



Porsche 901

Reduction is the watchword in the Ur-form of the 911; the blue from the 356 underscores the car's lines



The One that Became a 911

The 901 chapter in the annals of Porsche history is a tale marked by travails and mysteries. Yet, in the end, when the story culminates in the 911, it's clear: it was all worth it.



By Jürgen Lewandowski
Photos by René Staud

The 901 was such a triumph, so unmistakably a Porsche, that it was instantly accepted and even loved; no one pined for its supposedly superior predecessor, the 356. And precisely because of its technical and aesthetic perfection, the genesis of this legend, which has defined the sports-car genre for half a century, has never been called into question. It simply would not have occurred to anyone that the irresistible form and technology might have been the subject of spirited wrangling at Porsche.

Indeed, as early as the mid-1950s, suggestions that the 356 was slowly becoming outdated—as its four-cylinder engine pushed the boundaries of its developmental potential in engine displacement—were already beginning to make the rounds. The time had come to start thinking about a successor. In 1951, the sales department had already called for a four-seater 356 that would offer more interior and luggage space. In response, Ferry Porsche's right-hand man Erwin Komenda built the type 530, extending the wheelbase from 210 to 240 centimeters.

But the result was unconvincing—both aesthetically and in terms of performance. Only one was ever made.

By the end of 1957, it was finally time to address the subject of the 356's successor in earnest. A task that—in classic Porsche style—was assigned the designation “Technical Project 7,” or T7 for short. Ferry Porsche once again laid out his vision for the T7, or type 695 as it was also known internally: 356 B + xx centimeters. Nonetheless, discussion continued about whether the four-seater concept was truly out of the running. The

new car was to be a typical Porsche with two seats up front and slightly larger rear seats as well as the characteristic Porsche hatchback.

Fortuitously, a handwritten list with proposals for the type 695 has been found in the archive and sheds more light on the process. These pages, which presumably were penned in 1957 or 1958, specify guidelines for the design and technology. The sales department laid out its demands: “No completely new car. Sporty character. Significantly more space for two. Easier to get in. Bet-

ter rear view.” The technicians were more practically minded: “Better visibility. Larger and vertically positioned headlights. Better bumpers.” And Ferry Porsche stipulated: “Two-seater with two comfortable foldaway seats.” And with that, the concept for the type 695 was already rather precisely defined.

Creator Ferdinand Alexander Porsche and his tiny team began the studies with sketches based on a 30-centimeter-longer 356 chassis, which was actually too long for a 2+2. Why Porsche renamed the type 695—which as the

first T7 prototype was never drivable—the type 754 in its drivable version remains one of the mysteries in the history of its development process.

Amazingly, the first Plasticine scale model (1:7.5) of the prototype was presented on October 9, 1959. Because the model was well received internally, the team completed a 1:1 scale model in just three months. The front section was such a hit that it was adopted with only minor refinements in the final version of the 901. The rear section, by contrast, differed considerably. To give

PORSCHE 901 2.0 (1964)
Engine: Six-cylinder boxer
Displacement: 1,991 cc
Power: 96 kW (130 hp) at 6,100 rpm
Maximum torque: 174 Nm at 4,200 rpm
0–100 km/h: 9.1 sec.
Top track speed: 210 km/h (130 mph)
Fuel consumption: 9.6 l/100 km

Porsche 901

The 901 is a 911: There was never any doubt that the car would have an air-cooled rear engine





Porsche 901

Functional elegance
with five round
instruments: A total
of 82 type 901 Porsches
were delivered

back-seat passengers more headroom, F. A. Porsche gave the hatchback a bit of a bend: "It was a trade-off between headroom and aesthetics, which later ceased to be an issue," he explained in hindsight.

While the designers were searching for the ideal form, the engineers were busy with the development of a new engine, for Ferry Porsche had made it perfectly clear that the four-cylinder had run its course: "We couldn't get over two liters of displacement, which reduced us to competing for class victories in the motorsport arena. And on the autobahn, the big sedans had meanwhile caught up to our speeds. We needed a new engine which we could take to the next level in terms of development." The engine construction process began with the design—and it was clear from the start that the result would naturally be an air-cooled, rear-mounted engine.



