



AVD
ARENS VEHICLE DESIGN ■■■

Project AVD Porsche 911 BC1

The Porsche 911 is certainly a design of the century, a vehicle which from its early days was on track for the Olymp of the car gods; while at the same time becoming a myth, a milestone, a man's dream. With every new generation, the people in Zuffenhausen modernise the technology and come up with a fresh design, without diluting, let alone giving up the iconic style – sometimes, the changes are minimal, then again they can be revolutionary. There is a consensus amongst drivers: Your Porsche accompanies you through life, and it grows with you. The brand always keeps in touch with the past and with the future, instead of simply following a trend. The result: a perfectly balanced vehicle in an attractive and emotional shell. So who would dare to attempt making improvements to such a racing machine?

The less experienced fan may be looking in vain for possible modifications, but intimate friends of the nine-eleven will discover the subtle changes right away. „That's intended,“ says the head of AVD, Björn Arens. He has developed the project together with Christophe Magney, who adds: „Only the initiated will recognize, that our 911 is quite different from the original.“ The AVD project is based on the Type 964 (1989 – 1993), but it is definitely not a backdated version of the car. It would be more fitting to call it a „best-of“. This new version includes elements of former as well as younger generations. So let's go ahead and reveal some of the secrets of the Eifel-911.

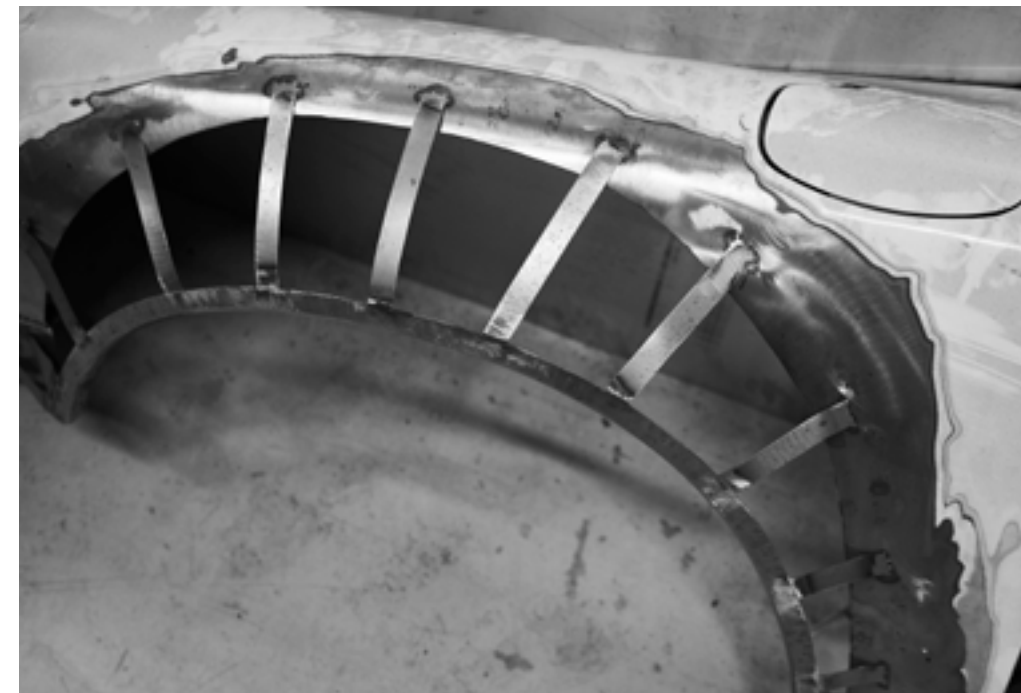
Extensive metal work has widened the fenders by three centimeters in the front and by five centimeters in the rear. „We wanted to create an imposing, but not exaggerated appearance.“ Says all-round talent Christophe. A detail which strikes the observer, is that he has meticulously made sure that the radius of the fenders is symmetrical. He goes on to explain, „it's a design element which the viewer registers unconsciously. The optical impression is supposed to astonish and catch people's attention. These wheel arches look more harmonious than for example those of the 911 ST (1970/71).“ Christophe speaks with an euphoria one would expect of someone lecturing on magic rather than about working on an automobile. „On the racing classic, the wheel arch leans backwards in the shape of a teardrop. I wanted to change that. First I got ST wheel arches and cut them up and reassembled them again and again until there was no usable piece of sheet metal left,“ smiles the man in his mid-forties with a bright sparkle in his eyes. He went to great lengths and shaped the elements freehand, until every curvature matched his imagination. So, unlike on the competitors, the front and rear fenders were created from sheet metal, as were the redesigned sills and the freshly made roof panel.

