

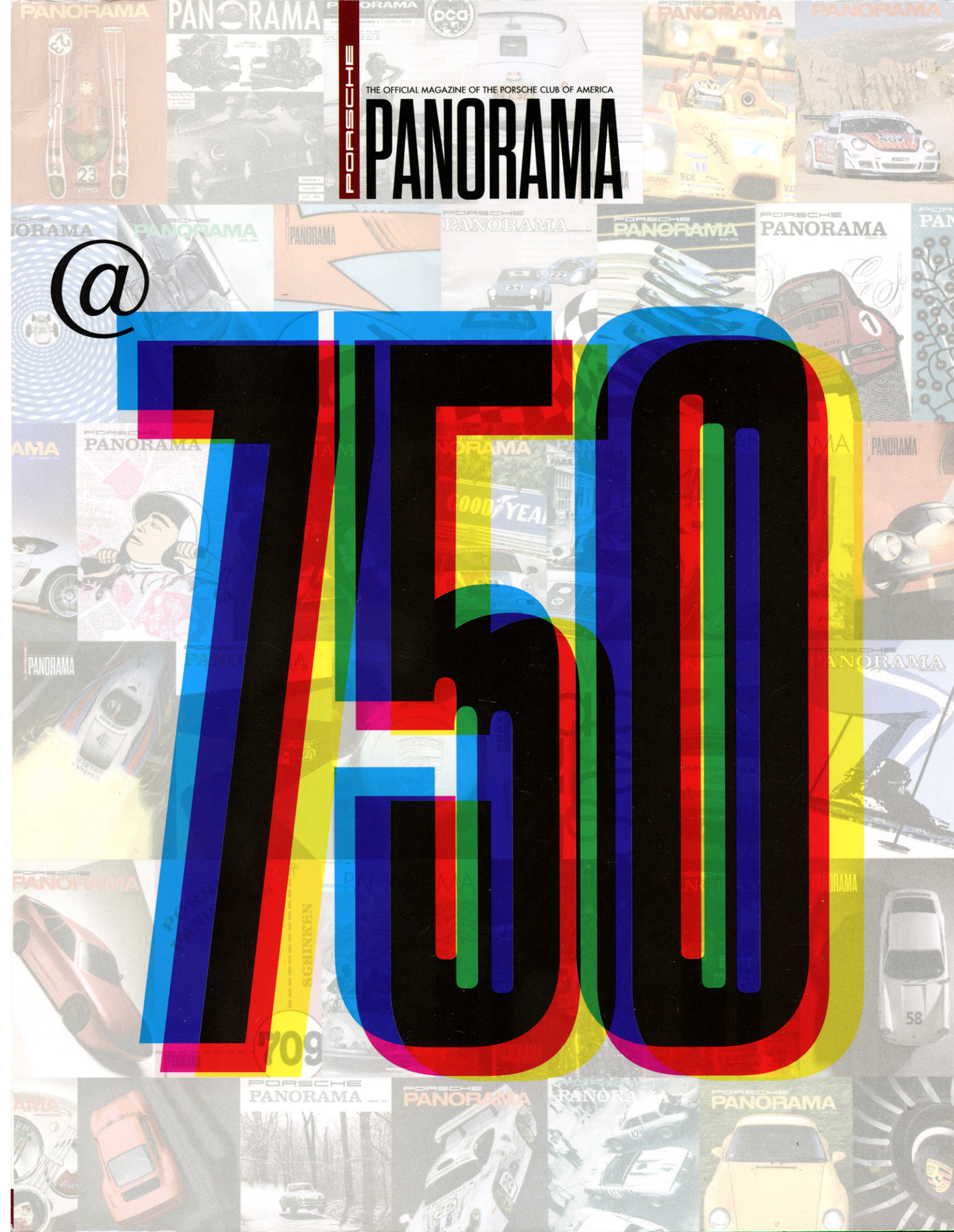
Back to Form

Porsche Factory Restoration of 917 001

Porsche Panorama

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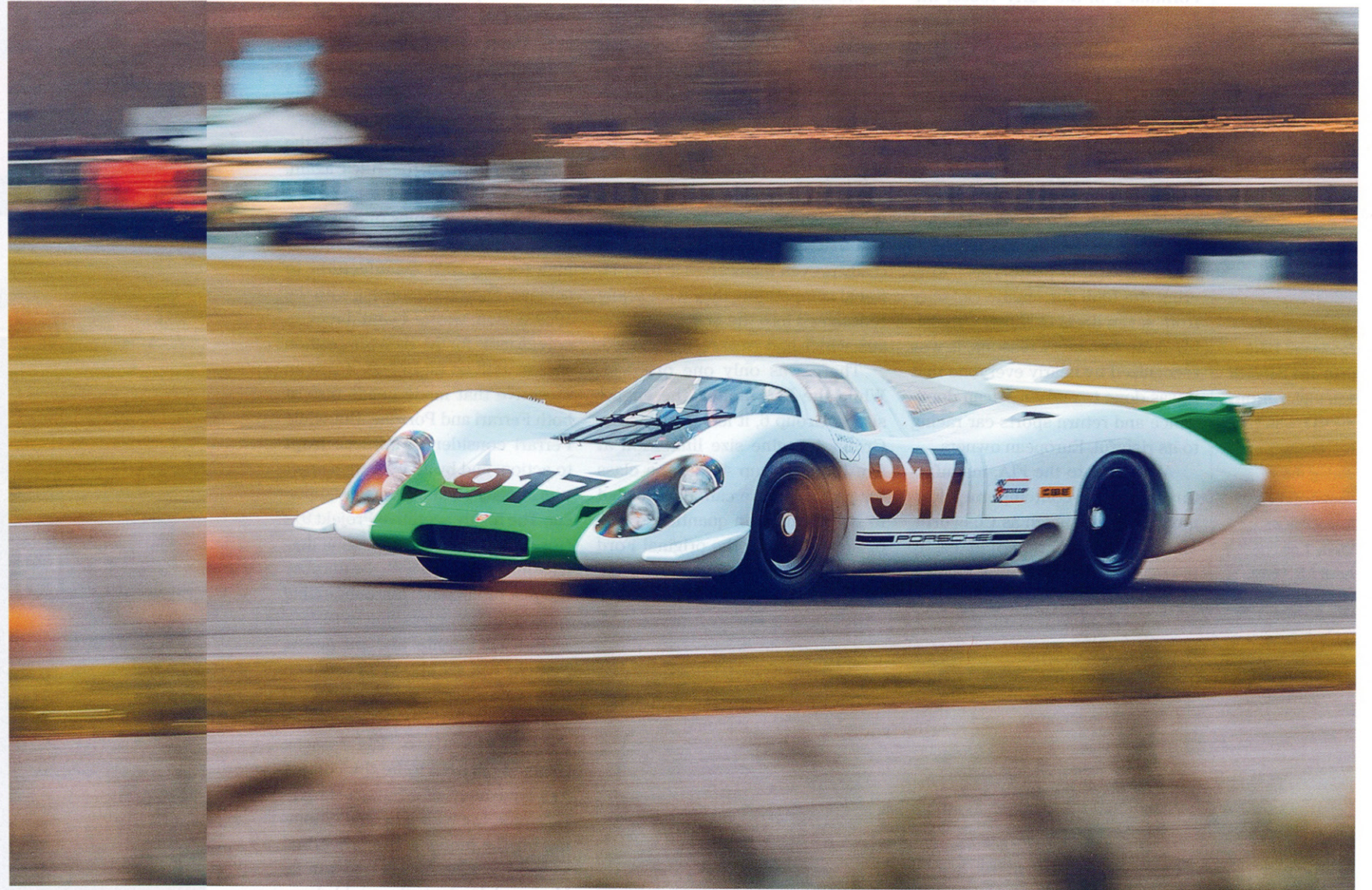
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BACK TO FORM



50 YEARS AFTER ITS INTRODUCTION IN GENEVA, THE VERY FIRST 917 HAS REGAINED ITS IDENTITY. STORY BY **SEAN CRIDLAND** PHOTOS BY **PORSCHE AG**

IN THESE TIMES of closely researched provenance and almost fanatical attention to originality, it's a little bit of a surprise that Porsche AG recently decided to repurpose one of its most often-seen museum display pieces, a red and white 917K wearing the number 23, to a different configuration. As significant as the car would seem to be in Porsche's illustrious racing history, it's more than a little surprising that the car in question would spend the majority of its life posing as something it's not. But it's even more surprising that its original incarnation may be even more significant than the costume it has been wearing for decades. Only this past year was the car, which spent more than 40 years looking like Porsche's first Le Mans winner, restored to its original shape and colors as 917-001.

