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Secrets

of
the

Porsche Museum

RARE ROAD AND RACE PORSCHE PROTOTYPES **EXPOSED**



959 PROTOTYPE 1982



993 SPEEDSTER 1995

Digital
Edition



SECOND
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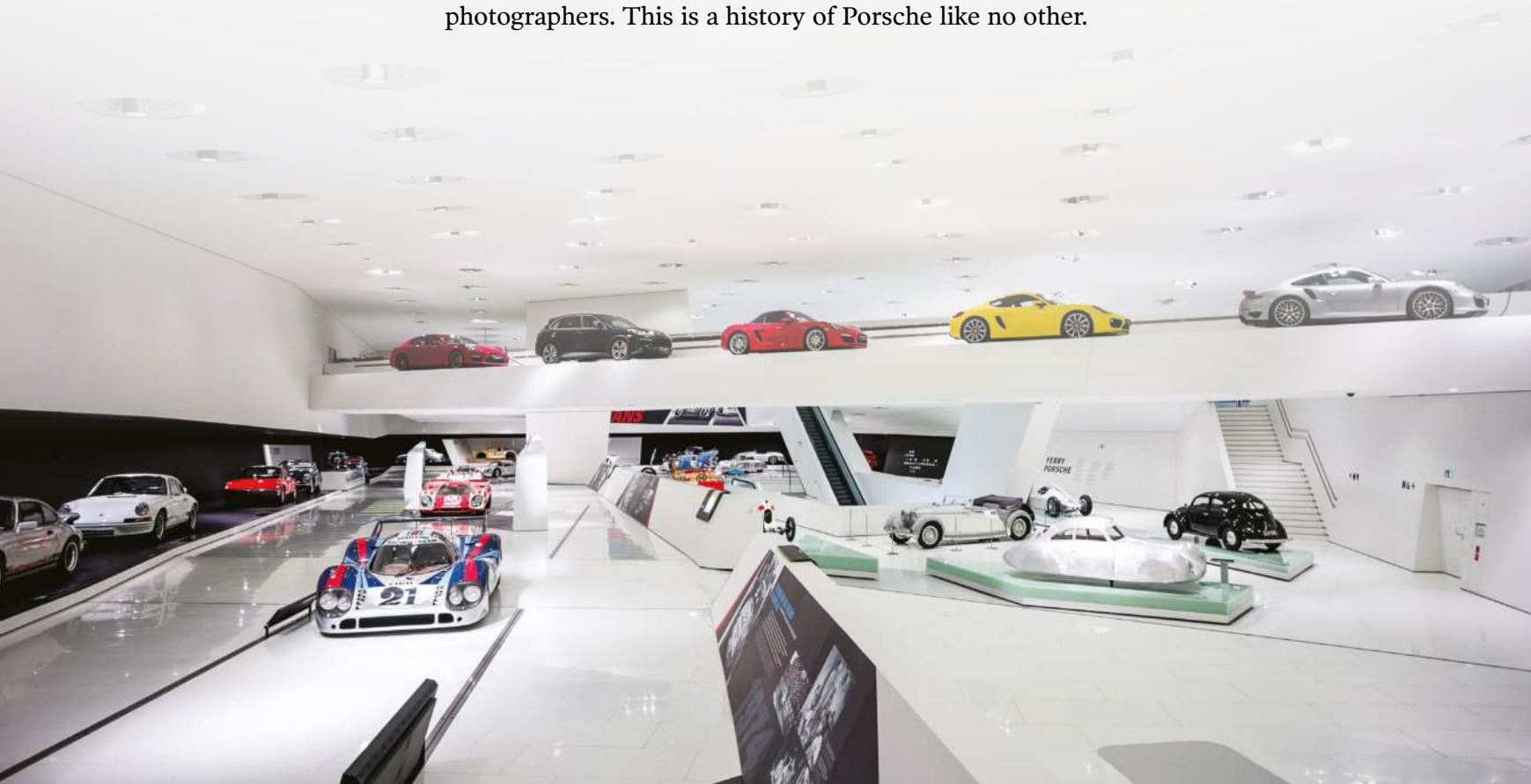
WELCOME

The Porsche Museum on Porscheplatz is a spectacular structure, but the beauty of the building is nothing compared to the cars stored within it. They document Porsche's unique history as a sports car manufacturer, signposting the company's evolution into one of the most renowned names in the automotive genre.

However, the Museum can only present 80 cars to the public, and Porsche's private collection is considerably larger.

For the first time, Total 911 brings you rare and unique access to some of the most treasured sports cars in the Porsche collection, from the little-known concepts and prototypes through to renowned race cars and even cars belonging to the Porsche family.

Secrets of the Porsche Museum lifts the lid on these special cars and the stories behind them, elegantly presented by world-leading experts in the study of Porsche, and illustrated by award-winning photographers. This is a history of Porsche like no other.



Secrets of the Porsche Museum

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Total
911
THE PORSCHE MAGAZINE

bookazine series



CONTENTS



008 Porsche Museum



014 Secret Warehouse

Prototypes

- 020 Story of Porsche prototypes**
Your in-depth look at the development process prior to full-scale Porsche production
- 032 Chassis 57**
How Porsche restored the last 901, the precursor to the fabled 911 name
- 040 The bulletproof 996**
A look at a special 911 built in the late 1990s to protect diplomats and celebrities
- 048 992 GT3 prototype**
Andreas Preuninger takes us for a drive in a pre-production 992 GT3



“The Panamericana concept would inspire several future 911 generations”

64



Family cars

058 The first Turbo

The story of the first ever Porsche 911 Turbo, owned by Louise Piëch

064 Panamericana

This 911 SUV concept was presented to Ferry Porsche as an 80th birthday present

072 Butzi's Speedster

The one-off 993 Speedster specially built for the creator of the Porsche 911

080 Millionth 911

A road trip through Scotland in the millionth 911 to roll off the production line

88



80



100



Race cars

088 CarreraRSR

Story of the Carrera RSR at the Targa Florio, and how Porsche restored it

094 Moby Dick

Why this famous race car is one of the most famous in Porsche's own collection

100 993 GT2R

Taking to the track at Goodwood in this fearsome 1990s track weapon

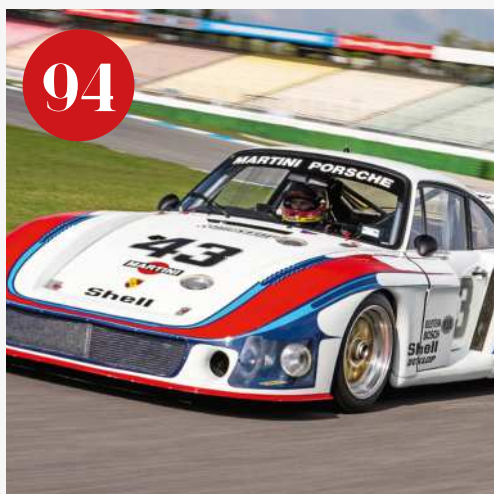
108 GT1 '98

How this mid-engined 911 conquered the iconic 24 Hours of Le Mans

116 The Museum's top six

The Porsche Museum's curators pick the most important road 911s in history

94



108



THE PORSCHE MUSEUM

Despite being only 12 years old, the Museum is already a pertinent symbol of Zuffenhausen's future, as well as its past...

Written by **Lee Sibley**





911 or not, the Museum presents the entire history of Porsche through a variety of engaging displays

You'll see the unmistakable, unorthodox silhouette of the Porsche Museum protruding into the Stuttgart skyline long before you recognise the rest of Porscheplatz. This isn't down to the height of the building; nearby factory structures spread over the home of Dr. Ing. h. c. F. Porsche AG reaching further skywards, but these carry function strictly over form and so they are otherwise nondescript, even ugly, in appearance. In stark contrast, it's the beauty of the Museum that immediately draws your eyes towards it.

At first it looks like the main structure of the Museum is suspended in the air (in fact, it is

supported by only three V-shaped columns), and its form appears to change drastically as you walk around its perimeter. No matter what angle, there's a crisp yet complex illusion emanating from it. Even from the outside then, there's no denying this entire complex is a fine example of architectural art.

The building itself was designed by Viennese architect office Delugan Meissl, whose design was chosen by the Porsche board from over 170 different entrants for the project. Construction work started in early October 2005 to implement those design renders, and on January 31st 2009, the building was officially opened to the public. Inside, you'll find a 5,600-square metre exhibition

space with a variety of motoring relics and icons spread eloquently over two spiralling floors, outlining the entire history of Porsche from Ferdinand's birth in 1875 to the present day.

Owned by Porsche AG, the Museum inhabits a special, innovative way of presenting the history of the manufacturer to the public, so much so that you could visit the displays two or three times in a year and enjoy an entirely different experience, each time learning new things. It is this which helps the Museum attract so many visitors.

Displays are always centered around the visions that shaped the company. Here, you will find out more about Zuffenhausen's remit of lightweight construction, clever use of technology, fast and

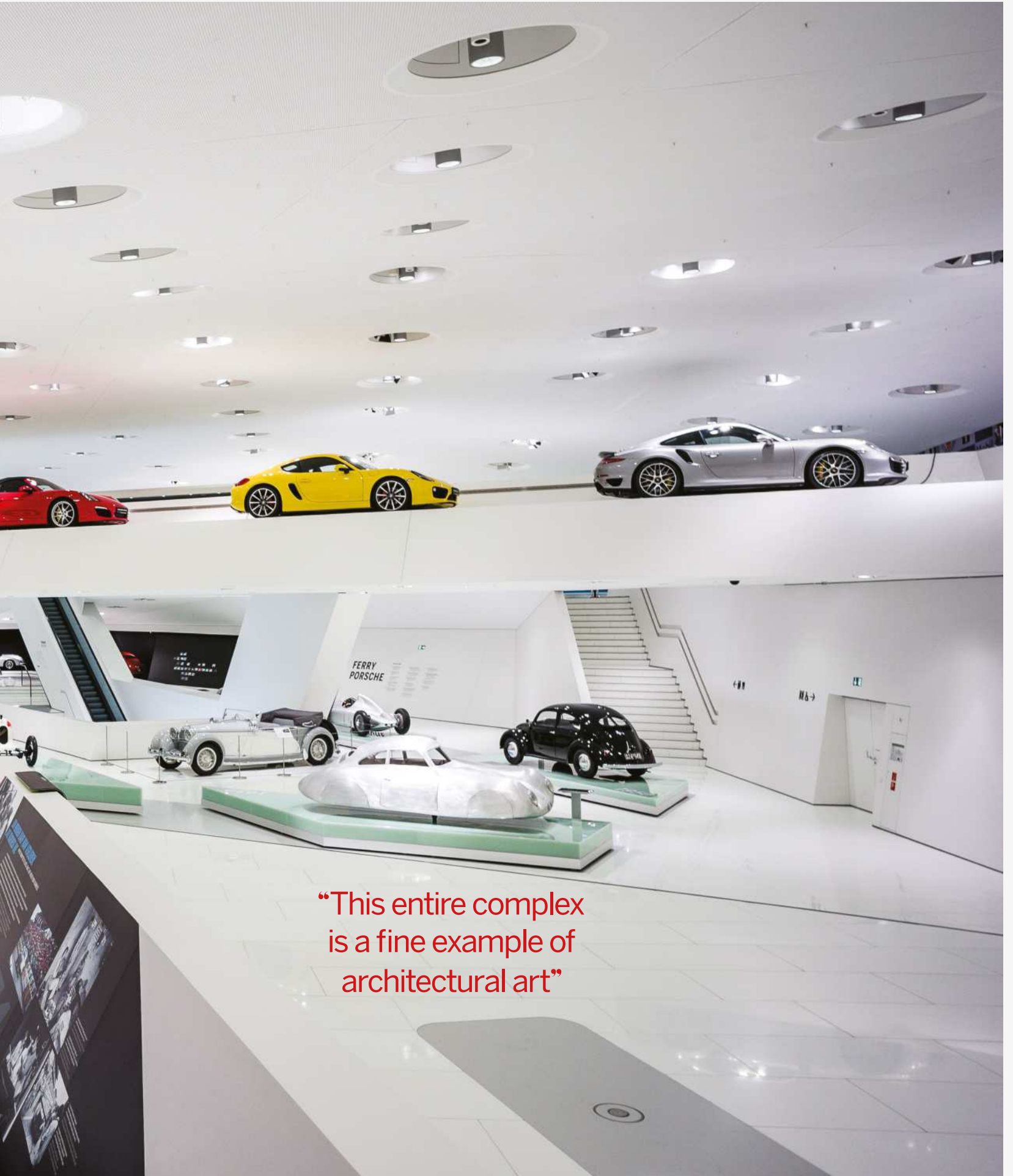
Company profile

- **Owner:** Porsche AG
- **Opened:** 2009
- **Location:** Porscheplatz, Germany
- **Rarest 911 on display:** Plenty of one-off original builds, including the first 930 Turbo (in 2.7-litre form)
- **Most common 911 on display:** A 996.1 Carrera, though this particular example was painted by aboriginal artist Graham Rennie Biggibilla.
- **Most expensive 911 on display:** Putting a figure on most of these is foolish – the majority of cars on display are priceless.
- **Interesting fact:** 21,000 cubic metres of concrete were used in the construction of the museum.

Contact

- **Website:** www.porsche.com/museum
- **Telephone:** 0049 (0)711 - 911 20 911





“This entire complex is a fine example of architectural art”

INTRODUCTION

powerful performance, an intensity in sporting excellence, and a consistency in high standards as the blueprint for any car produced by Porsche.

What's more, the Museum operates by organising its exhibitions according to themes. Typically, two to three themes prevail in a 12-month cycle, each lasting several months. The Museum's management constantly liaise with Alexander Klein, from Porsche Archive, to decide on display themes relevant to the company, which can be time sensitive. For example, the display theme during our most recent visit was 'Le Mans', using Porsche's rich racing history at La Sarthe to mark Weissach's dominance in the top class of the race over the years. Once a display theme is in place for the Museum to present historically, plans are then made with Klein over suitable sports cars to pull from storage to ensure a glorious ensemble of Porsches are permanently on display at Porscheplatz 1. "Of course, this is a difficult task," Klein tells me, "because some of the cars in storage could be going through a restoration or have one scheduled, and so we must carefully match which high brow cars should go on display with the cars that can."

After a comprehensive hitlist of suitable cars is put in place to help illuminate each theme, detailed floor plans are then Klein continues: "The cars you see in the Museum are not placed there just because we feel like it; they are there as a result of careful planning. As well as looking at what can be displayed from our history, we look at how the car can be displayed – for example,

look at the 956, which is mounted upside down to highlight its superior downforce capabilities. Of course, such a presentation takes a lot of time for us to organise."

In a bid to appeal to the younger generation of Porsche fan (school and college visits here are not uncommon), classic Zuffenhausen relics are often presented in a fresh, modern way, with current technology deployed to aid the evocative learning experience. The sensory overload is welcoming: as well as being able to run your eyes fastidiously over each and every sports car on display, there are clever touch pods that allow you to hear the different engine notes of a 356's flat four, an early 911's flat six, or even the howl of a 956 charging down the Mulsanne Straight. Then there's the sensations of smell: despite an otherwise corporate environment, get close to the cars and you can smell the faint whiff of oil from the rear of classics above the quaint aura of polish and leather. Up to 80 sports cars are on display at any one time in the Museum, and to ensure each theme retains its appeal over prolonged periods of time, a select few cars are swapped out every few weeks.

As well as providing an open display for the paying public to learn about the Porsche brand, the Museum also engages with enthusiasts by staging events at the venue. At least one conference event is held here a week, for what the Museum terms as 'big customers'. The premises also stages one-off occasions for the public to get closer to the Porsche experience, for

example during Le Mans when you could rock up and watch the entire 24-hour race from inside the Museum itself.

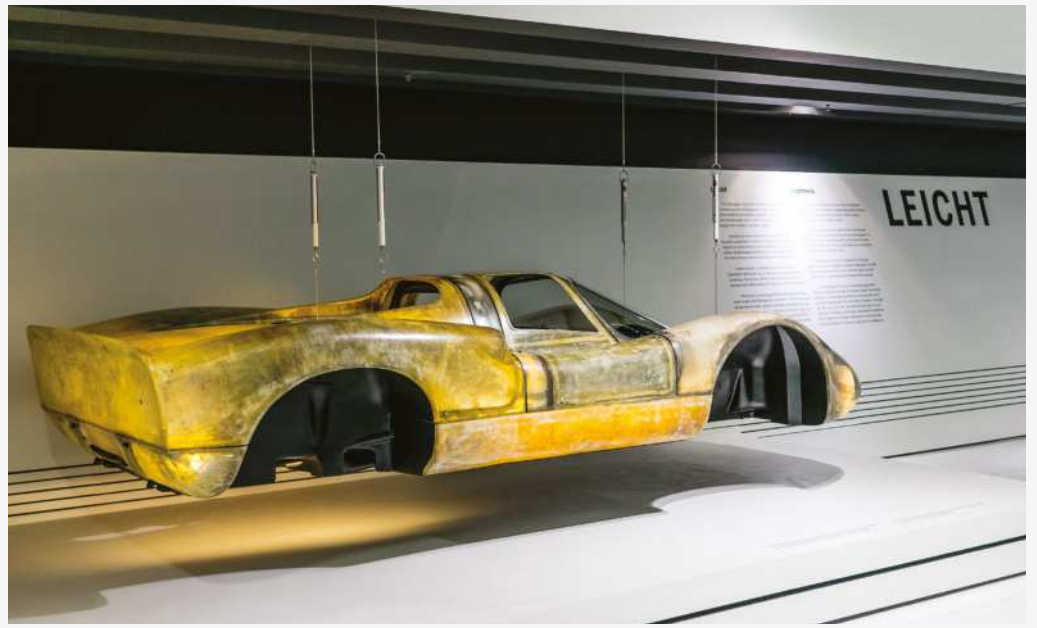
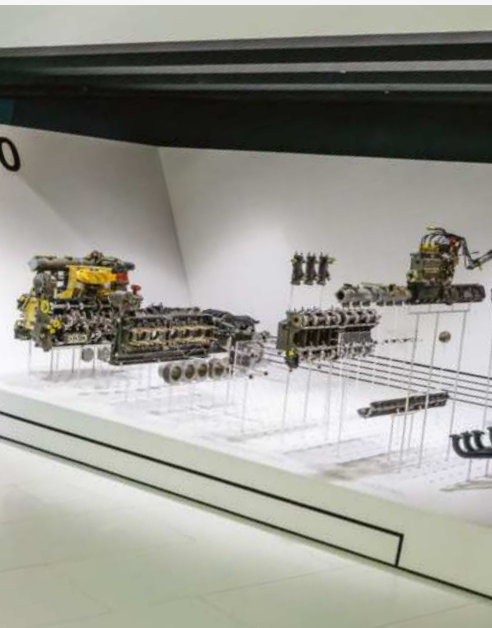
There's much more to the Museum than merely presenting highly polished Porsche motoring artefacts and showing how a 911 et al is created and engineered, though. There's a Museum workshop on the complex, as well as the Boxenstopp and Christophorus restaurants.

Today, the Museum is much more than just a swanky holding lot for motoring relics to be displayed for adoring members of the public. Step outside afterwards, and you will realise that the Museum acts as the epicentre of Porscheplatz. Sports cars being built in the adjacent factory and then displayed in the Stuttgart Porsche dealership over the road all get their identity from the cars inside the Museum, and Porsche AG know it: it's the whole reason for the complex existing in the first place.

The area is just as special for enthusiasts too: throughout the day, 911s will constantly pull up onto the concourse in front of the Museum so owners can get a quick snap of their Porsche back on 'home turf'. They come from afar too – one Australian Porsche owner told me how he'd travelled to Europe on business and couldn't resist a quick stop at the place that built his beloved 997.2 C4S. "It doesn't disappoint here, does it?" he says as we ogle at our reflections in the mirrored roof high above our heads. It certainly doesn't. If you haven't yet been, you're simply missing out. **911**

Never short of anecdotal machinery, the Museum rotates a number of cars on a regular basis to maintain the appeal to frequent visitors





INSIDE PORSCHE'S SECRET WAREHOUSE

Not so far away from the widely admired motoring relics at the Museum, Total 911 is granted access to the most sacred Porsche collection on Earth

Written by **Lee Sibley**

For the Porsche fanatic, a visit to the Museum at Zuffenhausen is a must. A first-hand evocation of the company's automotive lineage is elegantly presented across three floors, from the early days of Ferdinand's engineering exploits to today's technologically sophisticated line-up. Icons aplenty regularly grace the museum floor, giving you the ideal opportunity to get up close with some of Porsche's most decorated sports cars.

But not all of them. Instead, Zuffenhausen's finest models largely reside in a secret warehouse over the other side of Stuttgart in a nondescript building notable only for being big enough to hold them all. Far away from the public eye, the goodies stored here shed more light on the Porsche story, for while the Museum's cars tell the tale of Porsche's chartered path, the prototypes here explain the other avenues the company has explored in past years.

In celebration of this, some of these relics were available for public viewing for the first time at the Museum on Porscheplatz under the 'Project: top secret' program. However, only a select few will be on display at any one time, meaning this unassuming warehouse really is the ultimate treasure chest for the most avid of Porsche connoisseurs. And much to my delight, I have a pass to get inside.

I meet Dieter Landenburger, Porsche's Chief of Archive, outside the Museum on Porscheplatz before we jump into a 991 and make our way across the city of Stuttgart. En route, Dieter informs me he's lost count of how many times he's been to our imminent destination, though his very evident giddy excitement at returning today only whets my appetite further. I can't wait to arrive. Travelling along a quiet industrial street, Dieter abruptly asks me to turn "auf den rechten seite". I duly turn right at the dropped curb and roll the 991 to a halt in the

middle of a large concrete expanse. Behind us is a rusted white fence lining the property, while in front of us stands a large, grey and otherwise nondescript building. In fact, the entire environment is delightfully unassuming: there are no cars whatsoever parked outside the 30-foot high building, and the only hint of any form of Zuffenhausen influence comes from a small aluminium sign attached to the white railing inscribed 'Property of Porsche'.

Dieter instructs me to drive around to the back of the building, where we leave the 991 and make our way to a small side door. Stepping through it, my eyes take a moment to adjust to the surreal vistas before me.

Parked in neat rows from wall to wall and stretching back for what seems like miles are an array of coveted Porsche relics standing in eery silence, some recognisable from press releases and media paraphernalia of old, and others not. Some hide under Porsche protective



SECRET COLLECTIONS



CLOCKWISE FROM ABOVE This '73 RS sat atop the Central Feature at Goodwood's Festival of Speed in 2013; skeleton body shows off Boxster chassis; 'bulletproof' 996 weighs nearly three tonnes; a 750hp water-cooled V8 sits in this Porsche IndyCar; cutaways for model launches are usually carried out by interns; look closely and you'll find slight oddities over production models; the Paris Dakar SC RS stands proud



covers, having not seen the light of day for years, while others are exposed, demanding that my eyes wander and my brain race as Dieter begins informing me of the circumstances under which each car – each project – was built.

Make no mistake, this is an Aladdin's cave like no other. There are at least 300 of the most prestigious Porsches ever built being housed in this vast chamber of wonderment, with firsts and lasts from the production line sitting next to prototypes and even shelved projects. The entire lineage of Porsche is in here – beyond the ensemble of 911s, you'll find Boxsters, Panameras, even tractors and motorbikes, plus Wendelin Wiedeking's imposing 928 GTS.

There's an unusual musk in the air, which I decipher as being partly akin to a vintage furniture store, and partly the delightful whiff of fresh tyres. The building is eerily quiet, save for the footsteps of Dieter and I, although Dieter's enthusiastic reciting of privileged information breaks up the silence caused by my sheer awe

of our environment. We immediately stumble around ten race cars from a variety of different eras, disciplines and even continents. "This is my favourite section. I call these the sleeping beauties," Dieter says, referring to the untouched race cars, which include a GT1, RS Spyder, 908 and 906 (parked in 1967 and untouched since) in front of us. "In the next few years we want to restore these cars, but they'll only get a sympathetic restoration; we want them to keep their patina, it tells a story," adds Dieter.

After a good poke around each racer, we move on and head over to the more interesting prototypes. First to grab me is a 1964 911, which has a more square and elongated side profile over a conventional classic. Peering inside, I can see why: this mule was the subject of an experiment by Ferry Porsche to implement a true four-seater Porsche with plenty of room in the back for passengers to travel in comfort and luxury. The model never made it to production as a 911, of course, but the modern-day Panamera suggests



This Pininfarina-styled project is almost unrecognisable as a Porsche save for the Design90 alloys

INSIDE PORSCHE'S SECRET WAREHOUSE



Porsche's motorsporting heritage across all continents also reside at the secret warehouse only a few wheel revolutions from shelved projects, including the four-seat passenger 911



Dieter says the first example of each production car is given to the Porsche family, such as the 997 Speedster (LEFT), while working prototypes from a variety of eras stand nearby, including the 996 Turbo Cabriolet (BOTTOM LEFT), 918 with 991 rear clusters (BELOW) and 959s (ABOVE). Most feature during 'Project: Top Secret' at the Zuffenhausen Museum



that Ferry was on to the right scent with his idea.

Other interesting prototypes dotted around the room include a largely unrecognisable Porsche with Pininfarina styling. The car is frankly horrible in appearance, and Dieter allures to the fact that Porsche's hierarchy thought the same at the time. Needless to say, that was the end of the Pininfarina/Porsche styling experiment.

My favourite alcove of the building is dedicated to the 959, where numerous prototypes and pre-production models sit unmolested from their early Eighties heyday. With each model, you can see what was trying to be achieved in each exercise.

A car with hand-sculpted panels (with mucky fingerprints etched into the coachwork) makes for a clear nod to aerodynamic studies, while another mule reveals Porsche's early research with side air inlets, which of course made it onto the finished model. A final production example sits neatly to the side of the prototypes, and I can't resist opening the door

to take a further look. Sitting on the cloth seats inside, I clasp the wheel and fix my eyes on the odometer, which reads '00002 kilometres'. I duly spend the next ten minutes trying to pick the bottom of my jaw up from the dusty warehouse floor. Elsewhere, pre-production variants of rarities like the 997 Speedster and Sport Classic hide under the Porsche-crested covers, and one-off builds including a bullet-proof 996 Carrera are revealed too. There is simply too much to take in: all too soon, Dieter has to call time on our visit to make way for an impending new arrival to the collection.