The roof has been newly designed with thin, lengthwise grooves in the style of the 991. The prototyping with templates alone took more than a week. After all, every element modeled by hand had to be reproducible, as it would be with a large-series spare part, in order for AVD to be more efficient when rebuilding further vehicles. This principle was applied to all parts, for example in the development of the extended front bonnet. It was inspired by the F model. At first, Christophe combined it with an F-series lock carrier, but when mounting it, he realized that it was not worth the enormous effort. And in terms of functionality, the mechanism from the 964 proved to be superior anyways. „For a visually insignificant part, that's an acceptable compromise,“ says the craftsman and self-taught designer.

„The work of a sculptor is not to create an object with tools, rather it consists in liberating the sculpture from the surrounding rock with his chisel.“

Christophe is full of ideas. First, he checks the feasibility of his visions. If it seems doable, he will then try to make them physical reality right away. For this, he needs neither drawing pad nor computer program. Components such as the bumpers are first created using aluminum sheet and special tools. To shape the sheet metal parts, he uses an english wheel from 1930, a restored tool that weighs 2.500 pounds. When the result is satisfactory, a sheet metal component or a lightweight carbon fiber composite part will be produced. A vacuum infusion system was purchased specifically in order to manufacture visible carbon fibre. It was used, for example, to create a balanced front apron using a mixed construction of carbon and kevlar, with a center section inspired by the front apron of the legendary 911 2.7 RS. The side air ducts, on the other hand, are style quotes of modern 911 models.







What exists is optimized – additional elements are newly created

For engine venting, the prototype was given a visually daring solution with a large perforated area. It has not yet been decided whether this will go into series production or whether the conventional cooling ribs will be used in a modified form. „The more I look at our solution, the more I like our version with the round perforations,“ Björn says this with a grin. When pondering, he likes to take the attitude of a lab engineer in a white coat, rubbing his chin with his hand.



Björn and Christophe agreed that the bumper at the rear also needed a thorough visual renovation. Particularly on the G-model and on the 964, both skirts protrude from the body in an angular manner, something that Porsche had already solved much more smoothly on the original 911 and even more so on the 993. The Belgian specialists went for the rear bodywork and license plate holder in the shape of the early F-model. Below, the diffuser picks up the look of the 992 and includes the centrally placed twin tailpipes in the style of a GT3. AVD optimizes the stainless steel exhaust system installed underneath with, among other things, additional ceramic coating as well as a sound that will send chills down every listener's spine





As is often the case in motorsports, the filler neck is openly visible on the fender without a cover. The new aluminum cap provides three indentations for better handling. The windshield as well as the rear window are counterparts from the 993, in as good as new state of course. This has the advantage of being able to glue the windshield in place, which makes for a much narrower rubber seal. The wing that dominates the rear is reminiscent of the duck tail Carrera, although the shape is more opulent.



Due to an entirely new interior insulation, the vehicle has the feel of a modern car which begins with the sound of the closing doors. The driving sensation is that of a contemporary luxury sports car. The electrics including the wire harness have been overhauled, air conditioning is standard. The gearshift is an original 964, but like the pedals, it has been brought up to new-car condition.







