

75TH ANNIVERSARY

≡ **PORSCHE 356** ≡



GORDON MALTBY

FOREWORD BY GRANT LARSON







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**PAGE 1:** Ferdinand Porsche, left, and his son Ferdinand Anton (Ferry) in 1937. **PAGE 2:** The U.S. was Porsche's largest market in the 356 era, and in 1955 the "Continental" coupe was introduced for America. It is shown here in the capital of America's heartland, Chicago. **THIS PAGE:** The Speedster—that most iconic of Porsche 356s—celebrated 50 years in 2004 at an event in Monterey. A special course was set up through the DelMonte forest to remember the Pebble Beach Road Races where Porsches were introduced to thousands of California sports car fans.



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## FOREWORD BY GRANT LARSON

Growing up in Wisconsin, my father owned a few unusual German cars. Unfortunately, a Porsche was not one of them, but rather the likes of a DKW Junior or an NSU Prinz—which at least had an air-cooled rear engine. A neighbor kid's father had a 356, a gray coupe tucked back in the corner of a dark garage, which gave it an element of mystery. I thought my dad's cars were cool, but this little bathtub-shaped Porsche was something special. Just standing close and looking at it made it even more intriguing.

In getting my first car, the groove at the time was muscle cars. And what I couldn't own, I would draw, which eventually led me down the path of becoming a designer. In my twenties, my taste began to change and became more refined. A Porsche became my new dream car. That admiration also spiked my interest in automotive and design history—finding out how these wonderful shapes came to be.

In studying the design of Porsches, it became clear that the 356 laid the groundwork and the form language for nearly all models that succeeded. But it did not begin with the first Porsche in 1948, nor even the VW Beetle. It goes further back to the beginnings of Porsche as a consultant to other manufacturers. The Porsche engineering firm was established in 1931 at the height of a worldwide financial crisis, their first shot at going totally against the wind. Shortly thereafter several vehicles were developed under the hand of designer Erwin Komenda and his team such as the Wanderer Typ 8 and the Zündapp Typ 12 in 1932, the NSU Typ 32 in 1934, and of course the VW Beetle and the Typ 60K10 car for the Berlin-Rome race. A visual overlap or “morph” of all these vehicles together would later result in the basic form of the 356.

It goes without saying that the 356 paved the path for the 901 as well as all 911s thereafter. We speak today of “brand identity,” and it is this unmistakable appearance over several decades that has survived the test of time. When you look at the details, there is a distinct side window graphic DLO or “daylight opening.” The narrow cabin and wide shoulders, low front bonnet, and round headlamps provided the Porsche identity that would be developed and cultivated with minimal deviation over the years.

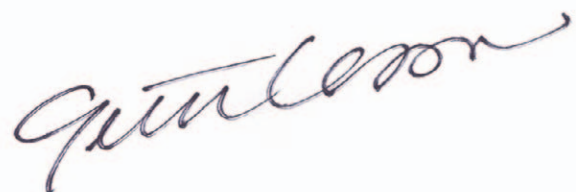
But what is it that makes a car so timeless and so iconic? The answer is quite simple: a proven concept combined with top engineering, wrapped in a beautiful, functional shape. In the 356 the idea of “form follows function” is in full swing. The

2+2 seating configuration with a rear-mounted engine resulted in the fastback roofline. With rear seats easily converted into additional luggage space, the Porsche developed an everyday-use identity. Beginning with the 356, Porsche has not followed the trends of any decade, but instead has relied on instinct and intuition, remaining true to core beliefs.

When I began as a designer for Porsche in 1989, I worked alongside the clay modelers and sculptors who had shaped not only the first 911 but also the later 356s. When you come to work for Porsche, you usually stay for your entire career. This gave me additional insight as to how the company works. Early on, when I was working on prototypes to succeed the air-cooled 993, Ferry Porsche looked at my model and said, “Don't make the front fenders so low; you need them to help you direct where the car is going.” After this project—along with the four-door, front-engine 989—was shelved in 1991, the idea of resurrecting the company with the parts-sharing 996 and 986 Boxster was in the works. My interest in Porsche history eventually led me to apply some of the DNA of the 550 and especially the 718 RSK to the new Boxster.

The success of the company, starting with the 356, can be attributed to the effort, passion, and vision of one man: Ferry Porsche. Developed in the rubble of war-torn Germany with limited materials, and sold for the same price as a Cadillac, the 356 was Porsche's second successful attempt at going against the wind. Now that is a success story.

I personally have three 356s in my garage: my ultimate lifelong-dream car 1956 Speedster; a long-term T1A beehive lightweight coupe project; and my very first Porsche, a 356SC, which has effortlessly taken me from Stuttgart up to England, and down to Gmünd. And back. Its sportiness and usability have really been proven during these trips, not to mention its reliability. Which leads me to wrap it up in one sentence: once you develop a solid concept, there is no reason to deviate from it.



The Auto Union racers designed by Ferdinand Porsche in the mid-1930s were the pinnacle of race car engineering, competing in Grand Prix, land speed contests, and hillclimbs. Driver Hans Stuck was instrumental in the cars' creation and also drove them to hillclimb wins, becoming European Mountain Champion three times. Here his son Hans Joachim Stuck pilots a Typ A on the Klausen Pass in Switzerland, honoring his father and the cars which once dominated the highest echelons of racing. Design elements of these exotic racers would make their way into Porsches twenty years later.





## CHAPTER

# 1

## FERDINAND PORSCHE'S AMAZING HALF CENTURY

Carinthia. The mellifluous sound of the name is perfectly matched by the beauty and charm of this mountainous region of southern Austria. The Eastern Alps extend rocky fingers between forested valleys, where lakes gather spring meltwater and rivers transport it all the way to the Black Sea. One of these rivers, the Malta, begins its journey bounding over waterfalls and through a scenic valley some 45 kilometers from and 1,000 meters above the small town of Gmünd. In the early twentieth century, the river provided water and power for a sawmill just outside the town's center. By 1944, while World War II still raged, Willi Meineke's sawmill and lumberyard was appropriated for another, more important use. Although Gmünd could be considered an Austrian backwater, it was specifically this "middle of nowhere" attribute that made it extremely valuable when events some 500 kilometers to the northwest called for a reckoning.

In contrast to the bucolic scenes around the Austrian Malta valley, in Germany's cities Royal Air Force bombers conducted night raids and the U.S. Army 8th Air Force bombed during the day. Stuttgart was a major rail hub and home to Daimler-Benz, a Bosch plant, and the SKF bearing factory, among



**Gmünd, shown in an old postcard, was a sleepy Austrian village far from the war's turmoil.**

many others. In the Stuttgart suburb of Zuffenhausen was the recently built headquarters of Dr. Ing. h.c. F. Porsche KG. The company had been formed by Ferdinand Porsche in 1931, and by 1944 it had almost six hundred employees, many working in the large three-story brick building on Schwieberdinger Strasse. There, designers, engineers, and draftsmen created plans for numerous projects, most commissioned and underwritten by the German military. In the lower-level workshops the plans were brought to life as prototypes, then tested and developed.

Porsche's work on everything from boat motors to rockets and tanks had not escaped the notice of Allied intelligence. Zuffenhausen was north of the city center and escaped most of the huge attacks, but in a stroke of bad luck, a single small bomb made its way through a wall and into the cellar of Porsche's building, destroying a complete archive of company plans and records.