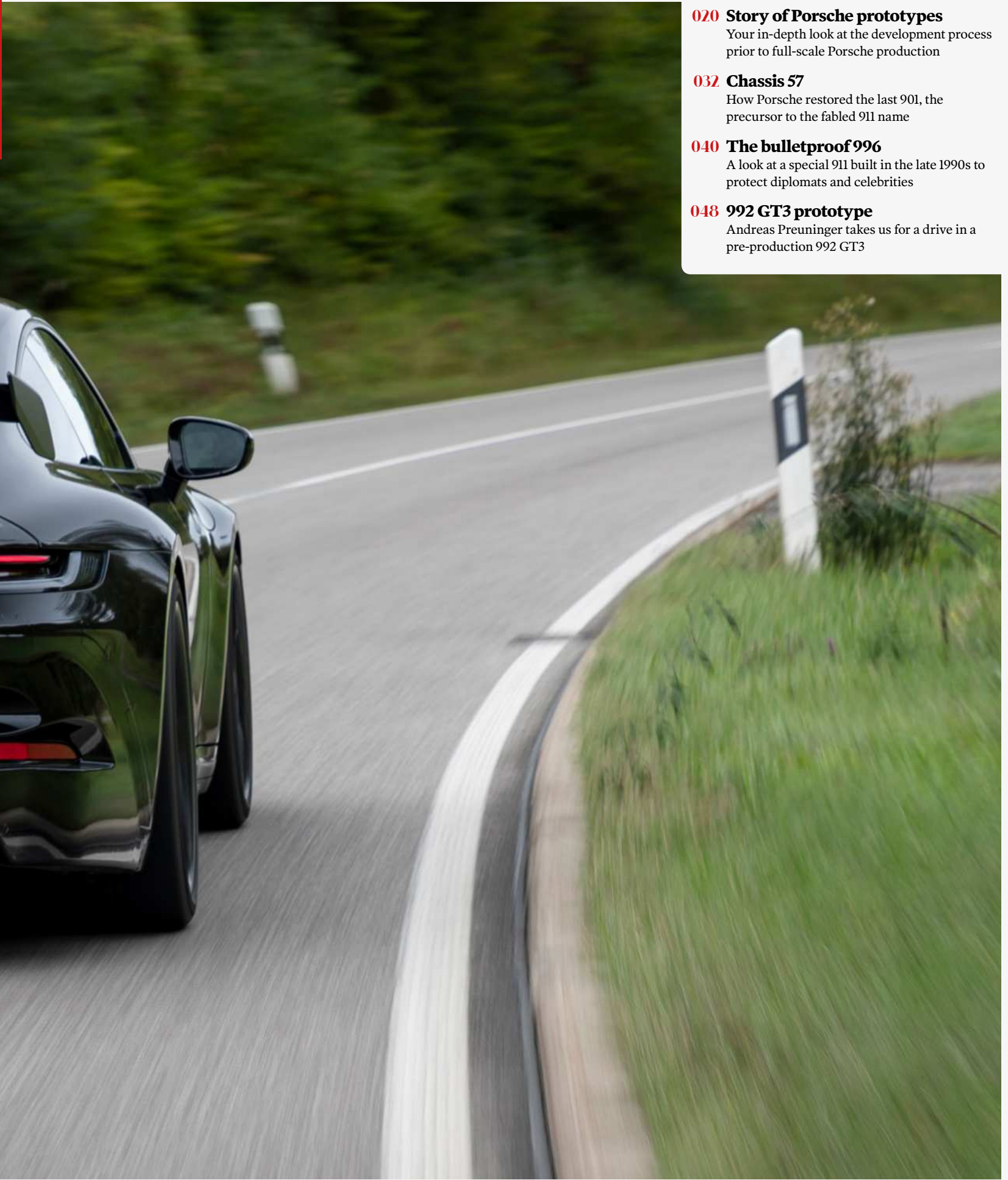
Returning to our 991, we leave the grounds of the warehouse and head back for Zuffenhausen. I mull over the sights I'd just seen: pieces of otherwise uncharted Porsche history that frankly deserve to see the light of day and have their story told to enthusiasts. The Museum may not be able to host all of these, but their 'Project: top secret' effort is a welcome start to showing what's hidden in this automotive Narnia. **911**



Just 13 Type 991 Club Coupes were built to celebrate 60 years of the official Porsche Club in 2012

PROTOTYPES





020 Story of Porsche prototypes

Your in-depth look at the development process prior to full-scale Porsche production

032 Chassis 57

How Porsche restored the last 901, the precursor to the fabled 911 name

040 The bulletproof 996

A look at a special 911 built in the late 1990s to protect diplomats and celebrities

048 992 GT3 prototype

Andreas Preuninger takes us for a drive in a pre-production 992 GT3

CONCEPTS, MULES & PROTOTYPES



Before any new model goes into manufacture the design – in various stages of finalisation – has to go through practical testing. These vehicles are prototypes, recognisably and most often visually identical to the subsequent production vehicle. Far less frequently these days, where more extensive research and dynamic development can be carried out with software simulations, a manufacturer experiments with a radical new idea by building some of the technology into the preceding model. These cars are often referred to as ‘mules’. In the past, the need to keep particular experiments confidential even led to some mules wearing total disguises to fool both press and competitors. Examples of this at Porsche include the Audi 100 Coupe, into which Weissach shoehorned the 928’s V8 engine and running gear; later the 928’s innards would also be built into an Opel Diplomat.

Concepts are used by manufacturers to float an idea, to test acceptability of a particular

design or style. A phenomenon which in today’s homogenised and regulated auto industry has become unusual, the most successful example in Porsche history was the Boxster concept, greeted with standing ovations when it was revealed in 1993. That the resultant Boxster – which would closely prefigure the new 911 – was so similar to the concept was a tribute to Porsche’s original design, achieving homologation with a minimum of compromises which usually dilute and sometimes completely spoil the original idea.

The real workhorses of pre-production are, of course, the prototypes, masked these days if their makers want to hide them by an astute application of chequered tape, which brilliantly sabotages visual perspective. Of the thousands of prototypes built, virtually all of them are subsequently broken up, occasionally to the dismay of auto historians. In deference, however, to the interest they generate, Porsche has selected a handful of the more remarkable prototypes it has kept, and sometimes displays them at the Museum at Zuffenhausen...

The specification of any new model will have been derived from various experimental prototypes. Total 911 examples three key concepts at the Porsche Museum before looking at testing of the 996- and 997-generation Carreras





Few if any Porsche were more remarkable than the 959, and the Museum has unearthed a classic 'mule' from its store. This incomplete prototype offers a fascinating glimpse of stylists and engineers working together. Porsche originally conceived the 959 as a high-profile entry in Group B in 1982, where almost all participants were following the Audi Quattro example of turbocharging and all-wheel drive. Homologation would involve making only 200 production cars, which Porsche planned as soon as the competition 959 was completed. With its roll cage, but otherwise a stock 911 interior, this 959 mule is evidently an early test bed for the competition version. Based on an SC shell, intriguing period detail shows instructions in Dymo tape on the steering wheel boss and handwritten notes on the rubbed-down filler on the outside of the car. In a 959 mule pictured almost two years later in 1984, Helmuth Bott, struggling with the fixed harness, is about to try a running prototype at Weissach.

Porsche's concerned-looking test driver - wearing racing overalls and dark glasses in the centre of the picture - has evidently warmed the car up beforehand. Bott was an enthusiastic supporter of the 959, which was intended to showcase Porsche's technical prowess as well as demonstrate its ability to win in Group B, just as it had in Groups 4, 5 and 6. The 959 would also grant Porsche a flagship to compete with Ferrari's forthcoming F40, but nothing would go right for this ambitious project: the company badly underestimated the delays when so many new and unfamiliar parts and so much new technology were involved. Sequential turbochargers and integrated 4x4 transmission meant that the 911

959

chassis required extensive re-engineering, and if Porsche managed to field a competitive car in time to win the 1986 Paris-Dakar - an oil leak robbed the 959 of victory the previous year - by then it was too late... after a series of fatalities Group B had been deemed too dangerous and abandoned. So Porsche found itself building a car essentially for road use, but development was falling desperately behind; over 200 customers paid deposits for a car that would be delivered often almost two years late. Deposits received from would-be US owners had to be returned as the 959 would fall foul of federal crash protection norms. As well as underestimating time, Porsche also underestimated costs, but having committed itself to a retail price the company felt obliged to stick to, especially given very late deliveries. It would transpire later that the 200 or so customer 959s cost at least three-times their selling price to build.

Yet the 959 was acknowledged as a fantastic car: it was properly developed, had predictably safe 4x4 handling and was uncannily stable at its almost-200mph top speed.

As far from a raw homologation machine as could be imagined with air conditioning, powered seats, a proper sound system, aerodynamically honed wide-angle mirrors and telescoping headlamp washers, the 959 was a fine example of Porsche excellence. Alas the fruition of the 959 project coincided with the slump of 1988 which almost cost Porsche its independence, and the super Porsche was unceremoniously terminated along with the Porsche careers of Peter Schutz and Helmuth Bott. The mule in our pictures is one of four prototypes the company is still in possession of.

“Based on an SC shell, intriguing period detail shows instructions in Dymo tape on the steering wheel boss”



RIGHT Holes through the driver's seat headrest were early developments for the 959 Sport's harnesses. This life-size model also shows just how '911' the 959's body really was



CONCEPTS, MULES & PROTOTYPES





RIGHT This mule is a rarity in the automotive world as it showcases what turned out to be a shelved project. Style-wise, inspiration for the 993's headlight and fender profile can be recognised, while the 964 C4's AWD system is visible inside

“The Museum’s black 965 was fitted with an Audi 3.6 V8, apparently for radiator testing”





Typ 965 was given the green light in April 1984 and was intended as the Turbo version of the 964. Porsche's ambition was to pitch the 965, to be called the 969, midway between the 964 Carrera and the 959 Über-Porsche. The 965 would benefit from some 959 technology: twin turbocharging and self-levelling air suspension, as well as electronic systems and PDK, features also intended for the top-line Porsche.

Typ 965 would have a flat six of 3.4 litres, and it was deemed that 370bhp would be necessary to crack 300kph. To achieve this, twin turbos would be required, as well as the 959's four valves per cylinder, water-cooled head.

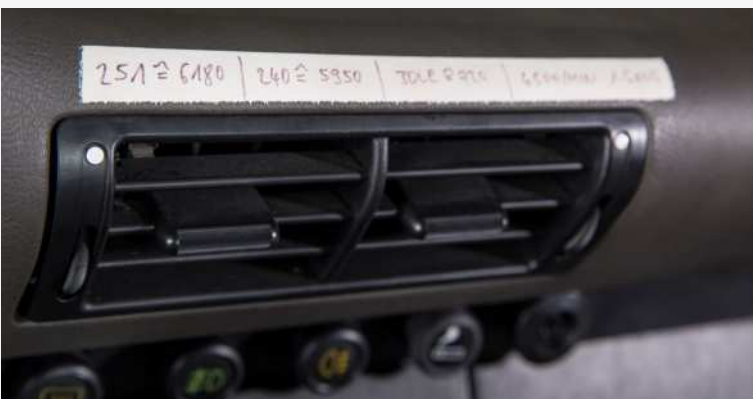
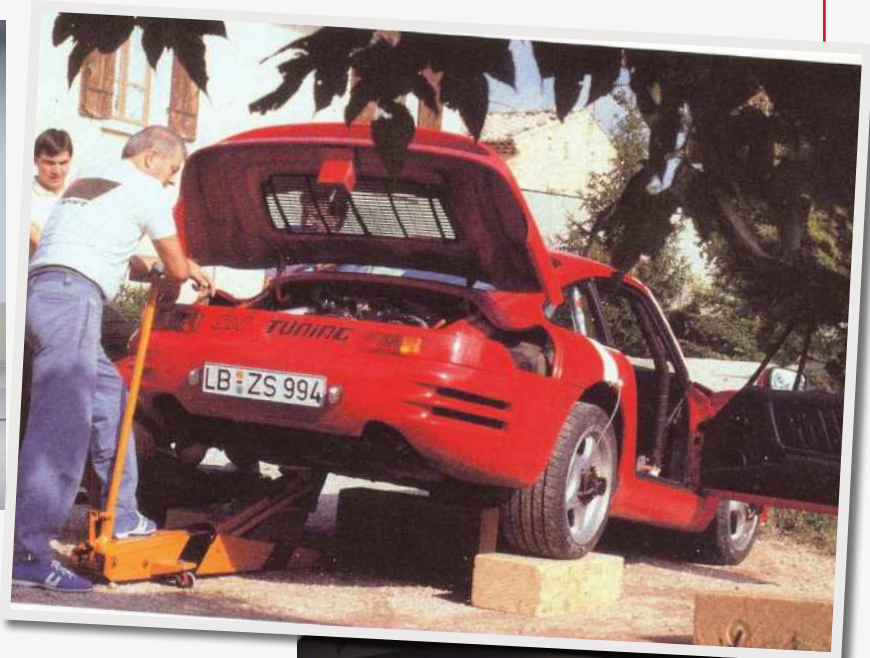
The transmission would be more sophisticated than the 964 C4's simple 31:69 front/rear torque split, and PDK was planned, as were rear drive and manual gearbox options. The body would be recognisably 911 with less overt aerodynamic appendages than the 959. But before Porsche could even start testing some of the proposed new technology, there were problems with the engine: power output did not reach the target 370bhp, but worse was heat dissipation. Delays in resolving this threatened the entire project. The spy shot taken in southern France during 1987 shows a 965 prototype obviously in trouble. The car is plausibly disguised as the product of a fictitious German tuner, with a Ludwigsburg

965

registration rather than the giveaway 'S' of Stuttgart (above). Weissach was already overloaded with TAG F1 work and the 959, plus its usual third-party contracts as well as this 965, which in theory should have been relatively straightforward. The 964 C4 was launched in 1988, followed a year later by the

C2 version but, correspondents noted, still no Turbo. Behind the scenes, anguished discussions were taking place. Manfred Bantle, responsible for much of the 959's engine, even suggested a water-cooled V8 which

Weissach could rapidly adapt from existing designs. Incoming technical director Ulrich Bez concluded that the project was too complicated and expensive, cancelling Typ 965 in December 1988: "It would have been a car to sell at DM 200,000 and would not have been a replacement for the Turbo." The Museum's black 965 was one of 16 prototypes, and this car somehow survived orders for its destruction. Interestingly it is fitted with an Audi 3.6 V8, apparently for radiator testing. This car would almost certainly have been used in 1991 when a V8 powerplant was again discussed, as Porsche debated whether to upgrade the 993 with a modern water-cooled unit or continue with the air-cooled flat six.





991 SPEEDSTER

Porsche first revealed the 991 Speedster concept at the 2018 Paris Motor Show, a presentation which appeared to some observers as a slightly cynical marketing exercise. A Porsche Speedster was, after all, hardly a new phenomenon: the original Speedster of 1954 was not even a car Ferry wanted to build, but his gung-ho US distributor and fellow Viennese Max Hoffman convinced him that Porsche needed a lower cost model to counter competitors like the Triumph TR2 and Austin Healey. Hence the very basic Speedster was delivered with neither heater nor rev-counter, but it was the cheapest Porsche ever sold in the US at \$2,995, and 3,000 were sold. Later attempts to revive the Speedster were marketing flops: the 3.2 in 1988 and a 964 version a couple of years later were both perceived as overpriced for what were basically stock 911s with cut-down rooflines and very rudimentary hoods.

When the 997 Speedster appeared it was clearly aimed at collectors; it used Porsche's new PDK transmission, was priced above all other 911s at almost £150,000 and limited to 356 examples.

By 2008 Porsche was quite adept at pulling off this sort of PR trick successfully, but not everyone was impressed, hence the scepticism in some quarters which greeted the 991 'concept'. There were, of course, the usual promises that this car would go into production and this time with a larger quantity – 1,948, in fact, celebrating the 70 years since Porsche started in 1948.

The 991 concept was also more promising. The prototype clearly picked up essential features from the original Speedster – a two-seater cabin with a lowered windscreen and the 'double bubble' rear cover of the 3.2 and 964 Speedsters – and added one of the 911's racing trademarks, the centre-bonnet fuel filler.

With 21-inch centre-lock wheels and a two-tone silver paint job, this concept looked the part, but a glance inside past the racing bucket seats revealed that unlike the 997 Speedster, this concept at least had manual transmission and the far more satisfying-to-manipulate 'six' to boot. The specification also listed a naturally aspirated GT3 4.0 tuned to 500bhp, rear drive, and a chassis

and suspension using GT3 rather than stock 991 underpinnings. Clearly Weissach's Mr Preuninger had more than a hand in this Speedster.

Porsche had signalled a production version, so the question was what would be lost from this encouragingly sporting concept. In the end it seems very little: homologation norms meant that the centre fuel filler did not make the transition, and ride quality will no doubt be superior on the production 20-inch, still centre-lock wheels. The GT3 damping has been softened marginally as well, for as Preuninger points out, this car has no particular track vocation. But it is still emphatically a driver's car, for neither the special manual gearbox nor the naturally aspirated, high-revving 4.0 has been lost in translation.

At £212,000 the 991 Speedster is £100,000 more than a GT3. Will it prove exclusive enough for 1,948 examples to sell out? Porsche has been here before with the splendidly analogue Carrera GT, though it proved rather too demanding for many customers. 15 years on, interest in analogue drivers' cars is probably stronger: as a final fling before the petrol engine yields to the constant torque of the battery motor, the 991 Speedster may well prove the hit the Carrera GT never quite managed.

“Homologation norms meant that the centre fuel filler did not make the transition”



ABOVE The 991 Speedster is an example of a mule designed for public consumption to gauge interest. It was a hit: though elements including the talbot mirrors were ditched, that lairy white-and-silver bodywork was later unveiled as a Heritage Pack



HOW NEW GENERATIONS ARE TESTED

As we've seen, one or two prototype examples do survive a culling, these cars helping to tell Porsche's lesser-known ventures. But how are mules tested? Total 911 looks back to the end of the 20th century and start of the 21st with the 996 and 997 respectively...



“Barely had the 993 reached all markets before an example was picked off the line to be turned into a 996 mule”



By 1991 Porsche had seen the writing on the wall: the direction of emissions legislation suggested that multi-valve heads and water-cooled engines for the 911 were going to be unavoidable. Porsche was the last producer of the air-cooled variety – there were no other manufacturers with whom to share development costs of a power unit which looked increasingly obsolete. Porsche also had the particular problem of a range of three models with no common parts. It would take several years to correct this, but long before the 993 was revealed the rationalisation of a common platform for two models was in the planning. The Boxster 986 and the 911 996 would be designed and readied together, though launched a year apart, the lower cost 986 first.

It meant that barely had the 993 reached all markets before an example was picked off the line to be turned into a 996, and the first mule is seen here in September 1994. It is a fascinating picture which shows a 993 cloaked a 986/996 chassis (far left). A 930 spoiler is the most obvious of several bodywork modifications made by the development engineers; closer inspection suggests oversized wheel arches and front wheels set slightly forward, reflecting the longer 996's

235cm wheelbase shoehorned into an air-cooled shell intended for the time-honoured 227cm of 911s since 1969.

By 1996, finished 996 prototypes were being tested extensively: our pictures show a 996 undergoing wet road handling tests in May 1996. The car is deliberately painted black, together with liberal amounts of masking tape. It is still relatively disguised, though obviously the new 911.

996

A picture taken ten months later at Mugello during tyre testing illustrates the subtle covering even at this late stage of the rear lenses. Just in front of the 996 is a newly launched Boxster 986. Though the 996 brilliantly

retained the classic 911 silhouette, the shell was redesigned from the ground up. It needed not only to meet forthcoming crash norms, but also to accommodate the increasingly complex control systems of the modern car, as well as provisioning for air conditioning and a fold-away convertible roof, neither of which was included in Butzi's original 911 design. The photograph on the top left, taken in August 1996, shows a prototype Cabriolet receiving the attentions of 911 project manager Bernd Kahnau and development director Horst Marchart during real-world testing.

PROTOTYPES



ABOVE Pre-prod testing includes placing a mule in a climatic chamber to observe functionality in extreme conditions

TOP RIGHT An early 997 Turbo is disguised as a 996, before below, further testing honed the shape of side air inlets

BELOW The Nürburgring is home for the prototypes manufacturers want you to see in action



“Porsche decided that a light disguise would draw less attention to prototypes than cars plastered with masking tape”



997

By contrast the transition from 996 to 997 was less complex: the same basic 996 shell and certain dimensions, such as its wheelbase, were reused, but if the 3.6 engine was largely a carryover, the 997 pioneered an entirely new six-speed from Aisin, marking the end of Porsche's long relationship with Getrag. There was much detail alteration beyond a simple reskin. The front in particular was restyled, its new oval lights resembling the 993's to achieve a more classically 'Porsche look', partly a response to criticism of the 996's headlights but also to differentiate it more obviously from the forthcoming 987 range.

In fact, the changes went deeper, the 997 Coupe sharing only the roof panel of the previous 911. Despite slightly thinner doors the 997 was 38mm wider than the 996, which allowed wider front and rear tracks and commensurately larger tyres. To improve drag coefficient the entire underside was faired in plastic with a front spoiler, not visible unless the car was viewed from underneath. The effect of this was to reduce frontal lift by 13 per cent. Meanwhile the A-pillars and wing mirrors were reprofiled to overcome

wind noise. The overall effect was a 911 Carrera with a Cd of 0.28, compared with the 0.30 of its predecessor.

If the jump from 996 to 997 was less dramatic than from 993 to 996, that is not to say that 997 prototypes would not run their usual tens of thousands of test miles: adjustments to the chassis to accommodate the shorter Aisin gearbox and a suspension which had an entirely redesigned front cross member with relocation of the anti-roll bar together with thicker rear cross members meant a full programme of developmental testing. Other chassis improvements for the 997 included PASM damping and the new variable-ratio steering. All of these components, the new tyre sizes, the effectiveness of the aerodynamics plus, of course, the 3.8 'S' engine had to be proven.

On the subject of engines, it is hard to imagine that while the 997 was in development, Weissach was unaware of the crucial flaw of the M96/97 engine family – the IMS. But the calendar of the new model programme was such that the new unit, the 9A1, was not scheduled until the midlife facelift in 2008. At the cost of some client



goodwill, Porsche probably decided it would have to live with the matter of its failing flat sixes until then.

Given external changes were more stylistic than fundamental, Porsche decided that a light disguise would draw less attention to prototypes than cars plastered with masking tape. The prototypes in the photographs reveal how effective this was, the simple expedient of mimicking the 996's headlights enough to throw casual observers off the scent. The controversy which greeted the 996 launch vanished: the 997 was presented to unanimous applause. **911**



PORSCHE'S BARNFIND 901

This early 911 has taken pride of place as the final, scintillating piece in the Porsche Museum's own collection. This is its story of unlikely revival...

Porsche has an enviable collection of cars, and a visit to its Museum is always a special experience. But for years there was one model missing from Porsche's own collection, and that was an early 901. Launched at the 1963 IAA Frankfurt Show, you'll no doubt know the story of how that development number was subject to a trademark dispute with Peugeot – in France they had registered numbers with a zero in the middle – requiring some hasty rebadging that introduced the world to the legendary 911. The beginning of a model line enduring for more than half a century, it's no surprise Porsche had long been keen to get its hands on an early 901, and on

5 August 2014 that wish was about to come true.

It was on that day that Alexander Klein, the Museum's manager of its classic car collection, received a phone call from German television station RTL II. In the course of working on a show about looking for antiques among junk – it was called *Der Trödeltrupp – Das Geld liegt im Keller*, or *The Junk Troop – The Money is in the Basement*, for those whose German is as bad as mine – a film crew had discovered two old Porsche languishing in a barn on a farm in Brandenburg. Owned by Bernd Ibold, who was taking part in the show, one was a 1968 911L, the other was a Porsche 901, chassis number 300 057, that had been built in October 1964. Klein knew the importance of the find: "The penny dropped,"

he says after the chassis number was mentioned, and 11 days after the call, two experts from the Museum were despatched to take a closer look.

Beneath a thick layer of dust it was clear the 901 was in a terrible state, with both front wings and numerous other parts missing, and signs of serious corrosion. Its interior was almost entirely absent apart from the dashboard, and the engine and brakes were seized. But none of that mattered, as that chassis number told its own story. This was just what Porsche was looking for, and following a more detailed inspection at Zuffenhausen and advice from two separate, independent experts on a valuation, it snapped up the 901 for 107,000 Euros – it also bought the 911L for 14,500 Euros. With the car now known simply





as 'Number 57' safely ensconced at Porsche, it could see what it had to work with, and the initial signs weren't good. Along with the missing front wings, the right-hand inner and outer sills were also gone, as were the front bumper and its mounting, and alongside the major rot around the suspension mountings it was found that the longitudinal beams of the chassis around the rear axle had almost completely rusted away.

On the plus side the team had spotted some fascinating details, including a leather sleeve around the gear lever that was only used on 901s of this age, while extensive research established that two square pipes beneath the seat adjustment mechanism were part of a seat-raising system that had been a factory option. "Many of the features only included in the very first models have been preserved in the car," said Kuno Werner, head of the Museum workshop. Along with the two pallet loads of parts that accompanied the car, this was the starting point for an intensive three-year restoration that would return the rarity to its former glory, and it was to be undertaken with the sort of attention to detail that's typical of Porsche. The aim was to save as much as possible, only remaking or using new parts where absolutely necessary, with authenticity a

guiding principle for the project. A whole range of specialists would be involved, both from within Porsche Classic and external suppliers.

Bodywork was first, and work began with a very careful strip-down. Nothing was discarded, even parts deemed beyond rescue being retained in case they could act as a sample for a replacement component. But with everything that could be saved catalogued and stored, the decision was taken to remove paint and rust from the bare shell using a chemical bath. A gentler process than media blasting, it would mean that any unique identifying marks wouldn't be obliterated, such as those created during the car's production. In fact, some important details were discovered, including discolouration of the metal where welding had taken place and grinding marks on the roof. "Our colleagues back then must have needed to do some reworking" commented Werner. The chassis number stamped into a plate located above the fuel tank was another fascinating find that could be preserved. It's an example of just how important it was to Porsche to retain the 901's authenticity, and the dipping process also revealed some further good news, as more than 50 per cent of the original metalwork could be saved. Engineers had been

working on the assumption that more than 50 per cent had been lost, so this was a major boost. Those areas that couldn't be saved were repaired using panels and sections from a 1965 911 to keep things as close as possible in terms of age, steel composition and quality, the skilled craftsmen carefully removing individual pieces from the donor car and transplanting them into the 901 shell. Those parts included the sills, front wings and front end structure. And extra care was taken to recreate the early car's special features, such as heating pipes that passed below the rear axle.

Such was the dedication to retaining the originality and ensuring everything fitted together perfectly, the repairs to the shell took a whole 12 months, and then it was time for paint, although not before every panel and exterior trim part had been test-fitted to the unpainted body to ensure everything lined up, with even the smallest discrepancies corrected before work progressed. To reflect modern environmental thinking there was a departure from what would have been found back in 1964, the Signal red 6407 paint being of a modern water-based type rather than solvent-based. And current corrosion protection processes were also employed, including the same cathodic dips employed on today's 911s,



LEFT More than 50 per cent of the car's original metalwork could be saved, despite heavy rust
BELOW A leather sleeve around chassis 57's gear shifter was unique to 901s of this vintage







although the PVC underbody and luggage area coating would also have been found on the original car. It had been an epic effort, and even the tiniest details weren't to be ignored, such as taking the time to source the correct screws for mounting the indicators. At least the original glass could be reused. The results are clear to see, but there was an awful lot to do before this historic car would be back on the road.

That seized engine – like the transmission, not the original unit but an identical type – would require many hours of expert attention by the team at Porsche Classic – 120 hours in fact – and it was the subject of a complete rebuild. Patience was required to extract the pistons that were stuck in the cylinders and a new crankshaft was needed, along with one of the camshafts that was also worn beyond repair, but one original camshaft had survived, as had the cylinder heads, which were restored. Those hours reflect the work lavished on the 50-year-old flat six, including the need to overcome a few challenges, such as having to make clips for the complicated carburettor linkages from scratch. Naturally the transmission, suspension, brakes and steering all came in for the same treatment, being rebuilt or replaced as necessary. The rebuilt engine first ran on a test stand in spring 2017 before being reunited with the body in the summer.

