Chassis and brakes

Greater range between comfort and sportiness

With the chassis of the new 911, Porsche further exploits the available driving dynamics potential, while the vehicle occupants simultaneously benefit from improved tyre comfort. The basis for this is provided by the new mixed tyre configuration, with 20-inch wheels on the front axle and 21-inch wheels on the rear axle. At the same time, the tyres on the rear drive axle are significantly wider than on the front wheels. This results in a track that is 46 mm wider at the front of both models, as well as a 39 mm-wider track width at the rear of the 911 Carrera S. This combination enables the rear axle to build up higher lateral stability, and further improves the traction of the rear-wheel-driven 911. The mixed tyres also have a considerable influence on the vehicle balance. The handling is even more neutral and controllable. The refined chassis design is completed by the next generation of Porsche Active Suspension Management (PASM), offering a significantly enhanced range between sportiness and comfort. For the first time, the standard PASM chassis with controlled shock absorbers of the 911 Cabriolet can optionally be replaced with the PASM sports chassis with body lowering by 10 millimetres.

Sportier and more comfortable: further developed PASM with a wider spread

Porsche has extensively further developed the PASM for the new 911. The latest generation of dampers features fully revised engineering. The main stage valve and the pressure chambers for the rebound and compression stage are controlled within a few milliseconds by means of a high-precision control valve that is continuously adjustable using magnetic force. This enables precise adjustment of the damping force at any time. In addition, the Porsche chassis specialists have developed a separate software control system for the new damper technology, which perfectly matches the damper function to their application in the new 911.

A PASM sports chassis lowered by ten millimetres is also available. The entire setup is designed specifically for enhanced driving dynamics and enables both greater agility on curves and more stability on high-speed stretches.

Wet mode: the world’s first wetness detection system – fitted as standard

The new 911 is the first in the world to feature an innovative system for detecting significant wetness on the road, including the Wet driving mode that can be manually selected at any time. This was specially developed to support drivers in wet conditions. The system uses acoustic sensors in the front wheel housings to recognise sprayed-up splash water, and in this way can detect wetness on the road. This makes it fundamentally different from windscreen wiper rain sensors, which only react optically to water droplets on the windscreen, independently of the road conditions. The response behaviour of the PSM and PTM systems is preconditioned if a road is recognised as wet. In very wet conditions, the system informs the driver in a second step and recommends manually switching to Wet mode.

The corresponding function can either be activated in the new button bar above the centre
console or is integrated in the mode switch with the optional Sport Chrono Package. If the driver activates Wet mode, the Porsche Stability Management (PSM), Porsche Traction Management (PTM), aerodynamics, optional Porsche Torque Vectoring (PTV) Plus, and drive responsiveness are adapted to the conditions in such a way as to guarantee the best possible driving stability. From 90 km/h, the rear spoiler is adjusted to maximum downforce, the cooling air flaps open, the accelerator pedal characteristic is flatter, and PSM Off or Sport mode can no longer be activated.

**New brake system setup with optimised brake response**

The new wheel sizes with further-developed tyres led to a completely new chassis setup. This resulted in improvements in wet grip and dry handling as well as in rolling resistance. The spring and anti-roll bar rates are higher and the brake system operates more precisely. Because the new rear wheels can transmit a higher braking force, the diameter of the rear brake discs has been increased from 330 millimetres to 350 millimetres. There is a more immediate brake response, and the driver can also feel a very precise pressure point because of the firm connection.

The race track-proven Porsche Ceramic Composite Brake (PCCB) is still optionally available for all 911 models. The ceramic brake offers low weight and practically no fading.

**More direct steering ratio for greater agility**

In order to further increase the agility and dynamic turn-in behaviour of the new 911, the steering ratio is around 11% more direct on the standard sports cars and approximately 6% more direct on vehicles with optional rear-axle steering. The 911 is even more agile as a result and provides even greater driving pleasure on winding roads.

The comfort-oriented Power Steering Plus is optionally available. At low speeds, this steering operates with adapted steering assistance, enabling particularly easy manoeuvring and parking.

**Rear-axle steering plus lightweight battery**

The rear-axle steering was further adapted for the new 911. Depending on driving speed, it directs the rear wheels to move up to two degrees either in the same direction as the steering angle on the front axle, or in the opposite direction. This makes the 911 even more agile when cornering, and its smaller turning circle makes it easier to manoeuvre in urban traffic. Higher speeds increase driving stability, when changing lanes for example. The rear-axle steering is also linked to use of a new lithium iron phosphate battery.

The service life of the lithium iron phosphate battery is 2.5 times that of a conventional lead-acid battery, but at 12.7 kilograms, it weighs less than half as much. The optional Porsche Dynamic Chassis Control (PDCC) is also available with rear-axle steering option. This system features active anti-roll bars and practically eliminates body roll when cornering.

**Lift system for the front axle**

The optional electro-hydraulic lift system allows the front axle to be raised by around 40 millimetres. Thanks to the increased approach angle and ground clearance, at the front axle, the system makes it easier to drive into garages and multi-storey car parks, for example.