NEW

TOTAL 911

PORSCHE 911 COLLECTION

In association with Total 911

TEST DRIVES AND ROAD TRIPS IN THE GREATEST PORSCHE 911S OF ALL TIME

Welcome to...

The Total 911 COLLECTION

The Porsche 911: with more than 53-years of glorious history to its name, no other sports car comes close. Over the last half-century, Zuffenhausen's darling creation has evolved almost beyond recongition, starting with impact bumpers, then turbocharging, fixed wings and then active wings, four-wheel-drive, water-cooling, direct fuel injection, Coupe, Cabriolet and Targa body styles on its way to being the all-purpose, all-conquering driving machine we know today. However, despite all this, that quintessential Porsche 911 DNA remains at the heart of every single model, providing a driving experience like no other and continuing its unprecedented success on the racetrack.

With over 900,000 Porsche 911s ever made, and 70% of them still on the road today, the legacy of the car is unrivalled. In The Total 911 Collection Volume 4 you'll find the very best of the car's iterations through the years, showcasing the legacy of of one of the greatest sports cars of all time. From lightweight Rennsports to powerhouse Turbos, via exhilarating GT3s and capable Carreras, this book takes you on a journey through time from the first 911 to the latest, celebrating the best of the brand along the way.

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Test Drive

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911
PORSCHE
LDT343 GP

LUX

The 911L was produced as a one-off series; we drive a fine example and delve into why its production life was so short

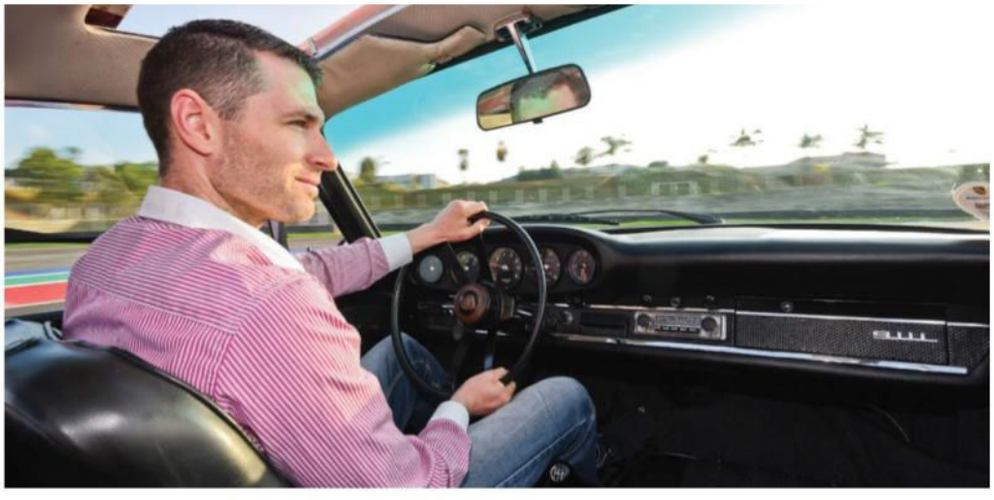
Written by **Wilhelm Lutjeharms** Photography by **Rob Till**

'L' must be one of the least exhilarating letters in the automotive world – and especially for those who appreciate Porsche 911s. After all, 'L' usually refers to long-wheelbase models, but letters such as S, R, RS, GT or GTS, well, enthusiasts pay more notice to those! There has been one L in the 911 range and, as it happens, it adorned a car with pride of place in the 911 lineage.

In the days leading up to our drive in the 911L, social media was abuzz as the world's motoring media descended on the new, improved Kyalami circuit in Johannesburg, South Africa, to attend the international launch of the 991.2 Turbo and Turbo S (see issue 137). This morning, before Porsche's fastest production 911s set off on their hot laps, the track's management allowed us to grace the newly laid tarmac with a special 911 from the 1960s – a model never before featured in the pages of this magazine – the 911L from 1968.

As is the case today, back at the start of the 911's production life, Porsche didn't wait too long to update the range. By the end of 1966, the firm introduced the 911S for the 1967 model year. By the end of that year, Porsche changed the 911's range again, adding the T (Touring) as well as the L. The L featured several of the S's features, but not its more powerful engine (the former still offered 130bhp at 6,100rpm). This was partly owing to US regulations but it did, however, feature the S's ventilated disc brakes.

By 1968 the 911 range comprised of the T, L and S. But, even though Porsche had little experience in terms of its customers' demands, the firm was learning quickly with every passing year. The L was another chapter, albeit a very short one, with the company testing the proverbial waters in the European and US markets. For the American market, Porsche made a few changes to the engine to comply with the emission requirements. Compared with the European engines, these US-specification units featured a V-belt driven air pump, which blows air into the exhaust manifolds when the throttle is closed. In line with Porsche's aim to offer a luxury version of the 911 with a softer ride, the front anti-roll diameter was also reduced from 13mm to 11mm.



The current owner purchased this 911L around three years ago. In other words, at exactly the right time before the air-cooled market exploded. There was little interest in the car at the auction where he bought it; as a result, he bought it for a bargain price. Since then, he has spent a significant sum on the car to restore certain elements of it. One of the highlights includes an engine-out detail job, which has left the flat six in near-pristine condition. The owner explains: "It's just such a fun car to drive but I have to admit, it handles like a dog!" The only nonstandard items on the car are the headlights, but he is hoping to source and fit true-to-original items in the future.

Our location for the drive and shoot of the L couldn't be more appropriate. As I paged through a few of my Porsche books before this drive, I was surprised to find that 911Ls participated in a few race events all those years ago. In 1968 an L took part in the GDR Rally and in the same year, Helmut Kelleners and Jürgen Neuhaus competed in a touring car race at the Nürburgring.

As the sun rises over the 911L's small dimensions, its Polo red colour becomes even brighter, as does the run-off area painted in the colour of the South African flag. If it wasn't for the gold-coloured Porsche and 911L lettering on the engine cover, the car could easily be mistaken for one of any short-wheelbase 911s. Aside from the notorious handling woes of these early models, the 911L has near-perfect design and stance and its proportions are flawless. It is quite understandable why some enthusiasts prefer these cars to the later long-wheelbase versions. The elegant simplicity of this early design is also reflected in the car's minimalistic steel wheels, which have chrome hubs and centre Porsche

Other 'one off' 911s

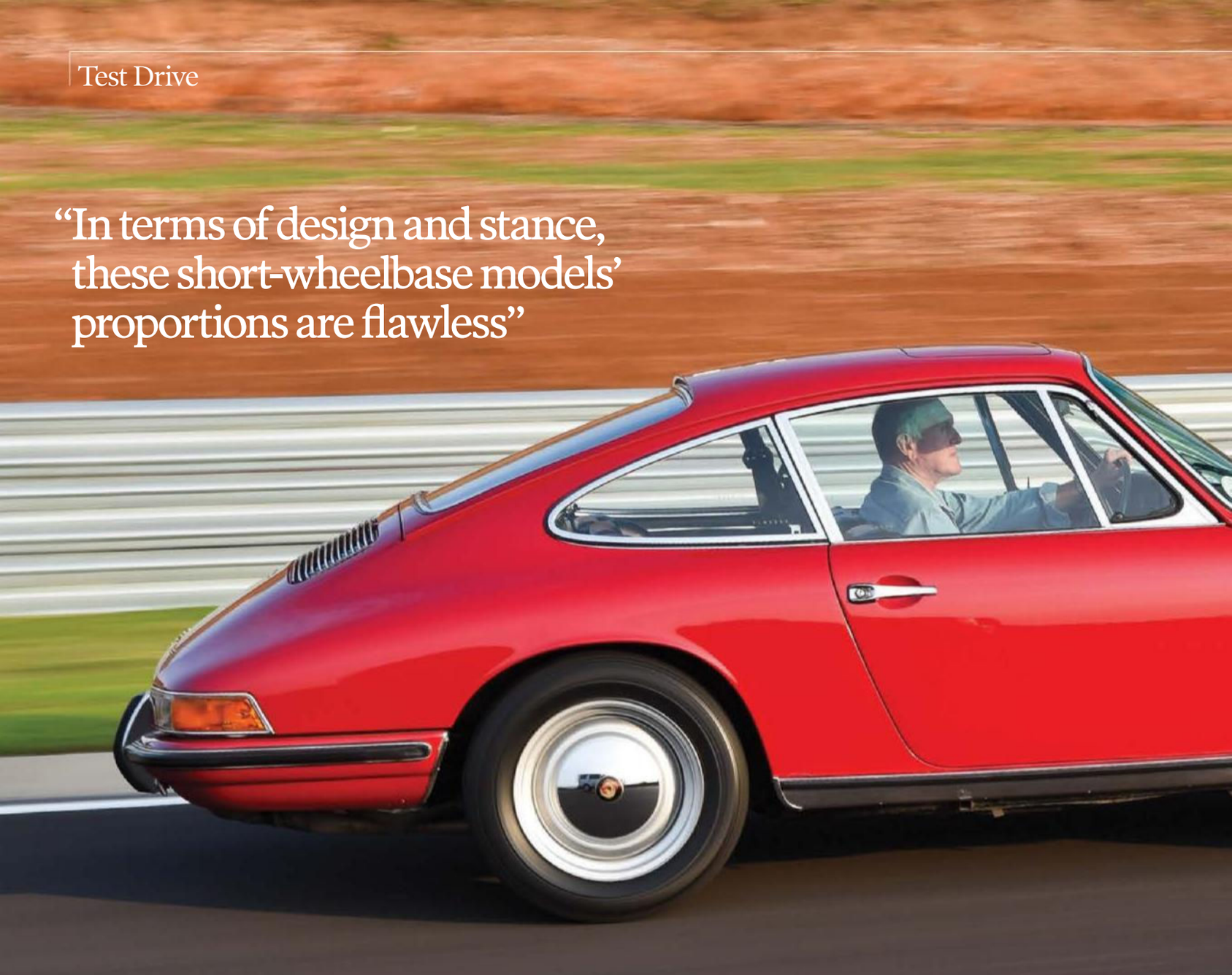
3.2 Clubsport
The impact-bumper series never featured an RS model, but the Clubsport was the closest model to it. It tips the scales at around 50kg less than a standard Carrera. Porsche hasn't re-used Clubsport as a specific model name since, only as an option to indicate equipment level.

930 Turbo Targa
As a car's body structure suffers a loss of rigidity when its roof is removed, it is understandable why Porsche only once produced a Targa version of its turbocharged 911. It still remains one of the most provocative designs, replete with those wide hips.

964 C4 Lightweight
As featured in issue 131, the C4 Lightweight is a special car for numerous reasons. We associate Porsche's lightweight approach with rear-wheel-drive 911 derivatives only, but here Porsche gave some of this focus on its first series production all-wheel-drive Carrera model.

997 Sport Classic
One of the most sought-after 997s, the Sport Classic lured customers to purchase one of just 250 with high specifications and a high output version of the 3.8-litre flat six. Highlights include part-cloth/part-leather seats, pseudo Fuchs and a modern interpretation of the famous 1970s ducktail.

"In terms of design and stance, these short-wheelbase models' proportions are flawless"



crests. They complement the polished aluminium window frames with aplomb.

Unlike the doors of later 911s, the L features redesigned door handles with recessed buttons. There were also several other updates to the L including, to name a few, black windscreen wipers and a larger door mirror. On the inside, there is a black, as opposed to wood-trimmed, steering wheel. The door swings open with ease and I get seated behind the large steering wheel. My 1.87-metre frame allows my head to just fit in below the roof lining, while there is also the option to open the sunroof for the added pleasure of fresh air and that flat-six engine sound, or to invite some sunlight into the cabin... depending on the outside air temperature, of course. However, the sunlight does help to illuminate the otherwise very dark interior.

The condition of the black vinyl attests to how well the artificial material withstands the ravages of time compared to leather. Judging by the seats' appearance, the L could have rolled off the production line 20 years ago, rather than 48. The seats were not developed to be particularly supportive, but they are sufficiently comfortable thanks to generous padding. The pattern on the seats is replicated on the fascia, as well as the black strip that stretches from the left of the steering wheel to the far right where the "911L" lettering reminds you which version of the iconic car you are driving.

In the centre of the four-spoke steering wheel, the perfectly aged Porsche crest is encircled by a round piece of wood – isn't that a neat touch? The black-circled dials, especially compared to those of the 911s from the 1970s, are more simplistic, but still feature the legendary five-dial layout. They are also basic in their design and therefore extremely easy to read. Compared to the busy, and at times confusing, interior layout and design of some modern cars – including Porsches – it is refreshing to drive a car equipped with only the bare essentials. The basic, two-knob radio unit affords some cheery on-road entertainment, but switching it on will prove disappointing in that it will broadcast news and music from 2015, not from 1968!