That event finalized a decision that had been under consideration for months: to move the staff and business operations to a safe haven away from the bombing. Porsche tasked his thirty-four-year-old son, Ferdinand Anton Ernst (known as Ferry), to find a suitable location and organize the move. The family already owned an expansive lakefront property in Austria, and an adjacent flying center there would allow space for equipment storage and some development work. Another location was needed, however, to provide both engineering space and housing for the staff, along with a shop area for mechanical work. Ferry Porsche was familiar with the small town of Gmünd, and although the military authorities in Stuttgart had ordered the company to move to Czechoslovakia, he lobbied instead for his native Austria. Much of the Stuttgart contingent moved there during 1944, bringing machine tools, drawing boards, and their families, in some cases. The existing lumberyard buildings were crude and cramped, and more had to be built to accommodate the group, but work continued on designs for military projects even though Germany's prospects for victory were dimming by the day.



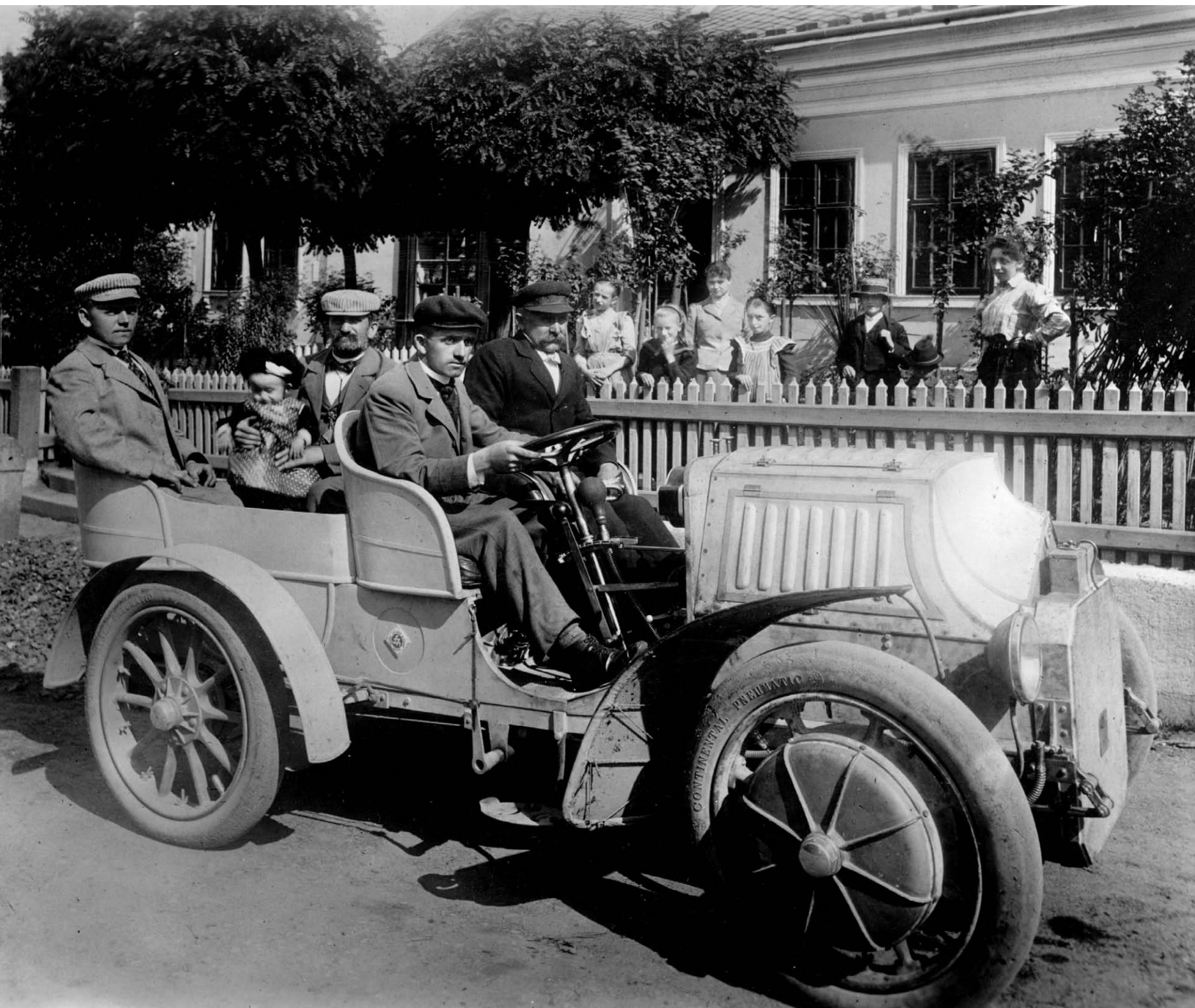
**Workers test the first Porsche, built in the crude sheds at Willi Meineke's lumberyard in 1948.**

When in May 1945 the victorious Allies reached the rural valleys of southern Austria, they found mostly farmers and cows. They had not expected to see the draftsmen working in rough sheds outside the town of Gmünd, who were no mere pencil pushers but rather talented engineers who had created some of the most sophisticated mechanical devices the world had yet seen. With the new peace, however, weaponry design gave way to more immediate needs, and the company—whose list of successful projects now numbered well over three hundred and whose reputation was known around the world—concentrated on plebian items such as water pumps and winches.

Porsche's sabbatical in the Malta valley would continue for several years, and while sequestered in Gmünd, Ferry Porsche guided his staff on a mission to do something the company had never done during its many years of designing automobiles for others: build a car that could be called a Porsche. During the winter of 1947 drawings were made for a midengined two-seater, a sporting, aerodynamic runabout that was simple and yet modern. Using components from the Volkswagen "people's car" the company had created before the war, by June 1948 the 356th design project of the Porsche firm drove out along the mountain roads near Gmünd wearing seven distinct letters on its nose: P-O-R-S-C-H-E. The first Porsche had been born in Carinthia.

## IN THE BEGINNING

The story of the Porsche company begins before the turn of the twentieth century, a full fifty years before Porsche 356 #001 was conceived. Ferdinand Porsche was born in 1875 in Bohemia, now Czechia. Maffersdorf (now part of the city of Liberec) was a prosperous burg with a textile and carpet mills, a spa, a brewery, and, at Tandvalska Street 38, the home and workshop of tinsmith Anton Porsche. Anton's second son, Ferdinand, was expected to follow in the family plumbing business and train as



Young Ferdinand was expected to follow in his father's plumber footsteps, but he emphatically chose another path. In 1902 he was at the wheel of a Lohner-Porsche gasoline and electric hybrid vehicle in front of his family's home in Maffersdorf. His father, Anton Porsche, and his brother are seated at the rear.

a metalworker to someday lead the company. When electricity came to the local textile mill, however, the teenager became fascinated with the new technology, spending much time there as the equipment was installed. It was a turning point from which he would never look back.

Experimenting at home with batteries caused his father to angrily denounce Ferdinand's foolish waste of time, but his mother proved the cooler head and convinced her husband to allow their son to study the new technology—but only after he had finished his daily work. He commuted to nearby Reichenberg for evening classes, an exhausting but exciting experience for the young man. He later installed electric lighting in the family home. Although Ferdinand's father could not recognize his potential, others did: the owners of the textile mill saw an inquiring mind and encouraged his parents to allow him to go to Vienna at eighteen. They were instrumental in finding a position for him there at Vereinigte Elektrizitäts-AG Béla Egger, a leading producer of electrical lighting and power transmission products.