When it came to tackling the interior there was the same painstaking attention to detail. Just how much is exemplified by the fact that the



restoration team even used the original spiked roller tool from the 1960s to recreate the correct hole pattern in the headlining – it needed to be a square pattern, rather than the diamond pattern of later models. If that's not detailed enough, modellers from Weissach made a wooden mould which could be used as a guide for recreating the ashtray's chrome-plated support – with a hole for a cigar – that had rusted away.

It was a design that disappeared from models built shortly after this one, so another piece of heritage had been preserved. Nothing short of perfection would do, so period-correct materials were sourced for the upholstery and carpeting, although the original wiring loom was too far gone and was replaced with an adapted harness from an F-series 911. The dashboard and steering wheel that had both survived mostly intact were carefully restored. The work had taken the best part of three years, but the results were certainly worth it when it came to filling a significant gap in Porsche's historic collection. Everyone involved was rightly proud of the work, so it was fitting that a special exhibition – '911 – a legend takes off' – was created within the Porsche Museum to show off the oldest 911 in the collection, the completed 901 going on display on 14 December 2017. It remained there until April the following year, and five months later came another milestone with the car's first official drive. The setting was the Hamburg-Berlin Classic rally, the car rather fittingly shared by its former owner, Bernd Ibold, and one of the presenters of the television show, Otto Schulte.

So with the slightly unlikely intervention of a German TV show, Porsche had finally secured the final piece of a very special puzzle, and thanks to a determination to create something that was nothing short of perfection has given all of us the chance to admire the very genesis of the car we love today. Who'd have thought that 57 would prove to be such a special number? **911**

901 v 911

Aside from the obvious change of name, there were quite a few developments that had taken place by the time the 'A'-series 911 arrived in August 1967. For one thing Porsche had addressed concerns over straight-line stability by adding 11kg of cast iron at each end of the front bumper, a slightly clumsy solution by all accounts. The handling had also been improved with the adoption of wider 5.5-inch wheels instead of the skinny 4.5-inch items fitted to the 901. The engine used cast-iron cylinders with larger valves and a slightly lower compression ratio, and by now all models were using Weber carburettors rather than Solex items. There were also external changes, including wiper arms that were painted black and that parked on the left of the windscreen.

This was also the beginning of the range expansion that would see the introduction of T, L and

S variants, along with more power for the 2.0-litre flat six; for the S it had risen from the original 130hp to 160hp. Lower gear ratios also aided performance for all 911s, and buyers after an easier life now had the option of the Sportomatic transmission. The brakes had come in for attention, too, the S introducing the widespread use of ventilated front discs and all models now using a dual-circuit system for greater safety.

While the Coupe was still the choice for many, the introduction of the Targa gave a model that endures to this day. In just three years Porsche had essentially transformed the model from a replacement for the 356 into the beginning of a legend. It's fair to say that its focus on constant improvement would certainly stand the Neunelfer in good stead for the half century to come.

Model 901
Year 1963

Engine

Capacity 1,991cc
Compression ratio 9.0:1

Maximum power 130hp @ 6,100rpm
Maximum torque 149Nm @ 5,200rpm
Transmission Five-speed manual

Suspension

Front MacPherson struts; torsion bar springs
Rear Semi-trailing arms; telescopic dampers; torsion bar springs

Wheels & tyres

Front 4.5x15-inch, 165/80/R15
Rear 4.5x15-inch, 165/80/R15

Dimensions

Length 4,163mm
Width 1,610mm
Weight 1,075kg

Performance

0-62mph 8.3 seconds
Top speed 131mph



“The restoration team even used the original spiked roller tool from the 1960s to recreate the correct hole pattern in the headlining”



THE BULLETPROOF 911

It was a unique 1990s project to build an armoured 996. Today, Total 911 presents the world's only bulletproof and fully drivable Neunelfer





PROTOTYPES

As we well know, the 996 is famous for being the generation which took the 911 from air- to water-cooling, thereby serving the single biggest step change in the Neunelfer's long and decorated history. Twinned with Pinky Lai's striking exterior design which deviated substantially from 911s of old, the 996 really did herald a time of innovative thinking at Porsche, the company daring to be different in the face of a battle for its very survival.

Mr Lai described to Total 911 just last year how the 996 was thought of at Porsche as the company's last bullet: with sales down and costs rising, this new 911 really was the last chance for Porsche to return to profitability or face extinction. Pinky Lai's analogy is ironic because, once the 996 entered production, it was indeed bullets Porsche decided to focus on for a special project – only this time they were physical rather than metaphorical.

Finished in Libelltürkismetallisch (that's Dragonfly turquoise metallic, in case you were wondering), at first glance this 996 Carrera looks

like any other from the era, with iconic amber lenses signifying that it was built during the first year of 996 production at Zuffenhausen.

While those amber lenses tell a true story – this particular example is one of the first 996 models produced – its bodywork does justice to deceive, because beneath its skin, this is certainly far from a normal 996.

Created in 1996, this very early 996 was pulled from the production line at Werk II and, on the request of a customer, remodelled into an armoured car. That's right, this really is a bulletproof 996, and the only such drivable 911 in the world. Historically, it has long been Porsche's Stuttgart neighbour in Mercedes which has enjoyed the lion's share of the market in production of armoured and reinforced vehicles. The 'Three Pointed Star' has kept the rich and famous safe in transit for nearly 100 years with its special protection vehicles, beginning with Japanese emperor Hirohito in the 1930s.

Comprising heavy-duty steel armouring of the doors and body parts, with centimetres-thick bullet-proof glass for the windows,





ABOVE 20mm thick bulletproof glass was specially supplied by Securit

LEFT The bodywork appears as per production cars, but has been discreetly reinforced using Dyneema

Other one-off 911s

The bulletproof 996 isn't Porsche's only attempt at trying new concepts with its 911 platform, as Total 911 discovers...



PANAMERICANA CONCEPT

The Panamericana was the result of a curiosity from within Porsche to look at the off-road market. Originally designed to take on the Carrera Panamericana, a famous race across Mexico which the company dominated in the 1950s, the Panamericana featured long travel suspension as well as an early nod to 993-generation body styling. While Porsche never pursued the Panamericana as a production project, it is credited with providing the inspiration for the 986 Boxster roadster and Cayenne SUV model lines realised either side of the Millennium.



MILLIONTH 911

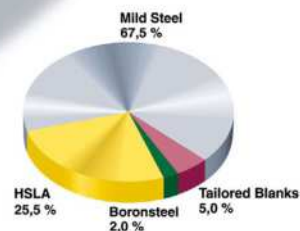
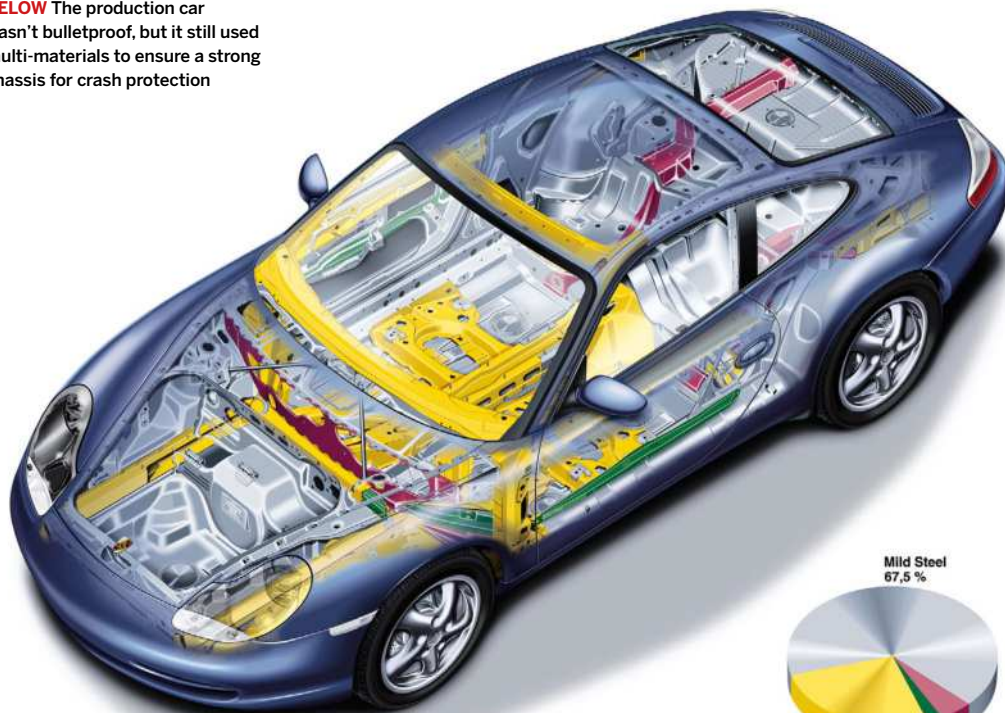
Built, quite obviously, to celebrate the fact Porsche's production of its iconic 911 sports car had reached seven figures, the Millionth 911 was a uniquely specified 991.2-generation Carrera S which was given to the Porsche family. Painted in Irish green (as are so many vehicles given to the Porsche family) with gold lettering across its rear, inside the 991.2 was treated to chrome clock bezels, wooden dash inserts, and houndstooth-covered seats. The Millionth 911 resides in the Porsche Museum today after completing a world tour in 2017.



993 SPEEDSTER

Porsche ceased production of its 911 Speedster at the end of the 964 generation in 1992, this low-windscreen open-top not reappearing on the 911 model lineup until the 997 Speedster, built by Porsche Exklusiv in 2010. However, a one-off Speedster was fashioned for the 964's successor in the 993 at the request of Butzi Porsche, designer of the original 911 in 1963. Although Jerry Seinfeld consequently had a 993 Cabriolet sent back to the factory and repurposed as a Speedster, Butzi's is the only official 911 in the world to leave Werk II as an authentic, factory 993 Speedster.

BELOW The production car wasn't bulletproof, but it still used multi-materials to ensure a strong chassis for crash protection





BELOW Stock engine was responsible for shifting three tonnes of 996



subsequent benefactors of these luxury sedans and limousines include Britain's Prince Charles and the Vatican's Pope John Paul II. By the 1990s, Mercedes had branded its special protection cars as 'Guard' vehicles, the lineup today comprising of reinforced G-Wagons, an ever-popular choice among the rich and famous, while its luxury sedan lineup including the S-class continues to serve the transport needs of diplomats, high-ranking politicians and even royalty.

It was around the time of Mercedes' rebranding of its 'Guard' vehicles that Porsche began to show a willingness to explore the market of specialist protection cars - especially after interest was shown from a potential customer, the identity of which Porsche is (quite obviously) not forthcoming in sharing. Regardless of who it was built for though, what we're most interested in is how it was built, and it's here where Total 911 has been able to uncover some useful information.

With a new era for its 911 sports car on the horizon, Porsche sought out its new 996 platform as the perfect subject for such a study, hauling an early car from the production line to begin work on this bespoke project. The 911's bulletproofing would be achieved by reinforcing both the bodywork and glass on this special 996 concept. First, the glass: the 996's original front and rear

screens plus side windows were replaced by 20mm-thick reinforced glass specially supplied by Securit. From the outside, a cursory glance won't reveal that anything has changed - the rear screen even retains its heated element. However, a closer look reveals a much thicker, black border to each pane of glass, even the driver's and front passenger's windows, which have of course lost their ability to retract. This black border does justice to hide any evidence of the thicker glass from Securit taking the place of the original factory window within each frame. Only on opening the driver and passenger doors (which are much heavier and do not swing open with the same gusto as a standard door as a result) is the thicker, bulletproof pane visible.

As for the body, surprisingly it is only small parts of this 996's bodywork which have been armoured with heavy-duty steel. The majority has instead been protected by 'Dyneema', a high-energy absorbing composite fibre which is also comparatively lightweight (for reference, Dyneema claims its product is up to 15 times stronger than steel while boasting a comparative weight). None of this bodywork reinforcement is visible from the inside of the car or with any doors open, a Porsche source confirming you'd need to remove interior panels for evidence of



PROTOTYPES

any target hardening. It might well serve as the ultimate Q-car, with onlookers not readily able to identify this as a car out of the ordinary – so long as you discount the fact it's a bright green metallic Porsche 911. Its bulletproof capabilities are largely effective too, Porsche telling us, "In most places the body and glazing withstood 9mm handguns and a .44 Magnum revolver."

The use of Dyneema on the 996's bodywork means this Porsche is actually one of the lightest armoured vehicles in the world – but that doesn't mean the car itself can be hailed a 'Leichtbau'.

The drawback for this bulletproof 996 is a weight penalty of nearly three tonnes, more than doubling the standard production car's mass (DIN) of 1,320kg.

Good practice would have been for this additional bulk to be offset by greater power from the engine to ensure familiar Porsche-like momentum but alas, it wasn't to be. Still four years shy of 996 Turbo production (where that extra torque and AWD traction would doubtless have come in handy) instead this concept Carrera stands with its original, naturally aspirated 3.4-litre engine mounted in the rear. With no performance modifications to speak of, the flat six's output remains at 300bhp, giving this 996 an extremely modest power to weight ratio of just 100bhp per tonne. Mated to the stock flat six is a six-speed G96 manual gearbox which feeds power to the rear wheels only.

Inside this bulletproof 911, its Graphite grey interior with full leather is appointed with the usual 996 accoutrements including a speaker system, seat memory, heated seat element, and even cruise control. It's a lavish specification befitting a person who takes luxury as seriously as safety.

Despite Porsche creating what is clearly a very exceptional – and entirely useable – bulletproof vehicle, a mixture of high costs and low customer demand ultimately sealed the fate of this pilot project. The idea was subsequently shelved without any further examples made, and so the Dragonfly 996 in our pictures remains the only bulletproof 911 ever made, publicly at least.

Today it sits in Porsche AG's collection of extraordinary vehicles, often on display in the Museum, though the company has been understandably coy about key details of this specially protective 996... until now. **911**

“This really is a bulletproof 996, and the only such drivable 911 in the world”





Model	996.1 Carrera bulletproof concept
Year	1996
Engine	
Capacity	3,387cc
Compression ratio	11.3:1
Maximum power	300bhp @ 6,800rpm
Maximum torque	350Nm @ 4,600rpm
Transmission	Six-speed manual
Suspension	
Front	Independent; McPherson strut; anti-roll bar
Rear	Independent; multi-link; anti-roll bar
Wheels & tyres	
Front	7x17-inch; 205/50/R17
Rear	9x17-inch; 255/40/R17
Dimensions	
Length	4,430mm
Width	1,765mm
Weight	3,000kg (approx.)
Performance	
0-62mph	Not tested
Top speed	174mph (quoted)

NEW GT3

THE INSIDE STORY

Andreas Preuninger gave Total 911 a first look at the 992 GT3 ahead of its international production debut

Written by **Kyle Fortune**
Photography by **Porsche**

Por is something that's impossible to quantify, but when asked what the key goal was with the new 992 GT3, there's absolutely no delay before Andreas Preuninger, director of Porsche's GT Model Line simply says: "emotion." The rest is pure engineering, this being conventionally measurable, and follows the usual GT3 formula. In the unlikely event you're not familiar with that, it means keeping check of the weight, adding agility and improving performance, all while bound by the increasingly restrictive burdens of bureaucracy and legislation, be it emissions, noise or crash worthiness. Indeed, Preuninger admits that the ever-changing, more restrictive boundary conditions mean around 80 per cent of the GT department's engineering expertise is dedicated to keeping the existing level of performance in ever-tougher conditions, with the other 20 per cent focused on 'upping the ante'.

Evidently Preuninger and his team are busy doing exactly that. While waiting at Weissach's gates to meet him, several GT3s depart, their camouflage fooling nobody, a 911's shape so iconic it's impossible to mask, while adding the GT3's aero addendum only piques interest even further. I'm here to join the boss on one of his many drives as the GT3 is readied for release.

The new GT3 has been three years in the making, that being typical, though tougher, says Preuninger, and not due to the worldwide situation with coronavirus. That presented its own challenges which, while less than ideal, haven't been insurmountable. No, the biggest hurdles instead are the legislation involved. As much as that evidently pains Preuninger, the engineer also seems to relish the challenge of the moving goalposts, and the GT3 is a corporate, driver and enthusiast's two-fingered salute to the legislators, a significant, iconic last stand to tradition, internal combustion and the hedonism that some of us still derive from the simple process of driving. The GT3 is the 911's DNA, motorsport pedigree and history presented as a single car, at the very core of the entire company, its existence about as wilful an exhibition of Porsche's competitive engineering excellence, and downright stubbornness, as you could possibly conceive. The fact that Porsche perseveres with it, as an OEM, bound by laws not applicable to small volume manufacturers, is testament to the firm's commitment to the most focused model in its most iconic series.

What's powering it is no secret, even if today, and for the purposes of communication at the official launch later, there's no spec sheet outlining exact numbers. It's a 4.0-litre, naturally



“The whole process of developing a car has gotten so complex. Sometimes you feel when you’re going home, your head is exploding... we want to be the best pupils in the class”





aspirated flat six that's pretty much lifted from the 991 Speedster. No surprises there, then, nobody at the Speedster launch ever denied the open 991 was essentially a trial run for the next GT3's engine, even if since then there's been a shift in the regulations applied to it.

"If you clog up an exhaust with big catalyts and take a big OPF (particulate filter) that's initially a problem, because an engine is an air pump. Air in, air out. If the air doesn't come out, we have a problem. We have to counterbalance that, with compression, with intake, with timing. Timing on the other side is very sensitive to emissions as well. You really have to find your way through the maze to get the best results. Even so, it's still the same amount on the horsepower," says Preuninger, admitting to the 510hp of that Speedster. It's a bit more in reality, but, as ever, homologated to that number to ensure in the worst conditions it can make its numbers. Enough then, because nobody ever got out of a 991 GT3, GT3 RS or that Speedster and thought it needed anything more.

Preuninger says they're at the point of diminishing returns when it comes to the engine performance, stating that the gains the GT3 brings over its predecessor come from other areas. A measure of that progress is a lap time of the Nürburgring; that time isn't on the table today, though Preuninger, somewhat predictably, says it'll be quicker. Just how much so we'll have to wait until another day.

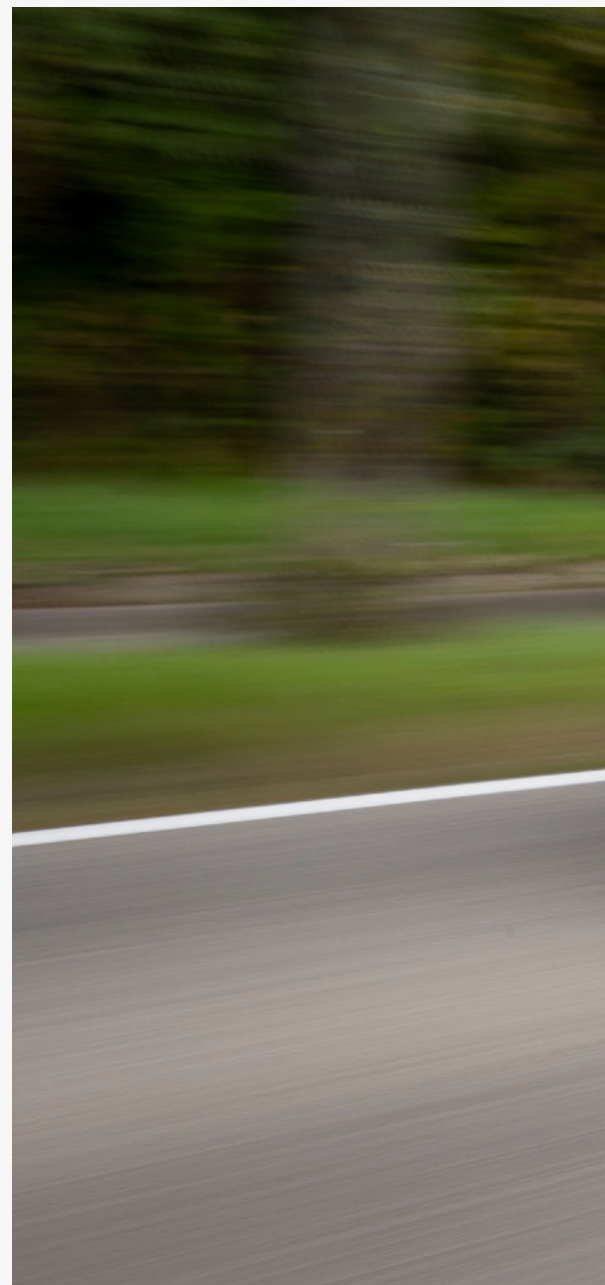
He is swift, though, to admit that the GT3 represents a big step forward. As we've already ascertained, those gains are not down to the engine. Key here is aerodynamics, as well as chassis revisions. The greatest change with a number associated with it is the 50 per cent increase in downforce. "That's not 5 per cent, it's 50 per cent," clarifies Preuninger, witnessing my reaction when divulging the increase, before adding that the sizeable gain is achieved along with a lower drag figure than the outgoing GT3. "It's the wing, it's the front end, it's the diffuser;

the diffuser is a lot bigger and it does a lot more to the car, the combination of these are all good for the downforce. The wind tunnel work is extensive, but for me it's important, the efficiency of the car is important," says the charismatic engineer. The downforce increases stability and aids those lap times, but the lack of drag is about Preuninger not wanting to be smoked at high speed by big, powerful saloons on the autobahn. "We live in Germany, I don't want a slow car on the autobahn, when up at 240km I don't want the car running against limits because of the wind resistance, it has to be quick at acceleration even at higher speeds. There you need aerodynamic efficiency, that's the point. I want it to accelerate heavily until you see a three as the first of the triple digits. After that I don't care," says Preuninger. Part of our route will take in an unrestricted stretch of the famous Autobahn for Preuninger to demonstrate.

It's one of the engineering contradictions that are more evident on any car than on the GT3. More performance, but greater efficiency, and it's most obvious when applied to the aero. It explains what's certain to be one of the most talked about elements of the GT3's look, that being the rear wing. It's hang mounted which, says Preuninger, caused a lot of discussion internally as to the visuals, but the benefits were too difficult to ignore.

We have now stopped to discuss the car, because as enjoyable as it is being driven on Preuninger's favourite roads in it, there's a lot to talk about and it's quite difficult to do so while listening to a flat six being repeatedly wrung out, and while also experiencing the physicality of the forces that it and the chassis are generating.

Parked and standing around the back of the GT3, Preuninger explains how the wing works. "Form follows function, always. Especially here, the race cars all have hanging wings because the suction side (the underside) is as important, actually even more important than the side on top where the pressure is applied,"





ABOVE New GT3 features widened front end, slightly more so than 992 Carreras

LEFT Fortune and 'AP' talk through the car in the countryside near Weissach

FAR LEFT 'Hanging' rear wing carries over technology from works racers

PROTOTYPES



he says. The resultant airflow underneath the wing is uninterrupted by the struts, or at least significantly less so if they were bottom mounted, which means the wing itself can be positioned at less of a steep angle to generate the same downforce with less drag. There are benefits elsewhere, too, particularly for a rear-engined car like the 911, the air flowing into the engine is better managed, the scoops gathering it lower, helping clean its exit at the rear.

That rear is “beautiful” promises Preuninger, the necessary disguising cladding on the prototype here intentionally hiding it. The depth of the cut outs for the parking sensors and rear reflectors – those reflectors’ position mandated by yet more legislation – highlight that situated under that overt big wing, and that cladding, production GT3s will present a far more svelte

backside. The diffuser is prominent, as are the pair of exhaust pipes exiting centrally, these being attached to a system that shares a lot with that of the Speedster, but is modified to suit impending emissions laws that’ll come into force within the GT3’s production cycle.

“The whole process of developing a car has gotten so complex. Sometimes you feel when you’re going home, your head is exploding, so much of it doesn’t get acknowledged by the customer because they don’t know the restrictions we’re faced with. That’s being an OEM. Doing everything right, being legal, and we want to be legal. We want to be the best pupils in the class. This is what the board has decided and I think it’s a good thing,” says Preuninger. That commitment is why the GT3 can be sold globally, it homologated to all the world’s different markets.

The look around the front is more difficult to disguise, the wider front track of the 992 obvious, though a couple of millimetres wider thanks to the front’s 9.5-inch wide wheel. The signature cut-outs ahead of the bonnet are more efficient in their cooling, while the vertical slashed air vanes in the front bumper’s edges help manage airflow down the GT3’s flanks. The extended body skirts help here, too, as they do with airflow underneath, with NACA ducts in the underfloor to direct cooling to the areas where it’s most needed on the GT3.

The front wheels are 20 inches, with the rears gaining an inch, the 21-inch forged alloy rims being no heavier than the 20-inch wheel of the previous GT3. They’re 12 inches wide at the rear. The front tyres are 255/35 ZR20s, with the rears 315/30 ZR21s, wearing Michelin Pilot Sport Cup 2s, these the same compound as the GT3 991.2 but next generation. Preuninger says the tyre works well in the wet or cold, ‘within limits’, obviously.

If you’re after something more extreme for track use then there’s the option of the Cup 2 R. The wheels are, unsurprisingly, centre locks items, behind which 408mm front and 380mm brake discs reside.

That’s an increase of 28mm on the front axle, Preuninger highlighting the discs themselves aren’t through drilled, instead just pitted like those on the race car, with benefits to longevity as well as performance. PCCB items are offered, too, these a carry-over from the predecessor GT3, with some minor revisions as is inevitable with the evolution – but with the new steel brakes Preuninger thinks there’ll be a slight reduction in the take-up of the PCCB option. The unsprung

mass is similar to that of the previous GT3, despite the bigger wheel and tyre package, as well as those larger brakes. The rear axle is largely carried over from the 991, admits Preuninger, saying: “The rear axle is the multi-link system from the 991, which is carried over the geometry, because you can’t find anything to be made better. We have the rear axle steering as well, which is newly calibrated. It was spot on with the 991, we didn’t want to touch too much. We just wanted to transfer this technology, the ideas, what it’s doing, on a new platform.” The GT3 sits 25mm lower than a Carrera 2, and the jointing in the suspension is ball-mounted, Preuninger vocal in his dislike of rubber bushings. The front axle is

where the GT3 differs in its 992 application, with double wishbones being used on the front axle, that switch being key to the GT3’s revisions.

“Almost always race cars have double wishbones. We were not sure if we could get this system into the 911 platform, and it was a big discussion and a big problem to solve. But we did it and it was worth it, definitely,” says Preuninger. That new axle is quicker to react to bumps,

992 GT3 AT A GLANCE

- 510hp, 4.0-litre flat six taken from the 991 Speedster
- 50% more downforce than 991.2 GT3
- Front suspension features double wishbones
- PDK and manual to be available in forthcoming Touring
- Nürburgring lap time of 6:55.2, quicker than a 918



ABOVE Despite using the larger 992 platform, the new GT3 weighs the same as its 991.2 predecessor

RIGHT Preuninger reveals 992 GT3 will sit 25mm lower than its 992 Carrera sister

FAR RIGHT AP explains how the new GT3 generates 50% more downforce



PROTOTYPES

there's less resistance in the system and it's stiffer and more stable under braking. Without the strut having to take the force of the brakes, the dampers could be significantly lighter, too, though the switch did have an inevitable knock on to the steering. "It called for a completely different approach on the steering as well, because now you've got different resistance values in the front axle. We had to start from scratch on the steering field. It took a long time to end up where we were with the McPherson system. It's the same hardware, but it reacts differently, because the forces it encounters when turning the wheel are far different, so we had to adjust it," admits Preuninger.