I turn the key in the ignition barrel positioned to the left of the steering wheel (where else!) and with a light prod of the accelerator pedal, the 2.0-litre, flat-six engine catches and settles into an even idle. After selecting the dog-leg first gear, I release the clutch pedal and the L pulls away. I quickly ease my foot off the floor-mounted throttle pedal, as the engine reacts quicker to my input than I anticipated. Second gear is across the gate and up and as I lean on the throttle, the engine reacts with a surprising level of conviction, even below 3,000rpm. This time I keep the throttle pinned and the revs climb past 4,000 and 5,000rpm. If I'm honest, the engine sounds like a typical flat six, but I deduce that the engine is probably working hard. Still, for a near 50-year-old engine it pulls stronger than I thought it would.

The ride quality is good, and it soon becomes evident that the L is quite suitable to be driven every day, but the handling does require a fair degree of familiarisation. There is more play on the steering wheel than in later 911s, but when your speed picks up, the car reacts to steering inputs with more zeal, but at the same time you have to anticipate the slight delay in the rack. While pushing the L through some corners, I need to hang on to the steering wheel, as you tend to move around in the seat under those

Left: The 911L featured several of the 911S's features but aimed to offer a luxury version of the iconic 911 with a softer ride height and black vinyl interior

circumstances. It is, however, rather fun to experience how the car dips into corners, followed by the modest grip on offer from the suspension and tyres. It is especially apparent when we look at the photographs and see that the 911L cocked one of its front wheels over the rumble strips (without all that much effort!). It instantly reminds me of all those images of 911 racing cars of the era that were photographed with one of their wheels catching some air. As with all pre-G50 gearboxes, shifts can't be rushed, but I rarely struggle to guide the gear lever in the right direction; only shifting to second from first is a bit time consuming.

By virtue of tipping the scales at only 1,080 kilograms, the L allows you to make brisk progress. Compared to larger European sedans of the time, not to mention over-the-top American cars, the 911L, even without the added performance of the S model, must have felt refreshingly quick, nimble and a joy to drive. Being produced only as a 1968 model year, only 449 L Coupes were built for the US, of which some featured the Sportomatic transmission, and another 720 were produced mainly for the European markets. However, there were also a few Targa Ls produced, but their numbers are even smaller. No wonder we had to search long and hard to find a car to feature in Total 911.

Even though the L was meant to offer a slightly more luxurious feel, it was still marketed as a pure sports car. A 911L sales catalogue of the time features a racing 911 in action with the words 'Racing: the ultimate proof' in big letters. The L was priced at DM 21,450 in 1968; compare that to the full-on race car from the same year, the limited 911R, which cost a substantial DM 45,000. The L's limited production makes the model desirable as a collector's item. However, that is the case with most 911s produced in the 1960s!

Today, Porsche doesn't really focus on producing a 911 that offers a different level of luxury compared with one of its sibling models. Models differ because of the focus on higher engine or optional performance-oriented equipment. So, as our morning with the L draws to an end, there is one question that I need to ask the owner, would he ever sell it? He sums it up in one word: "Never". If it were my car, I would have probably said the same.

Model	**911L**
Year	**1968**
Engine	
Capacity	1,991cc
Compression ratio	9.0:1
Maximum power	130bhp @ 6,100rpm
Maximum torque	173Nm @ 4,600rpm
Transmission	Five-speed manual
Suspension	
Front	MacPherson strut and longitudinal torsion bar
Rear	Semi trailing arm and transverse torsion bar
Wheels & tyres	
Front	5.5x15-inch Fuchs; 195/65 R15
Rear	5.5x15-inch Fuchs; 195/65 R15
Brakes	
Front	282mm discs
Rear	285mm discs
Dimensions	
Length	4,163mm
Width	1,610mm
Weight	1,080kg
Performance	
0-62mph	8.4 secs
Top speed	132mph

THE FIRST IMPACT BUMPER 911

In 1974 Porsche built its first impact bumper models. More than 40 years on, **Total 911** drives a show-stopping Carrera, first displayed at Earl's Court in that first year of G-Series production

Written by **Wilhelm Lutjeharms** Photography by **Rob Till**

I could not believe my eyes! Only a few weeks before I drove it, I had not even known this 911 existed. It all started when I visited a collector, who showed me fantastic pictures of the car in question while she was visiting like-minded enthusiasts in Johannesburg, South Africa.

My initial thought was one of disdain – how could someone paint their 911 pink? However, it was explained to me that this was the car's original colour, a small trinket that's part of a very interesting history. A few phone calls later and an appointment was made with the owner. It turned out to be one of the most interesting 911 stories I have ever come across.

"I was always a Ferrari fanatic. I really, really wanted a 246 Dino GTS," explained our owner. After he graduated from university in South Africa, he and a friend went to London by boat. After arriving in London, they visited the Ferrari importer, but there was no Dino in sight. Later, he asked the importer to try and source a second-hand Dino, but still no success. Soon after, Ferrari phoned him and invited him to drive the then new 308. "I didn't like it," he said. Subsequently, he had driven all of the other mid-engined Italian supercars: the Lamborghini Urraco, Maserati Merak and De Tomaso Pantera. "I didn't like any of them, and then a friend said I should try a Porsche. I told him that I was not really a Porsche fan. Eventually my friend convinced me to simply test drive one. It was a bright green 2.7 Carrera which had been featured in several UK publications at the time – and we could not believe a car could go like that!" He continued, "I couldn't quite afford it, but Porsche eventually came back to me saying they had found a car for me, and it cost only slightly more than I was prepared to pay for it."

At the time, the owner was so glad that he had finally procured his hands on a 2.7 Carrera that he assumed the colour would be white, similar to the 911S he had been interested in a short while before, and so the Carrera deal was done. After a phone call to the sales person, the owner was even more excited: "I was told that the car was on its way, and that it was actually in a 'special colour' called magenta. As a youngster I didn't

"I didn't know what colour magenta was, so I asked the salesman. There was silence on the other side of the line..."

Model	**2.7 Carrera**
Year	**1974**
Engine	
Capacity	2,687cc
Compression ratio	8.5:1
Maximum power	210bhp @ 6,300rpm
Maximum torque	255Nm @ 5,100rpm
Transmission	915, five-speed manual
Suspension	
Front	Torsion bar
Rear	Torsion bar, trailing arms
Wheels & tyres	
Front	7x15-inch Fuchs; 205/50/ ZR15 (Original spec: 6x15-inch; (185/70/VR15)
Rear	8x15-inch Fuchs; 225/50/ ZR15 (Original spec: 7x15-inch; (205/60VR15)
Dimensions	
Length	4,291mm
Width	1,610mm
Weight	1,075kg
Performance	
0-62mph	6.3 sec
Top speed	148 mph

know what colour magenta was, so I asked the salesman. There was silence on the other side of the line... and then he said: 'It's a sort of pink!'" Not convinced about the standout hue, Porsche eventually made a deal that when our owner left the UK, he could drive the car to Germany, where they would strip and re-spray the car in his chosen colour for a reasonable price. He was also informed that it was used for the 1974 Earl's Court Motor Show and for another show in Manchester shortly before delivery of the vehicle was taken.

"I eventually grew to like it, and it became a really fun car to drive," he said. As market prices of these early cars have proved, it is these quirky elements such as colour, which prove to add to the car's value today.

With the start of the impact bumper series, which started production in the third quarter of 1973, it signalled a few significant changes for the 911. New bumpers were implemented, owing to USA regulations, but, more importantly, all engine sizes were now 2.7-litres owing to the larger 90mm bore cylinders. Instead of the previous T, E and S models, the range now consisted of the 911 (150bhp at 5,700rpm), 911S (175bhp at 5,800rpm), and the top of the range Carrera (210bhp at 6,300rpm). The 2.7-litre Carrera engine (Type 911/83) actually remained in production for two years, almost without any change, until the end of 1975. However, it continued to be available into 1976 in the Australian and South African markets.

To compensate for the additional weight of the impact bumpers and the changes to the 911's structure, Porsche implemented a few updates: a single battery replaced two batteries; new seats (now with integrated headrests) were developed, and aluminium inner rear trailing arms replaced the previous steel units. This effort paid off, and the new G-Series was not a lot heavier than its predecessors: a 1967 911S tipped the scales at 1,100kg, while this 2.7 Carrera weighed only 1,075kg. As with the RS, this 2.7 Carrera adopted the same ducktail. This was necessary in order to lower the amount of aerodynamic lift the car generated. Tests on the RS revealed that not only did this wing lower the Cd figure, but rear lift was reduced from 145kg at 152mph to only 42kg.

Of the current 62,000 miles on the odometer, just over 22,000 miles were done during the time the car resided in the UK. "We would drive to tracks such as Snetterton, Silverstone and Brands Hatch to watch racing. The car also took us down to Le Mans, and we actually ended up on the track as the officials hadn't closed it off yet!

"The amount of dices this car lured is truly amazing, in the UK and also when I returned to South Africa. At every traffic light the guys wanted to have a go," said our owner.

The mundane colours of the rural landscape surrounding Johannesburg further enhance the vibrant magenta hue of the Carrera, but, as traffic clears, my attention is taken away from the car's colour and turns to its driving experience. Unfortunately, I hadn't driven a 2.7 Carrera before, so this was my first experience of the well-known 210bhp MFI engine.

Even from below 4,000rpm there is a lightness to the way the engine picks up speed, but it is obviously the last 3,000rpm which is really where you want to keep the rev needle. Pass 4,000rpm and there is no hesitation from the engine to rev even quicker, accompanied by that typical flat-six mechanical sound. As the needle passes 5,000rpm, it even swings faster past 6,000rpm to just over 7,000rpm. I cross the gate and shift into third gear and although you have to take your time with the 915 gearbox it somehow focuses your mind on how free-revving the engine is, as the revs quickly drop off. Although much has been written about the inaccurate shift qualities of the 915 gearbox, this one is one of the better units I've experienced to date. Sometimes you still have to shift into second gear and up into first for a smoother first gear engagement from standstill, but despite this aspect, compared to other 915 transmissions, this example felt tight and precise.

As a few corners beckon through the mostly flat West Rand of Johannesburg, the lightness of the car, in conjunction with the rather firm suspension, pays dividends. Although I haven't got close to the limits of the car's cornering capabilities, it changes direction eagerly through the three-spoke steering wheel – which is brimming with feedback. As it behoves a proper sports car, the suspension minimises body roll and makes no excuses for the stable setup. And it shouldn't – after all, in the rear is that exceptional engine. Owing to the colour of the car, I am even more aware of the compact size and extremities of the front wings. My view is filled by the road ahead, but first the magenta wings indicate your placement on the road.

Every time I drive these early air-cooled 911s, it is a stark reminder of their performance – and these experiences are backed up by the facts. Respected German magazine *Auto, Motor & Sport* tested a 2.7 Carrera and achieved the following results: 0-100km/h in 6.1 seconds, 0-160km/h in 15.2 seconds, and a top speed of 148mph. Significant figures indeed. To put it in perspective, the standard 2.7 911 achieved 8.1 and 21.9 seconds respectively, before topping out at 130.8mph.

After a while behind the wheel, another element of the car surfaces – 62,000 miles is low for a car of this vintage. But, even though this is still a 41-year-old car, there is a total lack of rattles or creaks. Only when you hit a notable road irregularity do you find a sound or two which filters through to the cabin. Other than that, there is a solid feel throughout the chassis and cabin, which I've only experienced in a few 911s before.

The dashboard is immaculate and even the light-brown vinyl seats don't show any sign of their age. The owner claimed the only nonstandard items on the car were the wheels: "Originally the car came with 6-inch Fuchs wheels at the front and 7-inch wheels on the back but I bought two 8-inch wheels from a race car in the UK. I fitted these to the rear, and then the two 7-inch wheels at the front." Instead of the original black Fuchs, he decided to have them refurbished in matching gold. You will be forgiven for thinking that is how they emerged from the factory, as the colour perfectly blends with the gold "Carrera" script, both along the side and below the ducktail.

When the owner returned to South Africa, it was his and his wife's only car. This meant that when a new double-bed mattress needed to be bought, this '74 Carrera was the car of choice, and the mattress was put on the roof and taken home! Soon after the car was shipped to Johannesburg, the owner was offered nearly double what he paid for it. As he had just finished his studies, he considered taking up the offer, but decided against the possible sale, only to be given an even better offer a year later by a different buyer – but again he refused.