The project has evolved into such dimensions, that it quickly outgrew the two sea containers they were building the vehicles in, and moved into a workshop with some 4000 square meters. In addition to several work platforms, they also contain donor vehicles that have already been purchased. As mentioned, the basis is the 964 series in the Carrera 2 and Carrera 4 versions, mainly coupés, followed by cabriolets. The rather rare Targa model is the most exclusive offering in the programme. By the way, customers can also bring their own 964 into the AVD project as a basis. First, each vehicle is completely disassembled and stripped of paint. After the numerous modifications to the body in sheet metal, follows an overall cathodic dip coating. Then the bodyshell goes to the painter. Colour preferences are discussed with the customer; there are no restrictions on the choice of colour. AVD wrapped the prototype in a self-selected mix of dark silver metallic tones.

The set-up of a prepared Porsche starts with the axle and chassis assembly, which are completely overhauled. Bilstein spring struts are pre-assembled with a special spring/damper set-up. In fact, AVD engaged the former 964 Cup specialist from Ennepetal for this job. The complete brake system is from the 964 Turbo. The oil cooler, including hoses and pipes, are made from new parts.



In addition to this visual feast, AVD has entirely reworked the drive train. The revised 5-gear transmission – now with a limited slip differential – is powered by an aircooled boxer engine with 3,8 liters capacity instead of the regular 3,6.

The mechanics Cedric, Michael and Patrick can be found at workstations specially set up for engine construction. Each of them has motorsport genes in their blood. One of them used to work at Manthey, the others drive their own prepared cars on the circuit in their spare time. Dominik and Thomas complete the team as painters. The performance and attention to detail of the AVD Porsche project relies on their talents as well.

A look into the engine compartment gives an impression of how technical necessity is fused with esthetic refinement.

The heart chamber has been completely cleaned: all visible body parts have been smoothed, weld seams and holes have been levelled and the surface has been entirely painted in body colour. During the refurbishment, the designers made sure that as few cables as possible remain visible, in order to visually emphasise the mechanics of the six-cylinder, which is painted in wrinkle coating.

This feat was accomplished by getting rid of the dual ignition, and using a racing injection system with single throttle valves modified by Björn. "The system with freely programmable tuning is among the most modern technology on the market. The customer gets an additional performance diagram."





The interior has undergone countless modifications. The dashboard is completely redesigned around the bottom and decorated with milled aluminium inlays. The customer chooses the colour of the carpet, leather and fabric upholstery as well as the design of numerous details. On the roof liner, the design of the grooves on the outside is picked up by a molded part made out of real carbon – providing a sensual experience by its sheer look and shape. This also applies to the five-part door trim, which undergoes a comprehensive redesign, including an interior handle made of milled aluminium. The architecture is characterised by a four-part tub shell, which is specially made of GRP and includes the rear row of seats - the cockpit once again appears to be made of one piece. The driver sits on electric Recaro sports seats and looks at a set of instruments with five analogue round dials with modified face designs.



Modern headlights with LED-technology by Hella and Osram provide the driver with lighting that corresponds to present day safety standards. Under the slanted eyes, carbon applications are reinterpreting the design of the turn signal inserts on the 1967 911 R. The exterior mirrors are based on the teardrop shaped shells from the 1991 964 RS. But the AVD version has a much finer silhouette and looks less bulky. Inside, serial servomotors do their work like in the original.





Before you judge a car, drive a mile on its wheels

At every presentation of a new generation of the 911, the public awaits with much suspense, which wheels will be complementing the new masterpiece. AVD also follows this Stuttgart tradition and presents two of their own solutions in the popular 18-inch size. Graphically, they depict elements from the past. The AVD team felt there was no alternative to a new interpretation of the classic „Fuchs“ rim - early generations of the 911 in particular would have been inconceivable without those wheels, where the five-pointed star played a key role in shaping the overall appearance of early nine-elevens. AVD goes one step further by using the central lock system as it is used in motor racing on the 991. This technology is used on the second wheel as well, which is also dedicated to a classic: namely the motorsport icon Porsche 935.