At Béla Egger's firm, Ferdinand was assigned to the test department, where he showed promise. Starting from the lowest rung of the ladder, he became head of the test department by 1898, having learned from everything going on around him, plus part-time study at Vienna's Technical University. VE-AG at the time was working with Ludwig Lohner, the owner of a long-established carriage-making business in the city. Lohner correctly saw a trend toward motorized vehicles and made an agreement to develop an electric carriage with VE-AG. He came to appreciate Porsche's ability to sort out the issues that continually cropped up, and in 1899 he hired the twenty-four-year-old to lead a new venture building Lohner electric vehicles in another section of Vienna. Using battery power, Porsche's design for a Lohner "electric phaeton" used a steerable wheel hub that was itself a specially designed electric motor. It was a sensation at the 1900 Paris Exhibition, bringing sales success with Lohner's well-heeled traditional customers and in commercial use as taxis.

Although electricity was at the heart of Porsche's interests, automobiles and competition became very important. A race near Berlin in September 1899 was the first example of a credo that would much later be synonymous with his own company's sports cars: "Racing improves the breed." With three passengers aboard, he drove the first VE-AG/Lohner electric car over 40 kilometers, up and down hills. He won the race by 18 minutes; only half the field even finished.

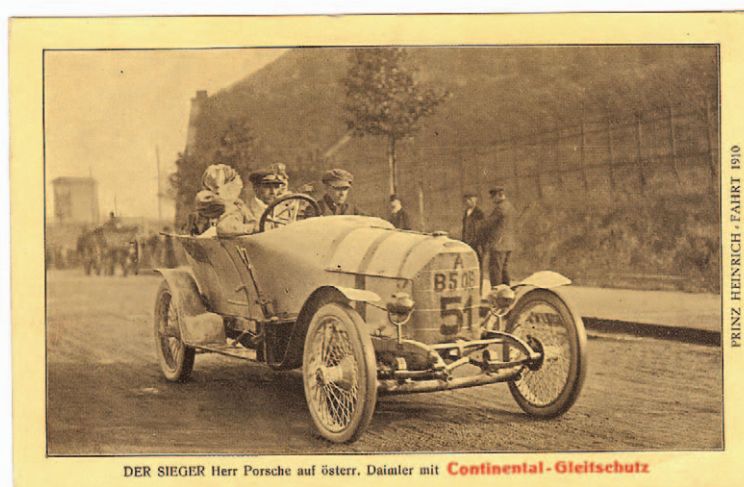
As new chief engineer at Lohner, a milestone for Porsche was his Semper Vivus ("Always Alive") hybrid of 1900, whose gas engines drove a generator that could power hub motors or recharge a battery pack. It was a huge, heavy, solidly sprung carriage that took skill to drive but was state-of-the-art. Innovations were coming at a fast and furious rate, and these System Lohner-Porsche vehicles engendered many patents for Lohner and its prolific engineer. Porsche also developed and promoted the gas/electric Mixte carriages, driving one in the Exelberg hillclimb in the Vienna woods to a new record time

and a class win in April 1902. Later that year he was at the wheel of a Mixte-drive Lohner-Porsche beside Archduke Franz Ferdinand, who was leading military maneuvers. Having been drafted into service, Ferdinand Porsche was wearing the uniform of a reserve infantryman. It is ironic that Porsche, who had little interest in politics and was anything but the military type, would in future years be immersed in both worlds. The young man was at the wheel that day in recognition of his designing the automobile they were riding in, and no one knew the machine better. He was peppered with questions from many of the top brass and aristocracy. It was hoped that the military would be inclined to use the Mixte-drive system in their vehicles, as it was already being used for fire equipment and buses in Vienna. However, in spite of lengthy bouts of show-and-tell by Porsche with some of the highest-ranking Dual Monarchy military men, no subsequent orders came.

## ENTER MR. MERCEDES

A successful Viennese insurance agent and stock trader named Emil Jellinek was the Austrian counsel general in Nice, on the French Riviera. His enthusiasm for automobiles knew no bounds, and he was influential enough to have Stuttgart's Daimler-Motoren create a "car of the future" for him, named after his daughter Mercedes. Selling and racing it against Porsche's Lohner Mixte cars, he was impressed by the competition. Soon, however, as gasoline engines steadily improved in power and reliability, the bloom was off the electric-car rose. Lohner began to phase out production of his electric automobiles.

In 1906 Jellinek took over Austro-Daimler in Weiner Neustadt, south of Vienna, and hired the then thirty-one-year-old Porsche as chief engineer to run the operation, a huge responsibility as well as a tremendous opportunity. In his personal life, Porsche and his wife, Alois (née Kaes), had had a



**A period postcard touts the 1910 Prinz-Heinrich-Fahrt winner—on Continental tires. Porsche always took advantage of promotional partnerships.**

daughter, Louise, in 1904. In September 1909, while Ferdinand was driving in a race, a son would be born at home. The child was named after his father with the middle name Anton, after his grandfather. He would be known through his life as Ferry.

By 1908 Jellinek was finished with being a car builder, retiring to his diplomatic and social circles. Porsche and his Austro-Daimler business partner, Eduard Fischer, plodded ahead, determined to prove their products in the crucible of racing. In 1910 Prinz Heinrich, brother of Kaiser Wilhelm II and admiral of the German High Seas Fleet, staged a trial for automobiles, a multiday long-distance run for production cars. Porsche designed a streamlined body that he called a “tulip” and installed a four-cylinder overhead-camshaft engine of 5.7 liters built specifically for the race. It may be considered the first homologated Porsche ever. Ten examples were built and entered, earning a one-two-three finish with the winner driven



**Crew members pose with Porsche-designed WWI artillery tractors. Porsche's children Louise and Ferry stand atop the fenders at right.**



**An early airplane engine undergoes testing as Ferdinand Porsche (dark suit and binoculars) poses with his compatriots.**



**Count Alexander “Sascha” Kolowrat-Krakowsky, left, poses with one of the “Sascha” racers he entered in the 1922 Targa Florio. Designer Ferdinand Porsche and son Ferry are on the right.**

by Ferdinand himself with Aloisia as a passenger. Accolades came from all quarters, providing excellent publicity for Austro-Daimler.

Located close to military installations, Austro-Daimler was well situated to benefit from army contracts. While automobile design continued, Porsche also turned his attention to the new flying machines. From 1908 his engines were fitted to airframes and tested extensively, with good results. In 1911 a six-cylinder of 13.9 liters began a series of engines that were powerful enough to set altitude records by 1913. Some of the craft these engines powered were made by Lohner, who had shifted from autos to aeros. By the time the First World War was well underway, Austro-Daimler's six was something of the gold standard of inline airplane engines. Reliable and sturdy, it was used in observation, bombing, and fighter planes; one of the most famous was the German Albatros D.III flown by Manfred von Richthofen, the Red Baron. For a period, Porsche's airplane engines helped the

Central Powers dominate the skies. Also in use or testing were a 30-liter V-12 for flying boats, a W-9, and even a Mixte-drive airplane engine, all rendered moot by the war's conclusion.