Around 22 years ago the car was re-sprayed, and fortunately the owner decided to keep it in its period colour. And period it was. The poster for

2.7 Carrera: US v RoW

For the first time in Porsche's history, the cars heading to the USA now featured detuned engines. This was to meet the 1975 Federal Standards exhaust emissions. It meant that the higher output 210bhp Carrera engine, featuring mechanical fuel injection, was swapped for the 911 S's 175bhp engine. The changes on the 911 S's engine featured a belt-driven pump, which injected air into the exhaust ports. The K-Jetronic settings were also changed, while Californian Exhaust Emissions Standards further requested the fitting of an exhaust gas recirculation system. Between all these changes, some sources claimed that power output dropped to 160bhp (torque output also decreased), while maintaining the same engine speed. This resulted in the 911 S and 2.7 Carrera only differing in their equipment levels in the USA.

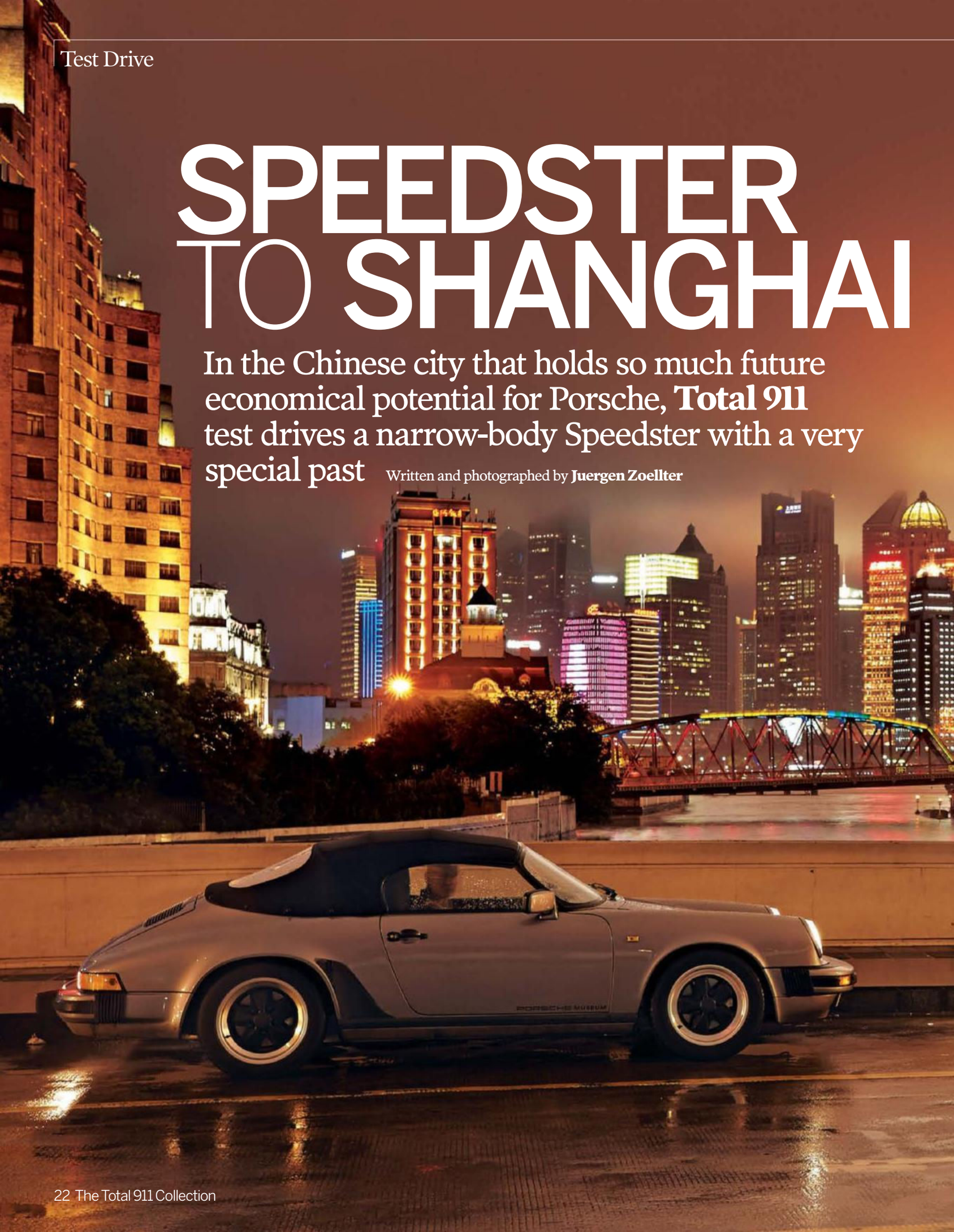
the 1974 Earl's Court Motor Show illustrates that the main theme colour was none other than the magenta seen on this car. After all these years, you have to congratulate the car's custodians for keeping the Carrera in its original state and colour. While today it is almost non-negotiable to change that hue, a decade or more ago it would have been totally acceptable. How times change.

Following the unprecedented rise in value of 2.7 Carrera RSs, it is almost understandable why the value and interest of these lesser – if you can call them that – 2.7 models have also climbed. In my view, this particular car must be one of the most significant models out there. From being a Ferrari fanatic, to owning this car, the owner has added a lot more than one of Porsche's finest to his collection. 911

SPEEDSTER TO SHANGHAI

In the Chinese city that holds so much future economical potential for Porsche, **Total 911** test drives a narrow-body Speedster with a very special past

Written and photographed by **Juergen Zoellter**



There's a chuckle from the roadside as we hastily deploy the small soft top to protect ourselves from the sudden tropical rain, which is a daily occurrence in this part of the world. Akin to having a mere umbrella for its roof, this is not the only source of astonishment from my bemused passenger. "Why so few buttons?," Bo Tan asks as he absorbs the interior delights of our special Porsche Carrera. Of course, he is posing questions that pedestrians at the roadside would never think about because, more or less, only new cars can be found on these urban Chinese roads.

This is no modern Porsche, but one from comparatively prehistoric automotive times in China, which only ended around 12 years previously. Not only is this particular Carrera a rare sight in China, it would be a rare sight on any blacktop anywhere in the world. This is because this Porsche is the first 911 Speedster ever built, a prototype from November 1987. The car follows the tradition of the 356 Speedster which, of course, was borne out of the ideas of American importer Max Hoffman.

The first Speedster in 911 form was also the result of a man with American roots: when Peter Schutz succeeded Ernst Fuhrmann as Porsche Chairman of the Board in 1981, he immediately made arrangements to extend the 911 model range. His initiative made for a crucial moment in Porsche history, since the Board had

already decided to expire the famous 911 model series earlier in 1981. Porsche wanted to continue building only the front-engined models (924, 944 and 928), which all featured more modern water-cooled engines.

Thanks to Peter Schutz, in 1983 Porsche offered a new Porsche Cabriolet after an 18-year hiatus, though this time with different boxer engines and power levels. It was at this time Schutz also asked to develop a new Speedster. The Speedster was duly developed and went into limited production in 1989, with the two-seater 911 now based on the Turbo, complete with its wide body and chassis, although a smaller number of narrow-body examples were also produced. It was powered by the regular air-cooled, naturally aspirated 3.2-litre engine and produced 230hp. In total, around 2,104 examples were produced during 1989 – 171 of which are known to exist with a narrow body, and only two of these narrow-body examples are in the motherland of Germany – one of which is the Diamond blue metallic example you see on these very pages.

The Speedster's unusual presence in comparison to the Cabriolet starts with the windscreen, which sits eight centimetres lower and is more steeply raked. Behind the two seats sits the clamshell, made of glass-reinforced fibre, which comes with two swellings that look similar to downstream flows behind the heads of race-drivers from the early years. It is a one-piece item and covers the canvas top, including the two depressions in the rear where regular 911s offer two seats for children (or passengers with extremely flexible bodies).

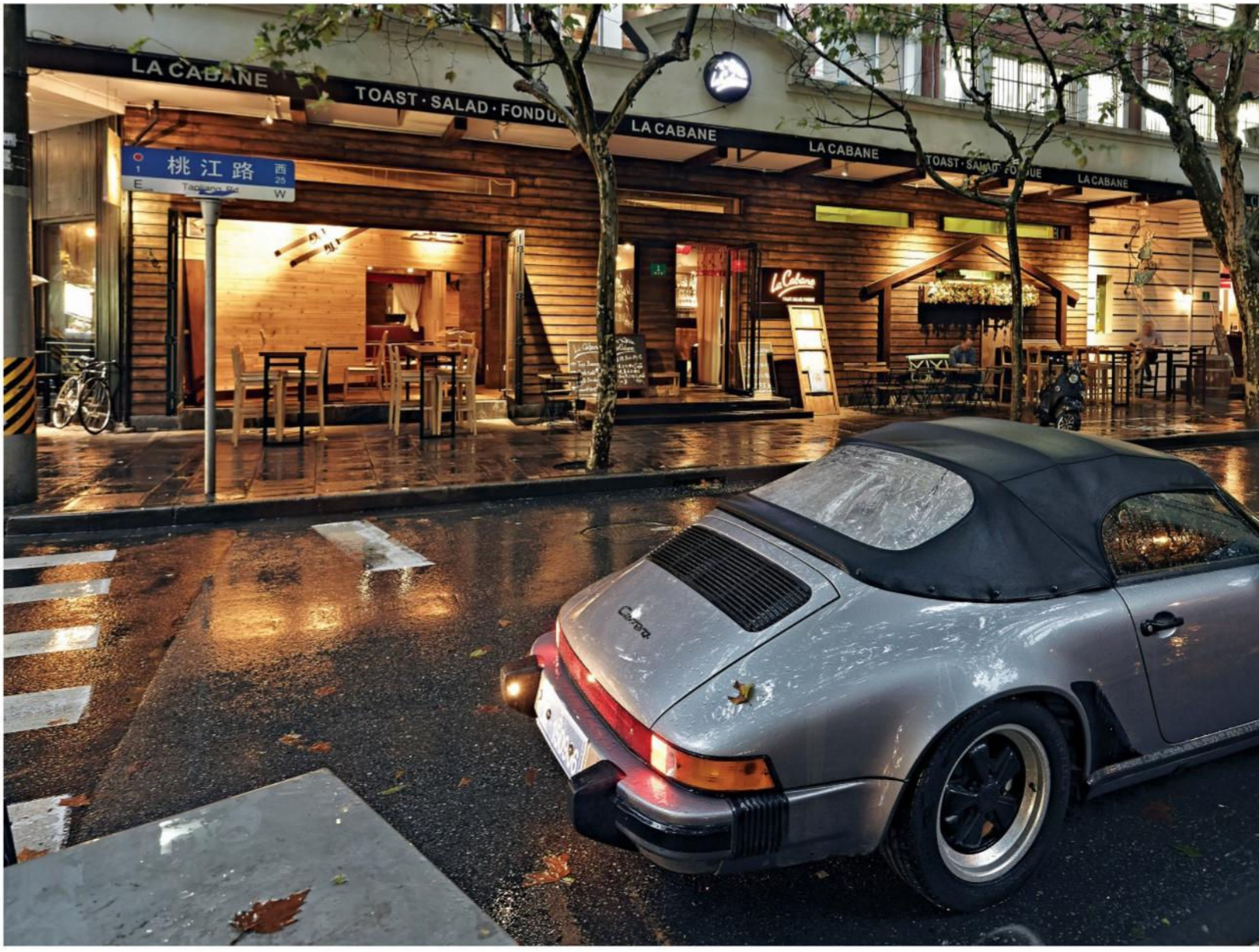
To shut the soft top, the clamshell first needs to open – manually, of course! Balanced by a delicate arrangement of levers, the cover floats over the Speedster's rear end while the roof is pulled forward to the top of the windscreen. After closing the huge cover, the rear part of the roof – inclusive of the small rear window – needs to be pushed down and clipped into position. Affixing the buttons on top of the cover is fiddly and bad for the fingernails. To finish the process, the side windows need to be wound up (manually again, of course). The window glass only just pushes against the canvas roof when done up. No wonder this construction does not prevent the passengers inside from getting wet during these tropical rainstorms in Shanghai!

While the pure and light Porsche 356 Speedster at its time was also driven on racetracks, this 911 Carrera Speedster is definitely not intended for such purpose. At 1,160kg it's a little lighter than the 911 Carrera Cabriolet, but it is not a true lightweight version. This narrow-body Speedster is based on the identical, firm chassis of its Cabriolet sister, powered by the same engine and equipped with the same gearbox. The relatively short first and second gears enable us to be 'Shanghai acceleration heroes' as soon as traffic lights change to green, but for driving on tracks this adjustment is not ideal. More importantly, this Speedster cost around €60,000 in 1989, which is too much money for an owner to spend, only to then perish the car in races.