Remarkably, a coherent line in the design style remains clearly visible, despite all these extensive modifications. Perhaps this is precisely because Christophe, the project manager for design has many years of experience in body construction, with a masterful sense of design. The precise selection of the technical ingredients, on the other hand, is Björn Arens' core competence. What brought them together three years ago to join forces on such a big project, can only be explained with a common source of inspiration. To find this source, we must take a roadtrip into the past and into the border region of the Eifel and the Ardennes.



Roots

In the hills of the German and the Belgian Eifel, traffic jams are as rare as predictable weather conditions. The same goes for straight lines. Whoever drives across the meandering roads, either lives in the area or he is intentionally here to get a breath of fresh air and listen to the grinding of his tires. Those contemporaries rarely waste moments in shopping malls, only involuntarily book package tours on cruise ships - their wanderlust rather thirsts for tire abrasion and the scent of freshly burnt petrol. The place is the Circuit de Spa-Francorchamps. Here, ears listen with pleasure to the high-revving rhythm in the cast-iron concert hall with a star cast of various alloys. The precisely coordinated ensemble of pistons, connecting rods and valve clearance sings the chorus of praise for power development and durability - joyfully exulting six or even 7,000 times per minute. What proves itself mechanically for a whole 24 hours at a time along the Eau Rouge is rewarded with much recognition. The first car-driver-combo to cross the line under a checkered flag on the Francorchamps circuit will do nothing less but write history as the winner.

Portals

The race track located near the Belgian town of Spa, like the German Nürburgring about 100 kilometres away, is one of the most valuable fertile soils for motorports in Europe. In their surroundings, a special breed of people has been flourishing for a hundred years now, producing generations of racing drivers, engineers, technicians and, last but not least, gifted designers or attracting them from afar.

Two neighbouring boys with roots in the region grew up in Amel, a small Eifel community in the German-speaking part of eastern Belgium. Björn Arens was to earn his spurs as a mechanic with a renowned racing team. The highlight at the time was an engagement at PSI Motorsport, where he worked as a team member on two 996 GT2 racing cars, among others. Those cars were used in the 24-hour race at Spa-Francorchamps. We all know them from photos: exhausted, sweaty mechanics. With oil-smudged hands and faces, the men wait in the pit lane for their next cue. Surely, there are also such photos of young Björn taken by some press photographer with a telephoto lens. This was 20 years ago. After his time in the racing circus, Björn remembered his family roots and took over his father's car repair shop. Ten years ago, the business moved to a new location, from where it has continuously expanded its activities. In addition to classic repairs, the business with sports cars and exotics is flourishing. But there is also plenty of room for his motorsport passion. Team support is one of Björn's popular services, and a demanding one, at that! Vehicles have to be serviced during championship races in historic rallies, like the one in Corsica, others are in need of preparation for extremely tough tours. Recently, for example, two 1930 Bentleys had to be made fit for the Beijing-Paris Rallye.

Intuition and expertise are food for extraordinary ideas

Clearly, Björn is blessed with an overflowing fondness for innovation and productivity, which led him to developing exclusive concepts and modifications for his clients. It is only logical then, that his striving to expand his skills and step into new terrain led him into an alliance with Christophe Magney. It is during their first joint project that they really began to appreciate each other's abilities. Together, they developed an Austin Healey, which was very well received and eventually set the spark for the Porsche project. Christophe's skills as a bodywork specialist go back well over two decades. Even his early custom creations were admired by the specialized press at the time, earning him several covers and numerous articles. After a car-free break in industrial metal construction, he longed for vehicle conversions again. He intuitively chose the right moment to get into a conversation with Björn, for whom his neighbour's craftsmanship came just in time.

What was that advertising slogan in a Porsche ad from the times of the 964 again?

„Nobody needs it, but everybody wants one!“

A phrase which most definitely also applies to the Eifel-Porsche.