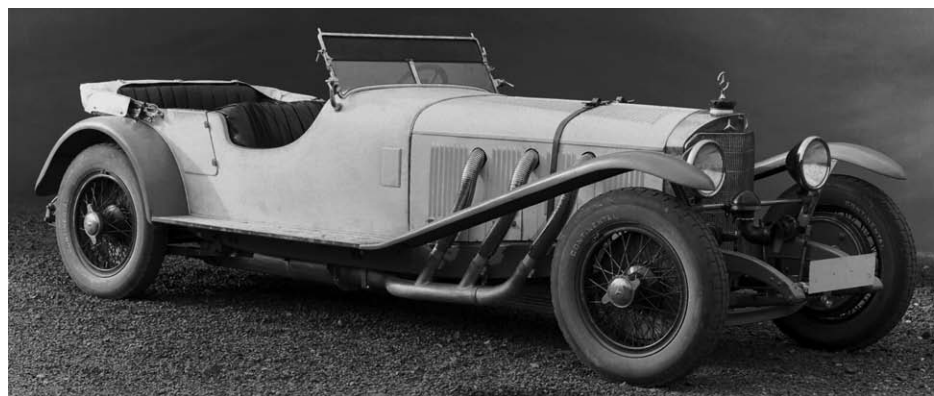
In 1908 the Austro-Hungarian Empire's army had defined its needs to move heavy arms, and Austro-Daimler responded with four-wheel-drive artillery “tugs” to pull large weapons over rough terrain. In 1913 the first “Land Train” went into service. A generator vehicle produced electric current, delivered by cable to motors on alternate trailer cars, powering the main engine's wheels along with trailer unit wheels. Highly maneuverable and powerful, the B Zug, or B Train, was superseded by the C Zug in the last years of the war. Scores of these trains survived the war and were later used by the Wehrmacht through 1945.

In the years after World War I ended, few new ideas were brought to fruition as inflation and political strife collapsed the Austrian economy. Although Porsche had been awarded an

honorary doctorate (*Doktor Ingenieur honoris causa*, or Dr. Ing. h.c.) by Vienna's Royal Technical Institute in 1917, just two years later he was struggling to keep his workers busy. A rare highlight of these years was when a wealthy film producer and auto enthusiast, Count Alexander "Sascha" Kolowrat-Krakowsky, commissioned a light, small-displacement racer for the Targa Florio race in Sicily. Of the four cars that ran, two topped the 1,100cc class, one driven by Alfred Neubauer. However, this triumph was soon overshadowed when banker Camillo Castiglioni, who now controlled Austro-Daimler, moved to oust Porsche from the company in early 1923. A young engineer (and Porsche protégé) named Karl Rabe took over.

Out of work for just a matter of weeks, Ferdinand Porsche was hired by Daimler-Motoren Gesellschaft in Stuttgart. The move from his native Austria to Germany was not difficult for the senior Porsche, but in his autobiography, Ferry recalled not only a cultural shift but the runaway inflation that affected everyday life. "When I went daily to my private school, I normally took along several million marks with me so that I could buy my ticket for the streetcar ride. After a short time, though, I was compelled to walk home because the cost of a streetcar ticket had risen by so many million marks that I could no longer carry enough money." The family was comfortable, however, with a new villa on Feuerbacher Weg overlooking Stuttgart. Ferdinand would bring home a variety of Daimler cars, which his son—who would not be of legal age to hold a license until 1927—often drove surreptitiously. "At one time or another I had driven just about every car my father had brought home to our garage," Ferry later wrote. His sister, Louise, was likewise an avid driver and took part in rallies and competitions—she was old enough.

At DMG, Ferdinand Porsche designed 2.0-liter entries for the Targa Florio and Coppa Florio in Sicily in 1924, winning

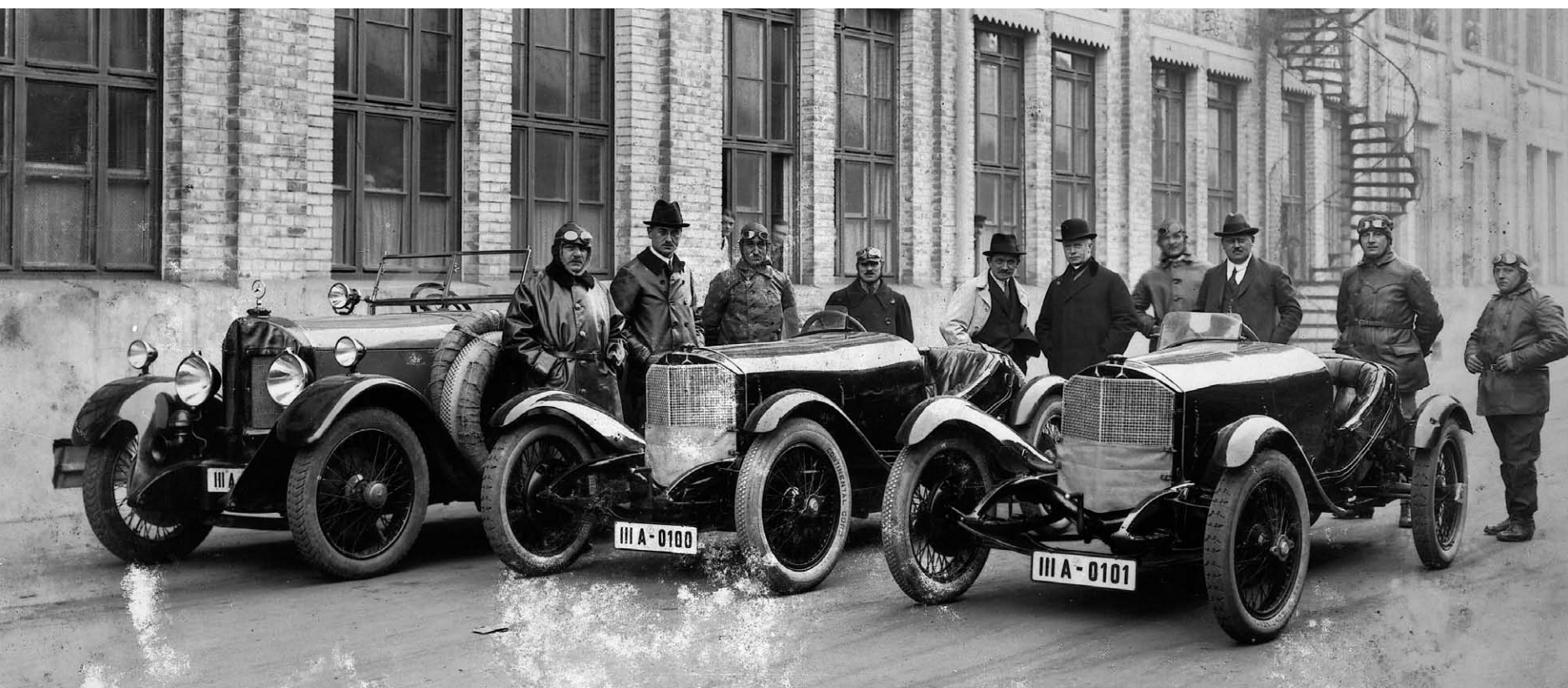


**Porsche's Daimler-Benz SS models were supercharged for both street and racing.**

both races and much acclaim in the racing world. In 1926 a merger with Benz and Cie. began, giving added responsibility to Porsche as the technical director of the new firm Daimler-Benz AG. Supercharging was applied to high-end production cars and sporting versions alike. The models K (Kurz, "short wheelbase"), S (Super), and SS (Super Sport) were purchased by wealthy men, some of whom used them in competition. While Daimler had had a racing program before his arrival, Porsche stepped up the pace. His SSK model of 1927 (Super Sport Kurz) won major races from Argentina to Italy and England. One of its successful drivers was a young German named Adolf Rosenberger.