That's why the special Clubsport cover offered by Porsche was not purchased too often. It replaces the two-bubble rear cover and is instead a huge GRP piece to cover the entire Speedster interior except the driver's seat. Its function is to defend aerodynamic swirls in the interior, though it does somewhat go against the very idyll of the 911 Speedster to begin with. Its membership to the Porsche G-series family is shown by high-

"This narrow-body Speedster is much more than a piece of metal, rubber and textile. It is a sports car with a vibrant soul"

Model	**3.2 Speedster**
Year	**1987**
Engine	
Capacity	3,164cc
Compression ratio	10.3:1
Maximum power	231bhp @ 5,900rpm
Maximum torque	284Nm @ 4,800rpm
Transmission	Five-speed manual (G50/00)
Suspension	
Front	Independent with wishbones and MacPherson struts
Rear	Independent with light-alloy semi trailing arms; transverse torsion bar per wheel
Wheels & tyres	
Front	6x16-inch; 205/45/VR16
Rear	8X16-inch; 245/60/VR16
Dimensions	
Length	4,291mm
Width	1,652mm
Weight	1,160kg
Performance	
0-62mph	6.1 secs
Top speed	152mph



mounted impact bumpers. The mounts, which fix the bumpers to the chassis, are covered by convoluted rubber gaiters, which are the result of new regulations from the North American NHTSA (National Highway for Traffic Safety Administration). You'll recall the institution demanded bumpers must be able to absorb impacts at up to 8kph (5mph) in order to protect the car's body and, as such, the so-called Porsche 'Faltenbag-Stoßstange' (German for rubber gaiter bumpers) remains a souvenir of both Porsche and the automotive history at large.

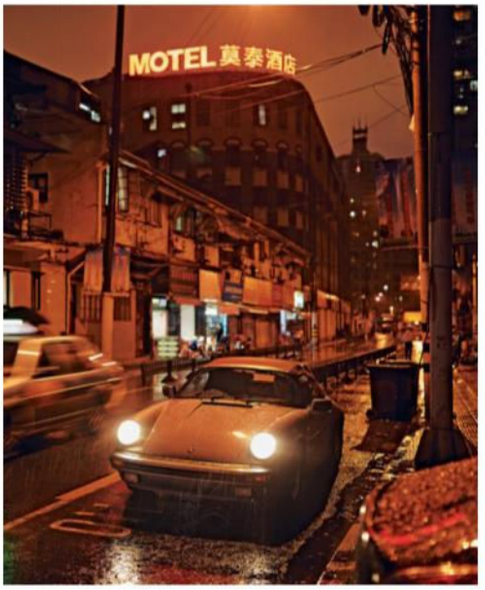
The story of the Speedster is legendary, and this narrow-body example boasts a very special history indeed. Built up in 1987 as one of the first prototype cars of the upcoming 911 Speedster series in 1989, it was driven by engineers from Weissach to verify the production quality of certain technical modules. On various test drives around the world the engineers gave it a very hard time.

After finishing its job in 1989, the car was driven into the Porsche Museum as it was intended to become a contemporary witness to the rebirth of Porsche's Speedster. However, retiring the car was not yet on the agenda, as only a few months later the drivetrain of this extraordinary Speedster had been filled up with liquids again and, with the boxer engine awoken once more, the car was driven back to Weissach. This is because by this time a new series of 911 was leaving the factory in Zuffenhausen, the Type 964, and the marketing department demanded a new Speedster should again conclude this new 911 series in years to come. It was decided that, like the G-series cars, there would be two Speedsters: a wide body (Turbo look) and a narrow body.

In order to take on its new role as test mule for the next generation, this G-series Speedster attained new, bold bumpers and a fully covered underbody. It also received a new decklid, complete with a rear spoiler that raised automatically above speeds of 80kph. The interior remained untouched, especially as this prototype boasts the only set of textile seats in a Speedster of this G-series generation.

The Speedster did not get the new lightweight chassis with MacPherson struts in the front and coil springs in the rear, instead continuing with torsion bar suspension and no power-assisted steering. However, it did get the new 3.6-litre boxer engine with dual-plug ignition, 250bhp and a three-way catalyst. Now highly upgraded, this automotive Chimera, based on the G-series and equipped with 964 trinkets, was used as a mule and test device during the ensuing years in the hands of Weissach's development engineers. As soon as the 964 Speedster came onto the market in 1993, Porsche engineers returned this car to its original specification. The Speedster then enjoyed a more luxurious existence in the sanctuary of the Porsche Museum and only saw the light of day for special events.

So, what's it doing in Shanghai? Well, this city is only a temporary home for this Speedster – it is not the right location for its purpose after all. This car deserves to be somewhere a little more exotic, not in a megacity of 23 million people where you can count the number of soft-top cars on your



Left: This 3.2 Speedster was the first 911 Speedster ever built, initially as a prototype in November 1987, and was developed by Peter Schutz

Above right: Soft-top convertibles are an uncommon sight in Shanghai – and China in general – due to the hot, humid summers and wet and windy winters

Below: The soft-top hood was not designed to be watertight. Porsche were quick to say it was designed to offer 'emergency weather protection' only

own two hands. Simply put, a Speedster is a rare sight in Shanghai – or in the whole of China, for that matter. This is for good reason. The very few convertibles here are not used for transportation purposes or driving from A to B, but for a saunter to a coffee shop in a fashion district like Puxi.

In general, locals in Shanghai do not like to drive convertible cars due to the hot and humid climate conditions in summer and cold and wet winters. Don't forget that spring and autumn over here only last for around two to three weeks. Besides, cars that are three years old or more are not allowed to be imported into mainland China – not legally, anyhow!

Our sightseeing tour in Shanghai is accompanied by an accoutrement of 911-specific traits, chiefly the harsh sawing of the engine's radial fan from behind us as we drive around, which makes for the main acoustics of every air-cooled 911 engine. It's a kind of brand noise for Zuffenhausen. We're raving about the immediate throttle response of the rear-mounted engine during load changes in the Speedster but we also suffer: parking in the city without power steering is something we have to relearn since these days every car is equipped with assistance. The clutch pedal works us relatively hard throughout our journey and the stiff chassis hammers our backbone due to deep potholes on Shanghai's roads. And, of course, the soft top is a point of contention! It makes our Speedster very entertaining since almost every minute there is a new action to take due to the weather.

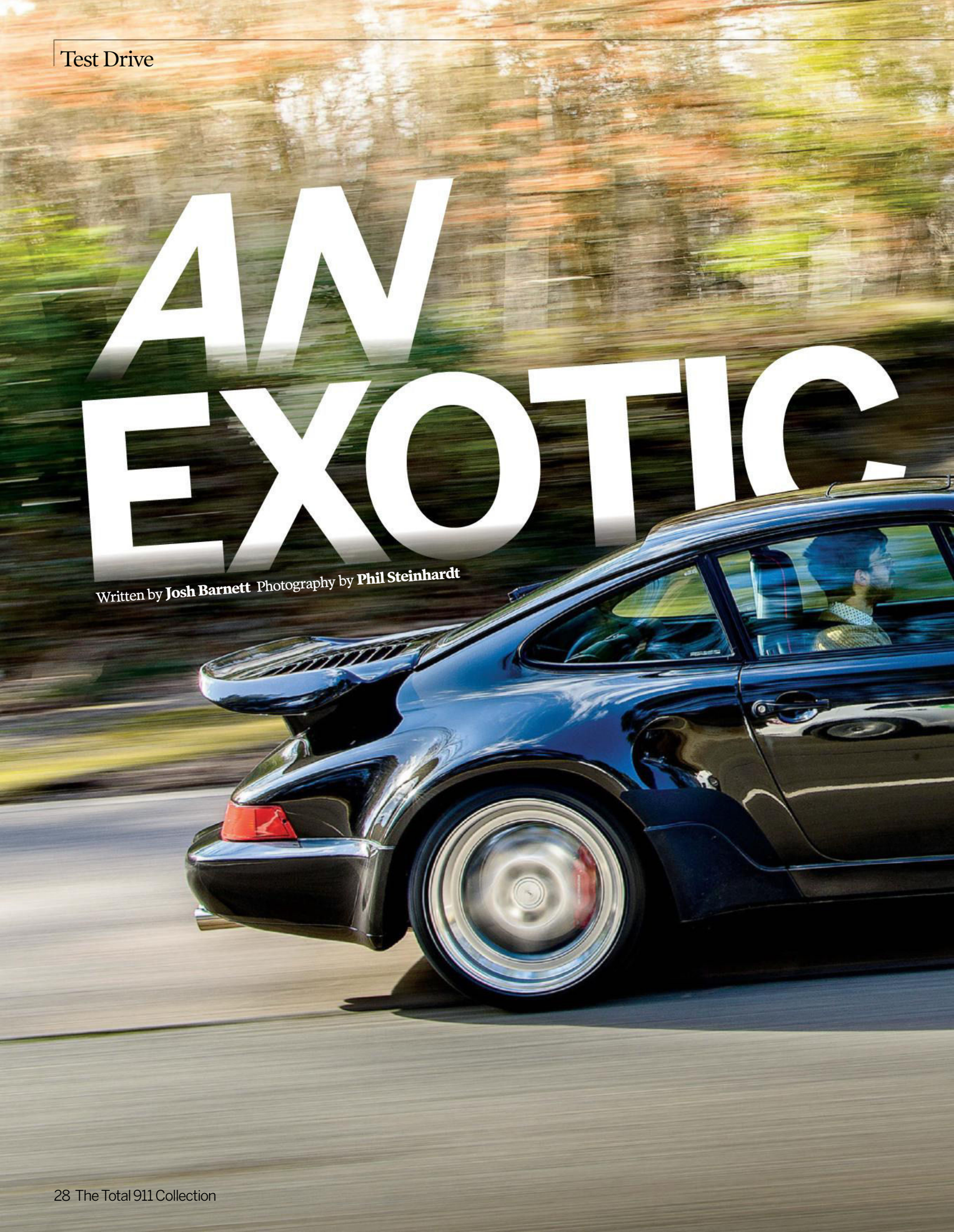
As soon as we are used to the loud noise of the wind and a wet leg from a seeping roof – even with the roof fully up – suddenly the wind opens a gap between the side window and canvas, reminding us that we are going too fast. As we know, a Speedster is not a convertible, readily changed to an open top during moments of sunshine. Instead, it is a permanently topless car with an umbrella-type soft top purely for emergencies – such as rainfall! But, as everybody knows, it never rains in southern California, the archetypal home of such a car. So, the great value of this Speedster does not come from its convincing functionality, but in the fact this is the first 911-series Speedster ever. Its historical significance is only heightened further on the discovery that it started as a G-series 911 and then became a 964 prototype, before being reassembled in 3.2-litre guise.

However, in this new world in Shanghai, this Speedster is not known for all these fascinating details. It is more or less just an exotic car. Only a few people here are showing passion for sports cars in general, and many are yet to taste the legend of the Porsche 911. They are, therefore, far away from feeling that this 911 narrow-body Speedster is much more than a piece of metal, rubber and textile, that it is in fact a sports car with a vibrant soul.

Weeks after our city drive, the Speedster was returned to its home at the Porsche Museum. If you come across it at the Museum in Zuffenhausen, be sure to say "Ni hao" to this fabulous Speedster, a 911 built in Germany to be driven in southern California, and which has now learned its lesson in Chinese. 911

AN EXOTIC

Written by **Josh Barnett** Photography by **Phil Steinhardt**



ODDITY

Total 911 gets to grips with an Exclusive-built 964 Turbo sporting a unique Flachbau silhouette and a regal history

Foot flat to the floor in third gear, I'm still waiting to make any meaningful progress around the high-speed test track, the location for today's latest Total 911 drive. As the orange needle on the VDO tachometer sweeps past the 3,000rpm mark though, the whistling that had previously been but a mere mumble through the cockpit grows to a more pronounced shriek. The flat-six sound track swells, too, in unison, growling angrily as the aural experience combines with an old school dollop of single turbo boost.

The pace has switched from 'pedestrian' to 'brutal' in the blink of an eye, the 911 Turbo galloping forward with indecent haste as the tree trunks lining the road blur into an organic mess in my peripheral vision. The road has seemingly narrowed, too, with this Neunelfer chasing the horizon so violently that it appears to have outsprinted my eyes' ability to compute the perspective of the situation. In fact, the 964 Turbo 3.6's 385bhp, wrought from a single KKK turbocharger, has left nearly all of my senses needing recalibration.

My first experience of the Turbo 3.6's full throttle theatrics thumps me in the small of my back, leaving my internal organs feeling like they've been deposited some distance further back down the road; the place where the full 0.8 bar of boost kicked in; the place that is now almost invisible in the rear view mirror. After too long spent in silky smooth twin turbo 911s, I had forgotten what a magical experience the old 911 Turbos could deliver, like a roller coaster that has just pitched over the top of its crest.