After the first go-round with the engine type 745 in 1962, the 821 engine was completed in early 1963. The crucial advancement in the transition engine was in the repositioning of the camshafts, which had previously been located on the underside, to the two cylinder heads. The developers were convinced that only overhead camshafts could deliver the reliability and sportiness that Ferry Porsche expected. "There was still much

to be done when I joined in January 1963,” remembers Hans Mezger, then in the engine testing department. The camshafts were moved to above the cylinder heads and the crankshaft now rode on eight bearings to improve oscillation at high engine speeds. The reason for this painstaking measure lay in the insights gained in the development of the eight-cylinder Formula One engine.

At that point, the type 821 still had a wet-sump lubrication system. But then, at the bidding of Ferdinand Piëch, the engine was switched to a dry-sump lubrication system, which would ensure an adequate supply of oil to all parts of the engine even with the extreme centrifugal forces that occur in motor racing.

Piëch describes the situation in his *Auto.Biographie* (the book, in German, is out of print, but used copies are available from online bookstores): “I started out as a technician in engine testing on April 1, 1963. There were about a dozen of us, including Hans Mezger, who would later gain fame as an engine designer and was at that time second-in-charge in our department. The plan was to test the limits of the 901 engine right away, test it under racing conditions in the 904, and then run it down to more practical levels for the series. The body of the 904 was ready, but the 901 six-cylinder was not, so it wasn’t possible to unite the two.

“And that’s where my job began: despite missing the 904 deadline, there were still plans to develop the 901 engine as a racing engine in parallel to the series development. The goal was 180 horsepower, as compared to the usual 130. Among the specifications set by my uncle Ferry was a Solex carburetor. It didn’t have a float but rather an overflow level, so depending on how hard you took a corner, it could sputter and come to a halt.

“As a member of the family, I could get away with more than the other technicians, so I ordered some triple Weber downdraft carburetors. With these you could take left or right turns without the engine sputtering, and before long I had a robust 180 hp racing engine before they reached their 130 hp in the series development. Here again, the wrong carburetor remained a problem, so shortly after going into series production the switch was made to a triple Weber downdraft carburetor as well. I had already established the interchangeability of the two systems.”

Of the development process for the design that would write Porsche automotive history, Ferdinand Alexander Porsche wrote: “Large windows and a low belt line were specifications that not only conformed to changing

tastes, but also improved visibility. More length and less width meant new overall proportions—indeed, superior ones, for the type 356 was a little too wide for its length. As much interior and luggage space as possible had to be gained, and all that while maintaining the wheelbase of 2.2 meters, which Ferry Porsche had decided once and for all.”

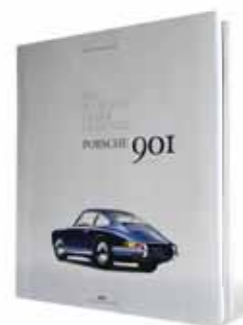
●●●

The date on which the car was to be presented to the public loomed before the development team: Thursday, September 12, 1963. This was the day of the official opening of the 41st International Motor Show (IAA) in Frankfurt. The first 901 tested its mettle on the new test track in Weissach on November 9, 1962. Head of development Helmuth Bott wrote: “The car handles well and has fully preserved the character of a

sports car.” Nevertheless, it would be well into the autumn of 1964—a year after its successful world premiere in Frankfurt—when Porsche rid the new sports car of its final teething problems. And the redesign of the front axle ordered by Ferdinand Piëch was finally completed in 1966.

Employees who were involved in the process back then can tell tales of woe and worries that accompanied the evolution of the 901. Problems with the design and the resulting dramatic postponement of production pushed the Porsche company to the brink of bankruptcy. The replacement of the “zero” with another “one” in the sales designation in 1964, for reasons of trademark protection and to mollify Peugeot, may also have contributed to the success of the new sports car from Porsche.

Thus did the 901 become a 911. *The 911.* ●



Porsche 901
The Roots of a Legend

A book on the creation story of the legendary 911 which describes the development of the Ur-model 901, with exclusive photographs.

Jürgen Lewandowski: *Porsche 901, Die Wurzeln einer Legende*. Delius Klasing, Bielefeld. 175 pages, €49.90 (available in German only). www.delius-klasing.de