Following a well-established pattern, at Daimler-Benz Porsche applied his seemingly boundless curiosity, energy, and talent to a wide range of projects for airplanes, boats, and tanks for the military. The creations he brought to life at the company would carry on for years, but, alas, the designer himself would not. In 1928 a long-simmering disagreement with Hans Nibel, who had been chief designer at Benz, deteriorated into a shouting match and led to Porsche's departure.

**For the 1924 Targa Florio, Porsche (center with light coat) designed small 2.0-liter racers, shown here before transit to Sicily, where they dominated. A normal-size street car is at left.**



Porsche initiated a legal claim against Daimler-Benz, handled by a lawyer named Anton Piëch of Vienna, who was newly married to Louise. He had time to weigh the options for his next employment and accepted an attractive offer from Steyr-Werke in Steyr, Austria, in January 1929. Hired to polish the maker's image and expand its offerings, Porsche created both a luxury prototype, the eight-cylinder Austria, and a middle-market (but advanced) six-cylinder auto, called the Typ 30. After the global economic crash of 1929, however, Steyr's output dropped from almost five thousand units in that year to twelve in 1930. Its main shareholder bank collapsed and ended up under the control of Camillo Castiglioni, the same financier who had given Porsche a pink slip at Austro-Daimler seven years before. Porsche opted out of his three-year contract in April 1930 and began to reflect on what his next move would be.

Ferry had followed his Stuttgart schooling with an apprenticeship at Bosch, and when his father moved to Steyr, he had stayed with his sister in Vienna and received a diploma from the Vienna Technische Hochschule. He was well positioned to enter the world he loved—the world of cars.

Having worked for other companies for three decades, the fifty-six-year-old Ferdinand looked back on all of his designs that had enriched and brought prestige to those firms and provided them with ongoing income through patents and licenses. He had been handsomely compensated and had developed nurturing relationships with his peers in the industry. He knew everyone. And everyone knew him, or at least knew of him. With this high profile it was time, he felt, to start his own company—to continue as a designer but no longer beholden to corporate boards or accountants.

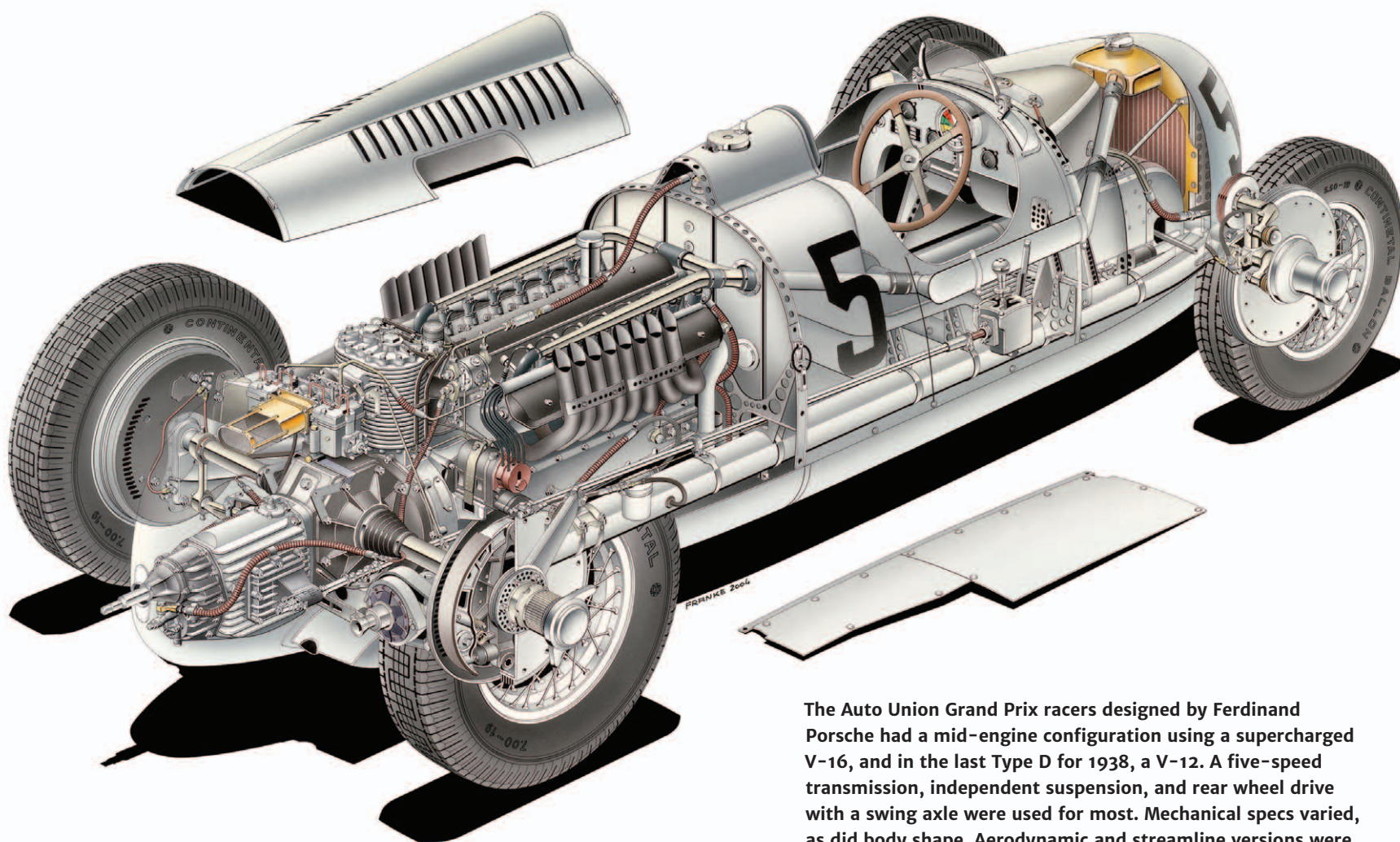
## THE PORSCHE COMPANY

In December 1930 a new organization opened an office in Stuttgart, where many of the subcontractors and suppliers to the automotive industry were located. The following spring the firm was incorporated as Dr. Ing. h.c. F. Porsche GmbH. Partners with Porsche were son-in-law Anton Piëch and racer Adolf Rosenberger, who was also a wealthy steel vendor and brought needed financial backing to the firm. On the team they assembled were talented men Porsche had known well and worked with: Karl Rabe, designer Erwin Komenda, and Ferry Porsche, just twenty-one but already well versed in the automobile industry.

On paper, the new company promised to do well. The economy, however, was at a low ebb, and commissions came from only some of the lesser German firms, themselves struggling to survive. A numbering system was instituted for projects, and the first one—for the Wanderer company—was designated 7, apparently to make it seem like the company was busier than it actually was. Prototypes were built by Reutter Karosserie, also in Stuttgart. Project (*Typ*) number 9 (1932) was a beautifully streamlined sedan for Wanderer, badged as a Horch; only a prototype was built, but it served as a company car for Ferdinand Porsche for years afterward. A project for motorcycle maker Zündapp was designated Typ 12, a rear engine “everyman’s car.” It was canceled when cycle sales took off in 1933. A similar project for the NSU motorcycle company produced the Typ 32, a precursor to the Volkswagen. Other commissions followed—mostly for component design—but the American Depression had also affected Europe. Times were tough.



The Porsche villa on Feuerbacherweg above Stuttgart was not only home but a maintenance and staging area for prototypes. From left: The Fiat 500 Topolino was probably being assessed. The Typ 9 Wanderer was a streamlined sedan used by Porsche as a personal car for several years. Compare its lines to the more conventional sedan at right. The Typ 32 was designed for motorcycle maker NSU with an air-cooled rear engine and torsion bar suspension. This steel-bodied version of Komenda's design was built by Reutter, a forerunner to the VW design.