Each time I push down with my right foot, after an appreciable half-a-second or so of lag, I'm continually shocked by the ferocity of the acceleration, the car squatting over its wide rear haunches like a 100 metre sprinter launching from the blocks. I didn't realise a car that is now 22 years old could pack such a powerful punch. The sound track to this barely-tamed beast only serves to heighten the addictiveness of the thumping motor's boost, the bark of the flat six overlaid with an unbridled whoosh from the turbocharger, followed by that classic air-cooled chatter and a subtle hiss as 11.6psi of pressure is suddenly exhaled on the overrun. I'm so excited by the speed that it seems incredible this particular 911 has only seen 1,014km of action. How could the previous owner have just this left car idle for most of its life? However, this isn't any normal 964 Turbo 3.6 and its original owner – as you'll find out – wasn't any normal 911 buyer.

As you will undoubtedly have noticed, this 964 Turbo 3.6 features a Flachbau front end. However, don't think that this is some sort of aftermarket modification. Just like the 930 SE, this is an official Flatnose conversion (performed on just 76 Porsche 964 Turbo 3.6s in the latter half of 1993) carried out by the factory in Zuffenhausen.

The Flatnose story begins more than a decade earlier, not long after Peter Schutz succeeded Ernst Fuhrmann as the head of the company. At the time, the 911 Turbo was not on sale in the US due to new emissions rules that had come into effect in 1981, leading to a number of aftermarket companies modifying European cars in an attempt to meet emission and crash-testing standards Stateside. Some of the companies were even trying to improve on the base car (with somewhat varying degrees of success). The formation of this grey import market had caught the attention of Porsche's executives, planting the seed of an idea.

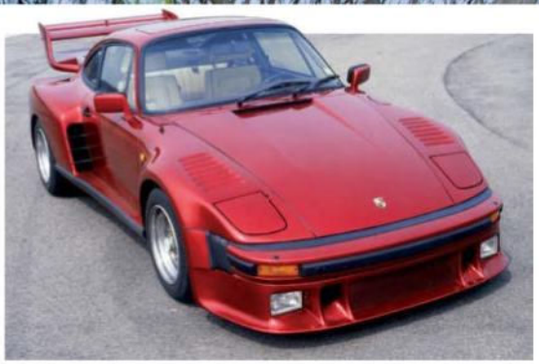
Ferry Porsche tasked engineer, Rolf Sprenger, with the creation of a department that would take care of Porsche customers' personalisation requests and, when the latter saw some of the work carried out by third parties, he

The first Flatnose

Like the Sultan of Brunei, if you're fabulously wealthy and an extreme automotive enthusiast, you can get Porsche to do almost anything (for a suitably excessive price). This was how, in 1983, Zuffenhausen came to build the very first flatnose 911 Turbo for Mansour Ojjeh, head of TAG Group, the company putting its name to the Porsche-developed V6 engine used in McLaren's Formula One campaign.

Ojjeh tasked the Exclusive department (at the time known as the 'Sonderwunsch' programme) with developing a street legal 935. However, when Rolf Sprenger – head of Porsche's personalisation requests – realised that a 935 could not meet German road regulations, his team decided to modify a 930 instead, fitting an early 935-style rear wing and the ubiquitous Flachbau front end. Under the decklid, the Special Wishes team fitted a 934 flat six (complete with horizontal fan), which was good for 409bhp and 490Nm of torque.

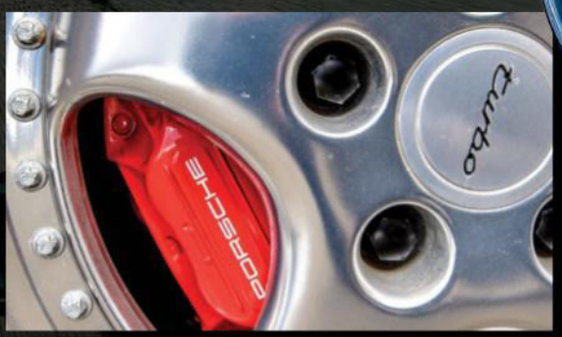
Known as the 935 Street, the car came with its very own special VIN identifier and sat on special 15-inch BBS split-rim wheels. The panelwork was finished in a rouge metallic known as 'Brilliant red' while the interior was trimmed out in 'Crème caramel' leather and came with a gold-topped gearlever. And the price for all of this? DM 350,000 – equivalent to £232,000 today.



"From dead ahead, the front was certainly striking but the aesthetics made it more of an exotic oddity"

Top left: Flachbau conversions were ordered and carried out on just 76 Porsche 964 Turbo 3.6s in 1993, 12 of which were in right-hand-drive

Above left: The Flatnose's 385bhp came from a single KKK turbocharger and a 3.6-litre air-cooled flat six



knew "we can do better at the factory." After some brainstorming, the new Special Wishes Programme was agreed but with no budget, the programme's brochure only consisted of a few typed pages listing around a dozen of the department's abilities.

Known as 'Sonderwunsch' within Stuttgart, Sprenger's first major project was commissioned by Mansour Oijeh, owner of TAG Group, in 1982. Oijeh's request was to have a 935 built up for road use, however, when Sprenger's team found this impossible, they instead decided to modify a standard 930 as far as they could, creating the first road legal slantnose 911.

Inspired by the fire-breathing, race-winning 935s, the Flatnose look instantly caught the imagination of some Neunelfer enthusiasts who previously had to go through independent specialists – such as DP Motorsport – for their Flachbau fun. Sprenger realised the Oijeh car was a turning point, creating a new M505 option code for regular customers, allowing them to specify their new 911 Turbo with the Flatnose treatment. However, not everyone within Zuffenhausen was as excited about the developments as Sprenger.

Porsche's head of design, Tony Lapine, refused to help develop the Flachbau kit for Mansour Oijeh's 930, claiming the sloping front end ruined the simple, flowing lines of the standard 911 shell. That forced the Sonderwunsch programme to work alongside the motorsport department instead, with Norbert Singer helping out in the wind tunnel to improve the M505-option's aerodynamics. During the 1983 model year, Sprenger's team turned their attentions to the engine bay of the Flatnose, offering a performance kit that boosted the 3.3-litre 930's power to 330bhp thanks to a larger turbocharger, improved intercooler and a new four-pipe exhaust system.

Coinciding with the rebranding of the Special Wishes department in 1986 (it would now be known as Porsche Exclusive), Zuffenhausen launched the 930 SE, a slantnose 911 Turbo with the kit included as standard. However, this model would only sell in minimal numbers during its three-year lifespan and, by 1989 and the turn of the new-look Porsche 964, it looked like the Flachbau's time was up, especially as the 935s that inspired it had long finished their competitive careers on the racetrack.

It was, therefore, a huge surprise to everyone – including Porsche's own dealerships – when news of a new Flatnose emerged, just as Zuffenhausen was bringing the 964 generation to a close. Dealers were informed about the car – based around the 964 Turbo 3.6 – in August 1993, ensuring that these Exclusive-built Flachbaus would be the very last 964s off the production line. At the time, there was only one photo of the finished article and a few paragraphs of blurb. Off the back of this, customers were expected to pay a deposit of $20,000 (equivalent to DM 33,200). In today's money that's just under $33,000. For a 911 they (nor anyone else bar a select few at the factory) had ever seen in the metal. Madness.

Despite this, Porsche took a total of 76 orders for the 964 Turbo 3.6 Flatnose, all of whom were willing to pay the substantial DM 290,000 list price. To put that into perspective, in 1993 that was the equivalent of $174,699; in today's money that figure equates to a staggering $286,429 (or just shy of £200,000 if you live on Total 911's side of the Atlantic).

The price tag did bring with it a number of revisions (both aesthetic and mechanical) over

"I didn't realise a car that is now 22 years old could pack such a powerful punch"

the standard 964 Turbo 3.6, the new Flachbau front end being the most prominent. While the ten cars destined for Japan had to make do with the old, 930 SE-style pop-up headlights, the rest of the Turbo 3.6 Flatnoses took their uncovered headlight design from the 968, while underneath the unusual wings, a new front splitter ducted air towards the brakes and oil cooler. The makeover from Sprenger's department didn't end there, however. The rear wheel arches spawned 959-style air vents (as seen on the 3.3-litre 964 Turbo S two years prior) while the rear wing was now entirely body coloured.

An hour or so earlier, when Hexagon Modern Classics wheeled this particular example from its trailer, I have to admit I wasn't immediately taken with the 964 Flatnose's face. The drooping snout and exposed-but-flattened headlight profile didn't seem to suit the butch, purposeful rear end. From dead ahead, the front was certainly striking but the aesthetics made it more of an exotic oddity. However, as time goes on, the looks have started to grow on me. It looks a little bit out of place at today's test track but I can imagine myself cruising through Miami in it.

Of course, it wasn't the aesthetics that got me hooked on this Turbo 3.6. Underneath the unusual metalwork, Porsche Exclusive didn't neglect to fettle with the standard 964 Turbo's engine and drivetrain, extracting an extra 25bhp from the flat six. Based on the engines built by Andial for Brumos' championship-winning IMSA Supercar campaign, the M64/50S motor's designation hinted that this was effectively a 3.6-litre Turbo S (with many of the 964 Flatnoses destined for the US badged as such). The X88 performance kit – later offered on 1994 model year 964 Turbos – included a larger turbocharger, different valve timing courtesy of a revised camshaft, reworked cylinder heads, modified inlet manifolds and intermediate pipes, an extra oil cooler and – like the original 930 SE – a four-pipe exhaust system.

The engine drove through the Turbo's standard five-speed gearbox with a limited-slip differential, providing 40 per cent lock under acceleration. The suspension was carried over from the standard car while, at all four corners, 'Big Red' brakes were housed inside 18-inch split-rim Speedline alloys taken from the 964 Carrera 3.8 RS. Inside, the standard equipment list was

Model	**964 Turbo 3.6 Flatnose**
Year	**1993**
Engine	
Capacity	3,600cc
Compression ratio	7.5:1
Maximum power	385bhp @ 5,750rpm
Maximum torque	520Nm @ 5,000rpm
Transmission	Five-speed G50-type manual
Suspension	
Front	Independent; MacPherson struts; coil springs; anti-roll bar
Rear	Independent; MacPherson struts; coil springs; semi-trailing arms; anti-roll bar
Wheels & tyres	
Front	8x18-inch Speedline alloys; 225/40/ZR18 tyres
Rear	10x18-inch Speedline alloys; 265/35/ZR18 tyres
Brakes	
Front	320mm ventilated discs; four-piston calipers
Rear	299mm ventilated discs; four-piston calipers
Dimensions	
Length	4,250mm
Width	1,775mm
Weight	1,470kg
Performance	
0-62mph	5 secs
Top speed	Unknown

equally as extravagant, with a full leather interior, electrically adjustable seats and climate control. The only option available to the 76 customers who placed an order was whether they wanted to spec an electric sunroof or not. I suppose, when you're paying nearly three times the price of a standard 964 Carrera 2, you would expect the car to come fully loaded.

As I mentioned earlier, this specific 964 Turbo Flatnose has led a remarkably sheltered existence since leaving Zuffenhausen, covering just over 600 miles from new. When you look at this Neunelfer's history though, that doesn't actually come as too much of a surprise. That's because this Flachbau was originally delivered to Hassanal Bolkiah. You don't recognise the name? Let me try again. The Sultan of Brunei. Yes, the prolific collector of rare and exotic automobiles.