THE STORY OF 917-001 takes us back to 1968. For those not conversant in Porsche racing history, it might come as a surprise to know that for most of the first two decades of Porsche's competition program, except its short-lived foray into Formula 1 in the early 1960s, the team raced for class wins and the occasional underdog victory on the tighter circuits on the FIA calendar.

Then, just after the Ford-Ferrari war of the mid-1960s, the Fédération Internationale de l'Automobile (FIA) and its committee overseeing competition, the Commission Sportive Internationale (CSI), changed the rules governing the Group 6 class for sports-prototypes, lowering the limit for engine capacity from seven liters to three. Ostensibly done for safety reasons, it was recognized by nearly everyone that it was done to end American dominance and return sports-car racing to its rightful, European owners.

According to the FIA, manufacturers of then-contemporary Formula 1 engines, such as Cosworth, Matra, and Ferrari, could easily re-engineer their three-liter engines

for endurance racing. However, it turned out not to be easy, as Formula 1 engines are designed for extremely high output for only two to three hours, and so the three-liter category wouldn't really catch on until 1972. During 1968, the first year of the three-liter Group 6 formula, participation was light, at best.

Porsche, on the other hand, had always developed its engines for endurance racing, often running several races between rebuilds. The new three-liter formula would be a great opportunity to increase engine sizes and go for overall race wins and the world championship. Since the 907 and 910 sports-prototypes had already proven themselves in international competition, they were easily redesigned into the first-generation 908, which had great results in 1968.

There was only one problem. While the FIA limited the engine size in Group 6, it left standing the Group 4 engine size limitation at five liters. Group 4 was the class for prototype-like cars that needed to be produced in quantities of 50 or more, such as the original Ford GT40. Although not as fast as the

most recently developed 908, by 1968 the Ford GT had the benefit of five full years of development. One of the teams running Fords, J.W. Automotive Engineering, run by John Wyer, took several victories in 1968, depriving Porsche of both the World Sports Car Championship and its anticipated first overall win at Le Mans. From the perspective of Ferdinand Piëch, Ferry Porsche's nephew who oversaw the racing program, that was unacceptable.

Remarkably, in April of 1968, the FIA/CSI modified the rules again. They realized that the Group 4 rules requiring 50 examples of a production racing car were prohibitively high for any new manufacturer to achieve. Therefore, starting with the 1969 season, Group 4 would require only 25 units for the 1969 competition season. Still no mean feat, it was an incentive that made heads turn at both Ferrari and Porsche. But while Ferrari considered, Porsche leapt to action, and by June Hans Mezger was already planning the new supercar. The highly secretive Projekt 912 (for its factory-internal engine designation) was born with the purpose not just of winning, but dominating sports car racing, starting in 1969.

For all intents and purposes, Porsche had set out on its own version of the space race requiring full commitment from its engineers, mechanics, and drivers. The Porsche Group 4 car was to be the company's equivalent of a Saturn V rocket, a race car with no equal. Shooting for the moon in the proverbial sense, Porsche intended to win Le Mans and dominate the world championship for sports cars.

Mezger was given the impossible task of reworking everything Porsche knew while mindfully watching costs. Accordingly, he tried to repurpose every bit of technology already in use, while knowing his team would have to develop new technology for many aspects of the car. For instance, while the 917 would require a larger space frame, Porsche engineers could draw upon

everything they had learned from building the 907 and 908 LH longtail versions, but this time with aluminum tubing.

