

‘Porsche Heritage Moments’ film series looks back on 50 years of turbocharging

17/12/2024 More than five decades ago, Porsche tested the exhaust turbocharger in motorsport. Shortly afterwards, the turbocharger was introduced into series production. Seventeen of the 19 overall Porsche victories at Le Mans were won with turbocharged engines. In 2024, the company celebrated ‘50 years of Porsche Turbo’ in series production and dedicated four episodes of the ‘Porsche Heritage Moments’ series to this topic.

Atlanta. In the early 1970s, Porsche took the leap into turbo technology. First in motorsport, then in series production. Porsche took global victories with this revolutionary technology, and 17 of the 19 overall victories at Le Mans were achieved with turbo engines. Transferring concepts that have been successfully tested in motorsport to series production is a tradition at Porsche. On October 3, 1974, Porsche presented a series production version of the 911 Turbo at the Paris Motor Show. Fifty years and eight 911 Turbo generations later, the sports car manufacturer is publishing a four-part series of ‘Porsche Heritage Moments’ to the Porsche YouTube channel in celebration of the anniversary.

Timo Bernhard, Le Mans winner and long-distance world champion, guides viewers through the episodes, shows off selected Porsche sports cars and invites guests to share stories. For instance, viewers can listen to stories from: Thomas Krickelberg, Project Manager Operating Excellence Series 911/718, Norbert Singer, former racing engineer, Frank Jung, Head of Corporate Archives, Hermann Burst, former Head of Bodywork Testing and Walter Röhrl, two-time World Rally Champion and Porsche brand ambassador.

Episode 1: 'Turbo in motorsport – the basis for the first 911 Turbo'

Timo Bernhard hosts a very special guest for the first episode of 'Porsche Heritage Moments': Norbert Singer. A meeting between Bernhard and the former racing engineer always feels like a journey into the past. The pair start by looking back to the summer of 1970 with the victory at the 24 Hours of Le Mans: the first for Porsche. Shortly thereafter, the company became more involved in CanAm and used an engine with an exhaust turbocharger there. The decision to eschew a 16-cylinder naturally aspirated engine and opt for a 12-cylinder turbo engine was quick and easy, as the latter can mobilize a 4.5-liter turbo engine up to 625 kW (850 PS) at the drop of a hat.

"To put it simply, we increased the boost pressure and gained more power potential. In the early 1970s, the turbo was the most promising way to the future in motorsport," explains Singer, who was involved in 16 out of a total of 19 Porsche overall victories at Le Mans.

Together with Bernhard, the former racing engineer talks about the special features of the Porsche 917/30, which was built in 1972 and served as a test car for CanAm. The enhanced turbo engine delivers 735 kW (1,000 PS) from 5.0 liters of displacement. Singer also reveals some of the special features of the racecar in the episode which is just under one hour long. "To make it easier to control this very agile car, we were able to use 10-, 20- or 30-centimeter spacers to vary the wheelbase," explains Singer. Another model that he and Bernhard then turn to in the episode is the Porsche 911 Carrera RSR Turbo 2.1 from 1974; the first race car with a turbocharger and charge-air cooler at Le Mans.

To round off, the two talk about the Porsche 936 Spyder, developed for the World Sportscar Championship. In 1976, Porsche achieved the first overall victory of a turbo engine at the 24 Hours of Le Mans in the two-seater and won the World Sportscar Championship in the same year. One year later, Porsche returned to Le Mans with a 936 Spyder and bi-turbo technology – and brought home the fourth overall victory to Zuffenhausen. Bernhard and Singer have a Porsche 936/78 Spyder to illustrate their points. The 700-kg race car has a 2.1-liter engine with turbocharger and charge-air cooler.