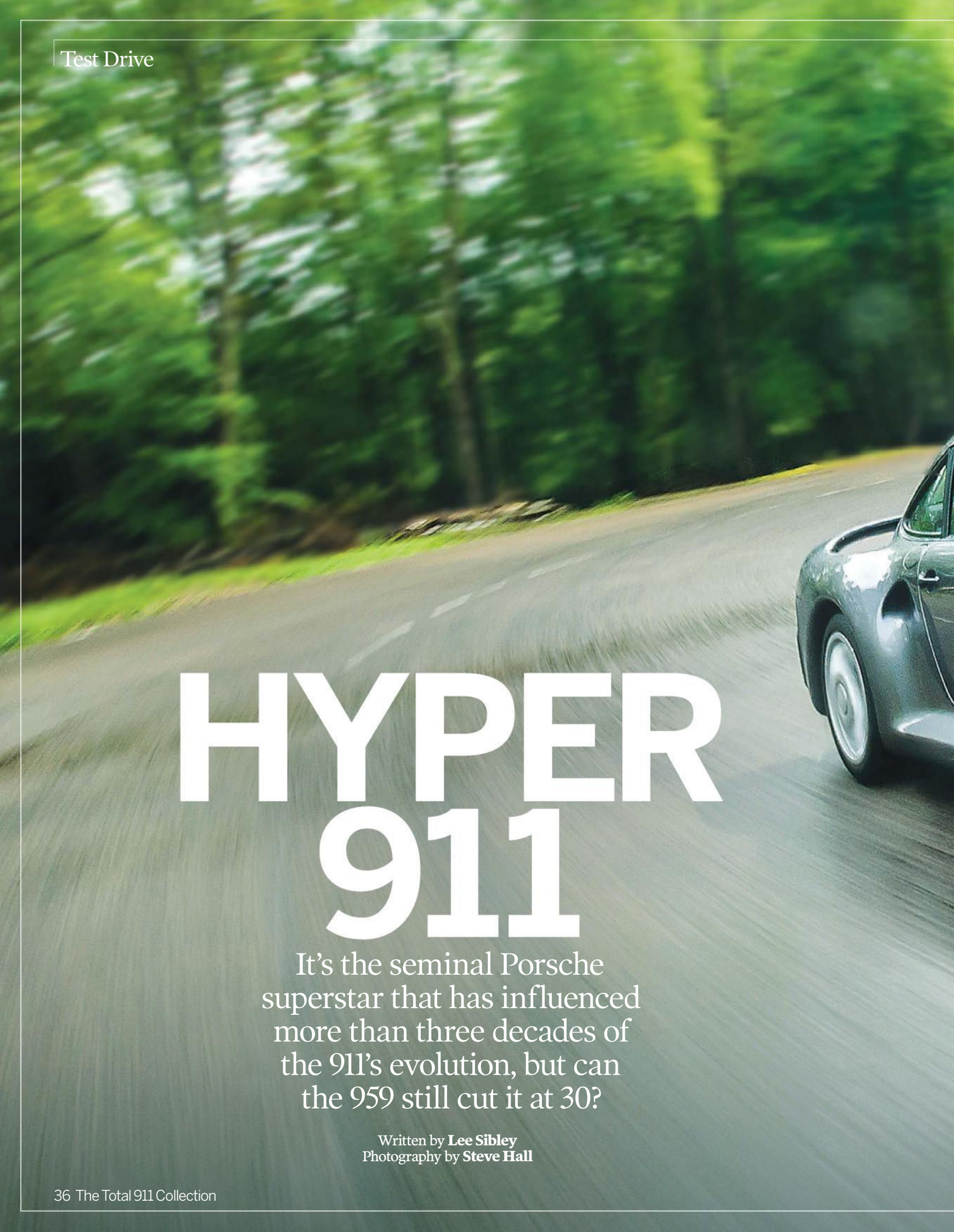
Actually, "prolific" doesn't really do the Sultan's obsession justice. Depending on which report you read – the Sultan is notoriously secretive – his collection stands somewhere between 5,000 and 6,500 cars. Along with his brother, Prince Jefri, the Sultan of Brunei ordered 12 Porsche 964 Turbo 3.6s, one of which is the Flatnose example you see on these very pages. It's incredible though that despite the low mileage, this Porsche 911 has survived in such incredible condition. Apparently, with so many cars on his books, much of the Sultan's collection is simply rotting away in his compound through a lack of use. Rubber perishing, paint peeling in the glass-clad showroom and eaten away at by a lack of air conditioning, most of the cars in his custody are driven sparingly before becoming overlooked in favour of the next big thing.

Every so often though, a car manages to escape the Sultan's clutches and among that miniscule number of survivors is this 964 Turbo 3.6 Flatnose. After 21 years in the Brunei collection, the car is rumoured to have been sold via an auction in Hong Kong before finding its way to esteemed specialist, Hexagon Modern Classics, in North London. Selling the car on hasn't been a simple affair to Paul Michaels' concern, however.

After taking delivery of the car in 1994, the Sultan of Brunei sent the car to Ruf to have it fitted with the German company's electronic clutch system (EKS) developed in conjunction with Sachs. This meant the car's clutch assembly was extensively overhauled (including the removal of the third pedal). In order to get the car ready for its next owner, Hexagon have spent a not insignificant five-figure sum converting the Flatnose back to a manual gearbox, sourcing a suitable Turbo 3.6 transmission, gearlever and clutch pedal. The interior trim in the driver's footwell even had to be reworked to re-accommodate the latter. But, now, after many months of hard graft, this Porsche is back in its factory specification and ready for the next chapter of its life.

It may not be to everyone's tastes but this Turbo 3.6 Flachbau is a remarkable curio from the end of the hand built Neunelfer era. Hopefully, the new owner will get behind the wheel every now and again to experience Porsche Exclusive's full work in action.


"This Turbo 3.6 Flachbau is a remarkable curio from the end of the hand-built Neunelfer era"
265/35 ZR 18
turbo



HYPER 911

It's the seminal Porsche superstar that has influenced more than three decades of the 911's evolution, but can the 959 still cut it at 30?

Written by **Lee Sibley**
Photography by **Steve Hall**


OJN 959

It's hard to believe the Porsche 959 is three decades old. Endowed with truly effortless performance and elegantly styled, it's the original Porsche supercar (if you think modest of the 930 Turbo), a pioneering machine that has captured the imaginations of car enthusiasts across the globe ever since – and, as we shall find out, mapped significant chapters of the 911's own evolutionary journey.

Although there is conjecture to the contrary, the 959 is a close relation of the 911 at the very least. With a flat-six engine positioned past the rear axle, its layout is, crucially, the same, and even a quick look around the car will uncover various styling cues from Neunelfers of the time and thereafter. Consider it a Porsche 911 on steroids, then; a relative heavyweight champion of international box office appeal, with only Ferrari's F40 able to share ring space with Weissach's seminal creation. The 959 has, like its uncompromising counterpart from Maranello, gone on to define the entire automotive generation of which it hails from, yet for Porsche enthusiasts the story of the car's beginning is just as captivating.

Originally displayed as a 'Gruppe B' concept on its stand at the Frankfurt Motor Show in 1983, Porsche's new creation was conceived with racing intentions in mind for the 1984 season. However, CEO Peter Schutz and head of Research and Development, Professor Helmuth Bott, had one eye on the future of the company's sports cars too. Gruppe B rules stipulated at least 200 examples had to be produced for homologation purposes (though interestingly, the car could be raced prior to series production) and Bott was of the principle that if 200 cars had to be made, why not make a thousand? Thus, development of the recently-saved Neunelfer was thrust into the limelight.

One of the first new aspects of development was all-wheel-drive. Schutz had watched the Audi Quattro, brainchild of one-time Porsche supremo Ferdinand Piëch, dominate rallies at international level, and early testing of prototypes in the desert encouraged Bott and his team of engineers to explore this further. A competition concept was duly trialled in the 1984 Paris-Dakar rally, the car running under the internal designation code Type 953. Some trial it was, too: the 953 finished the 12,000-kilometre race in first place, piloted by René Metge and Dominique Lemoyne.

However, ever-evolving technologies meant the car was not ready for production, as hoped, by late 1984, or even 1985. The car was clearly becoming quite complex: Bott wanted to create a Porsche for the next ten years, and development of the 959 could never stay in-house. As Randy Leffingwell outlines in *The Complete Book Of Porsche 911*, Dunlop needed time to create a special tyre capable of prolonged travel at 200mph but which could also run flat for up to 50 miles. WABCO's

At face value a driver is confronted by a 3.2-come-964 cabin, but with extra dials and clocks for AWD, ride height and damping

ABS system had to be perfected for all-wheel-drive, and Bosch revised its DME to monitor acceleration, braking, steering, traction and suspension loading up to 200 times per second. Bilstein, too, were called upon to develop active shocks that lowered the ride height at high speeds, a first for the automotive industry.

Meanwhile, the appeal of Gruppe B was wavering due to issues over safety; suddenly Porsche's disposition over the 959 seemed far removed from its initial remit. As Schutz himself said in 2013: "We thought we were going to build a super 911 that could compete in Gruppe B, but the amount of resources we committed got totally out of hand." The company persevered and the finished article, designed as a high performance car for the road and christened '959', was unveiled at the 1985 Frankfurt Motor Show, two short years after the original, flowing concept. Two variants were offered: the Komfort model was the 959 in its most lavish expression, while the rare Sport came without height adjustable suspension but had a fixed roll cage for additional stiffness. Cloth seats also replaced the standard leather-covered thrones.

In all, 337 units were built, including prototypes, making the 959 one of the rarest road-going production cars Porsche has ever built. However, it took years for any of these cars to reach the United States, ever a key region for the Zuffenhausen manufacturer. It is said that from the outset, Schutz and Bott had decided not to build the car for the US market, owing to the additional costs involved with bringing the car to market. Ultimately, Porsche needed to hand over four examples to US regulators to crash test and, with the company already making a heavy loss on every single unit of this low-production special, the gesture would be impractical at the very least.

Nevertheless, the thesis of the 959 was mesmerising: this luxury supercar achieved a top speed of 196mph, making it the fastest production car of 1986 and a staggering 35mph quicker than the enchanting 3.3-litre 930. And top speed was just the start of it: this 'super 911', as Schutz puts it, featured ABS, active all-wheel-drive with adjustable torque split, active suspension with variable ride height and damping, sequential turbocharging, and a super lightweight construction. In 1986! Read through the press material of any new Porsche release and you'll still find glowing references to such technologies today.

As we said, at the time only the Ferrari F40 could hold a candle to the 959's unworldly capabilities – but lest we forget, the F40s focus towards competitive use brought with it compromises for its occupants: there wasn't even room in the cabin for a stereo. Meanwhile in the 959, a driver could attain near identical performance figures from the comfort of a heated leather seat, listening to the radio and in a cabin regulated by air conditioning.

As it happens, Bott's proclamation that the 959 would be the benchmark Porsche for the next ten years was somewhat short sighted. Thirty years on, a quick glance at contemporary spec sheets sees its performance figures still stand up to the 991-generation of 911 currently gracing showrooms. However, the 959's legacy goes far beyond that, best proffered by Schutz himself: "I think the engineering in this car has probably touched more of the automotive population in the world since then than any other single automobile." So, the big question is, what's it like to drive today?

Approaching the 959 still provides as much of an emotional occasion as it must have conjured back in 1986. The car is a visual delight: imposing with its wide arches and bulky sills, the soft curvatures at its front and around the rear quarters invite intrigue as to the legitimacy of the car's performance credentials. Evidence of '911' presence is immediately obvious, the windscreen, doors, roofline and pillars seemingly taken from a 3.2 Carrera. Styled by 935 'Moby Dick' design maverick, Dick Soderberg, the 959's hulking appearance would have you believing this was a two-tonne monster.

However, clever use of an assortment of materials including lightweight aluminium (as opposed to steel) for all doors and lids, Kevlar for the rear wing and quarter panels, and magnesium for the wheels, means the 959 weighs a wholly respectable 1,450 kilograms. To put that figure in context, it's just over 100 kilograms more than the 930 of the time and, more impressively, some 30 kilograms lighter than the current 991-generation Carrera 4, itself a twin-turbocharged, all-wheel-drive Porsche with active suspension and ABS as standard. The 959 is squat too, though its wide body means it is not overawed by oversized modern Porsche machinery.

Opening and closing the driver's door (all 959's are left-hand drive, don't forget) brings with it the same 'click' and 'clink' recognisable from entry to 911s of the period and, taking a seat behind the wheel, you'd be forgiven for thinking you're inside a 3.2 Carrera-come-964 hybrid 911. Sure, there are no upright fenders immediately visible out the steeply raked windscreen, but the narrow dashboard housing those broadly-spread five dials is taken from a 3.2 Carrera, as is the thin, double-spoked steering wheel protruding from it. Glancing around, there's a transmission tunnel recognisable from the 964, and Sport seats from the 3.2 Carrera provide a familiar hold at the sides. Door cards are identical to the 3.2 Carrera, too.

It's eerily similar to a period 911 inside, but look harder and some 959 trickery begins to register. Ahead of the stubby 964-era shifter there are two raised rotational faces, which see to the 959's adjustable suspension: to the left is damping tuning and to the right is ride height. Then, behind the stalk modulating windscreen wipers to the right of the wheel, there's a thicker column that sees to management of the all-wheel-drive Porsche 'Control Coupling'. This now legendary technology is displayed via the far right VDO dial on the dashboard, which distributes torque to the front and rear axles according to driving conditions (regular driving sees up to 80 per cent power going to the back wheels while a 50/50 split is permissible

> "The 959 is certainly no aging slouch, its drive still comparable – favourably, in some cases – to current supercars"

in adverse circumstances). Torque is distributed via a multi-plate wet clutch mounted alongside the front differential. Other gizmos including tyre pressure monitoring do little to distract from the fact the 959 could be some lavish backdate of an otherwise modern supercar.