Rather than doing a "clean-sheet" design for an all new 5.0-liter engine, Mezger and his team cleverly melded two Porsche flat-six engines into one 4.5-liter unit. Allowances would have to be made for ever-increasing tire sizes of the period, and new braking technology would be required to handle the heavier weight and projected higher speeds of the car, resulting in some of the very first cross-drilled ventilated brake discs.

Somehow, the project remained a secret until, on March 12, 1969, Porsche 917-001 made its public debut at the Geneva Motor Show, taking the world—and its competitors Ferrari, Alfa Romeo, and Matra—completely by surprise. The team famous for its funny-looking, small-bore cars had developed a fire-breathing beast.

Back at the factory, the race team continued to work around the clock to complete the required 25 units in time for the FIA homologation inspection on April 21 of that year. Impressively, the team displayed all 25 cars at Zuffenhausen, lined up perfectly by chassis number, from 001 to 025, just in the nick of time. Of course there were the usual dramas, but once the FIA's inspection was complete and homologation had been awarded, each of the 25 917s were wheeled back into the shop to be made race ready (see Back Story, page 6).

THE SHOW CAR from Geneva would be trucked to the south loop of the Nürburgring, where team driver Rolf Stommelen gave it an endurance-run test. Later, it did time on the Weissach skid pad for wheel bearing testing. Rather than racing, 917-001 continued testing mechanical and bodywork updates through the summer, before it was shown at the Frankfurt Motor Show in September 1969 in orange and white, the official colors of the show.

Unbelievably, Porsche 917-001 then spent the next 48 years pretending to be 917-023, rather than paying tribute to its own role in helping Porsche turn into the dominating force in racing that it became.

Later that month, the car was displayed in London, now wearing the powder blue and orange Gulf Oil colors of J.W. Automotive Engineering—Porsche's Ford-running nemesis from 1968 and 1969—which would run the official Porsche factory effort in the FIA championship in 1970 and 1971. Serving as a display car that whole year, in September of 1970, three months after Porsche's first Le Mans win, 917-001 was transformed into a short-tail 917K and painted with the striking red and white colors of the Porsche Salzburg-liveried number 23, because the actual Le Mans car was still being raced!

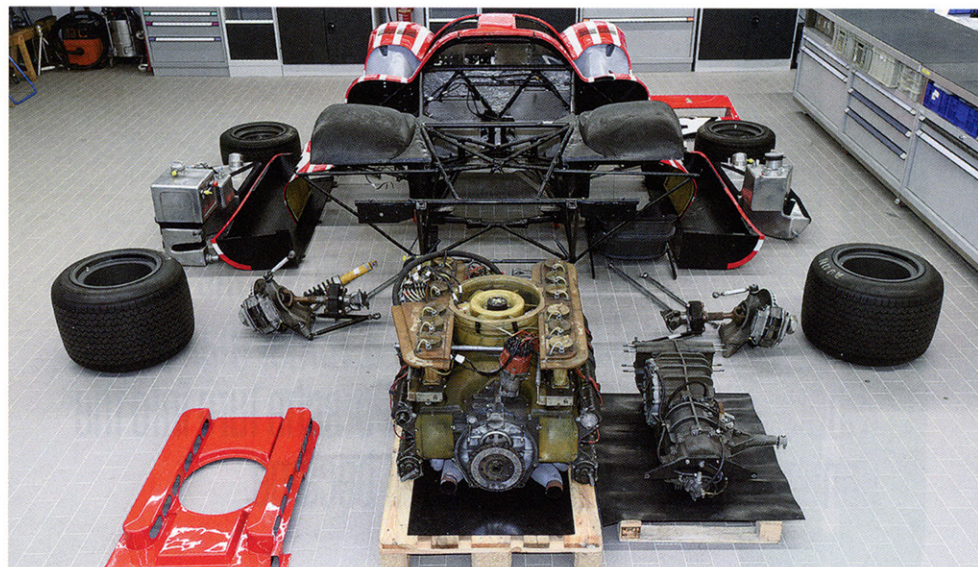
In October, it was carted off to the Paris Auto Show to celebrate Porsche's first Le Mans win. Unbelievably, Porsche 917-001 then spent the next 48 years pretending to be 917-023, rather than paying tribute to its own role in helping Porsche turn into the dominating force in racing that it became.

