Porsche P1 – the first electric Porsche

Published: February 7, 2014 By: Virtual Motorpix
Online version: https://www.virtualmotorpixblog.com/porsche-p1-first-electric-porsche/

Porsche P1 launch at the Porsche Museum in Stuttgart on 27 January 2014

Most motoring enthusiasts would claim that Porsche produced its first vehicle in 1948 with the birth of the 356 model that bore the family name as the manufacturer. In one way this would be correct, but Ferdinand Porsche was an automotive designer and engineer long before that. Many might also cite the Lohner-Porsche Mixte which combined his battery-powered wheel-hub drive with a petrol engine as Porsche's first creation (1902), but that would also be four years too late. Porsche's first automobile creation was in fact the Egger-Lohner electric vehicle, C.2 Phaeton model from 1898, also known as the Porsche P1.

Lost from public view for 116 years, the Egger-Lohner electric vehicle was all but forgotten

until it was discovered recently. Parked in a warehouse in 1902 and left untouched, this Porsche electric vehicle is a technological and historical sensation. As part of a private collection, the original and unrestored Egger-Lohner electric vehicle C.2 Phaeton model was known as the ‘P1’ and may at first glance resemble an old horse-drawn carriage, but this vehicle is in fact the world’s very first Porsche, constructed and built by Ferdinand Porsche himself.

Egger-Lohner electric vehicle, C.2 Phaeton model from 1898, the Porsche P1, at launch at the Porsche Museum in Stuttgart on 27 January 2014

So one can imagine the frenzy of excitement at the Porsche Museum when this piece of automotive history was discovered. It was equally incredible to witness and to realise that an electrically powered vehicle existed 116 years ago, and Porsche were quick to point out that their latest 918 Hybrid supercar was also (partly) powered by an electric motor. It was also quite obvious from a brief inspection of the older vehicle that there weren’t many components carried over in the production of the new 918 sports car.

At first sight the Egger-Lohner electric vehicle appears to be little more than a platform on four wheels with a steering wheel up front which could have passed for a ‘modern’ form of steered horse-drawn carriage. However nothing could be further from the truth, as an electric motor was installed transversely between the front wheels and the steered rear wheels. This first vehicle was presented in 1898 at an exhibition for the newly founded ‘Austrian Automobile Club’ but still being far from ready for series production, the concept vehicle was discarded as other test vehicles were built. However, Ferdinand Porsche made sure that he would take credit for the vehicle’s design in a most unusual manner, by engraving the code ‘P1’ (P for Porsche, number 1) onto all of the key components, thus giving the vehicle its unofficial name.

The P1’s ‘octagon’ electric motor sits between the front and back wheels

Ferdinand Porsche used one of his own inventions for the vehicle’s drive, the ‘octagon’ electric motor, which took its name from the eight-sided design of the motor housing. Shock absorbers were used to protect the electric motor, which was suspended so that it oscillated

around the vehicle axle. The highly compact drive, weighing just 130 kg, offered an output of 3 hp at 350 rpm. For short periods, up to 5 hp could be achieved in overloading mode, allowing the vehicle to reach up to 35 km/h. To transfer the power, Ferdinand Porsche used a single-speed differential gear (with a transmission ratio of 1:6.5) which operated via a system of gear rings on internally toothed wheel hubs. The vehicle speed was regulated via a 12-speed controller, which offered six forward gears, two reverse gears and four braking gears.

P1’s front suspension

As the overall range of the vehicle was up to 80 kilometres, or 3-6 operating hours, one can in all honesty question how much progress has been made in the field of electric drive vehicles in 116 years! The 1350-kg vehicle was braked using two different brake systems as alongside a mechanical band brake, the driver could also activate an electrical brake by pressing the steering wheel rim to interrupt the current flow. Another innovation was the Lohner alternating vehicle body with a closed Coupé-style design and an open Phaeton

design, thus allowing the vehicle to be used in both summer and winter.

The P1 was steered via the rear wheels

But this was a competitive market with burgeoning interest from both the public and industry, and the P1 was duly entered into an international motor vehicle exhibition in the German capital of Berlin in September 1899 to demonstrate its reliability. At the time, the competition to produce the best drive systems was fierce, and the exhibition attracted no less than 120 exhibitors. The race covered a distance of 40 km and took the drivers from

Berlin to Zehlendorf and back. The demanding route required great skill as the participants had to tackle challenges such as gradients, an 8.6-km high-speed section and a 7.8-km efficiency test. This first automotive race marked a great victory for Ferdinand Porsche, who took the gold medal with his P1 with three passengers on board. Porsche steered his electric vehicle across the finish line 18 minutes ahead of the next competitor, in an event in which more than half the participants failed to reach the finish line due to technical difficulties.

Amps and Volt meters in the P1 were the speedo and rev counter of the day

The P1 is logically located in the first section of the museum, which serves as the starting point of the Museum's permanent exhibition. The previous opening exhibit, the aluminium body of the Type 64 Berlin-Rome car, now takes its place in the correct chronological order and is featured in the 'Porsche before 1948' section.

Standing in front of the P1 from left to right: Achim Stejskal (Director Museum and Historic Public Relations), Dr. Frank-Steffen Walliser (Head of Project 918) and Dieter Landenberger (Manager Historical Archives).

While the Museum weren't offering journalists a test drive in the P1, it made a fitting and impressive display for visitors as they were transported by escalator and arrived on the first floor. A company that showed such great vision, foresight and reliability in its products more than a century ago is likely to be around for some time.

Question is, I wonder if the 918 Spyder will weather quite as well over the next century as the P1 has done over these first hundred years.

Written by Glen Smale

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