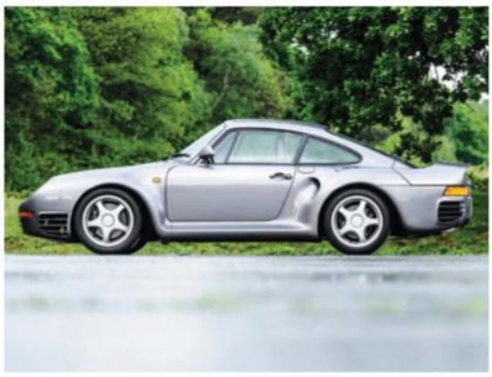
Firing up the 959 is a veritable treat to the ears. Though it has a flat six hanging aft of the rear axle, it's surprising just how different it sounds to any other Porsche 911: that customary air-cooled whir isn't there, replaced by a deeper, gruff note. Its course timbres are perhaps at odds with what is an extremely well-appointed supercar, even if this does hint at the mesmerising fact one Hans Mezger – who else – derived this power plant from that of the Moby Dick 935 race car.

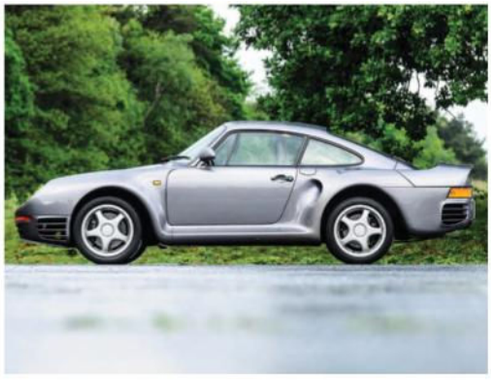
The Type 959/50 engine itself is a work of art. Aside from the twin turbochargers mounted sequentially, it features titanium connecting rods and, of course, four-valve water-cooled heads (the rest of the engine is, true to a classic 911, cooled by air). The resultant 450bhp at 6,500rpm stands up to a 991 Carrera S today, and the two cars share a 3.9-second 0-62mph sprint time. The 959 is 30 years old now, remember!

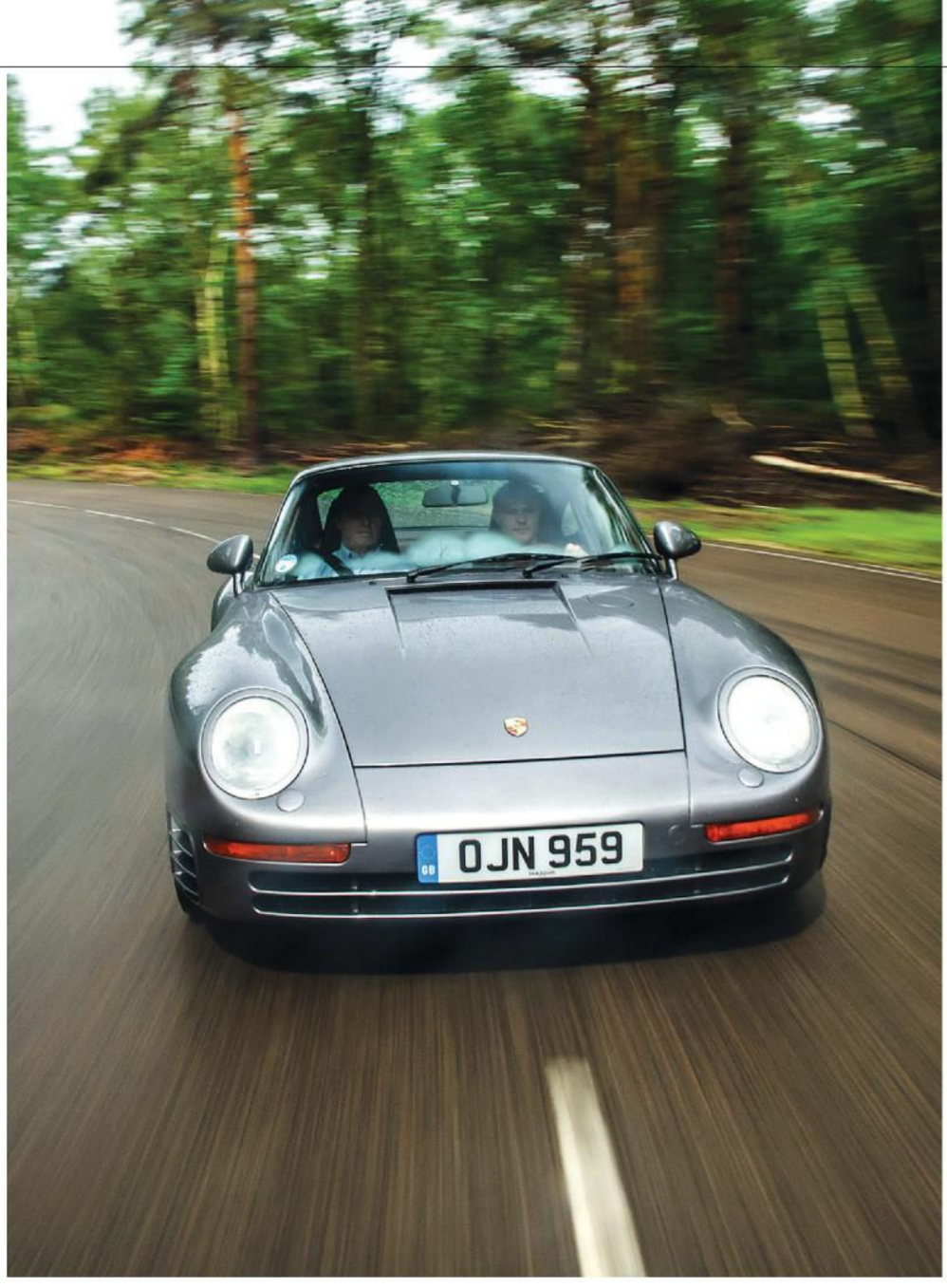
What's most impressive about the 959's performance though is its power delivery. Far from the rough and unforgiving experience the car's acoustics on tick-over deceive you into expecting, it's as sophisticated as the rest of the technology aboard this 1980s rocket ship.

The 959 is an able cruiser, retaining a civility about its ride at low speeds. However, with a prod of the accelerator, the 959 demonstrates why it is the fastest car of 1986. There's no such lag as found in its little 930 brother, the sensation of rapid momentum available instantly. There's a real surge in velocity as the first turbocharger is called into play from around 1,700rpm, this rush sending the rev needle winding hastily around the tacho. Then, at 4,000rpm, the dormant second turbocharger spools into life, providing car and driver with another hasty kick forward. You can really feel the entry point of both turbochargers on that journey around the tachometer, elevating your pulse rate accordingly as each one kicks in. The sound, too, is something to savour, that gruff note rising into a rich mechanical bark akin to rapid gunfire and utterly consuming the cockpit past 4,000rpm, all the time among a faint backdrop of whirring

Model	**959**
Year	**1986-1988**
Engine	
Capacity	2,850cc
Compression ratio	8.3:1
Maximum power	450bhp @ 6,500rpm
Maximum torque	500Nm @ 5,000rpm
Transmission	Six-speed manual, four-wheel drive
Suspension	
Front	Independent; double wishbone; coil spring; anti-roll bar
Rear	Independent; double wishbone; coil spring; anti-roll bar
Wheels & tyres	
Front	8x17-inch; 235/45/ZR17
Rear	9x17-inch; 255/40/ZR17
Dimensions	
Length	4,260mm
Width	1,840mm
Weight	1,450kg
Performance	
0-62mph	3.9 secs
Top speed	196mph







turbos. The sound and sensation of speed in the 959 is mesmerising, and I feel my eyes widen and my mouth open as I grip the wheel with one hand and quickly shift up with the other.

Delightfully slick, the 959's gearbox is a worthy aid to its 2.85-litre power plant. It's technically six-speed, though the 'G' gear, found where first gear resides in a traditional G50, is for use only when moving off on uneven terrain. That means for road use the 959 has a dogleg first gear, and the shorter, more concise throw across each gate makes for a pleasurable action later lavished on the manual 964.

Its power delivery and sound are unlike any 911 before or since, and the 959's handling is decidedly different, too. It's so assured, that wider track at both axles doing wonders for its road holding. Even at high speed, the car is unperturbed, soaking up occasional bumps in the road thanks to the twin shocks on each wheel. Certainly, there's nothing crashy about the 959's intentions to stick to the road, even when the body hunkers down by some 30mm at speeds above 95mph.

There's a beautifully translucent manner about the steering too, it being power assisted yet perfectly weighted, and grip through turns is constant and plentiful – while pace on exiting a corner is plainly astonishing. The brakes are confidence inspiring, too, allowing me to brake much later into a corner than I would otherwise do. There's healthy pedal travel to be had and though the bite of those pads isn't as razor sharp as a car of today, speed is scrubbed with an impressive rate with a firm press of the pedal. The sensation is indicative of the 959 as a whole: it just seems unshakeable, though I'll admit I don't push my luck too much to find out the point at which this is likely to be jeopardised.

My overriding thought as I finally climb out of the original hyper 911's cockpit? It's so endearing as a usable high-performance machine! Far removed from the edgy spirit of Porsche's other turbo'd cars of the time, the 959 is positively more explosive, yet its limits seem boundless.

Bizarrely, and in contrast to the supercars of today, the 959 utilises its technological superiority in the right way, thrilling rather than overbearing the driver. I put this down to the fact this technology is largely mechanical, rather than digital. The 959 is certainly no aging slouch, its drive still comparable to the current crop of supercar superstars, some of which still utilise its technological concepts. The Porsche 959 is a true pioneer of the automotive world: little wonder, then, that its spirit is evident in the majority of 911s still rolling out of Zuffenhausen today. 911

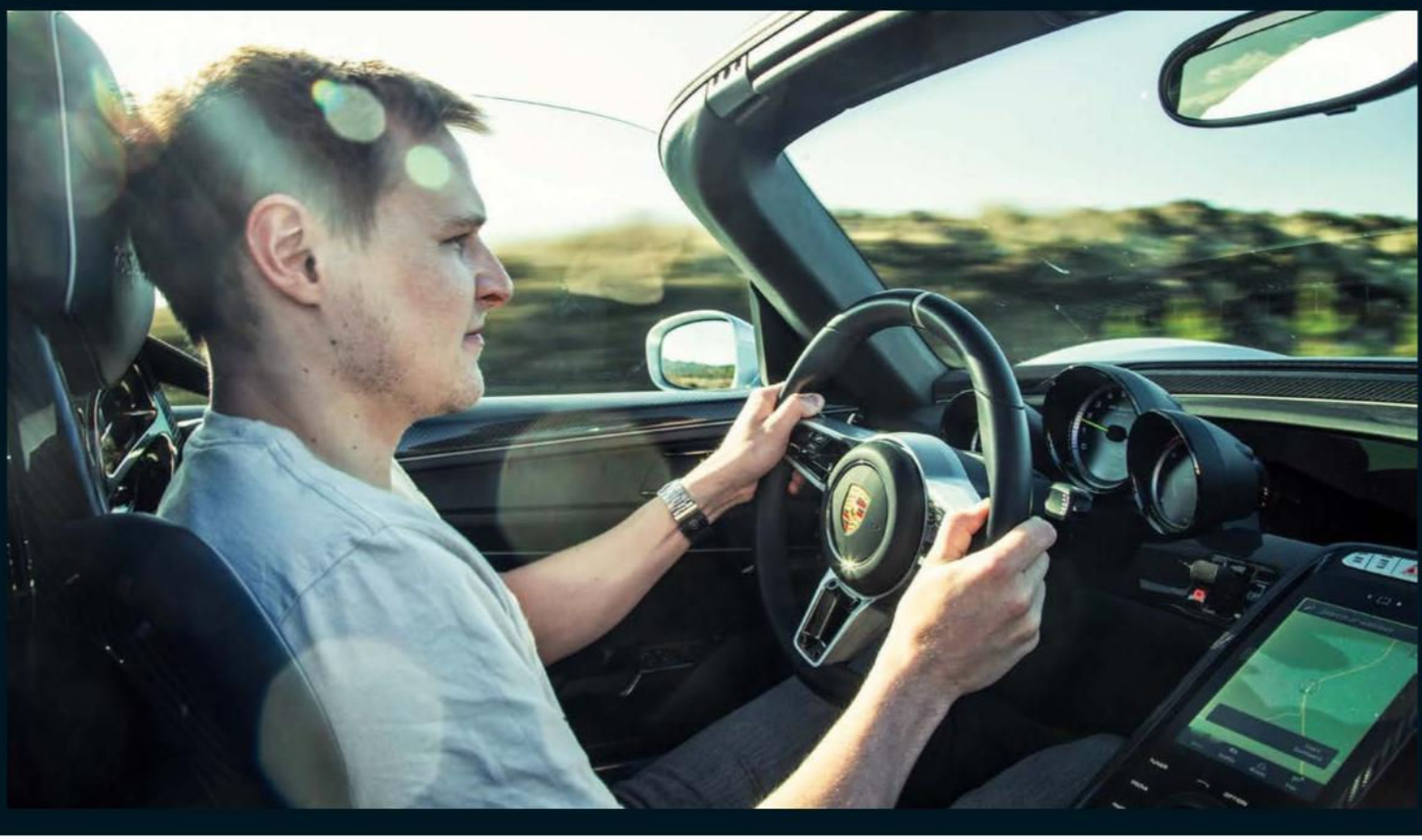
"This luxury supercar achieved a top speed of 196mph, making it the fastest production car of 1986"

Porsche 918 Spyder: the future of 911 technology?