He adds, too, that the springs are stiffer, not quite to 991.2 RS levels, but about 25-30% stiffer than the previous GT3. That's to the benefit of yaw and roll control, but not at the expense of comfort, with extensive damper tuning to help maintain ride comfort. The wishbones themselves are forged aluminium, hugely expensive for a road car, though Preuninger admits they're used on the 992 Cup car, joking: "we're just lazy and didn't want to construct two parts." Lazy, perhaps, but beneficial, as they're light, and lightness is always a key goal with the GT3. There's less sound deadening over the Carrera, with the loss of the rear seats, thinner glass at the rear and sides, the glass savings alone

adding up to nearly 2kg. "You have to appreciate the grams to get the whole," states Preuninger, saving weight wherever possible. That explains the composite bonnet on the GT3 as standard equipment, that requiring a new approach to safe pedestrian crash test regulation. Carbon bonnets are too stiff to pass pedestrian impact tests, the result being that Porsche is limited to producing just 1,000 cars annually with them in Europe, so the GT3 required a new approach. Lifting the bonnet reveals how it's been achieved, with the structure featuring cut outs to allow it to give in the event of an impact, making it possible to be a serial production part, built and sold in bigger numbers. There are polyurethane front and rear



bumpers like the 991.2 GT3, all of which allows the 992-based GT3 to weigh no less than the old 991 GT3. That's not insignificant, given the base weight of a 992 Carrera, and it was a key goal for the GT department – it's bigger, as a result of the larger 992 platform, but not heavier. The body in white differs little, says Preuninger, adding that the Carrera shell is stiff because of strategies developed from the previous GT3. "It's like a fortress, without feeling as heavy as a fortress," he highlights, the key being to wake the platform up, to make it meet the demands of a GT customer.

"It's a motorsport car so it has to live up to that expectation, the emotion and the fun to drive the car, the urge to sit in the car, to take it for a spin,

that's the important thing. That's what makes the people want the car from the heart to the stomach. That's definitely the main driver, to be driving for the sake of it," he admits.

That dictated several factors – the PDK is a carry-over, as is the manual, so the PDK is the GT department's sport PDK with its seven ratios, while the manual is a six-speeder. Both transmissions will be offered in both the standard, be-winged GT3, as well as the Touring which comes a few months later: "why not?" says Preuninger, admitting that a number of Touring buyers had asked for the availability of PDK. Significantly, that PDK comes with a gear selector as well as paddle shifters, which is a direct nod

to Preuninger's preference for driving the PDK using the stick. "Some people have got in it and looked for the clutch pedal," he laughs, and it's not surprising, as the PDK's transmission tunnel-mounted selector apes a manual knob, replacing the somewhat unloved selector of the standard Carrera. Preuninger clearly enjoys using it, on roads he knows well, the GT3 feeling light and agile from the passenger seat, seemingly shrinking the 992's larger dimensions as a result of its poise and ability. The seating position helps, the team here spending a great deal of time getting it right, with the instruments too being GT3 specific. The large rev counter in one mode has two crescent lights on its sides that illuminate in blue as the revs rise, these aping the racer's display.

The drive modes are limited to Normal, Sport and Track, each configurable within their own parameters, with the Wet mode of the Carrera not needed – Preuninger states that the stability and traction control systems are clever enough to recognise when the traction breaks regardless of the G loading, or the speed, with the system reacting subtly and accordingly. He wanted more simplicity from the drive systems and displays, and that's what he's achieved.

The engine tears around to 9,000rpm with the same fervour as I recall from the Speedster, the forces it transmits memorable, even from the wrong seat. Preuninger is clearly happy with its sound, saying: "It's a typical GT3 howl, despite having a particulate filter and noise regulation," and it's difficult to deny the voracity of his claims. It sounds great. He's also enjoying the front axle's turn-in, which, even from the passenger side, feels quicker to react. The suspension, too, rides with a deft suppleness that's at odds with the taut body control, while that promise of good acceleration thanks to the lack of drag at three-figure speeds manifests as Preuninger takes in a section of de-restricted autobahn. More engineering contradictions, mixing elements that should be diametrically opposed, yet the GT department, and the GT3, seems oblivious to those conventions.

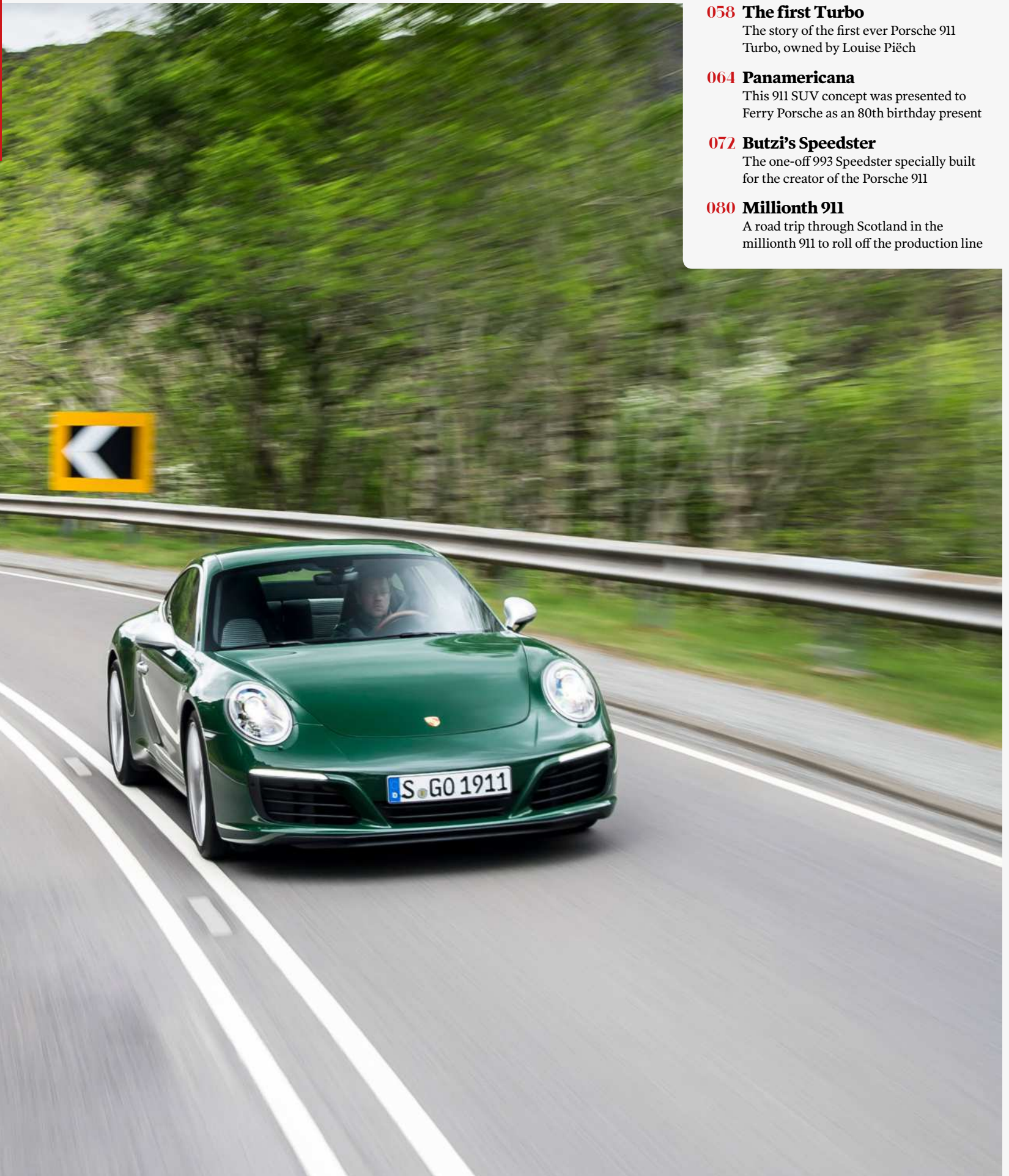
I may still have to wait some time until the day that I'm sat in the driving seat, but it's been an enlightening few hours discussing and spending time alongside the man who heads up the GT3's development. And the launch colour? There's always a story about the colour with Preuninger – the blue, visible in the door shuts and in the perforations of the Alcantara inside, takes its inspiration from a superyacht Preuninger spotted while holidaying in Sardinia. Google 'Madame Gu' if you want an idea of the hue, Preuninger saying it'll be called Shark blue when the car's launched.

He promises it'll look sensational under it, make you look back every time you park it, and make you want to drive it more. We can't wait to drive it. **911**



FAMILY CARS





058 The first Turbo

The story of the first ever Porsche 911 Turbo, owned by Louise Piëch

064 Panamericana

This 911 SUV concept was presented to Ferry Porsche as an 80th birthday present

072 Butzi's Speedster

The one-off 993 Speedster specially built for the creator of the Porsche 911

080 Millionth 911

A road trip through Scotland in the millionth 911 to roll off the production line



THE FIRST TURBO

Achieving exclusivity is rarely a simple matter, but few Turbos can carry the same clout as being one of the first examples built, with Louise Piëch a former owner

Written and photographed by
Glen Smale



Back in 1973, the world was changing. Russia sent its Luna 21 module to the Moon, the USA launched Pioneer II to study Jupiter and Saturn, and the first mobile phone call was made in New York. While these big events made headlines around the world, a relatively small Stuttgart-based motor manufacturer called Porsche was about to launch its own big-news model: the 911 Turbo.

The principle of forcing air into combustion chambers to boost power may seem like an obvious solution to us today, but getting this

system working in an efficient and cost-effective manner on a production car in the Seventies was not without its difficulties. This not-insignificant obstacle might account for the reason why, up to this point, no other manufacturer had really put this technology into practice on a production car – until, that is, Porsche proved it could be done.

The story of turbo power at Porsche started with the 917/10 Can-Am Spyder race car in 1972, which proceeded to pulverise the American series in that year and the next, when the 1,100hp Sunoco 917/30 of Mark Donohue dominated so completely. Of course, development and testing on these race cars would have taken place during

The essential facts

- Chassis 9115600042 is the first turbocharged 911 production car made by the factory
- The first prototype Turbo used a standard 911 Carrera narrow body and chassis
- Initially fitted with 2.7-litre turbo engine, it was later replaced with a 3.0-litre powerplant
- The car was presented to Louise Piëch by the factory on the occasion of her 70th birthday, on 29 August 1974
- The first Turbo features the familiar five-dial dashboard but, uniquely, sports a 10,000rpm race car rev counter

Model 911 Turbo
Year 1974

Engine

Capacity 2,687cc
Maximum power 240bhp (176kW)
Transmission Four-speed manual

Suspension

Front Independent suspension with wishbones and MacPherson struts; one round, longitudinal torsion bar per wheel; hydraulic double-action shock absorbers; antiroll bar

Rear Independent suspension with light-alloy semi-trailing arms; one round, transverse torsion bar per wheel; hydraulic double-action shock absorbers; antiroll bar

Wheels & tyres

Front 7x15-inch Fuchs, 205/50/15 tyres
Rear 8x15-inch Fuchs, 225/50/15 tyres

Dimensions

Length 4,291mm
Width 1,775mm
Weight 1,195kg

Performance

0-62mph 5.5 secs
Top speed 155mph

Unlike later 930 Turbo models, the first Turbo was a narrow body 'Carrera' shell



1971 in order for the turbo system to be ready for the 1972 season, so the engineers without question had one eye on a production car application.

Following the success of turbo power in competition, it wasn't long before the technology found its way into the realms of the production department, and in 1973 the 911 Turbo prototype was shown at the Frankfurt Motor Show. This was a decade after the introduction of the 911 model at the same show, and a year later the polished Turbo was unveiled in Paris.

Delivery of the first Turbos to customers started in March 1975 – but initially the factory only planned a production run of 500 units. This decision must be seen in context with the times, as at around 65,000 Deutschmarks each, the Turbo cost almost the equivalent of two 911 Carreras, and the automotive world had just been turned on its head by the infamous oil crisis of the previous year. The response of the public to the 911 Turbo was nevertheless overwhelming, and the first batch of 500 cars was sold quickly. A second run of 500 units was commissioned, and before long so was a third. However, long before the early 3.0-litre 930s captured the imaginations



Whale-tail spoiler is a familiar Turbo trait, though the original 2.7-litre engine was marked 'Carrera'

and bank accounts of affluent petrolheads, Porsche had built an early Turbo derivative as a birthday present for none other than the late Louise Piëch.

Louise Piëch (née Porsche) was Ferry's sister and married to Anton Piëch, the one-time head of the Volkswagen factory at Wolfsburg. For Louise's 70th birthday on 29 August 1974, the Porsche factory gave her the very first 911 Turbo to be produced in Stuttgart-Zuffenhausen. The silver car, chassis number 9115600042, was fabricated just prior to the annual August shutdown on 17 July 1974, but as with all Porsche prototypes or racing cars, it did not adhere to usual production model years.

The early chassis number – with a '911' prefix above it – would appear to support the plans for limited production of the Turbo model that would not require additional expensive chassis and body modifications. However, the series soon took on its own '930' prefix that commenced with the first production cars in 1975 – for example, 9305700001, where the first three digits identify the Turbo model and the '5' refers to the model year. This early 'Piëch' Turbo has several unique



identifying features. Firstly, in support of the plans to produce just a limited number of cars, a standard narrow-chassis 911 Carrera body was used, and the car still wears its 'Carrera' badge on the engine cover. It also sports a rather ambitious 10,000rpm rev counter that was taken from a race car (both the regular 911 Carrera and production Turbo were fitted with a rev counter that was marked up to 8,000rpm, with a recommended usable limit of some 7,200rpm).

However, the most telling feature of this mysterious Turbo lies under the decklid with the 911's powerplant. Unlike the 3.0-litre engine used in the production Turbo on launch in 1975, Louise Piëch's Turbo originally held a 2,687cc turbocharged unit.

The Piëch car's odometer reads 31,999 kilometres too, a sure sign of its past lifestyle, supported by the presence of the Austrian vehicle authorities' autobahn tag on the front right fender, which shows it was registered there for road use in August 1979. The Porsche and Piëch clans have a family home at Zell am See in Austria – no doubt this car was used on a few trips to and from Stuttgart. When your family name is written on the factory building, it



Austrian road tag (above) is a sure sign of its past use, though today the first Turbo can be found at the Zuffenhausen Museum

is a little easier to get your new vehicle ordered with the colours and options of your choice, especially if they differ from the standard options list. With this in mind, Louise Piëch selected the McLaughlin tartan interior finish to match the silver exterior colour – a handsome combination. What's more, this Turbo is accompanied by an official interior colour chart showing the owner's name and date (17 July 1974) of implementation. These early vehicle detail cards were only kept for cars destined for the Porsche and Piëch families, plus other senior company officials or dignitaries, and are stored deep inside the Porsche Museum in Porscheplatz.

Traditionally, the Stuttgart manufacturer adopted a fairly conservative approach to colours and detailing, but the tartan styling applied to the decals running along the bottom of the door of the Piëch Turbo is typical of the Seventies – at this time, Porsche was experimenting with external styling and decoration. In 1973, the 2.7-litre Carrera RS had appeared with some bold scripting along the bottoms of the doors, and in '74 optional 'safety stripe' lettering became available for the luggage compartment cover.

FAMILY CARS

The fitting of impact bumpers in line with US Federal regulations posed more than a few problems for many manufacturers. Porsche designer Tony Lapine set about turning this potential problem into a styling success so as not to disturb the styling of the timeless lines of the 911, and it became a feature on all Porsches as of '74. Also, from the 1976 model year (autumn 1975), the 911 received an electrically adjustable, heated and body-coloured exterior wing mirror. However, as the Piëch 911 was produced in '74, this car's mirror has been retro-fitted.

Of course, one of the 911 Turbo's most prominent characteristics is its large rear spoiler. Porsche was the first manufacturer to introduce the concept of a rear spoiler on a road-going sports car when it appeared on the 2.7-litre 911 Carrera RS in 1973. The rear wing was received with mixed feelings at first, as there were those who said it spoilt the classic lines of the 911, while others felt it gave the car a more aggressive look. Taking this concept a step further, the Turbo's rear wing two years later was larger, flat and had a polyurethane rim to it – a requirement by the authorities should a passer-by walk into the protrusion and injure themselves on a sharp corner. Today, this wing has developed further in that it now remains submerged in the engine lid for low-speed driving, extending automatically at higher speeds.

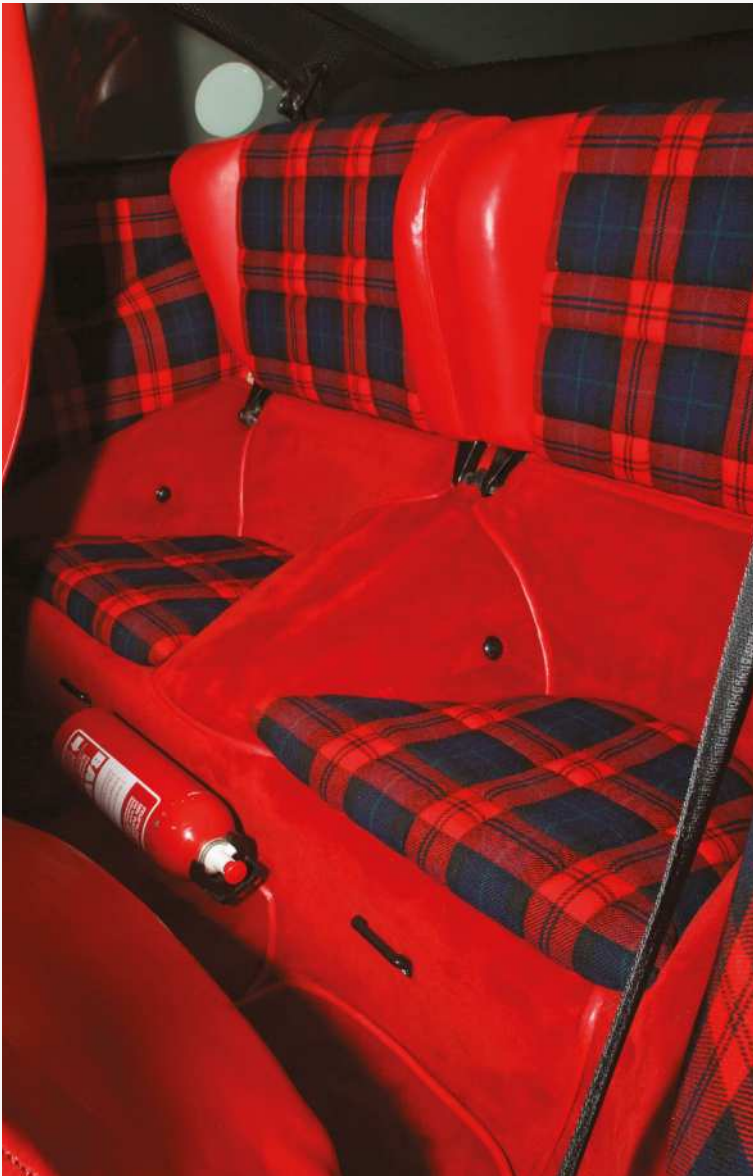
Factory records show that in May 1977 a service was carried out on the Piëch 911 Turbo, at which stage the odometer read 30,500 kilometres. In the following year, Louise Piëch handed the vehicle back to the factory to become part of the Museum collection. Considering the Turbo's odometer reading of 31,999 kilometres today, it is interesting to note that most of the distance travelled by this car was done by Mrs Piëch prior to it entering the Museum's collection in 1978.

Turbocharging was responsible for much of Porsche's success throughout the Seventies as the company sold 2,850 units of the 3.0-litre model (1975-77) and 14,500 of the 3.3-litre model (1978-88). From this first model, the Turbo has expanded over the years to include Targa, Cabriolet and Turbo-look derivatives, as well as powerful versions like the 'Slantnose' cars. On the race track in the Seventies and Eighties, the 934 and 935 models rose to such prominence that they were almost unbeatable, as the victory of the Kremer 935 K3 in the 1979 24 Hours of Le Mans stands testament to.

The Porsche 3.0-litre engine had reached its development ceiling, but turbocharging would open a world of new opportunities for the 911, and from humble beginnings the 911 Turbo has grown into one of the most evocative sports cars in the world. Long may its success continue. **911**

Chassis number
9115600042 was
equipped with a
McLaughlin tartan
interior, personally
chosen by
Louise Piëch





Other Porsche rarities

'Carrera RS 2.7' in the making (1972)

With the 911 model established in the market, it was time to produce what Porsche called a 'hammer' model. The Seventies were all about colour and radical ideas, but it had been almost a decade since the



last road-going Carrera model was in the product line-up. To throw snoopers off the trail, Porsche prepared a squadron of nine standard 911S 2.4-litre cars and fitted them with 2.7-litre engines for testing and development in spring and summer of 1972. Looking like any other 911S without any engine badging, the cars were aimed at a group of enthusiasts who wanted to compete on the track at amateur level. In typical fashion, the Porsche sales department completely underestimated the market response when they decided to sell 500 of these cars, and eventually around 1,580 units were produced.

911 Carrera Speedster Study, IAA (1987)

West Coast agent Johnny von Neumann persuaded Porsche's American importer Max Hoffman to get Stuttgart to make a stripped-out, low-cost 356, and the Speedster was



born in 1956: a lightened, no-frills version of the 356 aimed at the performance-orientated young buyer. 30 years later, Porsche revealed its 3.2-litre 911 Carrera Speedster Clubsport, a one-off concept car built for the 1987 Frankfurt Motor Show. Based on the 911, the engine produced 231bhp, but the Speedster was 70 kilograms lighter than the Cabriolet and laid out as a two-seater. Intended to be more sport-orientated, the Clubsport featured a top that was hinged behind the occupants, and swung upwards in one piece. While it couldn't be road-registered, the Speedster could. Over 2,000 of these were made in 1989.

Panamericana Concept (1989)

Based on the 964 Carrera 4 platform, the Panamericana concept represented fresh thinking by Dr Ulrich Bez and Harm Lagaaij. Created by Style Porsche, the Panamericana concept was intended to represent a study in future-orientated



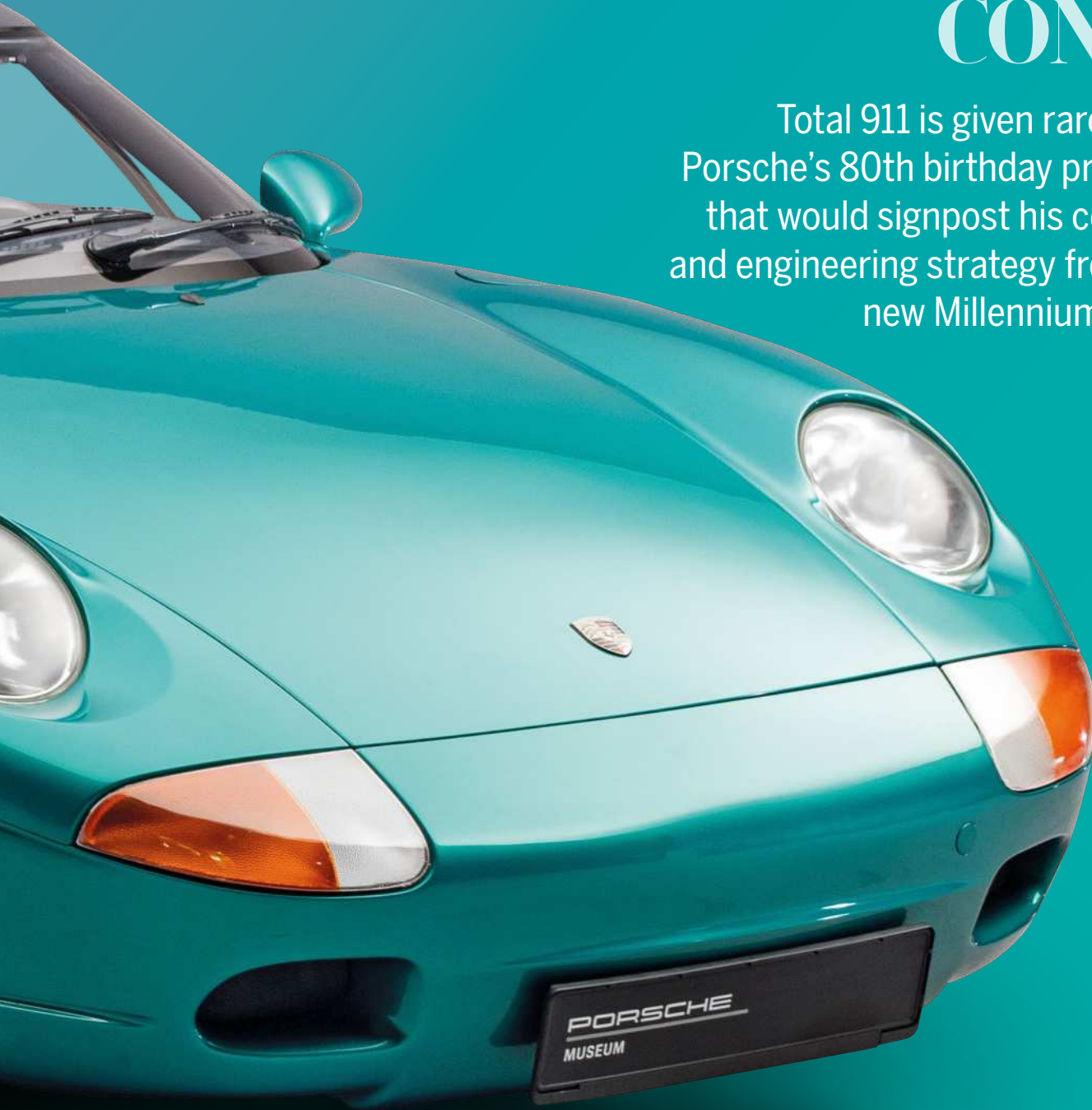
thinking, creativity and competence in technology, but such abstract marketing terminology only created confusion. The concept car was presented to Ferry Porsche at the 1989 Geneva Motor Show on his 80th birthday. It was reported that he wasn't impressed with it, but it's fair to say that the Bez/Lagaaij team probably developed it more as a test of the public's reaction than anything else. Looking more like a beach buggy on steroids, the word 'pretty' doesn't instantly spring to mind, but it is an interesting representation of some broad Eighties thinking.





PANAMERICANA: THE CONTROVERSIAL CONCEPT

Total 911 is given rare access to Ferry Porsche's 80th birthday present, a concept that would signpost his company's design and engineering strategy from 1989 into the new Millennium – and beyond...



FAMILY CARS

The notion of the concept car really does represent a fascinating yet often downright crazy corner of car culture. Wheeled out for motor shows (if indeed wheels are present), any new styles or technologies are usually expressed through utterly radical designs where manufacturers can gauge public opinion under the premise of it being a one-off. It's not uncommon, however, for a popular concept to make production, albeit with often significant changes in order for it to comply with legislation. Porsche has a rich track record in this regard, with recent, notable examples including the 918, Taycan and 986 Boxster.

However, there is another concept, hidden within the vaults of the Porsche Museum, which can lay a claim to being as successful as the aforementioned trio to realise production, for its impact on the company at large is, without doubt, just as profound.