Episode 2: 'The start of series production – the result of a tried-and-tested concept'

Bernhard meets another member of the original turbo team for the second episode of 'Porsche Heritage

Moments': Hermann Burst. In 1969, the now 84-year-old began working under Peter Falk as an aerodynamics engineer in the racing department. He later worked as the Head of Bodywork Testing. Working together with his team in the early 1970s, he focused on reducing aerodynamic lift in the 911. The result was the rear spoiler of the 911 Carrera RS 2.7, which quickly earned the nickname 'ducktail'. After this, Burst continued to work on shapes that matched the basic body of a 911, that blended in harmoniously yet were immediately recognizable as a new evolutionary stage of an existing 911 body. In 1974, Porsche presented the 911 Carrera RS 3.0. At the rear, it carried their new innovation the 'ducktail', a rear spoiler, later referred to as the 'whale tail'.

Bernhard and Burst discuss the beginnings of the turbo in series production in the approximately hour-long episode. To do this, they take a closer look at the 911 Turbo 'no. 1' and 911 Turbo 3.0 Coupé models.

The first 911 Turbo was a present to Louise Piëch on her 70th birthday. On August 29, 1974, Ferry Porsche's sister was gifted the one-off car, which had a narrow body and a 2.7-liter engine. He approved the green coupé from 1976 himself. "Our goal in the 911 was always to keep rear axle lift low. We achieved this through the various spoiler configurations that have been created over many generations. This meant that the original idea of the 911 body shape, which is timeless, can still be upheld to this day," summarized Burst. When asked about his favorite 911 Turbo model, he answered: "For me, the 964-generation 911 Turbo is the culmination of all the technical objectives we have pursued so far over two decades. Galvanized bodywork, automatic heating and climate control, aerodynamics – from a purely technical perspective, it's my favorite."

Burst then goes on to talk about the 'controlled explosion' also referring to the 50-year-old advertising slogan for the Turbo: "Exclusive. Explosive. Expensive." The Turbo is the highest possible increase in performance according to Burst. "I like the explosiveness that is so characteristic of the early Turbo models. I was always able to handle it well," says Burst, laughing and adding a few anecdotes, which you can watch in the episode.

Episode 3: 'The Turbo in new spheres – water cooling'

In the third part of 'Porsche Heritage Moments' on the '50 Years of Porsche Turbo' anniversary, Timo Bernhard meets two men in whose lives the 911 has always played a major role: Walter Röhrl and Thomas Krickelberg. The latter started in the Racing Engine Development and Engine Research department in 1990 at Porsche AG and is now working as the Project Manager Operating Excellence for the 911/718 series. Together with the two-time World Rally Champion and Porsche brand ambassador, the trio discuss the topic of 'Turbo in new spheres' – specifically the issue of water cooling, illustrated by the 996 generation Porsche 911 Turbo S, which Porsche presented 20 years ago. The 996 generation Turbo is the first 911 to be powered by a water-cooled, four-valve, six-cylinder boxer engine. Another new feature: For the first time, it was equipped with a five-speed Triptonic S transmission as an option. "One of the secrets behind the success of the 911 series is the consistent technical evolution that constantly brings the 911 Turbo closer to the ideal sports car from generation

to generation," says Krickelberg. Röhrl bought his first Turbo more than 45 years ago. "Driving a Turbo is and has always been the ultimate dream," said Röhrl. "I maintain that to this day. When I hear 'Turbo', I immediately think of dynamics, precision and release of power."

Episode 4: 'Turbo – Beyond Performance'

In the fourth and final part of 'Porsche Heritage Moments', the host talks to Thomas Krickelberg and Frank Jung about what 'Beyond Performance' means in connection with the 50th anniversary of the Turbo. The conversation goes into detail about iconic design, Porsche DNA, dynamics and day-to-day usability. In this episode, they look at a 997-generation Porsche 911 GT2 and the 911 Turbo 50-year anniversary model. The 911 GT2 is an example of going beyond the ordinary and mastering challenges. In addition to bi-turbocharging, it also featured Variable Turbine Geometry, VTG for short. Krickelberg, who was one of those responsible for VTG, goes a step further back in time: "The 997 generation 911 Turbo was a milestone in the Porsche's history with the turbo. When it was launched in 2006, it was the first series production car with a gasoline engine to feature VTG. With this technology, the 'turbo hole' was a thing of the past." The 997 generation 911 GT2 is rear-wheel-drive and is roughly 319 lbs. lighter than the 911 Turbo. With 530 hp, the sports car produced in 2007 is the most powerful 911 of its time.