In the space of one year, Porsche had conceptualized, experimented on, designed, and built its most revolutionary racing car to date. While the going was rough for the 917 during its first year of competition in 1969, history shows that the concept eventually went on to dominate the FIA calendar for both the

Except for some early testing at the Nürburgring, Porsche 917-001 spent most of its life as a display car. In the photo below, it's dressed in the colors of the 1969 Frankfurt Motor Show.

Ferdinand Piëch (left) and Helmuth Bott (right) discuss the 917 with FIA representatives during the homologation inspection at Werk 1 on April 22, 1969.





After having spent more than 40 years impersonating the 1970 Le Mans-winning #23 Salzburg Porsche, 917-001 was completely disassembled and reverted to its original 1969 configuration.

1970 and 1971 seasons of the World Sports Car Championship.

Just as important, veteran racer Hans Herrmann, paired with Richard Attwood, took Porsche's first overall win in 1970 in a 917K over second-place finishers Gérard Larrousse and Willi Kauhsen in a 917L. In 1971

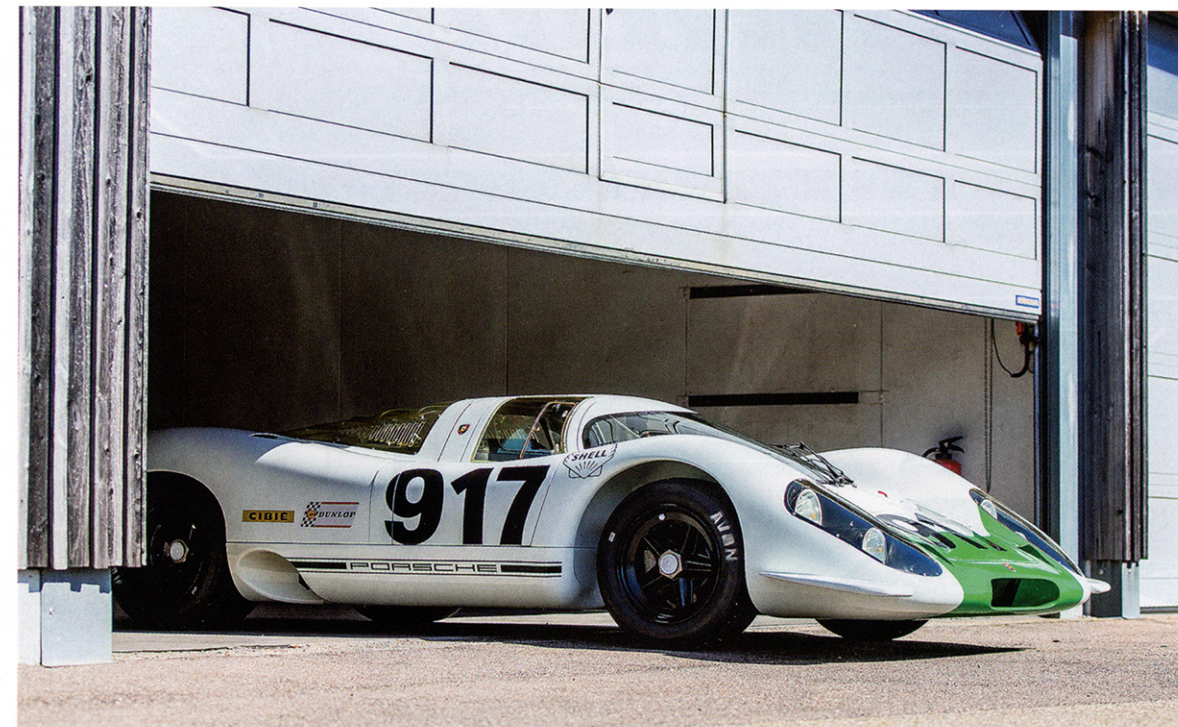
it was Gijs van Lennep, paired with Dr. Helmut Marko in a 917K over the similar car of Attwood and Herbert Müller. Porsche's 917 also competed in several regional championships in Europe, Asia, and North and South America during those years, and did remarkably well in every situation.