The Auto Union Grand Prix racers designed by Ferdinand Porsche had a mid-engine configuration using a supercharged V-16, and in the last Type D for 1938, a V-12. A five-speed transmission, independent suspension, and rear wheel drive with a swing axle were used for most. Mechanical specs varied, as did body shape. Aerodynamic and streamline versions were used to set land speed records. It was in one of these that German hero Bernd Rosemeyer lost his life while attempting to set a record on a German autobahn in 1938. Below he is seen taking to the track before a Grand Prix event.





**Early VW prototypes are seen in the courtyard of the Porsche villa in Stuttgart.**

In Germany, political change was in the air. Adolf Hitler became chancellor in January 1933, and only twelve days later he opened the Berlin Auto Show in a plain dark suit with a momentous speech. Stating his intention to deregulate Germany's automotive industry and build a nationwide highway system, he added a plan to dominate international motorsport. Executives of Daimler-Benz hung on his every word, as they were well positioned to build the race cars he envisioned. It looked like a lock for that company, at least until a meeting on March 10. A new firm, Auto Union, had been formed from distressed carmakers Audi, Horch, DKW, and Wanderer. An executive there arranged a meeting with Hitler, hoping for a race car-building program that would support the company's thousands of workers. Ferdinand Porsche was there, as was famous driver Hans Stuck. It was a lengthy presentation by Porsche that resulted in the decision to divide the effort (and money) between Daimler-Benz and Auto Union. Porsche the salesman had scored a huge win, mostly because Hitler the auto enthusiast had admired him for years.

The Auto Union racers, Typ 22, were designed in Stuttgart by a Porsche "division" called High-Performance Vehicle Construction Ltd. (HFB) and built at the Horch plant in Zwickau

in eastern Germany. Chassis and suspension were by Karl Rabe and the V-16 engine by Josef Kales. Construction and testing took place in the winter of 1933–1934, and beginning that summer the midengined P-Wagen (P for Porsche) racked up wins as Typ A, B, C, and later, a V-12 Typ D. Top drivers such as Stuck, Tazio Nuvolari, and Bernd Rosemeyer used them to win hillclimbs, land speed records, and Grand Prix circuit races. Through 1939 these Auto Union "Silver Arrows," along with their counterparts from Mercedes-Benz, fulfilled Hitler's dream of dominating the highest echelons of motorsports.

While the Auto Union contract brought gains for Dr. Ing. h.c. F. Porsche GmbH, the firm's commercial director and financial backer, Rosenberger, was a Jewish man and saw Hitler's rise for what it was. The government's "Aryanization" program forced him out of the Porsche firm in 1933, and two years later he was arrested and briefly detained. With little assistance from Porsche during a dangerous time, he moved to France in November 1935, and then England, for some time representing Porsche's patent interests in those countries. Porsche had reimbursed him only his initial investment, and they severed ties in 1938. In 1940 Rosenberger moved to America and became Alan Robert, and brought a case against



**A new headquarters for the Porsche group was built in Zuffenhausen, with offices and a lower-level workshop.**

Porsche for compensation in 1950, receiving a modest amount and a new Volkswagen. He died in Los Angeles in 1967. Upon his departure from the company in 1933, his investments and position were replaced by Baron Hans von Veyder-Malberg, a seasoned veteran of auto racing, design, and manufacturing and a longtime acquaintance of Ferdinand Porsche.

Another of Hitler's ideas came to Porsche via Jakob Werlin, the chancellor's automotive consultant. At a meeting in fall 1933, Hitler explained to Porsche his concept of an auto for the common man of Germany: large enough for a family, economical, and, most important, priced under 1,000 marks (at the time, around \$400; today, just over \$9,000). He had specific ideas about its design, envisioning a rear-wheel-drive diesel, but Porsche was charged with providing a white paper on the idea. In March 1934 at the Berlin Auto Show, one year after his speech about autobahns and race cars, Hitler was in full military dress, and the huge hall was awash in swastika banners. His opening speech announced the development of a small affordable automobile, a "*Volksauto*" for the masses. It was to be produced as a collective product by German car manufacturers. Ostensibly, German firms would compete for the production work, but the design contract went to Porsche (with an inside track) in June,

and work began in earnest immediately. The project was given the Porsche design project number 60.

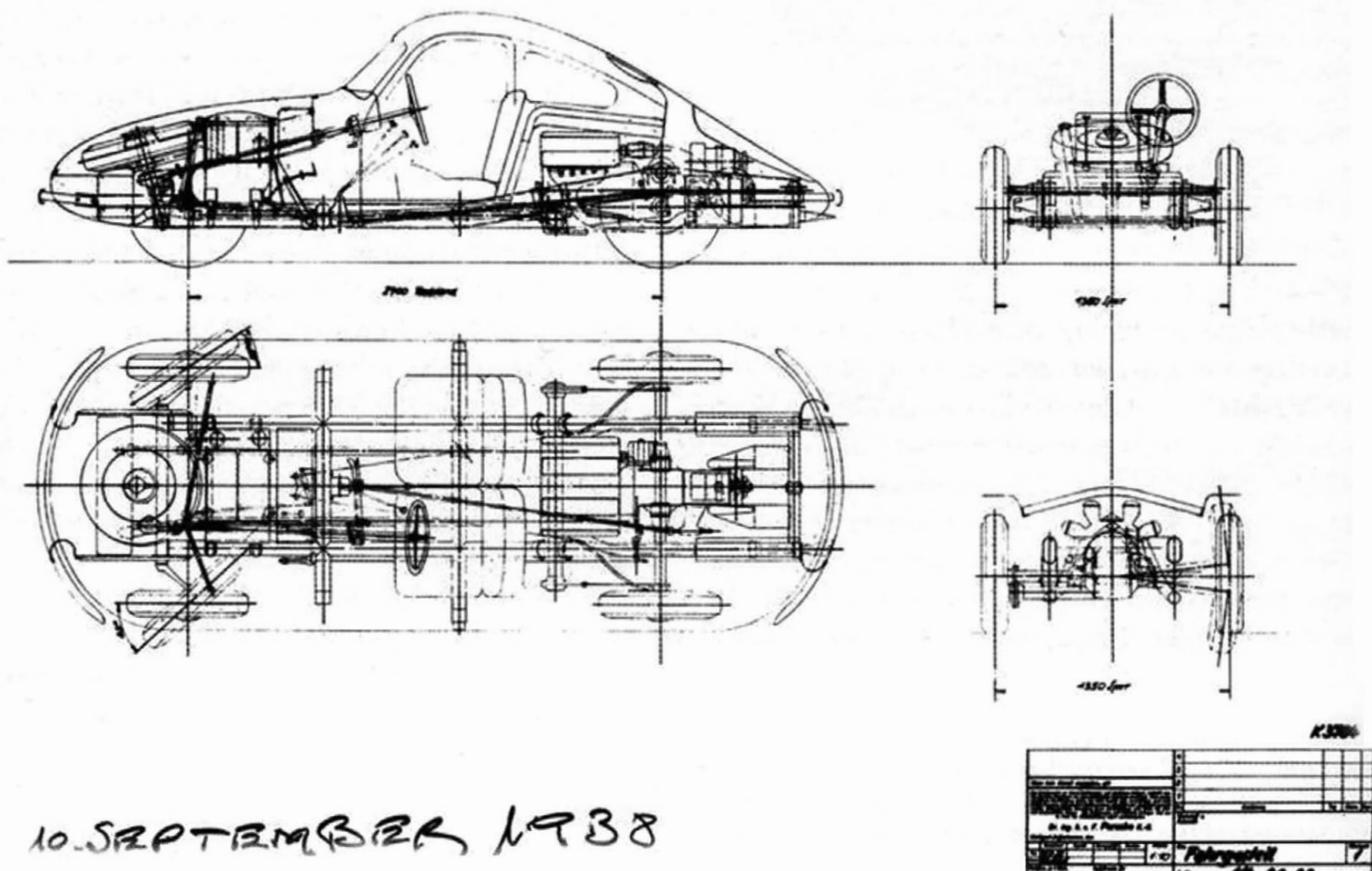
Recent Typ numbers in the design office had been a mix of interesting but single-purpose creations: motorcycle engine (55), airplane engine (57), truck suspension (59). Typ 60, however, had the scale and potential to encompass ongoing variations and adaptations, although no one at the time could imagine how numerous and wide-ranging they would be. For Dr. Ing. h.c. F. Porsche GmbH, this government contract was the very essence of job security. Drawings were made at the Stuttgart offices at 24 Kronenstrasse, and the prototypes were assembled in the garage of the Porsche villa on Feuerbacher Weg.