Bernhard, Jung and Krickelberg take a leap into the present with the 911 Turbo 50-year anniversary model. The standard side vinyl graphics are a nod to the historic livery of the Porsche 911 RSR Turbo presented at the Frankfurt Motor Show in 1973, as a study of the 911 Turbo. At the same time, it uses a number of details to showcase the grey-tone Turbonite, which is now reserved exclusively for the Turbo models, including the model logo, the fuel cap fastener and the Porsche crest. The Turbonite color is also used to create contrasting highlights inside the car. An aluminum anniversary badge is affixed above the glove compartment, which includes the 'turbo 50' logo and the limited edition number of the sports car. "In my opinion, the most distinctive feature in the interior of the limited-edition model is the plaid pattern. When it was launched in 1974, there were three different tartan designs that were reserved exclusively for the Turbo until 1976," says Jung about the iconic pattern and the tribute to the early Porsche 911 Turbo. Finally, the Head of Corporate Archives shares what 'Turbo' means to him: "When you look at the history of Porsche, you have to look at 'Turbo'. A Turbo was and always will be the pinnacle of the series. 'Turbo' has long since become a brand concept rather than just a technology."

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Consumption data

911 Turbo S (Predecessor model)

911 Turbo (Predecessor model)

*Further information on the official fuel consumption and the official specific CO_2 emissions of new passenger cars can be found in the "Leitfaden über den Kraftstoffverbrauch, die CO_2-Emissionen und den Stromverbrauch neuer Personenkraftwagen" (Fuel Consumption, CO_2Emissions and Electricity Consumption Guide for New Passenger Cars), which is available free of charge at all sales outlets and from DAT (Deutsche Automobil Treuhand GmbH, Helmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, www.dat.de).

Image Sublines

Path: media/Images/img_1.jpg
Title: Timo Bernhard, Walter Röhrl, Thomas Krickelberg (l-r), 911 Turbo S (996), 2024, Porsche AG
Subline: Timo Bernhard, Walter Röhrl and Thomas Krickelberg (l-r)

Path: media/Images/img_2.jpg
Title: Norbert Singer, Timo Bernhard, Porsche Brand Ambassador, Porsche 911 Carrera RSR Turbo 2.1, 2024, Porsche AG
Subline: Norbert Singer explains the 911 Carrera RSR Turbo 2.1

Path: media/Images/img_3.jpg
Title: Hermann Burst, Timo Bernhard, Porsche Brand Ambassador, 911 Turbo 'No. 1', 911 Turbo 3.0 (930), 2024, Porsche AG
Subline: Hermann Burst and Timo Bernhard

Path: media/Images/img_4.jpg
Title: Hermann Burst, 2024, Porsche AG
Subline: Hermann Burst presents private photos and documents in episode 2.

Path: media/Images/img_5.jpg
Title: Thomas Krickelberg, Timo Bernhard, Porsche Brand Ambassador, 911 Turbo 50 Years, 911 GT2 (997), 2024, Porsche AG
Subline: Thomas Krickelberg answers Timo Bernhard's questions about the development of the Porsche Turbo in two episodes.

Path: media/Images/img_6.jpg
Title: Thomas Krickelberg, Timo Bernhard, Porsche-Markenbotschafter, Frank Jung (l-r), Porsche 911 Turbo 50 Years, Porsche 911 GT2 (997), Porsche Museum, 2024, Porsche AG
Subline: Thomas Krickelberg, Timo Bernhard and Frank Jung (l-r)

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