As a point of comparison, in the United States, the FIA six-hour race was paired with the legendary Can-Am series for Group 7 unlimited prototypes, featuring McLarens, Lolas, and Chaparrals running engines as large as eight liters. At the 1970 Watkins Glen Can-Am, Porsche 917Ks finished second, third, fourth, sixth, and seventh. During the 1972 and 1973 seasons, in turbocharged spider incarnation, 917s dominated the North American Can-Am series and the European Interseries. One might think the car that started it all would be worthy of attention.

FINALLY, WHEN THE 50th anniversary of the 917 approached, Porsche decided it was time to restore 917-001 to its original shape and specifications. With the engineering records and Porsche's own in-house classics center at the ready, it was only a matter of time and money to make it happen. With its typical flair and attention to detail, Porsche went one level higher by bringing in several of the engineers, mechanics, and test drivers from the original program to help with the project. Hans Mezger, Hermann Burst, Gerhard Küchle, Klaus Ziegler, Roland Bemsel, Eugen Kolb, and original and current test drivers Kurt Ahrens, Günter Steckkönig, and Marc Lieb all jumped at the chance.

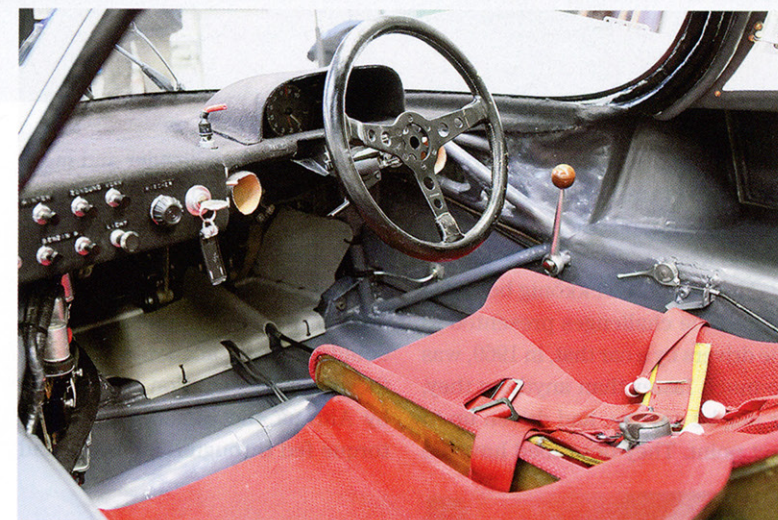
Starting in January 2018, the team started going through the entire car, keeping as many of the original pieces as possible but making considerations for aging materials, structural rigidity, and safety. Although 917-001 would never again be subjected to the rigors of full racing speed, it is Porsche's policy that museum cars should be kept as "rolling stock." In other words, should any museum car be called to show up at the next Rennsport Reunion or Goodwood Festival of Speed, the only things needed would be to top off the fuel, check the oil and tires, and turn the key to bring the engine to a roar. Chassis 917-001 would be no exception.



As noted, there were plenty of photos and technical drawings as source material for the restoration. However, when it came to parts, many pieces had to be re-engineered and re-created after consultation with the original engineers, who described the processes to make things like the wing flaps or injector trumpets. The car was finished in January 2019 and painted its original Porsche white, with the bright green nose it displayed when the cars were all lined up for FIA inspection in April 1969.

The restored car was shown at Retro Classics in Stuttgart at the end of February. Eventually, a group of automotive journalists from around the world were brought to Weissach this past April, where the Porsche museum historians, modern-day technicians, and veteran consulting engineers (Mezger, et. al.) were present for questions and discussion.

BESIDES THE OBVIOUS engineering and logistical challenges faced by the team, Mezger spoke enthusiastically about the ways in which the 917 project lifted factory morale. It provided the opportunity to show the company's true range of talents with a car capable of beating every other car on the track with its pow-



Rather than simply relying on original drawings, historical documents, or in-period photos, Porsche brought back many of the engineers and test drivers who brought the 917 to fruition. These included (below, left to right), Hans Mezger, Gerhard Küchle, Roland Bemsel, Klaus Ziegler, Günter Steckkönig, Hermann Burst, Eugen Kolb, and Kurt Ahrens (not shown).