Based on a Porsche 911, its aesthetics offered a wild departure from the Neunelfer's altogether more reserved profile and styling: the Porsche Panamericana drew on past success in competition on rough terrain. And, though it never made production (nor was it ever intended to do so), elements of its design and engineering would continue to permeate throughout Porsche in the 911 lineup – and beyond – in the years prior to and after the new Millennium.

Unveiled in 1989 at the Frankfurt Motor Show, the idea was to design a Carrera Panamericana-compatible vehicle, commissioned 35 years after the famous Mexican race was cancelled for good. With most of this notorious race taking place on rough terrain, the function of this one-of-one vehicle necessitated all-wheel-drive, a technology which Porsche had adopted just one year earlier with its first 911 Carrera 4. It will



therefore come as no surprise that it is the 964 Carrera 4's all-wheel-drive system installed on the Panamericana, but what many will not know is the 964's influence on the Panamericana goes further still. The base car itself is a 964 Carrera 4 Cabriolet, powered by the requisite factory M64 flat six engine, producing the usual 250hp, with power fed to all four wheels via a G64 five-speed manual gearbox.

Yet, as you can see, the finished article detracts wildly from what we know as typical styling of the 964 generation – or any 911 generation, for that matter. The heavily revised body is made from tough but durable carbon fibre, reducing body weight. This is the first time Porsche used carbon fibre on the body of any of its road-

RIGHT Ferry and his sons with the Panamericana concept car



PANAMERICANA CONCEPT



LEFT Headlight design with more raked-back appearance would signpost Porsche's forthcoming 993 philosophy

FAR LEFT Ferry's birthday present featured all-wheel drive and the 964's G64-coded gearbox





ABOVE Panamericana's body was made from carbon fibre. Cut-away arches allowed for long travel suspension and all terrain tyres

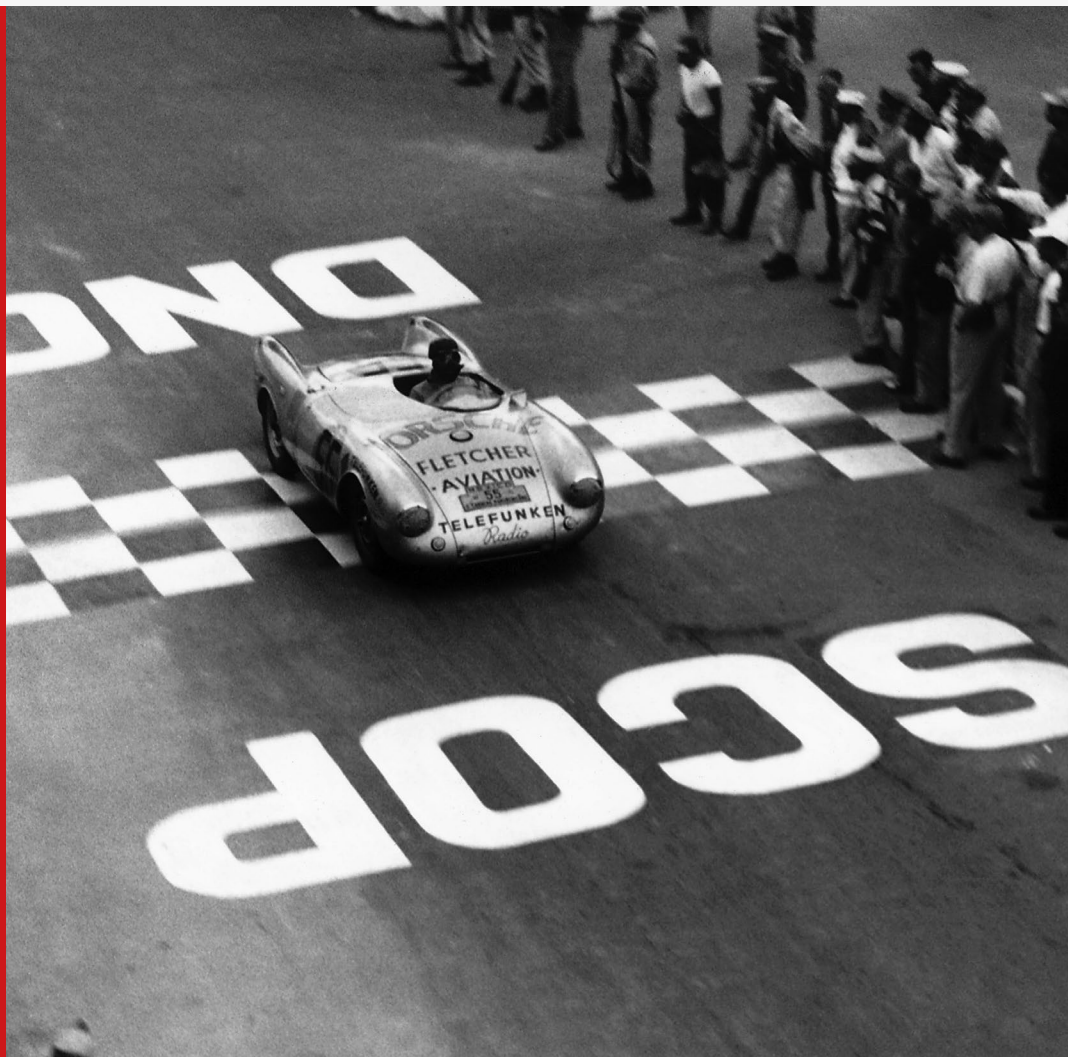
The Carrera Panamericana

The name of Porsche's Tourmaline green metallic concept here is the product of inspiration from a famous race in the 1950s, which delivered considerable success for the company. The Carrera Panamericana was a race through Mexico, administered by the Mexican government to celebrate completion of the Mexican leg of the Pan American highway. Running from Alaska right down to Ushuaia, the planet's southern-most city, this was a network of roads spanning more than 19,000 miles, and was built to connect the Americas and improve intercontinental travel and trade.

The Mexicans celebrated their slice of the achievement with this gruelling race from the top of the country down to the bottom, via 3,000 miles of roads. The race was fraught with danger, largely because it took place on public roads, and rules were few and far between. The first vehicle across the line was deemed the winner, and that was that!

First staged in 1950, the field was comprised of four-seat sedans, before sports cars were allowed to enter from 1951. This is where Porsche got involved, claiming a series of stage wins with its 550 Spyder, before dominating what would be the last race in 1954. Hans Herrmann, who would later taste success with Richard Attwood at Le Mans in 1970, won the small sports car category (Porsche claiming six of the top seven positions) and finished 3rd overall – a huge achievement on the other side of the planet for Stuttgart's then fledgling sports car company.

The race was abandoned after 1954 on safety grounds, but the Carrera Panamericana was considered Porsche's greatest international success in the days prior to the Targa Florio, the feat immortalised in the radical SUV concept car on our pages here.



PANAMERICANA CONCEPT

BELOW Rear side window profile would find its way onto the production 993



oriented sports cars, the feat not repeated until the Carrera GT of 2004, and the 996 GT3 RS of the same year.

The restyled body had had its arches cut away, the reason for this being the Panamericana concept should feasibly be able to accommodate long travel suspension and off-road tyres. This didn't materialise for its Motor Show debut yet regardless, the design of this unique 911 was purposeful as Porsche's first SUV.

The idea for an SUV roadster study came from Dr Ulrich Bez, head of development at Porsche between October 1988 and September 1991, and who would shortly be credited as the father of the 993. Bez wanted to explore a Roadster SUV concept, which was duly commissioned by Harm Lagaay at Style Porsche, who charged designers in his department to draft their proposals based on Bez's technical concept. The final design was realised by the Briton, Stephen Murkett.

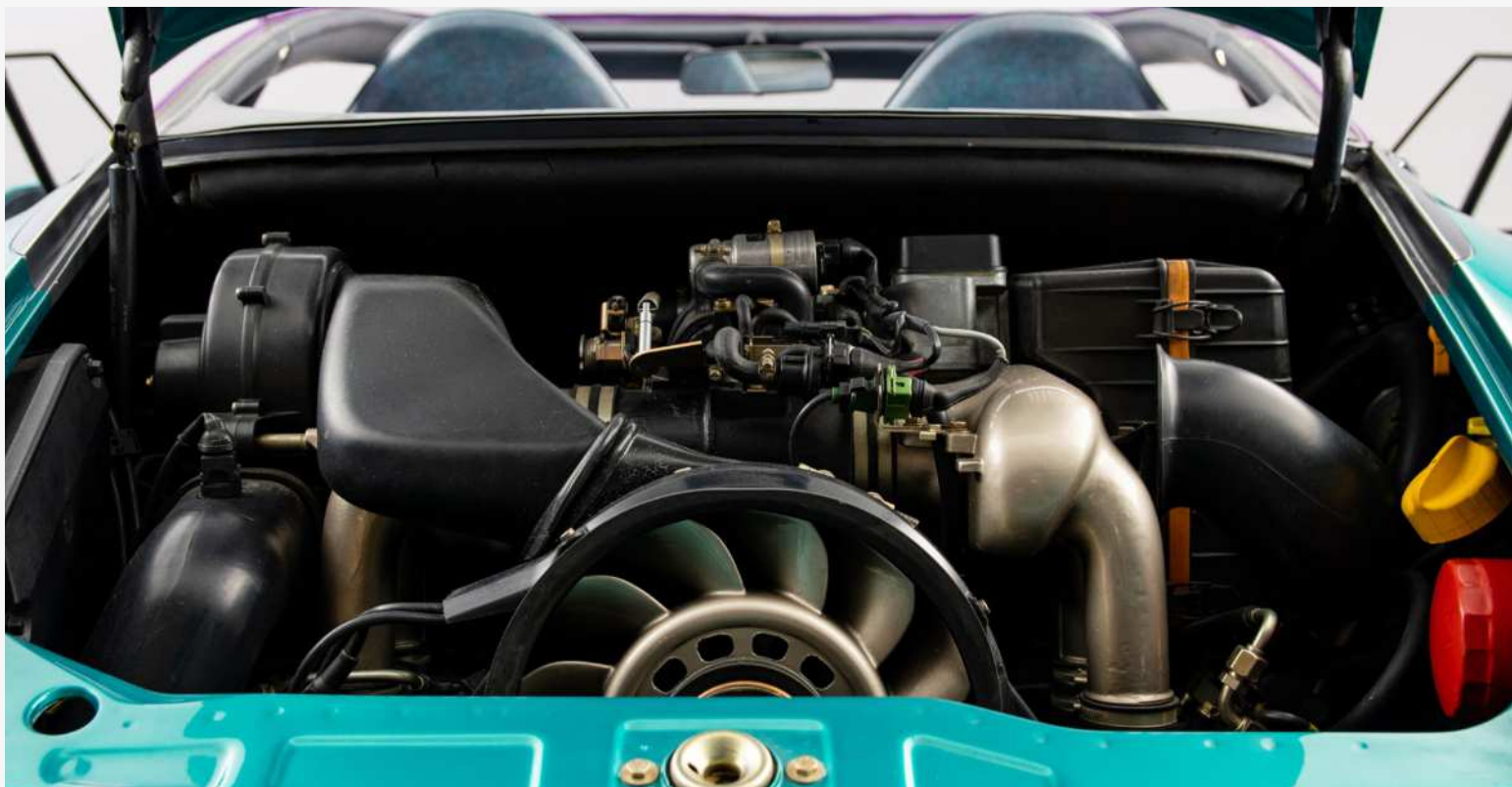
Central to Murkett's SUV Roadster design was its fabric roof, zip-tied on all four sides above the front and rear screens and side windows. The Panamericana's fabric roof covers the area fore of the front two seats, similar to roll-hooped Targas, and removing it reveals a raised, body-coloured panel above each seat. These offer additional headroom for both front seat occupants, their profile forming a 'double bubble' appearance through the fabric roof which would then later find its way onto the 997 Sport Classic.

These panels both lift out, which just leaves the one-piece, plastic rear screen to fold back and lift out entirely for that fully open-air motoring experience. As bizarre to look at as it is to operate, the study provided the inspiration for designing a production roadster in the future Porsche Boxster.

Other design influences from the Panamericana are more obvious. Cup-style wing mirrors would debut on the 964 RS two years later, while the



FAMILY CARS



softer front end with raked-back headlights and sloping profile of those rear lights and reflector bar offer clear resonance with the future 993. That sloping profile of the concept's roofline from front to back would also influence the subsequent development of the 993 Targa some six years later, which adopted a sliding glass roof for the first time. Back to those tyres: while they are not of the knobbly variety originally intended to roll beneath those carbon arches on a competitive stage out in Mexico, they are specially developed by Goodyear and feature a unique tread pattern incorporating the Porsche crest outline. While undoubtedly not the most resolute design for effective water dissipation in wet conditions, they serve as an example of creative design when the shackles of legislation are removed.

Inside, the Panamericana is just as striking as outside. A marble-effect finish covers an interior largely recognisable from the 964 era, though the seats are unique to this concept. Accommodating and comfortable, they offer plenty of space around the shoulders, the contrasting purple harnesses, fixed behind the front seats, offering a further clue as to the intention behind this one-off Porsche wonder. Designed and built within a matter of months, the Panamericana was actually given to Ferry Porsche on the occasion of his 80th birthday, and still remains in possession of the Porsche family today. Rumour has it Ferry was less than impressed with the concept's final appearance, though the company itself is keen to distance itself from such speculation. "We have heard rumours but we do not comment," a spokesperson on Porscheplatz tells us.





Model **Panamericana concept**
Year **1989**

Engine

Capacity 3,600cc
Compression ratio 11.3:1
Maximum power 250bhp @ 6,100rpm
Maximum torque 310Nm @ 4,800rpm
Transmission 5-speed G64 manual

Suspension

Front Independent; MacPherson struts; anti-roll bar
Rear Independent; Trailing arm; anti-roll bar

Wheels & tyres

Front 8x17-inch custom six-spoke; 225/55/VR17
Rear 10x17-inch custom six-spoke; 295/45/VR17

Performance

0-62mph 5.8 secs
Top speed 130mph
Weight 1,474kg

As an off-road concept, perhaps the Panamericana illustrated serious ambitions within Porsche to look at competition rallying again, in the wake of the demise of Group B?

This is again rebuffed by our Porsche spokesperson: “We never considered this, the Panamericana served as an off-road concept and nothing more. In the beginning it was also higher to emphasise the idea of a Carrera Panamericana-compatible vehicle, hence the name. The sales department was against it, because a four-wheel drive for the road was under development and there was concern that this might interfere with the project. The study was then set lower as a roadworthy four-wheel-drive study, but a professional rally entry was not intended.”

As we know, there were never any serious plans to put the car into production but regardless, the Panamericana is a concept of huge historical significance. It offered a snapshot of company trajectory in terms of future 911 styling, but also revealed intrigue from those at the top at Porsche to diversify into other markets with its model lineup – exemplified by designer Murkett’s eventual promotion to head both the Cayenne and Panamera projects. A project which, really, shaped the future of sports car engineering at Porscheplatz, the Panamericana is as important to company history as those aforementioned 918, Taycan and Boxster studies – a remarkable feat given it never actually turned a wheel on the public road. **911**

Butzi's Speed

Written by **Joe Williams & Lee Sibley**
Photography by **Damian Blades**

Total 911 is
granted rare access to a
unique 993 specially built for
the man who designed the
original Neunelfer



Speedster



3 56, G-body, 964, 997, 991. Random names and numbers to some, these are of course the generations and internal model codes for one of Porsche's most revered product lines: Speedster.

This journey to what is arguably the ultimate expression of topless sports car began in 1952 with the 356 1500 America Roadster. Widely seen as the forefather of the Porsche Speedster, it flopped, incidentally, after costing more to make than sell, driving coach builder Heuer-Glaser to bankruptcy in the process.

Lessons were learned, with production moving in-house at Porsche, the Speedster now a cut-down version of the Cabriolet and running off the same production line as other 356s. In 1954, the Porsche Speedster as we know it was born, chiefly to boost the appeal of Stuttgart's fledgling sports car company in the United States under the tutelage of importer Max Hoffman.

The Speedster enjoyed instant commercial success Stateside, and nearly 60 years later its name is synonymous among enthusiasts with embodying everything Porsche stands for: a raw, emotive drive, its genius lying chiefly with its simplicity. 356 Speedster production ended in 1958, replaced by the Convertible D, but that raked windscreen, low-slung profile and spartan interior would actually realise its place on the 911 some 30 years later.

Debuting on the 3.2 Carrera, the 911 Speedster then featured on the subsequent 964 generation. For the 993 though, a production Speedster

was just not to be: with the 911's profitability dwindling, such an exotic variant which would ultimately sell in small numbers was not deemed worthwhile by Porsche, which by the mid-Nineties was ploughing efforts into design of the first water-cooled 911 in the 996. It was a move which would ultimately save the company from going bust.

This didn't mean that enthusiasts were robbed entirely of the spectacle of that Speedster profile attached to the body of the last air-cooled 911. In the best Porsche tradition, such occurrences are of course possible as one-offs, only via Exclusiv, the department born out of a need to fulfil well-heeled customers' special wishes.

Your eyes are not, therefore, deceiving you: the 911 in our pictures is indeed a genuine 993 Speedster, built as a special wish, and for a special person. This was not an ordinary customer, but a member of the Porsche family itself. The 993 Speedster you see here was for Ferdinand Alexander 'Butzi' Porsche.



It might seem strange that the person who penned the Neunelfer's iconic, flowing shape – as a Coupe, no less – should seek out an open-topped version of the car in its final, air-cooled iteration. However, Porsche's predilection for the Speedster predates even that of its treasured 911, and so the historical reverence behind this stunning marriage of two iconic Porsche designs is palpable.

Based on a narrow-bodied 993 Cabriolet, Butzi's Speedster features the shorter, raked windscreen and reprofiled side windows from the 964 Speedster before it, along with a double-humped clamshell and low slung (and manual) hood. Riding above 17-inch wheels, the body was

finished in Aventurine green, in keeping with the Porsche family tradition in taking delivery of green-hued cars.

The engine and running gear is all from the 993, the flat six being a Type M64/22 with VarioRam producing 285bhp. That engine code might cause

Porsche connoisseurs to prick up their ears, as it gives away the transmission tasked with sending that 285bhp to the 993 Speedster's rear wheels. For the avoidance of doubt, a cursory glance inside shows not a H-patterned manual shifter protruding from a leather boot between each seat, but the inline gate and buttoned gearstick of an automatic gearbox. That's right, Butzi's Speedster is fitted with the 993-generation's four-speed Tiptronic S.

Such a revelation might prove startling at face value but as the saying goes, there's a Porsche for every occasion, and this was no different. More on that shortly.

In the proper Speedster tradition, Butzi's 993 is fairly spartan inside in terms of equipment, bringing forward the 'RS'-style interior utilised in the 964 generation of this special open-topped sports car. Hard-backed Sports seats are fitted, their rears colour-coded in Aventurine. The seats are otherwise bedecked, like the rest of the interior, in swathes of rich brown hide, elegantly

“Clearly used and adored by Butzi, the Speedster wears 2,065 kilometres on its clock today”



BUTZI'S SPEEDSTER



BELOW As with all Speedsters, the manual hood was only ever intended for emergency use



FAMILY CARS

punctuated by wood trim accents along the dashboard. Storage departments have also been deployed under the clamshell in place of the 911's rear bench which, Speedster and GT-car aside, usually features two small seats.

Back to there being a Porsche for every occasion: this stunning Aventurine green 993 Speedster was presented to Butzi on his 60th birthday on 11 December 1995. The car would be used by the 911's inventor for sunny drives through the Austrian mountains between his Porsche Design studio and the long-time family home in Zell am See, the Tiptronic 'box no doubt allowing Mr Porsche to soak up the views along his playground of the Grossglockner Pass while revelling in the resonance of that famous flat six propelling his creation along the road. In actual fact, if you look hard enough on YouTube you'll find rare footage of Mr Porsche driving along this very road – a former test route for his father during 356 development, no less – from the early 2000s. Roof manually stowed (of course, the Speedster's hood was only ever intended for emergency use), the low-slung 993 looks majestic as Mr Porsche rides through the mountains along twisting asphalt.

Clearly used and adored by Butzi, the Speedster wears 2,065 kilometres on its clock today, though the odometer hasn't rolled on much since 2012. As we know, unfortunately Mr Porsche sadly passed away aged 76 on 5 April of that year, so Butzi's Speedster has remained hidden in the vaults of the Museum in Stuttgart, albeit as part of the

BELOW Butzi's 993 Speedster is fitted with a 4-speed Tiptronic S gearbox



Model	993 Speedster
Year	1995

Engine

Capacity	3,600cc
Compression ratio	11:3.1
Maximum power	285hp @ 6,100rpm
Maximum torque	340Nm @ 5,250rpm
Transmission	Four-speed Tiptronic

Suspension

Front	Independent; McPherson strut; anti-roll bar;
Rear	Independent; multi-link; anti-roll bar;

Wheels & tyres

Front	7x17-inch; 205/50/ZR17
Rear	9x17-inch; 255/40/ZR17

Dimensions

Length	4,245mm
Width	1,735mm
Weight	Unknown

Performance

0-62mph	Not tested
Top speed	Not tested



ABOVE Built for Jerry Seinfeld, the only other 'factory' 993 Speedster in existence rides on 18-inch wheels



PORSCHE'S SPEEDSTER TIMELINE



356

Production years: 1954-58
Production numbers: 3,676

Porsche's Speedster concept owes much to Max Hoffman, the storied importer of Porsche sports cars to the United States, which remains an important territory for the brand today. Hoffman told Ferry Porsche that for his brand to succeed in the US, it needed a smaller, simpler sports car that was priced more competitively than the 356 range of the time. The Porsche Speedster was duly born with just two bucket seats in an otherwise spartan interior. Its design concept would resonate with future designs of the Porsche Speedster as it joined the 911 family tree.



3.2 CARRERA

Production years: 1989
Production numbers: 2,274

Project managed by designer Ben Dimson, the first 911 Speedster was originally conceived for the 964 generation but brought forward to boost sales at the end of the G-series era. Using engine and running gear from a base Carrera, the Speedster was treated to a bespoke windscreen and rear clamshell. Available in narrow and wide body, the former is extremely rare, though both iterations are collector-grade cars today.



964

Production years: 1992-94
Production numbers: 936

The original 911 Speedster design was finally realised at the end of the 964 era, though it didn't sell in the volumes expected (Porsche had set aside VIN numbers for some 3,000 to be produced). Based on a RWD Carrera 2 Cabriolet, it served as a crossover between that and a 964 RS, thanks chiefly to its spartan 'Clubsport' trim, which was in keeping with the ethos of the original 356 Speedster. Most were narrow-bodied, though 20 wide-bodied 964 Speedsters were produced via Porsche Exclusiv.



997

Production years: 2010
Production numbers: 356

The rarest iteration of Speedster, the 997 was hand built to a high specification by Porsche's Exclusiv department, its wide body available in either Pure blue (a bespoke colour for the model) or Carrara white. It shared its 408bhp flat six with the Sport Classic and 997 GTS, though it was available as PDK-only. Its high specification and relatively hefty weight means it is most at odds with that original Speedster design, though its low production numbers means it's highly sought after by collectors.



991

Production years: 2018-19
Production numbers: 1,948

Revealed as a special edition to celebrate 70 years of Porsche sports cars, the 991 Speedster was created by Andreas Preuninger's GT department. Using a Carrera 4 body, its powerful, high-revving and naturally aspirated flat six engine, along with its accomplished chassis, has led many to call it a topless GT3 in all but name. They're not far wrong in our book. The latest Speedster is brilliantly engineered to feature that same sloping roofline and clamshell, which is electrically powered for the first time.





Porsche family's private collection, rarely going on public display.

White Butzi's Speedster is certainly unique in its specification, it is not a one-of-a-kind. There are in fact two 993-generation Speedsters built at the factory in Zuffenhausen, the other belonging to devout Porscheophile Jerry Seinfeld. The American actor is a long-time collector

of rare Porsche sports cars and enjoys a close relationship with the company as a result. The story goes that three years after Butzi was presented with his Speedster-shaped birthday present, Seinfeld took delivery of what a Porsche spokeswoman says was a silver 993 Carrera 4S Cabriolet – a rare beast in itself, never mind the fact that it's also one of the

last air-cooled 911s as a 1998 model. According to Porsche (we have no way of verifying this story, unless Mr Seinfeld would like to get in touch), the Turbo-bodied Carrera 4S Cabriolet was sent back to Zuffenhausen two years later, "together with a heartfelt request to transform it into a real Speedster like the prototype [owned by Butzi]." Porsche fulfilled the wish of

“Butzi’s Speedster has remained hidden in the vaults of the Museum in Stuttgart since his death in 2012”



its good friend via its Exclusiv programme. In October 2001, the finished car again embarked on its journey to North America. There is thus a second original and ‘official’ Porsche 993 Speedster, while a host of enthusiasts have sought to create their own in the years since, the most successful of which have emanated from the premises of Ninemeister in

the UK. Though these other 993 Speedsters are remarkable feats, none of them can draw parallels with the historical importance of the Aventurine green example in our pictures. It is the result of a harmonious combination of Porsche’s two greatest legacies, given to the man who, by creating one of them, allowed the other to continue.

Beautifully presented under the framework of the final air-cooled 911 iteration, Butzi’s 993 Speedster serves as a fitting testimony to both the company’s rich traditions and the people responsible for it. Nearly a decade after Mr Porsche’s passing, it is an honour to bask in the presence of this fine Speedster and bring you its story today. **911**

HIGHLAND FLING

It's a one in a million drive as Porsche takes on
Scotland in celebration of 911 production







Edinburgh. My hometown. Growing up here as a kid I never truly appreciated how beautiful it is. And it is, sensationally so, though today I'm back home not to see friends, family or enjoy the sights, but to take part in something very special indeed. A few weeks ago, the millionth Porsche 911 rolled off the Zuffenhausen production line in Germany. Think about that for a moment: one million 911s – and counting – that's an incredible feat for any car, let alone a premium sports car.

Since its introduction the 911 has become a sports car icon, defining the marketplace, dominating race circuits and being symbolic and relevant in every decade it's existed. That's as true today as it was when it was introduced back in 1963; the 911 might be something of a freak, a quirk of Porsche's engineering determination, and against the odds it's proved wildly successful. Even so, 1 million of them, that's absolutely extraordinary. That millionth car is here too, in my hometown, to start a celebratory tour taking in some of Scotland's most sensational roads.

It's not journalistic licence when I say that this moment means more to me than anyone else here. My city, my country, in a green Porsche

911. Had you told the car-mad seven-year old me at primary school just a few miles away from here that I'd drive the latest version of the model 911 (coincidentally green, too) that was in my schoolbag some 36 years later, I wouldn't have believed you. But that's exactly what I'll be doing, taking part in a convoy of 911s, spanning all decades and types, from a super-rare 911 GT1, a '67 soft window Targa, a 991.2 GT3 and everything in between. It's the stuff of schoolboy fantasy.

That's tomorrow, though. First dinner, in Edinburgh Castle no less, after that Millionth 911 is piped and drummed into the dream line-up on the castle's esplanade. It's quite a sight seeing the Irish green Millionth car arrive. Pictures do not really do it justice: it a beautifully executed example of the Porsche Exclusive department's work. It's as rich in its detail as it is subtle in its execution, the Millionth car correctly simple, a mix of contemporary modernity with retrospective reverence and being utterly representative of what the 911 is, was and can be.