The "people's car" did not spring fully formed from Ferdinand Porsche's imagination. Other designers in other countries had similar ideas, and it's certain there was some cross-pollination. But although it was not just a German concept, in that country it had the full backing of the government. Another idea was to mechanize German farmers. In 1937 plans were begun for another of Hitler's requests, a "people's tractor" that resulted in the Typ 111 through 113, precursors to a series that would be quite popular in the 1950s and 1960s.

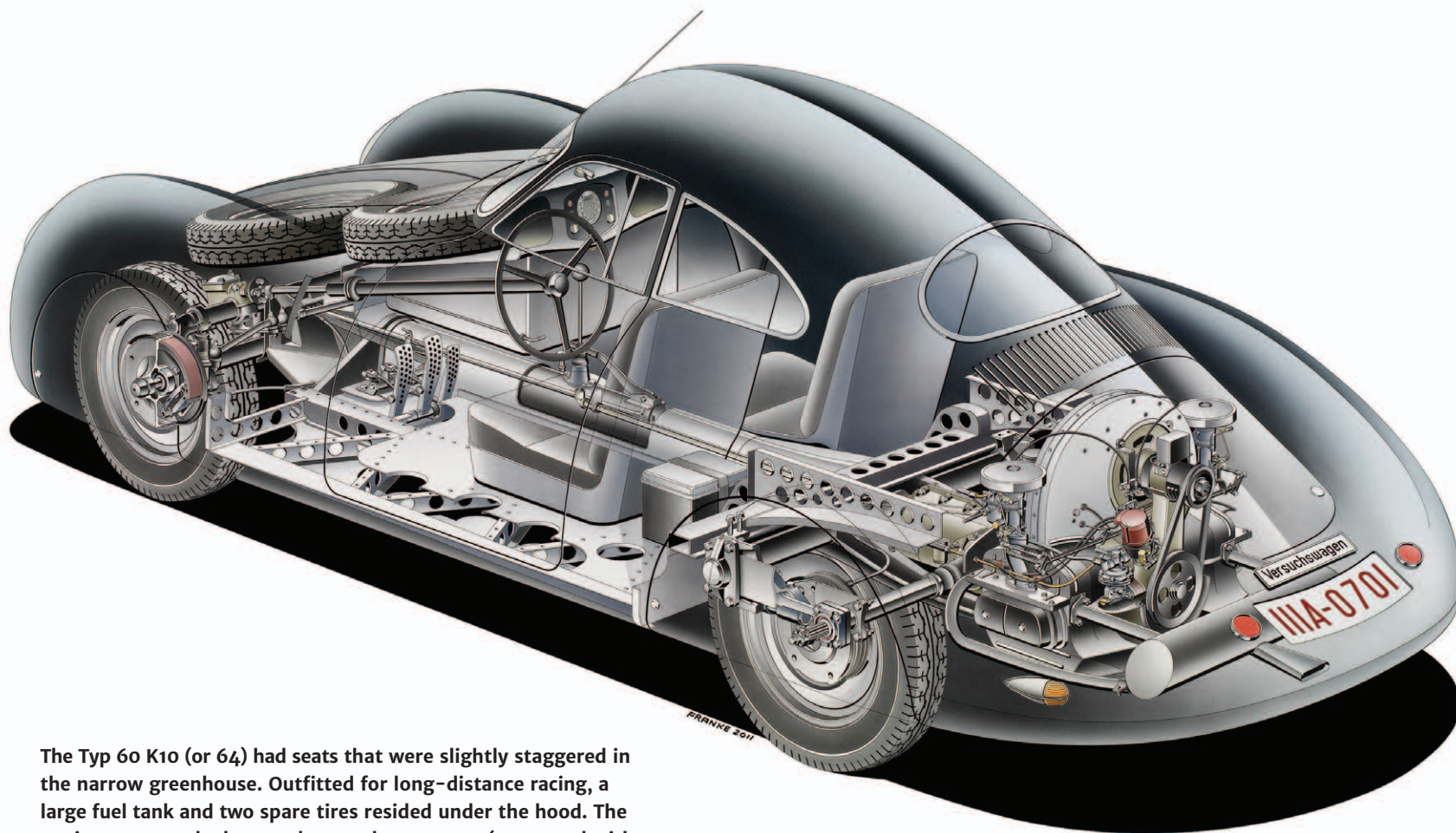
The first Typ 60 prototypes were built in late 1935, the bodies made by hand at Daimler-Benz's Sindelfingen shops. Engineer Franz X. Reimspiess convinced Ferdinand Porsche to use his "E" engine. The car's components, along with drivetrain and suspension parts, were farmed out to area specialists. Heading up testing for the new car was Ferry Porsche, who was twenty-five years old when the project began. Changes and improvements (including some deletions) took place as these *Versuchswagen* (test cars) racked up the kilometers and new, improved prototypes were built. V1 was a wood and steel sedan, V2 a convertible, and in 1936 three suicide-door V3 test cars hit the road. By 1937 a final design for the all-steel body was reached, and Reutter in Stuttgart built three cars in this configuration. Thirty more Sindelfingen-

built cars covered almost 3 million kilometers. Reutter built two more series of test cars in 1938 and 1939, and finally, small-scale production started in 1941 at the new plant in Fallersleben.

Reutter's shops on Augustenstrasse in Stuttgart were at capacity by 1937, so a new body factory was built in Zuffenhausen, a northwestern suburb of the city. The following year the Porsche firm moved to a new home across the street. The contracts to design the people's car brought prosperity to the company, and its new three-story headquarters featured much-needed management space, studio areas for designers, and lower-level shops for mechanical work to bring designs to life. Cooperation between Porsche and Reutter, now neighbors, increased with the proximity.



The Typ 114 concept had a ladder frame of oval steel covered by a streamlined aluminum coupe body, with seating for two. A five-speed transmission with limited slip at the rear drove the rear wheels through flexible shafts, mounted on swing axles, which pivoted from transverse torsion bars à la VW. A VW-like suspension was used as well in front. A V-10 engine, mounted just behind the seats, was 1.5-liter displacement with aluminum heads and block and six main bearings. Dual overhead cams were shaft and bevel gear driven, opening large valves to hemispherical chambers and domed pistons. These were fed by triple carbs on each bank. A front radiator was initially planned, but a final drawing showed a radiator just ahead of the engine.



