitor.

**Porsche Entry & Drive**

The optional Porsche Entry & Drive system lets drivers unlock or lock the doors and the trunk as well as start the vehicle's engine without a key. As soon as the driver touches the door handle, Porsche Entry & Drive queries an access code that is stored in the electronic key. If it is correct, the door is unlocked. Similarly, the trunk lid is unlocked when the driver approaches a sensor at the front of the vehicle. The engine may be started or stopped by the electric ignition switch. To lock the doors, a driver presses the lock button located in the door handles or the lock button on the remote key; locking can only be done with the key outside the vehicle and within receiving range.