The gold-badged Millionth car takes its place in a line of 911s, parked neatly alongside a 959 and that GT1 Straßenversion. Food, as you'd expect, is introduced with haggis, Porsche's GT model line director Andreas Preuninger doing the honours

and stabbing the tasty beast during a traditional 'address'. Like that Millionth car outside, at dinner I'm sat parked between Simon and Andrew, the owners respectively of the 959 and GT1, their conversation as interesting as their choice in cars, their company something I'll be experiencing more of again tomorrow.

A walk up to the castle in the morning reveals last night wasn't a rear-engined 911-shaped dream, the line up of Porsches very real indeed. To them there's the addition of some police motorcyclists, who'll ease the Porsche convoy through Edinburgh's streets and out of the city. I'm given the keys to an old friend for the first leg – 'Heebie', the grey and gold 997 GT3 RS that's gained its affectionate nickname among the many journalists who've driven it thanks to the HBY on its number-plate. It's been lovingly tidied up, new paint up front, as well as a new steering wheel and gearknob, though slipping into the sports bucket seat feels so familiar. There's a new 991 Gen2 GT3 in front of me, and in front of that is Andrew's GT1, though everywhere I look there are 911s of differing vintages and historical significance, it feeling like every one of the 70 per cent of the million 911s are here, if not in actuality, but in spirit.



LEFT Irish green hue indicates the celebratory Millionth 911 will eventually wind up in the Porsche family's private collection

BELOW Inside, the Millionth 911 has been lavished with some Exclusive touches that evoke the trim of those early 911s

Building the million 911s

Every one of the million 911s has been built in Porsche's Stuttgart Zuffenhausen production line and, like the cars it produces, that line has undergone transformation since its inception. During the time those million 911s have been built, the world around it has changed and the line has undergone developments to reflect that. Modernisation of not just the product, then, but the manufacturing itself, from the introduction of hot zinc galvanisation in the '70s, to new, more efficient production processes to cope with the increased demand for cars in the 1980s. Spot-welding via robots was introduced in 1985, three-axis welding robots arriving three years later, with the 964 being the first fully robot-welded 911 to leave the production line.

Famously in the '90s, Porsche would turn to Toyota to help in adopting lean production techniques to improve efficiencies introduced under then CEO Wendelin Wiedeking. The now single production line would produce all the current models, the 964 making way for the 993, then 996 (as well as the Boxster). The line has continued to develop, new production processes being added to increase efficiencies, though there remains a highly skilled workforce who hand-assemble the 911 at various stages in its production cycle. That production line produces all the 911 series models, including the GT cars, though race cars are taken off the Zuffenhausen line for final finishing at the famous GT department in Weissach.



FAMILY CARS

Model	Millionth 911
Year	2017
Engine	
Capacity	2,981cc
Compression ratio	10.0:1
Maximum power	450bhp @ 6,500rpm
Maximum torque	550Nm @ 2,150-5,000rpm
Transmission	Seven-speed manual; rear-wheel drive
Modifications	Exclusive Powerkit (+30bhp)

Suspension

Front	Independent; MacPherson strut; PASM; anti-roll bar
Rear	Independent; Multi-link; PASM; anti-roll bar

Wheels & tyres

Front	9x20 inch; 245/35/ZR20
Rear	12x20 inch; 305/30/ZR20

Dimensions

Length	4,528mm
Width	1,852mm
Weight	1,450kg

Performance

0-62mph	4.1 sec
Top speed	194mph



ABOVE AND RIGHT Millionth 911 is joined by some very special Zuffenhausen machinery for its Scotland adventure, a police escort taking the convoy through Edinburgh's famous gothic streets



What follows is a drive through Edinburgh, the like of which I'll never experience again. The roadsides are lined by the many tourists stopping to take pictures, the traffic halted by those police motorcyclists. The 911 convoy is eased through traffic like automotive royalty, traffic lights ignored, the city streets resonating to the sound of many flat sixes as they escape the city's limits and head out in search of more interesting roads. Best laid plans and all that quickly dissipate as soon as those police outriders leave us to our own devices, the convoy taking a wrong turn, it split down the middle. I stick with the Millionth car, some hasty phone calls and radio chatter suggesting reconvening part way up the route at one of the car change points at Spean Bridge. Before then our splinter group stops, Heebe replaced by its successor, the Lava Orange legend that is Porsche UK's 'XLG' 991 GT3 RS press car.

The route to Spean Bridge is, like so much of Scotland's roads, glorious, mixing sweeping, sensational vistas with complex topography and fine, quiet tarmac. The temptation is too great for Andrew ahead in the 911 GT1, a car that needs to run quickly to run well. It'd be rude not to join him, particularly as having passed the lead photographer's vehicle he's unsure of the way. I am technically local, after all. There's a 959 filling my mirrors as Simon gives chase, the sight of a GT1 in front of me and a 959 behind being one that's tattooed on my memory forever.

With those photographers left in our wake, this insane three-car convoy forges a fast path en route to Loch Donan and Eilean Donan Castle at the Kyle of Lochalsh. Doing so means we miss the gathering together of the convoy at Spean, but we're all the better for it, enjoying clear roads for the duration of our long drive. With that GT1 effectively driving blind to the route ahead,

I stretch the RS's 4.0-litre unit to squeeze past the GT1 when the road's wide enough to do so, leading these two hyper 911s to our destination courtesy of the satnav that predates the cars now following me.

Nobody's looking at the Donan Castle when we arrive, the sight of these three Porsches turning heads from the other historical view. We're early thanks to our, ahem, 'enthusiastic' pace en route. Rain arrives as the remaining cars do. I swap into a standard Carrera 4 for the drive back to our overnight stop, all the way back to Pitlochry. Rain tempers the drive back, at a more moderate pace, yet not without its thrills, Scotland's terrain never anything but sensational to look at, even when the view is punctuated by the sweep of windscreen wipers.

Fonab Castle is where bed eventually lies, the car park awash with the celebratory convoy, the participants all buzzing from the experience. There's more tomorrow, Knockhill Circuit being our eventual destination, but not before an evening of conversation and reflection over what's been an incredible day. Thus far the Millionth car has eluded me, but I'll be driving it tomorrow. Not before a revisit of the Gen2 991 GT3, which on familiar roads to Knockhill gives me a 9,000rpm thrill-ride that underlines my position that it's the best 911 that I've ever driven. Until the next one, of course. The Millionth car is now mine for a moment, and I'm immediately seduced by its charm.

The specification is basically that of a GTS, the S's unit featuring the same Powerkit that increases its power to 450hp – that increased output driving the rear wheels only. Sitting in the houndstooth-covered seats, with the warmth of the wooden steering wheel, it's a shame the gearknob's not similarly covered. A manual at

least, which might be a retrospective nod in these big-selling PDK times, but it's the correct one, as a seven-speed stick shift features. There's little over 940 miles on the odometer when I get in it, and all I can think is I hope the previous occupant had the presence of mind to take a picture of it as it ticked over the 911 marker. It's all familiar, all 911, though the significance of its build number isn't lost on me. More irreplaceable than any other 911 I've been lucky enough to drive, I'm initially circumspect with it as I take it out on familiar roads around the Knockhill Racing Circuit. That caution quickly dissipates, the historical significance of the car forgotten as I just revel in driving it.

It feels very like the GTS, standard chassis aside here. It effectively is so, which is to say perhaps the most rounded, capable 911 you can buy. Or can't when specifically applied to this car. The steering is light, feelsome, the throttle immediate and the performance unerring, it being very much a modern 911. The 911 today epitomises the evolution of the car, any car, and the Millionth underlines that. The original was an agile, fast engaging and usable sports car at genesis, and today it remains so, only the march of modernity has brought with it refinements, more comfort, economy, greater performance and a huge advance in technology. For all of that, though, it remains utterly identifiable as a 911. Jumping from the Millionth into the early Targa here reveals that as much as anything else, and identifying that the wood trim of the Millionth car isn't necessarily representative of the early cars – that Targa not having a splinter of the stuff inside. No other car is so recognisable, so interesting, so unique, which is why it's endured so effectively, and seduced so many. One million, then, and counting... **911**

RACE CARS





088 CarreraRSR

Story of the Carrera RSR at the Targa Florio, and how Porsche restored it

094 Moby Dick

Why this famous race car is one of the most famous in Porsche's own collection

100 993 GT2R

Taking to the track at Goodwood in this fearsome 1990s track weapon

108 GT1 '98

How this mid-engined 911 conquered the iconic 24 Hours of Le Mans

116 The Museum's top six

The Porsche Museum's curators pick the most important road 911s in history



The year 1973 was significant for a couple of reasons. On 3 April that year, the first ever mobile phone call was made by a Motorola engineer in Manhattan, New York, and the world as we knew it was changed forever. The second reason – and perhaps more relevant to Porsche enthusiasts – was the introduction of the 911 Carrera RS, a high-performance road and race car that elevated Porsche's standing on the international motorsport stage.

Announced at the Paris Motor Show in October 1972, the 911 Carrera RS was powered by a 2.7-litre engine producing 210 horsepower, and featured a radical new aerodynamic device, the engine-lid ducktail. Porsche's intention was to create the next racing 911, but in order to do this it had to produce 500 roadgoing versions to meet the homologation requirements for entry

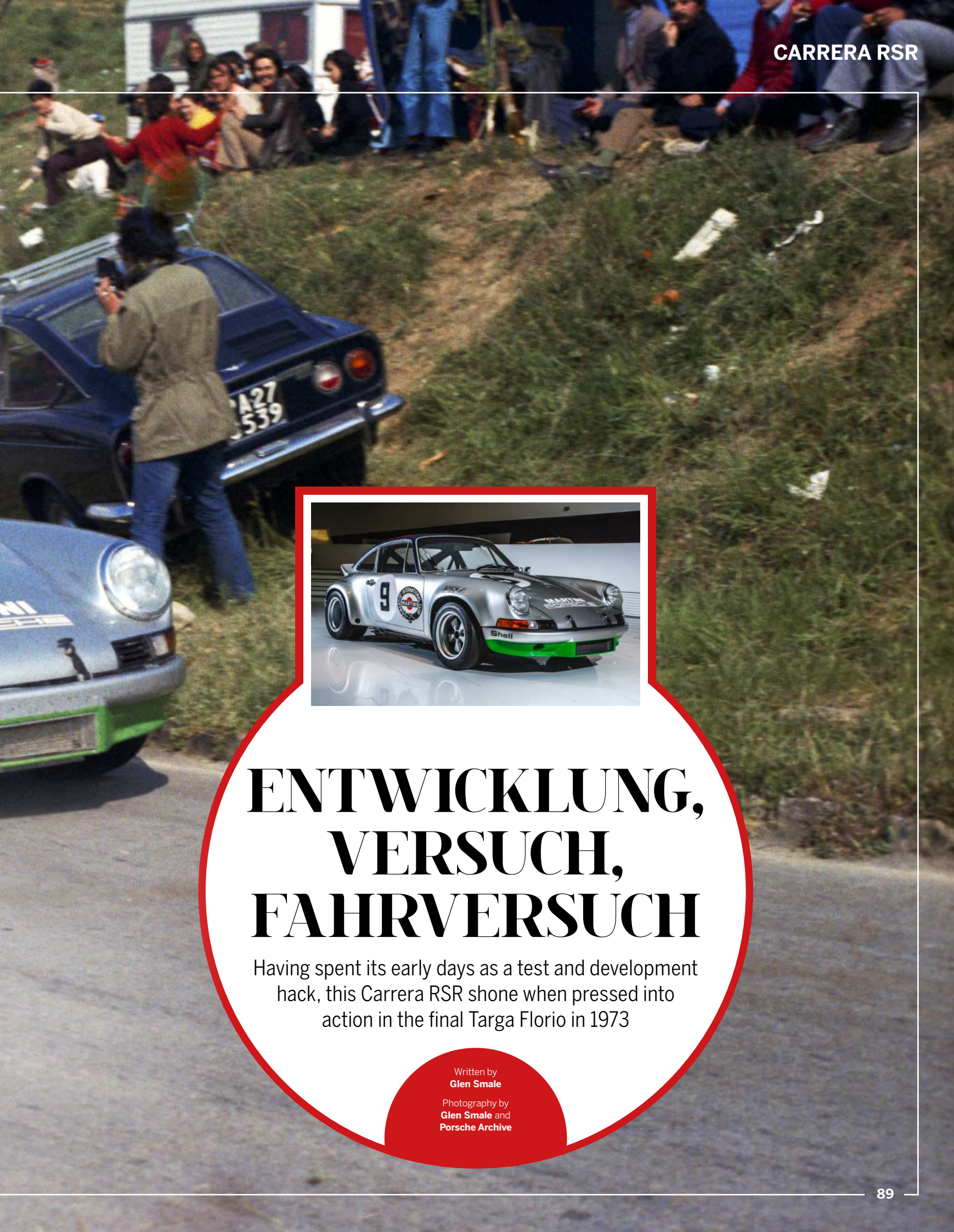
in Group 4, the Special Grand Touring category, as we documented in our 'Rennsport Evolution' article in issue 198.

In short, so successful was the sales effort behind the Carrera RS, that 528 cars were produced between October '72 and February '73, but the official notification of the model's homologation was only received on 1 March 1973. This meant that the racing version, the Carrera RSR, would have to run in the prototype category at Daytona, scheduled for 3-4 February '73. It made little difference as the 2.8-litre Carrera RSR won the Daytona 24 Hours overall on its debut, easily outgunning the other GT class contenders for which it had been intended.

The development of the Carrera RSR involved taking a Carrera RS from the production line and transferring it to the Customer Service Department across the road in Zuffenhausen

where it would have a fully race prepared 2.8-litre engine installed. This increase in bore over the production 2.7-litre unit was the largest displacement possible within the existing engine stud positions. Compression was increased by using higher-domed pistons, and Nikasil-coated liners were fitted, a technology used to great effect in the mighty 917 model. These modifications ensured the Carrera RSR was the first 911 to achieve that magical 300bhp figure.

The Carrera RSR was fitted with a much larger, centrally mounted oil cooler located in the front, below the bumper. Stopping power was significantly enhanced by the use of 917 finned calipers that gripped the cross-drilled discs and weren't as prone to fade, and a front/rear brake balance mechanism was also installed. A safety fuel cell was mounted in the front luggage compartment too.



ENTWICKLUNG, VERSUCH, FAHRVERSUCH

Having spent its early days as a test and development hack, this Carrera RSR shone when pressed into action in the final Targa Florio in 1973

Written by
Glen Smale

Photography by
Glen Smale and
Porsche Archive

RACE CARS

Back to Daytona: the Brumos-entered Carrera RSR that had won the 1973 Daytona 24 Hours earlier that year in the hands of Peter Gregg and Hurley Haywood had been powered by a 2.8-litre engine. This victory no doubt bolstered Norbert Singer's confidence sufficiently to send three cars to the Targa Florio of 1973 – as we now know, it was to be the last ever iteration of this famous Sicilian race.

For this event the cars would be powered by the new, more powerful 3.0-litre engine. Pushing the engine capacity to 2,993cc given the existing engine architecture, the RSR now produced an impressive 315bhp. Our feature car, chassis #9113600020, known internally as R2 EVFV (Entwicklung, Versuch, Fahrversuch, or 'Development, Experimental, Road Test Vehicle'), spent much of its life doing just that. Even today, you will find the racing department's Dymo tape reference label, R2 EVFV from 1972 in its rear window. R2 was manufactured in November 1972, whereupon it was called into active service to be driven in the Tour de Corse by Gérard Larrousse and Christian Delferier. Finished in red/white Marlboro livery with the registration LEO-ZA 69, the car unfortunately retired when a driveshaft came loose.

A week of testing and development followed at Paul Ricard in late November, where further developments to be used on the RSR were trialled. R2 spent much time at Paul Ricard as the car had to be converted from a rally car back to a track car, as Günter Steckkönig recalled. This obviously required quite some time to do, followed by yet more testing, before the car could participate in the track events that were planned for '73.

The list of test drivers who got behind the wheel of R2 between November '72 and April '73 reads like a 'Who's Who' of the racing world at the time, and includes names such as Gérard Larrousse, Herbert Müller, Gijs van Lennep, Mark Donohue and Günter Steckkönig. On 1 April 1973,

R2 was put to work as a practice vehicle over the Le Mans test weekend. In the hands of Gijs van Lennep and Herbert Müller, R2 finished 1st in the four-hour race, although it is well known that not all the cars participate in this event, and the top contenders certainly don't give away any secrets that early in the game.

The next competitive event for R2 was the 57th Targa Florio, which had proved to be a happy hunting ground for Porsche in the past. Porsche was the most prolific winning manufacturer by the start of the 1973 season, with ten victories to Alfa Romeo's nine and Ferrari's seven. While the car showed good front end grip, the rear showed only a reduction in lift, as its ducktail did not eliminate lift altogether. Although the ducktail offered encouraging signs to Norbert Singer and his team, greater aerodynamic efficiency was sought. To this end, Singer crafted an extension to the rear wing that curved forward to meet the top of the rear fender, a modification that was later to become known as the 'Mary Stuart Collar'. This was possible on the Carrera RSR as it was competing in the prototype class.

It was announced that the '73 Targa Florio would be the last time this event would be included in the World Manufacturers' Championship, bringing to an end the history of this great road race. As a result, two of the most prominent names, Ferrari and Alfa Romeo (Autodelta), were determined to make this last race a big one for them. Lancia was also a serious contender with its extremely light Stratos, but Porsche had put a lot of development time into its Carrera RSR and so it despatched three cars to the Sicilian event. The #8 car would be driven by Herbert Müller and Gijs van Lennep, the #9 car was to be driven by Leo Kinnunen and Claude Haldi, while the #107 car was to be driven by Günter Steckkönig and Giulio Pucci.

The #107 car was to be entered in the GT class but unfortunately for Porsche, Pucci slammed the Porsche into a tree during practice, tearing

RIGHT R2 was originally restored as the Targa Florio-winning RSR, before being appropriately designated as the no.9 car





“Even today, you’ll find the racing department’s Dymo tape reference label, R2 EVFV from 1972 in its rear window”



ABOVE R2 sported a revised spec and livery for the 1973 Le Mans 24 Hours

RACE CARS

Targa Florio 1973	Model Year	Le Mans 1973
2,806 92.0 x 70.4mm 10.3:1	Engine Capacity Bore x stroke Compression ratio	2,993 95.0 x 70.4mm 10.3:1
300bhp @ 8,000rpm	Maximum power	315bhp @ 8,000rpm (with slide throttles)
2,271mm 1,472/1,528mm	Dimensions Wheelbase Track (front/rear)	2,271mm 1,472/1,528mm
260km/h	Performance Top speed	280km/h



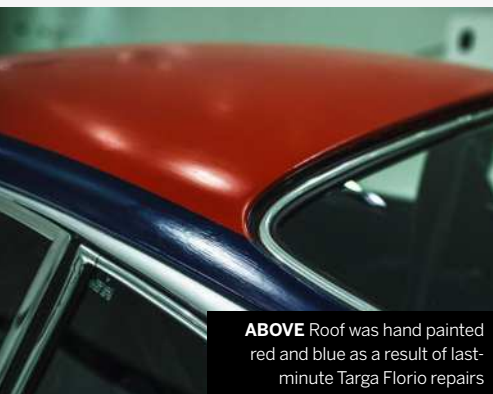
the tree off at ground level and pushing the passenger door in so far that the car had to be scrapped. Pucci then requested that he practice in the #9 car, which he promptly put on its roof. Undeterred, he marched back into the Porsche garage and demanded to have a go in the #8 car, which was to be driven by Müller and van Lennep. Fortunately for Porsche, Herbert Müller got wind of Pucci's intention just before the Italian arrived back at the garage and he removed the keys from the ignition of the #8 car. With the keys safely in his pocket, Müller then disappeared and Pucci was left without a car to practice in. This incident was observed by one of the mechanics in the Porsche team, who related this story to the team after the race.

Pucci's activities left the Porsche mechanics very busy that evening, as the team's T-car was then prepared as the 'new' #107 car for Günter Steckkönig and Giulio Pucci to drive. However, the T-car could not be prepared for the GT class, and so the Steckkönig/Pucci car was entered in the Sports 3000 class along with the other two Porsches. The crew were also left with the job of repairing the #9 car's roof, which they did in record time. It is for this reason that the roof is painted red with a blue border, as this was all that the team had to hand with which to paint the car. Careful examination of the car today will show that this red and blue paint was applied with brushes, being painted on by hand!

The 57th Targa Florio consisted of eleven laps of the 72-kilometre course, and was watched by 700,000 spectators spread around the hills of Sicily. The course comprised more than 700 corners, dips and rises, villages and cliff faces, so this was not an event for the faint hearted.

The race was being taken very seriously by the two Italian marques, given the power and pace of their 12-cylinder prototypes. Porsche, on the other hand, did not expect to win, as it was shifting its focus away from its 12-cylinder





ABOVE Roof was hand painted red and blue as a result of last-minute Targa Florio repairs

prototype programme, putting its effort instead into developing the 911 for GT applications.

Following the chaos of the practice sessions, the #8 Carrera RSR was qualified in 5th place by van Lennep, but the #9 car was down in 15th place. The start of the race got underway as expected, with the Ferrari 312P of Merzario speeding off into the distance, followed by Stommelen in his Alfa Romeo. The other Ferrari and Alfa Romeo were followed by the #8 Porsche 911 Carrera RSR, but after just two laps, van Lennep found he had been promoted to 3rd place. Our feature car, the #9 Carrera RSR, also began its climb up the ladder and in true Targa fashion, the rate of attrition amongst the faster cars was high. With just four of the eleven laps completed, the #8 Porsche 911 Carrera RSR of Müller and van Lennep led the field, a position they would not relinquish. The #9 RSR made even greater headway as it climbed from its original starting position to finish in 3rd place, a little more than 18 minutes behind the #8 winning Porsche. The troubled #107 Carrera RSR of Steckkönig/Pucci came home in a respectable 6th place overall.

In its post-race press release, Porsche boasted justifiably that its cars had 'functioned like clockwork', giving Porsche its 11th win in the greatest road race of all time. After the Targa Florio, there was insufficient room in the Porsche transporters for the #107 Carrera RSR, and so Günter Steckkönig was given the task of driving this car all the way from Sicily back to Stuttgart on the road.

Just three weeks later, the Porsche factory entered a pair of Carrera RSRs in the '73 Le Mans 24-hour race, these being powered by a 3.0-litre engine, while two further RSRs were entered by the privateers, one each by Kremer Racing and

Sonauto BP Racing. R2 was this latter car, the #48 Sonauto BP Carrera RSR, driven by Peter Gregg and Guy Chasseuil.

The two factory cars, powered by the larger engine, were entered in the Sports 3000 (Group 5) class, while the two privateer RSRs contested the GT 3000 class and were powered by 2.8-litre customer engines. At Le Mans the #48 Sonauto Carrera RSR no longer wore its rear wing extensions, as the GT class regulations did not allow this, but the two factory cars could run with this rear wing modification.

Having qualified the car in 36th place for the start, Gregg and Chasseuil drove a steady race and at the halfway mark they found themselves in 8th place overall. However, Peter Gregg had a front tyre blow around down while speeding down the Mulsanne Straight, causing some suspension damage. Later that morning, a front brake disc cracked, losing them further time. Both repairs cost the team a combined 50 minutes, dropping them down to 14th place overall and 3rd in the GT 3000 class at the finish.

For the remainder of '73, R2 went back to being a test and development vehicle, and in 1974 it was rolled into the Porsche Museum for its well-earned and honourable retirement. Initially the car was fully restored as the #8 Targa Florio winning Carrera RSR, but it has now been correctly restored as the #9 car which finished 3rd overall in the final Targa. The car no longer wears its wrap-around wing extensions, presented instead as it was last raced in the Le Mans 24 Hours in 1973. R2 might well be the unsung hero of those Targa Florio RSRs, but its history in going from test car to Targa and Le Mans track titan demonstrates that a Porsche race car is as consistent as it is successful. **911**



A BIG FISH

Group 5 rules offered manufacturers great freedom to modify their cars in the silhouette class, so Norbert Singer pushed the rules to the limit and gave us the Porsche 935/78 'Moby Dick', as Total 911 investigates...



Written & Photographed by Glen Smale

In the 1970s, Porsche had much going for it on the worldwide motorsport stage. Firstly, it learned how to dominate with turbocharging, and secondly, it had in Ernst Fuhrmann a CEO who believed in the commercial benefits of motorsport. Then there was one Norbert Singer, a motorsport engineer who originally wanted to work in aeronautics, but when a position at Porsche presented itself in March 1970 he elected to take that instead.

With an interest in aerospace, Singer's knowledge of aerodynamics and weight conservation came in handy when working with racing cars. Singer's first task at Porsche involved cooling on the mighty 917s, but in just a few short

years he was already making his presence felt in Porsche's wider race department.

At the start of the 1976 season, Group 5 regulations referred to a 'silhouette' car, but any definition of what a 'silhouette' comprised was notable by its absence. This term, though, was deliberately loose in its meaning so that the manufacturers competing in Group 5 could develop race cars that looked like a production car, but were clearly powerful, all-out racing machines. Porsche's contender for Group 5 was the 935, but the model had to go through two evolutions before the third iteration, the mighty 935/78, or 'Moby Dick,' was born.

When the first version of the 935 appeared in 1976, it featured a flatter rear wing and headlights

in their conventional position in the fenders, but the 1977 version already showed signs of where the ultimate 935 was heading. The headlights had been removed from the conventionally shaped fenders, which were now downward sloping and more streamlined. Norbert Singer was the project engineer on the 935: "My favourite aspect at the time was the regulation it depends who you were working for, the fender of the 911 was very wide because you had the headlights in the fenders. With the fenders being free you could modify the 911 completely, so we took the headlights and put them down in the bumper, making it look completely different," he says.

The regulations required the manufacturer to keep the windows from the production car, as



Taking full advantage of a loophole in Group 5 rules, the Moby Dick is instantly recognisable for any Porsche fan for its outlandish silhouette rather than any on-track accomplishments, which were only loosely based on a 911 road car



Singer explains to us with a smile, “We made a new rear window, a kind of double window. We left the old production window inside but we put another window on top, so you could easily see the production window from the outside, but the airflow was much better.” The 935/78 was also fitted with a long tail, which maximised the air flowing off the modified rear bodywork, making the car almost as fast as the prototypes at the Le Mans 24 Hours.

If Singer’s interpretation of the rules relating to the double rear window and the front fenders were ingenious, the lowering of the whole car by 8cm was the icing on the cake. Ford and BMW also raced in the World Championship, but they were handicapped because of their front engines, as regulations required the exhaust pipes to exit behind the centre of the wheelbase. Because of its rear engine, Porsche didn’t have this problem, as the exhausts didn’t have to pass under the floor of the car. The other manufacturers wanted to change this regulation, allowing them to modify the door sill, thereby lowering the ride height of the car. In a meeting with the FIA, it was agreed by all the competitors that the sill could be modified to allow the car to be lowered and for the exhaust to exit in the same place. Fortunately for Singer, the new regulation allowing this

modification was written in general terms. “After we left the meeting I had the idea that by being allowed to modify the sill, we could cut it along its full length – this was the 8cm that we cut out,” Singer explains with a satisfied grin.