The Typ 60 K10 (or 64) had seats that were slightly staggered in the narrow greenhouse. Outfitted for long-distance racing, a large fuel tank and two spare tires resided under the hood. The engine was tweaked to produce 40 horsepower (compared with the standard 25), and wheel spats completed the aero touches.

## A PORSCHE VW SPORTWAGEN



A program was soon initiated whereby workers could save for a Volkswagen by buying coupons each week or month. When the coupon books were filled, a new car would be theirs. But although the plant was operational by 1940, no VWs would ever be delivered to German workers.

Several variations on the Volkswagen theme were created. A right-hand-drive car (Typ 66), postal van (68), panel van (81), and others were approved by the government. A proposed aluminum-bodied, 1.5-liter “sport” version (Typ 64) was not, however, as the idea was found to be out of keeping with the practical nature of the automobile. A back-burner idea instead came to the fore: Ferdinand Porsche and his designers revisited a long-considered idea to produce a Porsche car, something designed and produced by their own company. The Volkswagen would provide a perfect basis, although a larger engine and an aerodynamic body would give it a sporting demeanor. The government turned down that idea as well owing to a prohibition about selling “state” parts to private firms. A Porsche car could not be based on VW components—at least not at this moment.

In 1938, however, the idea of a creating a Porsche was still on Ferdinand’s mind. It evolved into a midengine, water-cooled sports coupe, given the number 114 and informally called the F-Wagen. Although the first Porsche Typ 114 never got beyond the paper stage, its shape would soon appear in another form, and its mechanical layout would be used years later.



**Professor Porsche (center) inspects the not-yet-complete KdF plant in 1938. He was one of four principal general managers of Volkswagenwerk GmbH.**

The idea of a “sporting VW” was not dead, either. Politics led to the creation of a very special Volkswagen meant to promote the brand and bolster the ties between Germany, Austria, and Italy. Also in 1938 the ONS (National Sporting Authority) sanctioned an 800-mile race between Berlin and Rome, partly on the new autobahn and partly on closed roads. The event was to be run by the NSKK (National Socialist Motor Corps) and its leader, Adolf Hühnlein. Propaganda was the name of the game, and the race, set for September 1939, would coincide with the production of the first VW. What better way to sell the coupon books that Germans would fill to buy a car?

Though the Typ 64 had been turned down as a Porsche, the company was now given the green light to create much the same kind of vehicle to participate in the race as a VW. It was called the Typ 60 K10 (tenth VW body style), and three cars were ordered.

In late 1938 work resumed on a basic VW chassis, lightened and reinforced. Erwin Komenda drew a slippery aluminum body that resembled a VW, taking many cues from the Typ 114. Unfortunately, the two cars completed never had their date with destiny in 1939, although one would survive to race many years later. In the meantime, a third was built and the car’s ability to maintain 90 miles per hour made it useful later as wartime transportation for Ferdinand and his driver, Josef Goldinger.

## **THE PEOPLE’S CAR BECOMES A REALITY**

As the KdF-Wagen design matured, a means of producing it was decided upon. Kraft durch Freude (Strength through Joy), the National Socialist organization designed to promote the



**On May 26, 1938, the Führer laid the cornerstone for the KdF plant at Fallersleben. Ferdinand Porsche was a guest of honor, and Ferry Porsche drove Hitler to the train station in a VW cabriolet.**

party to all Germans through sport and travel, added car sales in 1938. Its parent organization, the German Labor Front (DAF), collected German laborers' dues. Recognizing that the new car could not be produced for 1,000 reichsmarks or less at existing auto plants, the DAF took over the project and built a new dedicated Volkswagen factory at Fallersleben in north-central Germany at a huge cost—partly met using its member dues. Ferdinand Porsche was appointed codirector, with Bodo Lafferentz and Jakob Werlin, to run the plant.

Adolf Hitler was presented with the first official KdF-Wagen as the factory cornerstone was laid on May 26, 1938. A coupe, a convertible, and a canvas-top sunroof (the latter two hastily built by Reutter) were on display. Ferdinand Porsche was on hand, and Ferry Porsche drove Hitler to the train station afterward. The huge factory, patterned somewhat after Ford's

River Rouge plant in Detroit (which Ferdinand and Ferry had toured in 1937), had rail and canal access, with room for expansion along with a planned "worker's city" named KdF Stadt to house the thousands of employees—a self-contained industrial colossus.

But the first cars had no sooner started to roll off the line than production had to pivot to military efforts. War had come with Germany's invasion of Poland in September 1939.

## THE VOLKSWAGEN AT WAR

As the blitzkrieg began, Ferdinand Porsche was turning sixty-four years old, with an incredible career already behind him. In addition to being in charge of designing, building, and running

A VW military staff car  
(foreground), Kubelwagen,  
and Schwimmwagen are  
shown in the rear courtyard  
of Porsche Werk I.



the new VW plant, he was also needed at the Stuttgart design offices, at meetings in Berlin, and all around Germany. He was a busy man.

Mobility for the military was a pressing need, so Porsche presented a prototype (Typ 62) of a VW-based open-sided four-seater, with rounded features similar to the original sedan. Although it performed well enough, it was deemed not “military looking.” Porsche responded with a new boxlike body that had flat corrugated panels and removable side doors. Simple arched fenders were outboard of the body. More in line with the army’s wishes, it was well received, but a glaring flaw was its ground clearance. A novel solution was a reduction gearbox at the rear wheels, which raised the axles from the wheel hubs and allowed the final gearing to be reduced, so that in gear near idle the vehicle could be paced by marching troops. A new Typ number, 82, was given, and the vehicle was accepted in late 1939.

Although the Kübelwagen (Bucket Car) was rear-wheel drive, it carried a limited-slip differential made by ZF. The Auto Union Grand Prix cars had used this “jelly bean” diff, and Porsche engineers would apply it to many more creations over the next few decades. Work was also done on a four-wheel-drive version (design study, Typ 86; prototype, Typ 87). By late 1940 the Kübelwagen had still not gained large-scale acceptance by the army brass, but after snowy winter campaigns in Russia and hot sandy action in North Africa, Wehrmacht soldiers

became believers—as did their superiors soon afterward. One thousand were built by the end of 1940, and production would reach over fifty thousand by war’s end.

Other variations on the Typ 82 theme included an amphibious light vehicle based on a modified Typ 87 whose doors and apertures were all sealed. Its poor balance and performance in water were not a surprise, but it gave the engineers a baseline for what would work. Karosserie Drauz helped design a body that could function well in water, although it was an ugly duckling in the dry. Testing of this Typ 128 went on through 1940, and with a shortened wheelbase, the vehicle’s water entry and exit were improved. In autumn 1941 Ferry Porsche drove the new Typ 166 Schwimmwagen to Hitler’s Wolf’s Lair retreat in northern Poland for a viewing by military officials. With approval from the very top, over fourteen thousand would be produced.

The VW engine underwent much experimentation by the Porsche staff. An oil cooler inside the fan shroud was added. The Typ 115 in 1939 used supercharging and overhead camshafts. Changes to pistons, larger intake valves, multiple carburetors, hemispherical heads, and even sleeve valves were tried in order to find a balance between more power and reliability. There were five-speed gearboxes and diesel engines, and even projects involving wood, coal, or other fuel gas generation for the engines.

**The VW engine designed by Reimspiess went through several stages of development for different purposes, but its basic configuration became the Porsche engine of the 1950s.**