Below: The aerodynamic configuration of the original 917 was unstable, as demonstrated by Kurt Ahrens' crash during testing at Ehra-Lessien.



er, handling, and speed. Porsche could now face Ferrari, or anyone else, on a level playing field and race for the win.

Ahrens and Steckkönig both discussed the challenges presented to the drivers by a car that, in 1969, was so much faster than anything they, or maybe anyone, had driven up to that point. They described how the

engine was much heavier and more powerful than anything Porsche had previously installed in a racing car, and the ways that dynamic affected their driving. From an engineering standpoint, those specifications could be easily accounted for, but the kind of acceleration experienced by Ahrens and Steckkönig as the torque fed through the chassis had

them looking for new adjectives, not all of them endearing. As the power came on, the chassis would twist, upsetting the dampers and the steering. The nose would rise dramatically under acceleration, and the tail would nearly pick itself off the ground under hard braking.

Then there was the matter of the aerodynamics. Before the 917, the smaller-engined Porsches counted on incredibly slippery, aerodynamically neutral shapes to get them down the long straights at Spa, Monza, and especially Le Mans. Porsche's aerodynamicists had become famously adept at producing shapes that made its racers capable of keeping up with higher-powered cars. They had applied many of those same aerodynamic principles to the 917, now aiming for an aero efficiency that would leave competitors in the dust down the Hunaudières (Mulsanne) straight.

It was a great idea, unless you had to actually drive the car, as Ahrens, Steckkönig, and several other Porsche team drivers soon found out. Aerodynamic neutrality worked well at speeds approaching 180 miles

per hour, but not so well when you added another 40 to 50 mph into the equation. Instead of sending the car down the road straight as a missile, the body shape of 917-001 and its sisters engendered behavior more akin to a supersonic butterfly, flittering around as it encountered the slightest head-, tail-, or crosswind. Acceleration and braking pitches could also affect the aerodynamic stability, not to mention the currents stirred up by other cars of various shapes and speeds.

It was a problem most graphically illustrated by Kurt Ahrens when he experienced aerodynamic instability on a wet surface at the high-speed Volkswagen test facility at Ehra-Lessien. He and one of the test-bed 917s lost traction and collided with the barrier, taking off the front half of the car. Ahrens came to a stop with his feet wedged beneath the barrier but miraculously escaped serious injury. He climbed back into another 917 just days later to continue the development process. No one could question the bravery and commitment of the

little Austrian, who in that same month had been racing in the Hockenheim Formula 2 race that claimed the life of Jim Clark.

THERE WERE ENOUGH scary incidents in the development of the 917 that year that few of the factory team drivers were willing to risk racing one at Le Mans in 1969. The factory did, however, enter two, for the very brave driver pairings of Vic Elford/Richard Attwood and Rolf Stommelen/Kurt Ahrens, and there was also the 917 entered by independent racer John Woolfe for himself and factory driver Herbert Linge. None of them finished. Woolfe famously and fatally crashed on the first lap of that race, supporting the skepticism of the drivers who chose to race the more proven 908s instead.

The Porsche 917 finally took its first race win in the 1969 FIA series at the last race of the season at the Österreichring, with Ahrens and Jo Siffert driving. That win represented the last iteration of the 917 that bore a strong resemblance to 917-001 as it debuted in Geneva and attained its

