

Porsche and the turbo drive

Turbo is a byword for Porsche. Turbocharged engines have been in the DNA of the brand since the 1970s, and never more so than today.

In 1971, under the leadership of Hans Mezger, the engineers from the motorsport division at the new Porsche development centre in Weissach performed a series of test runs with the twelve-cylinder engine of the Porsche 917/10. The engine was finally able to deliver sufficient power in order to take on its large-volume V8 rivals in the North American CanAm racing series. It produced 850 horsepower with the help of two turbochargers, becoming the first Porsche racing car to deploy turbo technology. By the following year, it featured an increased cubic capacity of 5 litres and a phenomenal 1,000 horsepower – and the 917/10 won the CanAm title.

The next breakthrough occurred a mere two years later, when the 911 Turbo type 930 was ready to enter production. Driven by the exhaust stream, the turbine of the turbocharger continuously forced air into the combustion chambers of the three-litre, six-cylinder boxer engine. Its 260 horsepower made the 911 Turbo the fastest production car in Germany – and created a legend. From now on, turbo was a byword for Porsche.

The engine developers in Weissach gradually refined the technology, introducing a charge-air cooler in 1977 to ensure even greater efficiency. The Porsche engineers did not rest on their laurels: with innovations such as bi-turbocharging and variable turbine geometry (VTG), they remained pioneers in the field of turbo technology. The power yield rose to a level of 580 horsepower in the 911 Turbo S model from the 991 series, and the 911 GT2 RS even managed 700 horsepower with a cubic capacity of 3.8 litres. As of 2015, turbochargers are included in all 911 models except for the GT3 and GT3 RS. Turbo technology has also become an essential component in the 718 Boxster/Cayman, Cayenne, Macan and Panamera model series.

From the very start, the magic formula has been to generate substantial power with a relatively small cubic capacity while ensuring the highest possible efficiency. Porsche turbo engines are not only ideal for delivering exceptionally high power coupled with an optimum torque curve, they also excel in terms of their low consumption and emission levels. In its pursuit of maximum efficiency, Porsche has even succeeded in reducing the cubic capacity without sacrificing power.