As the front and rear fenders had been widened significantly, it seemed perfectly logical to complete this extension over the door too, to avoid creating excessive air turbulence along the side of the car. Because this was, in Singer’s words, on the ‘edge of the regulations’, he invited members of the FIA’s Technical Subcommittee to inspect the car at Weissach; well-known journalist and racing driver Paul Frere, and Curt Schild, a Swiss engineer, arrived to inspect the car. “They were actually close to having a heart attack,” recalls Singer. “‘What are you doing?’ they exclaimed, but we explained our ideas in terms of the regulations, and in the end, they agreed that it conformed to the regulations, and they submitted their report to the Technical Commission. But the Technical Commission said, ‘No way!’”

The problem was that Porsche only received the Commission’s final answer about three weeks before the first race. With the first race looming, something had to be done, as Singer explains, “I went back to the wind tunnel to see how we could work out a compromise, and it turned



out that the first section along the door was the most important part.” With this finding, Singer and his team fabricated a partial door cover, approximately 12 to 14 inches in length, to replace the full door cover. “This was aerodynamically nearly as good as the complete cover with the NACA duct. In the end, we had a solution which was, let’s say, 95 per cent as good as the original one, and although it didn’t look as good, on the technical side it gave almost the same efficiency.”

Engine development saw the introduction of a first for the company: water cooling in a 911. The regulations required a production engine block, with some machining permitted, but the heads could be modified. This worked perfectly for Porsche as this allowed it to retain traditional air-cooling for the cylinders, but water-cooling for the heads allowed the introduction of four-valves per cylinder. This meant that the fan, which had to be retained by regulation, could now be smaller as it only had the cylinders to cool. Each bank of cylinders had its own water pump, which was gear-driven, the water-cooling thus lowering the temperature of the heads significantly, and thereby increasing the operational efficiency. With the increased pressures achieved in a turbo-charged engine, welding the heads to the cylinders of the 935/78 was of great benefit, while



The Moby Dick name

During the building process of Moby Dick, the car was on stands in the workshop at Weissach without wheels; this height made it easier to work on and for the mechanics to work under the car as required. Once the car was completed and ready for its first test run, the racer was painted completely in white.

Norbert Singer recalls with some humour the moment Moby Dick was rolled out: "You can imagine, after seeing the car for weeks at a certain level, you get used to it. Then you fit the wheels and bring it down to the floor, and this combination of being 8cm lower, the increased width, and the car being much longer, it was quite a shock, and one of the mechanics said 'It looks like Moby Dick.' And that just stuck."



RACE CARS



Seating position was moved to the right-hand-side on Moby Dick for better balance on predominantly clockwise circuits; gearbox oil cooler lay behind duct aft of driver's door

Model 935/78
Year 1978

Engine

Capacity 3,211cc
Compression ratio 7.0:1

Maximum power 750bhp @ 8,200rpm (max: 845bhp @ 8,200rpm)

Maximum torque 784Nm @ 6,600rpm

Transmission 4-speed manual (Type 930/50)

Suspension

Front Wishbones; MacPherson struts

Rear Aluminium semi-trailing arms; Progressive rate coil springs; Bilstein gas-filled telescopic dampers

Wheels & tyres

Front 11x16-inch light alloy with centre-lock nut

Rear 15x19-inch light alloy with centre-lock nut

Dimensions

Length 4,890mm

Width 1,990mm

Weight 1,025kg

Performance

0-62mph 4.5 sec

Top speed 227mph





at the same time doing away with the need for a gasket. It was typical of Singer's genius.

Power increases also came from a more compact, efficient combustion chamber, a higher compression ratio, as well as the four-valve heads, which were operated by twin overhead cams. The operational rev limit was still 8,000rpm, as on the previous 2.8-litre engine, but the additional power generated by the 3.2-litre engine was achieved largely through higher turbo boost. Turbo power was supplied through twin KKK turbochargers, coupled with Porsche-designed wastegates, with cockpit adjustable boost pressure for the driver. With a boost pressure of 21psi, 750bhp at 8,200rpm was achieved, but with the boost turned up to 25psi, as much as 845bhp was possible.

The gearbox on Moby Dick was inverted due to the car's lower ride; this was done to avoid the half shaft being at too extreme an angle for racing. The four-speed gearbox was otherwise the same as that used on the earlier 934 and 935 models, with drive to the rear wheels being solid, dispensing with the need for a differential, and the gearbox oil cooler was located in the right rear fender.

With the engine heads being water cooled, this obviously required the installation of a water radiator. The dry sump also required an oil cooler, but there were insufficient holes through which to collect air separately for the engine, oil cooler, gearbox oil cooler, and the intercooler. The problem was solved in a manner of speaking, insofar as the engine and oil cooling were concerned, with the installation of two radiators low down in the nose, one behind the other. Singer explains the limitations of this setup, "When you put two radiators one behind the other, neither of the radiators is really working at its optimum because of the reduced airflow." The rear radiator is receiving warmer air from the front one, and the pressure distribution from the front to the rear of the first radiator is different. "So, the first radiator is handicapped and the second is even more handicapped, that is why they are both so big."

Most circuits that Porsche raced at in Europe ran in a clockwise direction, and as such most corners were right-handers, as Singer explains, "In the past, because you had more corners to the right, they placed the driver on the inside to keep the weight distribution favouring the right, or the inside. So, we decided the next step to improve the 935 would be to put the driver on the right," Singer points out. The only potential problem was

changing gears, because on race cars like the 917, the gear stick was on the right-hand side, but in this case, it was not possible to move the shifter to the right-hand side. "We could have moved it, because this was free to move, but we had a short discussion in-house because we thought that the drivers might mis-shift and over-rev the engine. I called Jochen Mass and Jacky Ickx, as they were the drivers, and I asked them what they thought and they told us, 'No problem, we sometimes race in England with road cars, so we will get used to it after just a few laps.'"

On 14 May 1978, Moby Dick rolled onto the Tarmac for the 6 Hours of Silverstone and delivered its first, and only, race victory. Jacky

Ickx qualified the 935/78 in pole position, beating the second-placed car, another Porsche 935, by two seconds. The race itself started in wet conditions, and Jochen Mass made good his escape, and before long was so far ahead

“Regulations referred to a ‘silhouette’ car, but any definition of what that comprised was notable by its absence”

of the rest of the field that the following horde was unaffected by his spray. The Ickx/Mass car was never troubled, and romped home seven laps clear of the second-placed car.

Le Mans, a month later, was rather a different story. Qualifying started well enough, with the number 43 car placed third on the grid, three seconds behind the Porsche 936 prototype on pole. Moby Dick, though, was beset with niggling problems throughout the race, none of which were big in themselves, but the car was unable to realise its full potential. "Unfortunately, the engine had a very high fuel consumption and we had 32 regular pit stops, even though we were fast. Then, we had trouble with a small oil leak and this required two extra pit stops to fix. We also had a puncture, so I think we had about 36 pit stops in total, which is way too much. But with the performance, the car's top speed and the lap time that we did in practice, I was quite happy," Norbert Singer admits.

While the car in period achieved significantly less than might have been expected, the 935 'Moby Dick' nevertheless represents a time when relative freedom and liberal interpretation of the motorsport rules allowed such outlandish cars to be built. Norbert Singer's interpretation of these loose rules was bordering on the outrageous, almost rebellious, but the silhouette era saw some of the most colourful and competitive racing in recent history. The Moby Dick is thus a special Porsche race car, and we are all the richer for such wild thinking, the likes of which we are unlikely to see ever again. **911**

SPEED FREAK

Porsche brings a 993 GT2 R to Goodwood SpeedWeek, and Total 911 straps in for a drive. Is this the ultimate air-cooled firebreather?

Written by **Kyle Fortune** Photography by **Mark Riccioni**



There's a slight crest that I've never really noticed before. Shortly after the exit of Goodwood's Lavant corner, it coincides with the GT2 R reaching 4,000rpm when the turbos really start to make their presence felt. The rear goes light, there's the slightest squirm as the 11-inch rear tyres hunt for traction, before the GT2 R's rear hunkers back down, the engine runs around to its redline and I reach for another gear. Lavant Straight is far from it, being kinked, uphill but fast, and it's here that the GT2 R's engine forcefully reveals its potency, with fourth gear quickly devoured, the shift light flashing in the instruments in front of me as I push the clutch and reach for fifth.

There's no time to think. Just drive. That's just as well, because GT2, when applied to the 911, has long been associated with being a difficult, challenging car. A few hours earlier I'd been sat at my desk, having decided to give Goodwood SpeedWeek a swerve, because I had other things on. Then I got a call. "We've got some track time in a GT2 R if you want a drive," said Richie Payne, Porsche PR and technician extraordinaire. Initially I said no, as with the current situation I'd let my race licence expire, and Goodwood's usually run as a racing event and requiring a valid licence. Payne quickly checked and said I'd be needing just my road licence, so I jumped in the

car, drove 150 miles in a little over two hours, and pulled on my racing suit.

The car had come over from the Museum, recently restored and sans any livery, in white. Sitting in Goodwood's open paddock alongside some Porsche Le Mans legends, it looks small, meek even, as ridiculous as that seems. The cars it's amongst won't be running today, but Payne's got the key to the GT2 R and hands it over to me. Any visit to Goodwood is like travelling back in time, and the 993 GT2 R looks box fresh, exactly



RACE CARS





like it would be if it had just been delivered to a racing customer after relieving their bank balance to the tune of DM 398,500 (circa £185,500) back in the mid-1990s.

There's little time to take in all the details with the track session starting in a few moments, though it's impossible not to spot the distended signature wheel arches with their visible fixings and the huge wing extending up above the road cars' uprights to roof height at the back. The GT2 is the definition of race car, with its form entirely derived from function, those wild wheel arches covering 18-inch split rim wheels, the fronts being 10 inches wide and the rears 11 inches. Today those centre-locked silver and gold wheels are shod with some Michelin wets, Payne quick to point out they're both new, and cold.

That's not what you want to hear before jumping in a racing car, especially one you've never driven before, but there's no time to give it much consideration, as I strap the six-point Sabelt harnesses on while clutched tightly by the embrace of the sole bucket seat in the stark interior. There's no trim inside, save for the dash top surrounding the instruments, simple door cards, and a bit of centre console containing a light for the fuel reserve plus a couple of switches. Payne's warmed up the 3.6-litre engine, it firing on first turn of the key.

A development of the flat six from the 993 Turbo, it's designated M64/60 R and comes with different KKK turbochargers, larger intercoolers, a higher lift cam, and manually (rather than hydraulically) adjusted valves. It runs a higher boost pressure of 2.05-2.1 bar as well as a differing, freer-breathing exhaust system, while a TAG box, opposed to Bosch, is tasked with the

engine management. That TAG unit is sat behind the seat, a finned black box with six LEDs on it, listing the words Power, Speed, Sensor, Ignition, Injection, Function and, somewhat ominously, Fatal Error respectively.

There's a green light alongside Power, which I'm told is 450hp, as in line with the GT2 racing specifications. That is 20hp more than the GT2 road car, though as with any quoted figures from Porsche that's likely to be a little bit conservative. It's October and while it's mercifully dry, the air is cool, and hence, dense, so despite the intake restrictors which were mandatory under the GT2 regulations that this car was built to race under, it should be making all its power today. There's little to see from lifting the engine cover, with the intercooler taking up all the engine bay and more, fitting snugly under that lightweight wing.

It settles to a steady idle, the bare interior reverberating with the flat six's sounds, with the clutch-release bearing chattering along in accompaniment. There's a single mass flywheel here, opposed to the road car's dual mass one. Devoid of its usual Porsche Museum minders, Payne's currently looking after it, popping his head inside to say that the sintered metal clutch is likely to feel like a switch. That makes the absence of spectators today a bonus, not for the potential embarrassment of stalling it, but instead making the drive through the usually crowded paddock a bit less fraught.

The gearbox is a racing version of the six-speed G50 transmission, with a separate oil pump feeding a cooler. Slightly shorter and more precise in its movement than a regular 993, but still familiar, I select first and increase the revs while bleeding out the clutch. It bites with the usual race car ferocity, a quick stab again to prevent a stall, before re-releasing it to chunter through the paddock to assemble in the pit lane. Mercifully, the marshals wave me through quickly, no frustrating, testing stop-starts as the GT2 R makes its way down the pit lane before being held to join the track. No heroics pulling away, the aim to get it rolling rather than showing off, with the first couple of laps of Goodwood being exploratory and to get some heat into the tyres, brakes and gearbox.

Even driving it conservatively it feels eager, the engine revving freely, the 3.6-litre being tractable and strong from low revs, with the boost coming in forcefully from 4,000rpm. It's not particularly linear as a result, but the boost's not so wild in its arrival that it's not manageable. You're aware of it, instead of weary of it, from mid-3,000rpm and upwards it builds, before giving its best on the way to the 6,500rpm redline. Maximum power is produced at about 5,700rpm, with peak torque of 670Nm at around 5,000rpm, it revving quickly around to its redline, the need to change



ABOVE Fortune takes in some sighting laps before unleashing the lightweight GT2 R's full 450hp

RACE CARS

signalled by a shift light flashing on the dash to the right of the speedometer. Goodwood's a fast but tricky circuit, with many of its corners cambered to fall away as you run through them, the absence of anything that can rightfully be described as run-off being troubling. Even so, it's impossible to resist the temptation to build the speed once there's some heat in the car and tyres. Running on what's essentially 993 Cup suspension, with all the mountings being ball-jointed rather than bushed with stiffer, adjustable anti-roll bars – the front 35mm one being hollow. The brakes are 380mm at the front, the calipers able to accommodate thicker pads for the GT2 R's role in endurance racing. It weighs just 1,150kg, 140kg lighter than the road car. Despite the fitment of a pneumatic jack system, full roll cage and a larger fuel tank up front as well as a fire extinguisher system, the usual thinner glass and use of aluminium for the doors and bonnet help keep the mass down, as does the absence of any trim inside other than what's required to mount the instruments. That lack of weight is obvious, the engine making light work of shifting it, and the way it builds momentum being extraordinary. That might be signalled by its quoted 0-62mph time of 3.6 seconds, but it's not its standing start sprinting ability that's so appealing, but rather the way it gains speed when on the move.

Given its fearsome reputation the GT2 R feels remarkably biddable on track. The steering, power assisted, is light and accurate, the turn-in having that familiar 911 quirk of needing a bit of patience, before settling in and working the tyres hard. A bit of trail braking helps get the nose to tuck in with a bit more authority, putting some weight on the nose and working down the gearbox. Doing so is a joy, the brake pedal firm and strong, it providing the perfect platform from which to roll off the side to rev-match those easy downshifts, the grip levels huge through the corner, with the traction being similarly mighty when exiting it.

As with any racing car it works better the quicker it's driven, and speed isn't something that's in short supply. The GT2 R's ability to gain it is relentless, it feeling light, and hugely accelerative when those two KKK turbos are fully lit. That boost is so addictive, it shortening the not-straight Lavant Straight convincingly, with its seat-chewing crest momentarily unsettling it as the surge arrives in third gear. It sounds magnificent, the bare interior fizzing with the intense sounds of the flat six behind me, it signalling the need to shift as much as the light glowing on the dash. There's a speedometer in front of me, but at no point do I ever look at it to check the speed, Goodwood and the GT2 R requiring all my attention, all of the time. Not in a fearsome manner – just involved and hugely

enjoyable, the GT2 R is so communicative that it's surprisingly quick to get to grips with, it being far less spiky and difficult than the 991 Cup car I track tested a year ago.

That comes as something of a surprise, but then the GT2 R was built to be campaigned for hours at a time, not sprinted for mere moments. It feels resolute, strong and unendingly rapid. Goodwood's a fast circuit and the GT2 R's suited to it, with the famous chicane giving a brilliant opportunity to go down through the gearbox after exiting the tricky double apexed corner of Woodcote, before running it up to its redline repeatedly along the pit straight before the fast run through Madgwick corner, and down through the even faster Fordwater after it. The compression that follows St Mary's is hugely entertaining, and one where you can take liberties with the speed, as being the only left-hand corner around here, there's a sizeable run off should I get it wrong. As each lap passes I'm nibbling deeper into the braking zones, making more use of the kerbs and exploring the GT2 R's potential. There's so much more on offer than my too brief stint allows, though the eight laps (around 19 miles) in it underlines that it's about as pure a driving experience as you could have. Devoid of stability or traction control systems, you're responsible for feeling the limits, while the manual transmission keeps you busy, with every shift up or down the 'box an absolute joy. No finger-flipped shifts here, the 993 GT2 R a physical, involving car, but all the better because of it. To have raced one must have been sensational, its arrival in the global GT2 series it was designed for seeing Porsche win plenty of silverware with it, and having experienced it, it's not difficult to see why. **911**



BELOW GT2 R's biplaned rear wing extends to its roofline, far taller than road variants





ABOVE Lightweight motorsport wheels sit under signature GT2 arch extensions



RACE CARS



“There’s no time to think.
Just drive. That’s just as well, because GT2, when
applied to the 911, has long been associated with
being a difficult, challenging car”



GT1 '98

ULTIMATE RACER

The 1990s proved a barren run for Porsche at Le Mans. That is until 21 years ago, when the ultimate 911 incarnation returned Weissach to winning ways. Here is its story

Written by **Kyle Fortune**
Photography by **Daniel Pullen**
& **Porsche**





RACE CARS

Anyone with even a passing interest in Porsche's motorsport activities can't fail to be aware of its history at Le Mans, one that encompasses a record 19 outright victories. The last of those appearances on the winner's rostrum was in 2017 with the dominant 919 Hybrid, but two decades previously, the 1990s was a more barren affair at Le Mans for Porsche. The 15th win had been achieved in 1994 with the Dauer 962, a racer that was capable, but showing its age. It would take until 1998 to chalk up the 16th victory, and that would come courtesy of an entirely new, 911-derived design – the Porsche GT1.

Porsche knew that it needed something fresh to remain competitive, and that its new racer needed to look like the 911, so with Norbert Singer at the helm, it set to work on the GT1 to compete in the BPR GT Series. Tony Hatter began drafting a design in 1995, one that borrowed pretty much the entire front section of the 993 – rather apt as he'd designed the car originally – but with the

body cut behind the driver and with a new steel section grafted on behind to carry the engine and transmission that had been turned through 180 degrees and mid-mounted.

After a 2nd and 3rd place at the 1996 Le Mans the car was updated for the 1997 season, becoming the GT1 EVO and gaining 996-style headlamps, among other developments. There was no finish at Le Mans that year, but despite outright victory remaining elusive, Porsche's engineering director Horst Marchart was persuaded by race team boss Herbert Ampferer to stick with the project, and for 1998 what amounted to a completely new car was developed. Effectively a clean-sheet design that shared almost no parts with the road cars, there was little pretence of remaining even faintly close to the production Porsche 911, despite the Board's wishes. This was essentially a prototype racer, and in fact the FIA regulations required just the one 'Straßenversion' road model to be built. Porsche would make 20.

The GT1 marked a number of firsts for Porsche, one of which was the use of a carbon-fibre monocoque chassis, with the sections and panels constructed by English specialists, CTS. Talented engineer Horst Reitter had designed the carbon tub and he had plenty of experience, having also been responsible for Porsche's first racing monocoque for the 956. There was another key difference in that it was also designed entirely on computers, with no full-scale model produced, Singer adopting a new method to develop the aerodynamic package.

A quarter-scale model was tested in the wind tunnel, with the data transferred to CAD computers for production of the final, full-sized car; that was then checked a second time in Weissach's wind tunnel, many further hours being devoted to honing the final shape. The proliferation of slats and vents that adorned the bodywork was testament to the amount of time spent perfecting the aerodynamics and cooling of the new machine. A further crucial difference compared to earlier GT1 incarnations concerned weight, Herbert Ampferer saying at the time: "The aim was to shed approximately ten per cent of weight compared to last year's vehicle." It worked, as the car now weighed 940kg compared to 1,050kg in 1997, and not only was the carbon-fibre body notably lighter, but it was also a whole lot stiffer than the steel shell used previously, and as we know that has major benefits when it comes to handling.





ABOVE Driver's position was switched from the left to right-hand-side for the GT1 '98, with internal airflow to the driver improved too



ABOVE It may have adopted the 996.1's fried egg headlights and amber-lensed rear cluster, but in reality the mid-engined GT1 bore little resemblance to any road-based Porsche 911

The GT1-98 drivers

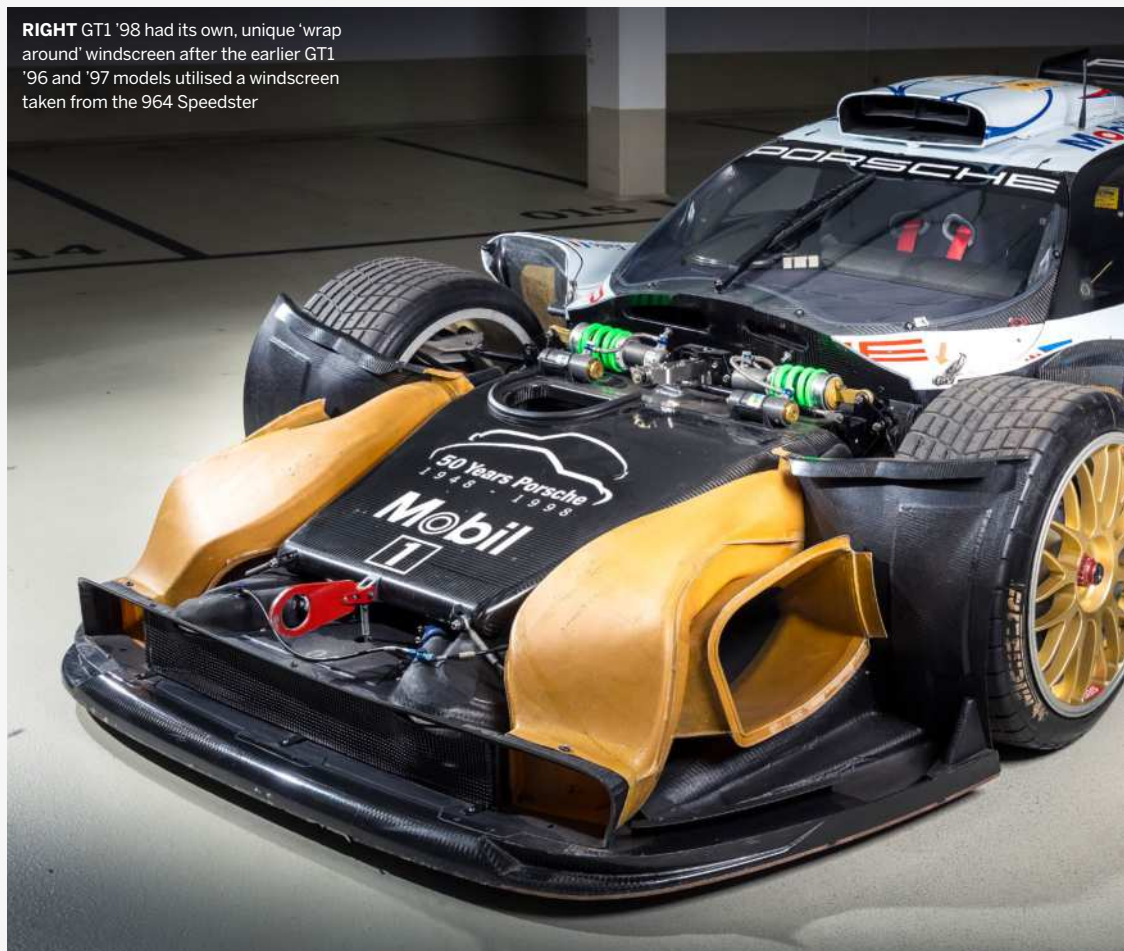
Winners first, and following his victory in 1998 Allan McNish went on to conquer Le Mans again with Audi a decade later. An unsuccessful stint in Formula One with the Toyota team began in 2001, but by 2013 he'd win at Le Mans again, as well as becoming the World Endurance champion. He retired from full-time racing later that year. Laurent Aïello switched to the British Touring Car Championship for 1999 – winning the title – and entered Le Mans with Audi the same year. After competing in the German DTM series he retired in 2005. Stéphane Ortelli enjoyed plenty more success with Porsche, winning the Supercup in 2002 as well as the GT World Championship N-GT Class in 2002 and 2003 in a 911 GT3 RS. He was also successful in the Blancpain Endurance Series with Audi.

As for the 1998 runners-up, Jörg Müller went on to compete in a number of series including the American Le Mans Series, World Touring Car Championship and Super GT Championship. Uwe Alzen would race in DTM as well as the Porsche Supercup with 996 and 997 GT3s, and in 2018 took a class win in a Porsche at Le Mans Classic. Sadly Bob Wollek was killed in a road accident in 2001, aged 57. He had an amazing racing career, with the majority of his wins being in Porsche. All of the drivers were immensely talented, and the one/two finish with the GT1 remains a superb achievement, one that only adds to the Porsche legend at Le Mans.

The new car was also 20 centimetres longer, five centimetres wider and three centimetres lower. The wheelbase had also grown slightly to 2.7 metres, the driver was relocated to the right-hand side, and as the road car-based, conventionally hinged doors of the older GT1s would no longer fit, the doors now hinged on the A-pillar, supercar-style. There was also a large, adjustable plastic rear wing, while the nose was noticeably lower, a development achieved by relocating the cooling radiators from the centre to the outer edges of the front end. In fact, the only recognisable elements from the Neunelfer were the 996-style headlights – Litronic units that had been enlarged and modified to incorporate the better lighting required for tackling the Mulsanne straight at night – and the tail lamps that had somehow been neatly incorporated above the massive rear diffuser.

But apart from modifications to improve reliability, fuel consumption and saving further vital kilograms thanks to items such as a lighter battery and alternator, what hadn't changed quite so much was the engine, a water-cooled, 3.2-litre flat six unit adapted from the 962, but fitted with one-piece aluminium cylinder heads from the 959. The block was also in aluminium, and the four valves per cylinder were operated by chain-

RIGHT GT1 '98 had its own, unique 'wrap around' windscreen after the earlier GT1 '96 and '97 models utilised a windscreen taken from the 964 Speedster



driven camshafts. While the original 74mm stroke was retained, the bore was enlarged from 95mm to 95.5mm for a 3,198cc capacity. Also retained were the pair of KKK K27.2 turbochargers fed by a gaping scoop on the roof and blowing through twin intercoolers, along with a TAG 3.8 engine management system that controlled multi-point sequential injection and cylinder-selective knock control. With a 9.0:1 compression ratio and breathing through 33.9mm air restrictors, the

“The GT1 conquered Le Mans and delivered Porsche a fitting present on its 50th birthday”

result was around 550hp at 7,200rpm and 630Nm of torque at 5,000rpm, figures that would prove more than enough when it came to conquering La Sarthe. The transmission had come in for more substantial changes, though, the dog-clutch six-speed gearbox swapping a conventional shift pattern for a sequential arrangement, and the gear lever located to the right of the driver atop the sill. The unit was designed and built in-house, featured an additional pump for improved lubrication, an oil-to-water heat exchanger, and was driven via a new triple-disc carbon clutch.

