

The chassis of the Porsche 911

The 911 represents the best driving dynamics of its class. These come from decades of chassis development work that combines sporty precision with excellent comfort.

The chassis of the Porsche 911 now represents extremes of sportiness and comfort that are unrivalled by any other sports car in its class. This is the product of continual development that took its first major step in 1988. Externally, the main difference between the 964 generation and its predecessor of 15 years is the aerodynamic bumper and the electric rear spoiler. However, when it comes to technical aspects, the two models are almost incomparable. The new model not only offers sporty characteristics, but also impressive comfort. This is due to a totally new chassis featuring coil springs instead of the outdated torsion bar suspension. A harmonious driving feel is provided at the front axle by an optimised MacPherson strut with power steering as standard. The track-correcting semi-trailing arm rear axle improved driving stability, both for straight running and for changes in direction and load.

When developing the 993 generation, which made its debut in 1993, the engineers working on the chassis had their next opportunity for change. A modified exhaust system meant that there was no need for the cross tube under the engine, making space for a subframe to support a multi-link rear suspension system. This axle – which soon became known as the ‘Stängelesachse’ (‘stem axle’) by the Porsche engineers – was the first to make it possible to control all the movements of the rear wheels and enabled targeted use of passive rear-axle steering. The new chassis built according to the LSA principle (light, stable, agile) finally took all the pitfalls out of the rear-engine 911 models.

In 2004, the first active Porsche chassis in the 911 Carrera S from the new 997 generation further improved the combination of sportiness and comfort. Porsche Active Suspension Management (PASM) allowed the driver to choose between the two basic settings and continuously adapted the damping force of the shock absorbers. The next big leap forwards followed in 2012 with Porsche Dynamic Chassis Control (PDCC). The variable stabiliser system resolved the conflict between the dual aims of extreme sportiness with minimal rolling on the one hand, and on the other, a high level of comfort from largely decoupling the stabiliser. Porsche introduced rear-axle steering the year after with the 911 Turbo, giving the sports car even greater agility on corners and improved stability for lane changes at high speeds. Plus, there was one important aspect for day-to-day driving: the models with rear-axle steering achieved the smallest turning circle among all competitors at just 10.6 metres.