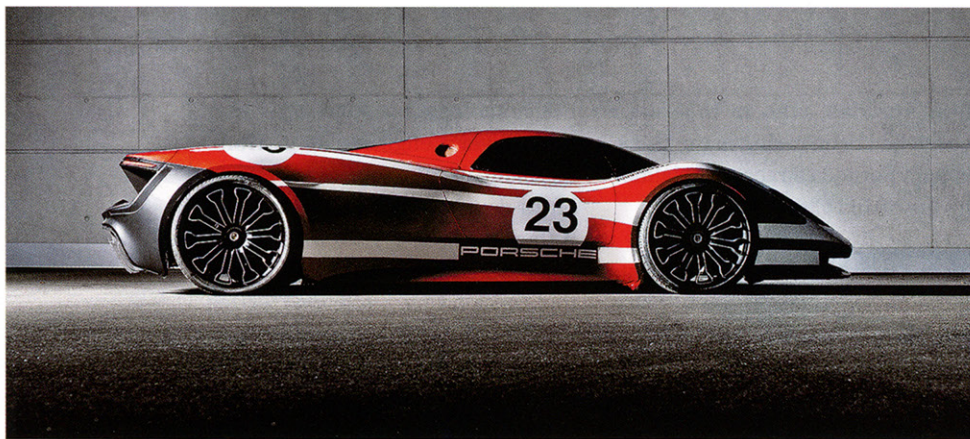
FIA homologation. Right after that race, Weyer's engineer John Horsman and the Porsche team stayed on to do aerodynamic tests to see if they could find a solution to the high-speed instability. It was during that session that, while also testing the Can-Am 917PA, Brian Redman noticed the car to be remarkably more stable.

Soon, the team reconfigured the rear-deck aerodynamics of the endurance-version 917 to something similar to the Can-Am car. From those lessons came the wedge-shaped 917K, and the rest was history. The car that had scared drivers like Redman soon became tractable and much easier to drive. Though some of the aerodynamic slipperiness had to be sacrificed, Mezger soon came up with a 4.9-liter flat-12 engine to offset the increased drag, and from then on the car was a champion.

AS THE ASSEMBLED press drifted into the presentation area of present-day Weissach this past April, they were instantly confronted

The fully restored 917-001 takes its rightful place among its sister 917s, helping to display the rapid growth and evolution of the 917 concept during its six seasons of active competition, from its 1969 Le Mans debut to its last appearance in the 1974 Can-Am season.





Fifty years after its debut, the Porsche 917 continues to inspire both enthusiasts and design professionals, as evidenced by the 918-based 917 concept (above) that was a viral sensation this past spring. For the purists, nothing beats the real thing. Call it the original, or just call it by its name: 917-001.

with the latest bit of Porsche viral eye candy, a reimagining of the 917 concept built on a 918 platform and painted in the 1970 Salzburg colors. Such was the attraction that, as the presentation was given by Porsche's head archivist Frank Jung and his team of Porsche historians, no one noticed 917-001 being quietly rolled into the opposite end of the room, then appearing almost as if a spirit.

After a quick series of descriptions by the restoration team, the car was then pushed outside to be started, famously, with its simple drilled-out key. While journalists were not allowed to take photos during their time within the Weissach development village, starting the 4.5-liter flat-12 engine immediately captured the attention of all those working in the buildings tow-

ering above the alleyway. Within seconds, dozens of millennial-generation Porsche engineers were leaning out of their office windows with their cell phones, grabbing all the video they could get of the timeless classic. As much as one marveled at the car, the scene of those wide-eyed faces above had everyone covetous of the perks of a full-time job in Weissach.

Shortly after, 917-001 was made available for close-up viewing, with every panel, door, and compartment open. On close inspection, the car with such a huge reputation seems made of very little, except for the engine, which is *huge*! If you've never seen one, the 917 flat 12 is surprisingly massive, and the aluminum tubes that compose the car's frame are frightfully small. In an

age when race cars are tested for crashworthiness, in 917-001's driver's "compartment" the pedals are placed well ahead of the front axle line, preceded only by the front oil radiator and covered only by a thin piece of plastic.

Perhaps it's a tribute to the skill of the Porsche drivers entrusted with this thing that only John Woolfe's 1969 Le Mans death in one comes to mind, a fact not lost on Marc Lieb as he later discussed giving the car its shakedown runs on the Weissach test track. As the day wore on, Lieb was seen in spirited conversation with Ahrens, Steckkönig, and several of the original engineers as they each shared their views on the car. Of course, the senior drivers both spoke with sparkles in their eyes as they recounted their experiences driving Porsche's world-beater in its first miles of testing and racing. Lieb, though he necessarily saw the car as a museum piece, was no less ecstatic. When asked about the experience, he said he'd be happy to drive it on any occasion. Who wouldn't?

Most of all, though, everyone seems happy that 917-001 has finally regained its identity as the one that started it all. ●