There was no doubt that the lacklustre results with the earlier incarnations of the GT1 had renewed Porsche's focus, and the benefits of designing a completely new car could also be found elsewhere. Not least in the front suspension, where an entirely different set-up was adopted, one that provided a great deal more scope for tuning and adjustment. In came double wishbones, pushrods and transverse coil springs, allied to Bilstein dampers. It was an arrangement that not only benefitted the handling – with no room in the nose for the fuel tank the 100-litre safety cell was relocated to a position between the bulkhead and engine, which was a vast improvement when it came to weight distribution. The same suspension arrangement was employed at the rear

– there was an anti-roll bar at both ends – while stopping duties were taken care of by carbon discs that measured a substantial 380mm in diameter and 37mm in width, clamped by eight- and six-piston fixed calipers at the front and rear respectively. The front to rear brake balance was adjustable by the driver and there was the added security of Bosch ABS. Hydraulically assisted steering also featured, while the Michelin tyres – 27/67-19 front and 31/70-19 rear – sat on 11.5x19-inch front and 13x19-inch rear single-piece BBS rims. Lastly, the interior had also come in for

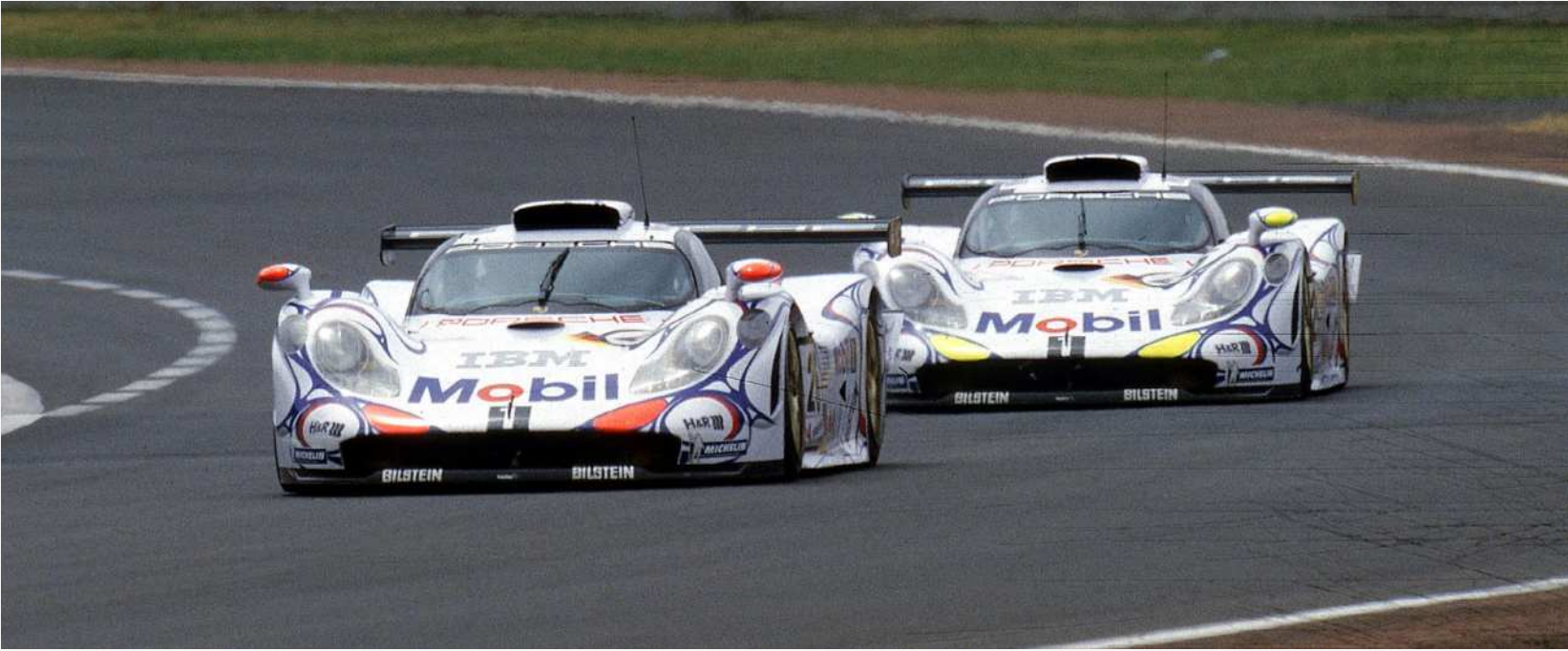


BELOW Rear-mid mounted flat six was turned 180-degrees and taken from the 962, with one-piece aluminium cylinder heads from the 959



BELOW New carbon body of the GT1 '98 was produced by English by English company CTS

RACE CARS



Model GT1-98
Year 1998

Engine

Capacity 3,198cc
Compression ratio 9.0:1

Maximum power 360bhp
Maximum torque 630Nm @ 5,000rpm
Transmission Six-speed sequential manual

Suspension

Front Double wishbones; pushrods; telescopic dampers
Rear Double wishbones; pushrods; telescopic dampers

Wheels & tyres

Front 11.5x19-inch; 27/67-19
Rear 13x19-inch; 31/70-19

Dimensions

Length 4,890mm
Width 1,990mm
Weight 940kg

Performance

0-62mph Unknown
Top speed Circa 217mph



TOP LEFT The no.26 car of Allan McNish, Laurent Aiello and Stéphane Ortelli spearheaded a Porsche one-two at Le Mans



substantial changes. Where previous versions had used the 911's fascia, the 1998 GT1 adopted a more Spartan approach, with a stripped-out cabin befitting the more focused racer. Cooling for the drivers had also been improved, provided by a combination of a small air scoop ahead of the windscreen and vents behind the plastic side windows to extract warm air.

Compared to what had gone before, the 1998 GT1 was a hugely impressive package, and

Porsche had left no stone unturned when it came to meeting the challenges posed by the likes of Toyota and Nissan, not to mention arch-rival Mercedes-Benz with their mighty CLK-LM. There was an understandable sense of optimism within Weissach when it came to the new season, although it would initially prove to be a little misplaced. Except, that is, for the toughest and most famous race on the calendar. Resplendent in Mobil 1 livery, two cars were prepared for assault on the 1998 Le Mans: #25 was crewed by Jörg Müller, Uwe Alzen and Bob Wollek, while the #26 car was to be driven by the trio of Allan McNish, Laurent Aiello and Stéphane Ortelli. It's fair to say the omens weren't good, the GT1s having proved fast but a little fragile in previous outings, and at Le Mans it was Mercedes-Benz that took pole and 3rd positions on the grid, split by a Toyota GT-One. Porsche had to settle for fourth for #25 and 5th for #26.

Both cars spent time in the pits for minor repairs, and with 90 minutes of the race remaining it looked like Toyota would take the chequered flag. But it was struck by transmission failure, meaning the two Porsche spent the last hour in a one-two formation, and that's how it finished. The GT1 conquered Le Mans and

delivered Porsche a fitting present on its 50th birthday. After 2,975 miles and 351 laps at an average speed of 123.9mph, the car of McNish, Aiello and Ortelli crossed the line in 1st place, bringing Porsche a historic 16th victory at the toughest race in the world. It was to be the swansong for the GT1, the remainder of the season garnering a 2nd-place finish by McNish and Yannick Dalmas at the Dijon 500km in July, and a clutch of 3rd places. But there is one final drama worth mentioning. In October 1998 the Petit Le Mans was held at the US circuit of Road Atlanta, and with Dalmas at the wheel the GT1 took off at high speed, completing a full somersault before landing back on its wheels and careering into the safety barriers. Although the car was badly damaged, the driver escaped without injury.

But that rather unfortunate episode aside, the decision to persevere with the GT1 project had been vindicated. Just two years separate the beginning and end of the GT1 story – Wendelin Wiedeking effectively abandoned the project after the 1998 season – and while the final incarnation shares only a modest amount of 911 DNA, it still earns a great deal of our respect as a Porsche Le Mans winner. **911**





SIX OF THE BEST

These 911s are among the greatest to have left the factory. Now, in celebration of our 150th issue, Total 911 teams up with the Porsche Museum to count down the top six road-going Neunelfers

Written by **Lee Sibley**
Photography by **Dan Pullen**

The room before us is utterly cavernous in its layout. Tall, wide and stretching back almost as far as the eye can see, the vast space is filled with row upon row of pristine Porsche metal, some hidden under soft cloth covers, others fully exposed. Major gangways dictate a sensible path in which to walk and, following it, we soon come to an opening that leads into another room stacked to the ceiling – literally – with yet more Porsche vehicles.

This labyrinth of Zuffenhausen's finest sports cars is not an elaborate showroom, nor is it the factory floor. For while there are new cars here, they are joined by examples of just about every conceivable production Porsche ever built, along with prototypes, notable racing cars and, better still, some special treasures from the Porsche family. A veritable automotive sanctuary, the cars sit silently as we walk slowly past each telling column of Porsche history, the dull marching of our footsteps on the concrete floor the only source of noise. Ambient temperature is neither too warm nor too cool, the air noticeably dry; an absence of any moisture in the atmosphere provides the perfect environment for these automotive artefacts to rest peacefully, before select public appearances in the Museum and at notable events around the world.

We're inside Porsche's secret warehouse, off-limits to the public yet home to quite simply the greatest collection of original, canonised Porsche cars anywhere in the world. We've been invited to the secret warehouse to meet with representatives of the Porsche Museum, specifically those responsible for bringing you an ever-changing, eclectic presentation of historical Porsche vehicles displayed inside the Delugan Meissl-designed architectural masterpiece taking centre stage on Porscheplatz.

Chief among the Porsche Museum clientele with us is Alexander Klein, head of historic car management. A walking encyclopedia of Porsche knowledge, Alexander has worked at the company for many years and has a deep affinity with the noteworthy cars used to illustrate Porsche's story at the Museum and beyond. A 996 GT3 owner himself, Alexander kindly accepted our offer to join us in the secret warehouse for a unique assignment in celebration of our special 150th issue of Total 911 magazine. His brief was simple: select six models from the 911's entire history that best underlines its unprecedented evolution as the world's most iconic sports car. Here, then, we have your halo half-dozen of elite Neunelfers, with Alexander himself explaining the reasons behind his venerable choices to your Editor. There may be a surprise or two in store...

964 TURBO S

6

The tone for our top six countdown is set with Alexander's first choice of a 964 Turbo S, representing a standout moment in Porsche's

history. "In 1991 we won the IMSA Supercar Championship in a 964 Turbo 3.3, which was great as the US market has always been very important to us," he says. "This road-going Turbo S is close to that race car, though what's interesting about the Turbo S is it was the first built as a production car by our Exclusive department. It's a rare 911."

The Turbo S is the fastest and lightest of the three turbocharged cars Porsche produced for the 964 generation, so is it a Turbo RS in disguise? "No," Alexander says. "For sure, you can do some sporty driving but really it is a strong, competitive Turbo 911. This example is actually the Geneva Motor Show car, so it has buffalo leather inside and is used to being the subject of many photos! Built for model year 1992, it's not an end of the line production car - it's an early model year 964 Turbo that is special in its own right."

Power: **386hp**
 Weight: **1,290kg**
 Numbers made: **81**
 Years in production: **1992-93**



991.2 TURBO S

5

A 2017 car in our all-time top six? Your eyes are not playing tricks on you. Alexander's fifth entry may come as a surprise but, as he removes its cover to reveal the 991.2 Turbo S's bulging bodywork, it doesn't take long for his case to prove positively compelling.

"I love this car!" he exclaims, stepping back to admire the Graphite blue 911. His facial expression turns serious as he continues: "I'm

old enough to like the earlier cars but the 991 Turbo S can be used every day. If you think about it, this car actually has the best combination of three or four 911 worlds built into its DNA. It has the power of the GT1, it's aggressive enough to match the 964 Turbo S, it's smooth enough to be a 993, and it's as simple to drive as a 2.7 RS. It's the quintessential sports car." Alexander continues, "It has everything and it's the first 911 not limited in production that's capable of over 200mph. The

maximum speed of the Turbo S surpasses that of the 959, yet there will be far less sweat on your forehead reaching such a speed in a modern-day Turbo S."

Power: **580hp**
 Weight: **1,600kg**
 Numbers made: **Currently in production**
 Years in production: **2016-**



993 C4S

4 “It would have been easy to just select limited numbers cars,” says Alexander as we turn our attention to the Guards red 993 C4S. “But I picked the car out of the hundreds of 911s in our stock because the 993 is an icon of its own era – the era of the air-cooled cars. This was one of the last ambassadors of its generation.”

Values of the Type 993 cars have, along with the 964s, rocketed skywards in the last five years or so, which is undeniable proof of the high regard in which enthusiasts and collectors now view them. Alexander is similarly fond of the last luftgekült Neunelfer: “The 993 was built as a textbook classic; it’s a companion for life. Many people grew up dreaming of a 993 and now they are older, with the time and money to buy the car, they can own it for life, as it’s a very reliable car

with a solid build quality. It’s a very resounding landmark in the Porsche 911 history.” The car in our pictures has been in Porsche’s own collection since it left the production line, and has the look and feel of a new car. But why has Alexander chosen the 993 C4S and not its more purist Carrera S sister?

Alexander explains: “Performance wise there’s not a great deal of change over the rear-drive Carrera S, save for a little bit of understeer. The C2S is slightly rarer but in terms of build technique, the C4S sits a little bit closer to the 911 Turbo, which has always been a special car for us here at Porsche.”

Power: **289hp**
 Weight: **1,520kg**
 Numbers made: **6,948**
 Years in production: **1995-96**





997 GT3 RS 4.0

3

The 997 GT3 RS 4.0 needs very little introduction to readers of **Total 911** magazine. A favourite of the publication since the car's launch in 2010, the RS 4.0 proved to be an instant classic, its market value never dropping to anywhere near original list price. Until the arrival of the new 911 R in 2016 it was, to all intents and purposes, the last manual Porsche GT car, with collectors and enthusiasts alike pining over its pertinent motorsport specification – not to mention the fact it's the last road-legal Porsche 911 with that famous 'Mezger' engine.

Alexander is equally fanciful over this last-of-the-997-generation Rennsport, which had a production run limited to just 600 units worldwide: "The 997 GT3 RS 4.0 is so special because many technical elements are used in this car that come directly from Weissach's bona fide race cars. For example, it has the crank from the RSR, and some suspension items too.

As you know, our 911 Cup cars, GT3 Rs and RSRs are built for competitive track driving only, and our GT cars are very close in terms of engine capacity, suspension and the like, yet they are

also permitted to be driven on the road. This is especially true of the 997 GT3 RS 4.0: it really is based on a Porsche race car. It's not merely a Rennsport with an increase in engine capacity."

Issue 148 of **Total 911** may have shown that the 991 GT3 RS has moved the game on significantly in terms of pure Rennsport performance, but the 997 GT3 RS 4.0 arguably finds a sweet spot in terms of serving up vast amounts of unadulterated driver involvement in tandem with breathtaking accomplishment. The technical masterpiece of a certain Mr Andreas Preuninger, current market values of the 997 GT3 RS 4.0 reach far north of a quarter of a million pounds, an ample indication of the sheer size of this jewel in the Porsche 911 crown.

With the engine placed firmly out back, mated to a transmission that shifts gears via a manual gear shifter, the famed 4.0-litre 997 represents the last of the truly classic Rennsport era – the legacy of which was founded nearly 40 years previously. And, in the grand scheme of the Porsche 911's lineage, it is the original car that can be considered even more iconic than this third-placed Neunelfer in our countdown...



In or out? How Alexander chose the top six

"It was difficult to pick out six cars!" says Alexander. "Which cars very nearly made my list? An SC RS could have made the cut. I like the sports cars from the 1970s and 1980s so an RS 3.0-litre would have come close too. The 964 RS 3.8 could also have made it. And the 993 GT2! This is a very unique occasion for myself to sit with you among these iconic cars. I think these cars are good representatives of each Porsche era of the last few decades – each decade features special cars and these are, from my point of view, those icons. Of course, all Porsche cars are icons to different people. Each car fits to its owner: some like GTs, while some like Cabriolets. These, then, are my choices, but we can expect each of your readers to have a different top six. That's the beauty of the Porsche 911: it's one car but there's something in its DNA for everyone."



LEFT The 997 GT3 RS 4.0, launched in 2010, was offered in Carrera white, or Black, as well as Paint to Sample. Just 600 examples were produced worldwide

BELOW LEFT The 4.0-litre Mezger flat-six engine, the largest engine offered on a street-legal 911, produced 500hp and 460Nm of power and torque respectively, and achieved a 0-62mph time of 3.9 seconds

RIGHT With an aerodynamic package including this aggressive rear wing on taller uprights, the 997 GT3 RS 4.0 lapped the Nürburgring in just seven minutes and 27 seconds





LEFT The 2,687cc engine produced 213hp and 255Nm of power and torque respectively, achieving a top speed of 152mph and a 0-62mph time of 5.8 seconds – sprightly for 1973

BELOW The 2.7 Carrera RS came with Fuchs wheels, which became a Porsche 911 icon



2.7 CARRERA RS

“The 2.7 Carrera RS, for many fanatics, is the ultimate expression of the Porsche 911”

2 “It’s not only the ducktail. The whole construction around the car was very unusual for its time, and has set a precedent since.” Mr Klein is, of course, referring to the original Rennsport, the 2.7 Carrera RS of 1973. The car is, for many fanatics, the ultimate expression of the Porsche 911: a symbol of technical superiority while retaining wonderful simplicity. Plenty of examples were still raced well into the century after they were made, before their real worth was realised. Today, these cars are valued at more than half a million pounds for a matching numbers example, usually more if the car is part of the first 500 run of cars required for homologating the 2.8 RSR. As such, the likelihood of ever seeing one being driven on the road is now starkly remote, with most 2.7 RSs tucked away in private collections. Needless to say, the fact that it makes Alexander’s top six is hardly surprising.

“The 2.7 RS was built for sports purpose so it’s a homologation car for the later RSRs that competed in Group 3 and Group 4 racing. As is commonly known, Porsche went on to achieve huge success in this era, and that was all possible thanks to the 2.7 Carrera RS,” Alexander informs us. “The more interesting thing around the car though, is how it drives and actually how easy it is to drive. Sure, now it’s an expensive car, but you can just sit in it, turn the key, enter a rally, go to a racetrack, or embark on a road trip to,

say, Venice or Paris. It is the very embodiment of what makes a Porsche 911, a 911. This is why it is an icon for so many.”

The example in front of us at the secret warehouse is stunning in its immaculacy, its Light yellow coachwork and leatherette interior totally unblemished. It is fitting that Porsche should hold such a pristine example of their archetypal icon – and as Alexander explains, condition is just the start of this particular car’s resumé: “It’s a very special car indeed because it’s a third series car, so one of the last 2.7 RSs to be built, and which used the reinforced aluminium instead of magnesium crankcase. We acquired the car six or seven years ago and the price of it has tripled in that time!”

Porsche has in its collection a Sport, a Touring and an RSR, meaning the company is well placed to ensure the 2.7 RS can still be seen by many, rather than enjoyed by few. They have good form on the subject, too – the last time **Total 911** saw the very car sat in front of us, it was suspended 35 metres up in the sky as part of the ‘50 years of 911’ Central Feature at Goodwood’s 2013 Festival of Speed. It seems the 2.7 RS really is a 911 considered ‘out of this world’.

Power: **213hp**
Weight: **1,075kg**
Numbers made: **1,590**
Years in production: **1973**



ABOVE Initially produced as a homologation special, the first 500 2.7 Carrera RSs sold within a week of the cars international launch at the 1972 Paris Motor Show. Since then, values have rocketed skywards, the 2.7 RS becoming a collectors' gem
BELOW The 2.7 Carrera RS was the first production car to be fitted with a rear wing. The 'ducktail' has since gone down in automotive folklore





996 GT1

1 “Where do we start with the 911 GT1 *Straßenversion*?” we ask on approach to the silver, long-wheelbase behemoth sat at the forefront of our super sextet. “Wow,” Alexander says with a large exhale of breath. “There are many points to start on! So, really, while we say the 997 GT3 RS 4.0 and 2.7 RS are road cars that can be used on track, with the GT1 we say it’s a race car that can be used on the road. This statement is perhaps a little obvious when we look at its size and proportions. However, I’m not sure if it makes sense to drive this on the road. You can’t even open a window, you cannot

see anything out of the mirrors, and you need to choose your roads very carefully as it’s very wide and very stiff. A typical winding road through the Black Forest is not the environment for this car!” There are intrinsic elements of 996-generation 911 styling on this GT1 *Straßenversion*, though you do have to go looking for them. Aside from the more obvious 996.1 ‘fried egg’ headlights and Carrera rear clusters tucked wistfully under that sweeping rear wing, you’ll notice the GT1’s door handles and front bumper side repeaters are all hallmarks of the first water-cooled Neunelfer, but that’s about it. Everything appears monumentally dissimilar to the 911 enthusiast: the wheelbase





ABOVE Inside the GT1, the steering wheel, dashboard, five dials, gearlever and even the seats are all reminiscent of a 993 RS specification. Note the 996-generation door handles, however

BELOW Large intake above cockpit feeds air into the mid-mounted, 3.2-litre flat six engine behind the driver and passenger. Entire rear of carbon kevlar body can be opened with a key in each B-pillar





has been extended, the roof is much lower, the windscreen shorter, the body longer, with chassis tubes instead of a subframe and, whisper it, that famous silhouette appears to have been swallowed up in the name of extreme grip and aerodynamics. Even the centre-locking wheels on the GT1 were unfamiliar for its time, the technology not appearing on another road-going 911 until a full decade later. Have we mentioned the GT1's 3.2-litre, twin-turbo flat six is mid-mounted, too?

Obviously, one or two alarm bells may be ringing by now. A quick check of the car's rear finds clear '911 GT1' lettering between the taillights but, really now, can we call this a true 911? "We absolutely understand it as a Porsche 911," comes Alexander's firm response. "The engine is in the right place, for we race our current 991 RSRs with the flat six in the same position. For sure, a 911 is traditionally a rear-engined car, but the GT1 demonstrates the capabilities in performance and engineering possibilities of the 911 platform in its most extreme state. It is for this reason that it had to be included in my top six."

The GT1 started as a 993 but continued as a 996, and there's clear evidence of that inside. The steering wheel, dashboard, five dials,

gearlever and even seats are all reminiscent of a 993 RS specification, the semi-exposure of the gearlever's linkage to the gearbox behind a neat nod to its ludicrous Le Mans heritage. Speaking of which, we all fondly remember the GT1 '98 conquering Le Mans, but the precise number of Straßenversions built remains something of a mystery. Perhaps Alexander can enlighten us? "It depends whether you count the homologation and works cars as one, but with everything included it's 21," he says.

So what was the process for purchasing one of these extreme 911s? "Porsche knew its intended customers in those days and the relationship will have to have been close. Sport drivers are very well known at Porsche. Relationships will likely have been formed as far back as the 1980s with the SC RS and 964 C4 Lightweight, both of which had around 20 cars made. This was likely the process to get into this exclusive group of GT1 ownership," Mr Klein says, before adding excitedly, "I must say I am very happy to sit so close to this car. We're going to celebrate 25 years of the car soon and plan to bring it back to life on the streets - as it was originally intended [for the road], after all!"

And that's our top six 911s, as chosen by the Museum's Mr Alexander Klein. Gazing back

at the half dozen cars now bereft of their cloth covers, the realisation of their sheer historical significance is resoundingly engrossing. Leaving this place is going to be hard.

We have one more question for the head of historic cars as we wrap up: just how difficult is it looking after all these precious Porsches? As ever, the answer is as passionate as it is dogmatic. "It's difficult enough to be a job in its own right! We have 560 cars in our collection, and not just 911s. We don't just take care of the cars, we keep them alive - we restore them, transport them to events, and use them on track and in rallies. This keeps their story going and although it's challenging, it's incredibly rewarding," says Alexander. Does Mr Klein have the best job in the world? We certainly think so. **911**

Power: 536hp
 Weight: 1,120kg
 Numbers made: 21
 Years in production: 1996-98



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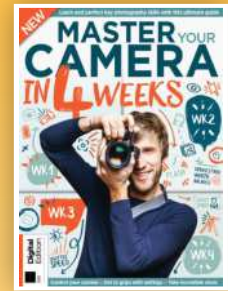
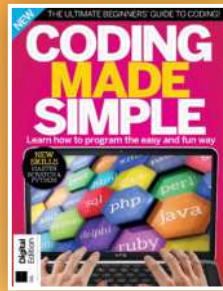
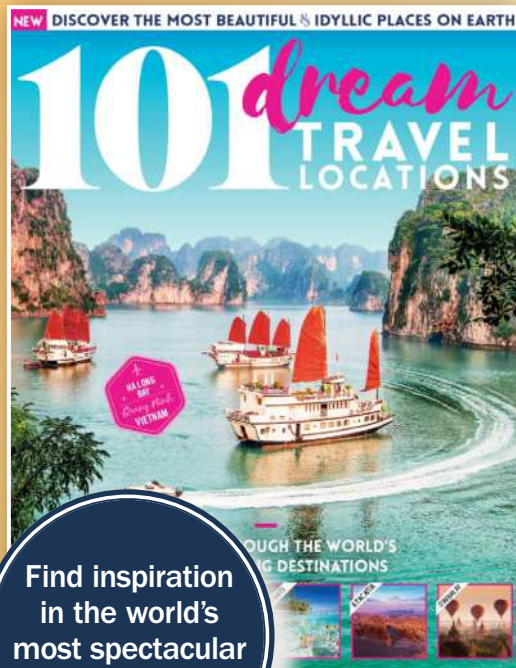
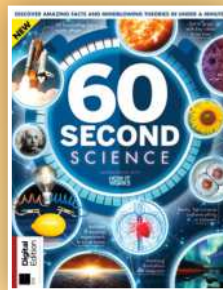
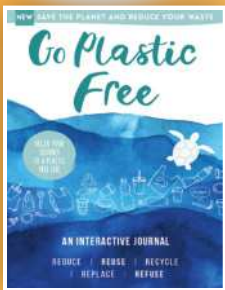
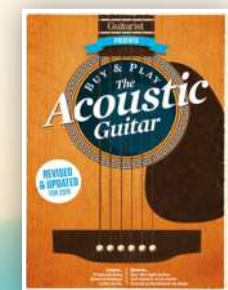


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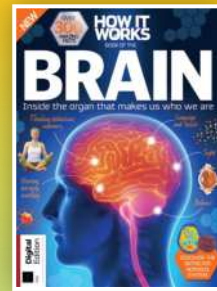
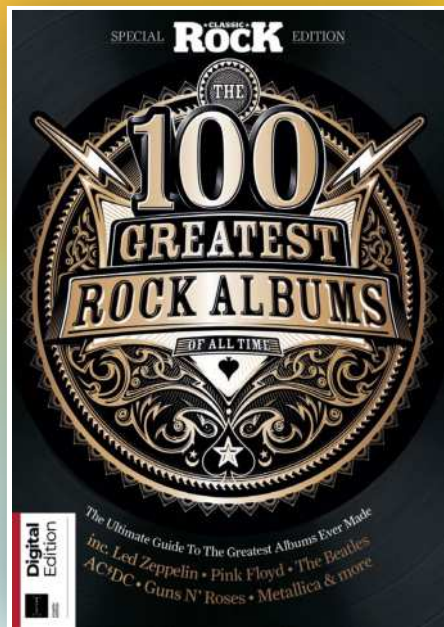
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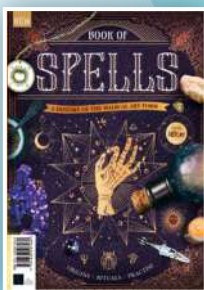


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