The 918 isn't even remotely a derivative of the fabled 911, in difference to Porsche's supercar of the 1980s in the 959. However, a 911 enthusiast will dismiss the relevance of the 918 at their peril: it's no secret that Porsche intends to unleash the hypercar's pioneering E-Performance technology onto future generations of its sports cars, which the 911 is central to. In fact, elements of the 918's legacy have already filtered through onto the 911's spec list. The carbon-backed lightweight bucket seats, optional on the 991 GT3 RS and standard on the 991 R, were originally constructed for the 918, and there's more than a smattering of synergy between the three-spoked steering wheel now found across the range in Gen2 991s and that found in Zuffenhausen's flagship hybrid hypercar.

It doesn't stop there, either: the 20- and 21-inch wheels found under the 991 GT3 RS's arches are identical in size and spec to that of the 918, with matching tyres from Michelin too. Those with a keen eye will note the adjustable front vents on the 991.2 Carrera and S, which close at 10mph and reopen at 100mph to aid aerodynamics and cooling, are also taken directly from the 918. As for its drive, aside from the ludicrous surge in power, it is the 918's road holding that is simply phenomenal. Unflinching even at very high speeds, its chassis remains glued to the asphalt, the work of various active aerodynamic enhancements at the car's front, rear and underside. There's no doubt the 918's dexterity is aided by its mid-engine layout (a setup that the 911 can never have without conceding its famous moniker) but the canny placing of those batteries and motors around the carbon monocoque tub means the 918 has an exceptionally low centre of gravity, and you can really feel it right through turns.

Switching between V8 and electric power is effortless, too. In, E-Power or Hybrid mode, the first 30 per cent of the accelerator pedal's travel modulates power from the two electric motors (one mounted on each axle), but push the pedal past the 'soft' limiter and the 4.6-litre V8 kicks in seamlessly. You then have additional pedal travel and requisite power at your toes, and switching to Sport Hybrid, Race Hybrid or Hot Lap settings will see those two motors work with the internal combustion engine to provide additional boost and unlock the full might of the 918's 887hp. Energy recuperation via braking is a clever technology used on contemporary electric cars and doesn't detract from the 918's sporty driving dynamics. The sensation of fast propulsion against a backdrop of silence is bizarrely captivating, though this pales into insignificance in comparison to the banshee V8 howl at its 9,150rpm redline.




Turbo S
A05 OPO

THE FORGOTTEN TURBO

There are plenty of 996 and 997 Turbos on the market for your £50,000 currently, but for the connoisseur there's another, often-overlooked option, as Total 911 investigates...

Written by **Glen Smale** Photography by **Steve Hall**

Few could have feasibly predicted it beforehand, but 2015 has undoubtedly been the year of the 996. Historic stories of the generation being unloved are plentiful, though after values of the 996 GT3 RS and both GT3 generations rocketed north in 2014, enthusiasts this year turned to the Turbo as the last bastion of affordable Mezger-engined thrills. As such, these too have seen values increase: what was a £25,000 supercar is now pushing £50,000 for a clean example, which places the humble 996 Turbo directly onto the heels of its younger 997 Turbo brethren.

While the 996 Turbo has appreciated, values of the Gen1 997 Turbo have remained strong. Boasting an extra 60bhp and more modern aesthetics, the 997 makes for an attractive option to those courting the famed Turbo experience, even though its forecast as an immediate investment isn't quite as rosy – for now. The Turbo market has been squeezed as a consequence, though the upshot is there are currently plenty of options available to a buyer with around £50,000 to spend. But while flames of the 996 v 997 Turbo debate continue to be fanned by respective owners, there is an oft-ignored yet particularly special car available for similar money: the 996 Turbo S.

Boasting a production run of just 1,500 units, the 996 Turbo S came at the very end of the 996 production cycle in 2005, and was given the full-house treatment of options.

The 996 Turbo S is powered by a 3.6-litre twin turbocharged engine with double overhead camshafts operating four valves per cylinder and dry sump lubrication, just like its 996 Turbo counterpart. The engine is fitted with VarioCam Plus, a further development of the familiar VarioCam system, which changes both the intake camshaft timing (by as much as 25°) as well as

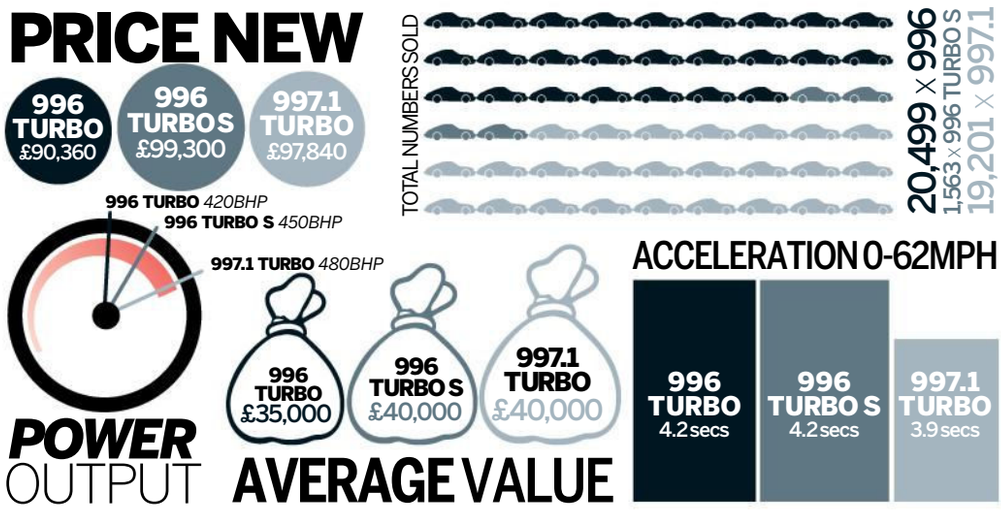
the intake valve lift. Fitted with bigger turbos as part of the X50 Powerkit – standard on the Turbo S – power was boosted to 450bhp and the car's top speed broke through that magic 300km/h barrier, boasting a maximum of 190mph (307km/h) and placing it firmly in supercar territory.

The Turbo S was given Porsche's ceramic brakes with tell-tale yellow calipers, beefing up the car's stopping performance. Porsche stated at the time of launch that the ventilated and drilled ceramic discs would last for an astonishing 186,000 miles. These ceramic brake discs were made of carbon fibre fused with silicon carbide, and being 50 per cent lighter than the steel discs, significantly reduced unsprung mass and thereby improved the car's handling. The 996 Turbo S was also fitted with the latest Bosch ABS 5.7 anti-lock braking system.

Well equipped it may have been at launch, but for the 2005 model year, Porsche was already offering models from the new 997 generation. This might have seemed like an odd mix of products, but as Kish Hirani, owner of our feature Turbo S commented, this worked in favour of some buyers: "Fortunately, this is one reason I could afford the Turbo S because it was the outgoing model, as Porsche had already moved to the 997. Because Porsche wanted to sell these Turbos as the last 996 model, they threw everything into the Turbo S." The Turbo S was available in either Coupe or Cabriolet form – in fact, the open version was produced in far greater numbers (963 units) than the closed car (600 units). Selling for around £100,000 when new, the 996 Turbo S took an awful hit in the market in the years that followed, dropping down to as little as £30,000 by 2012. Now, wedged between the many 996 and 997 Turbos on the market, how does a 996 Turbo S fare from a driver's point of view ten years from launch?

Climbing into the cockpit, it's easy to notice that the interior (near identical to that of the Turbo) is built with lavishness in mind. Swathes of leather abound and the standard Turbo seats are superbly comfortable, with adequate lateral support on the seat squab, keeping its occupant firmly in place in those tight corners. The dashboard and centre console is a work of art, exuding a neat combination of contemporary style with a simplicity that has been lost on later iterations. It is not over-complicated with a fussy setup of buttons and switches, but is well laid out and attractive.

Facing the driver is a three-spoke Sports steering wheel and white-faced five-dial setup with red needles (an incremental giveaway as to its sporting intent) with the large, centrally mounted tachometer bearing the 'Turbo S' script. Just in case the occupants are in any further ➲



Left: Side-on view of the Turbo S reveals giveaway yellow calipers housing PCCB's

Right: Bose speakers, xenon headlights, metallic paint and PCM are all part of the 996 Turbo S repertoire

Model	**996 Turbo S**
Year	**2005**
Engine	
Capacity	3,600cc
Compression ratio	9.4:1
Maximum power	450bhp @ 5,700rpm
Maximum torque	620Nm @ 3,500-4,500rpm
Transmission	Six-speed manual (G96/50)
Suspension	
Front	Individually suspended with 'disconnected' light-alloy wishbones; MacPherson struts with coil springs; dual-tube gas-filled shock absorbers; anti-roll bar
Rear	Individually suspended on five wishbones per side on light-alloy multi-wishbone axle with LSA system with coil springs; single-tube gas-filled shock absorbers; anti-roll bar
Wheels & tyres	
Front	8x18-inch; 225/40/ZR18
Rear	11x18-inch; 295/30/ZR18
Dimensions	
Length	4,435mm
Width	1,830mm
Weight	1,540kg
Performance	
0-62mph	4.2secs
Top speed	191mph

doubt as to their surroundings, the 'Turbo S' script also appears on the gear lever's vertical shaft and on the lower panel of the centre console, as well as on the tread plates when entering the car.

Outside, a Turbo appearance again reigns supreme, the S sharing three larger air intakes on the front from its lesser-powered brethren, while located on either side of the car in the fenders just ahead of the rear wheels is a generous-sized air intake, which feeds air to the twin intercoolers. At the rear, three horizontal air slits that allow hot air to escape from the rear brakes are integrated into the lower valence.

The engine decklid is fitted with a two-part spoiler, with the lower fixed section acting as a Gurney lip, while the upper section is raised automatically at speeds in excess of 75mph. Sharing a 1,830mm widebody of the Turbo, only a discreet 'Turbo S' badge mounted on the rear of

the engine lid will give other drivers a clue as to what has just outpaced them.

An immediate giveaway as to the car's model designation can be seen when viewing the car side on, as inside those hollow five-spoke alloy wheels you'll find the yellow calipers housing Porsche Ceramic Composite brakes. As mentioned earlier, these highly durable drilled and vented discs expertly help bring all 1,590 kilograms of the Turbo S to a halt in seconds.

The Turbo S's exhaust note is, like the Turbo, muted but noticeable, a trademark of twin turbochargers feeding a lot of noise back into the engine, aided by soundproofing of a cabin with exquisite refinement. Push on, and all of the Turbo S's 450hp is keenly felt. We've experienced GT2 RSs and modern Turbos before, but the rush of this ten-year-old Turbo S still makes for an incredibly exciting experience. With the gas pedal pinned to the floor, the driver will be thrown back in his seat almost instantly, and the accelerative force just keeps on coming (peak torque of 620Nm is available between 3,500rpm and 4,500rpm) as the scenery outside becomes a blur. Sensations are only heightened by the absence of any great noise, save for the 'whoosh' of spooling turbochargers, as the car charges up to a ludicrous realm of speed.

That top speed we speak of is just 9mph short of the magic double ton, an incredible feat for such a well-appointed sports car. Owner, Kish, has previously chased those big figures in seeking confirmation of the car's performance, having taken his car down to Dunsfold Aerodrome where he was able to test his car to the limit in safety on the one-mile runway. He recalls, "It was an incredibly rainy day but I had a couple of runs, and I think the maximum I got to before running out of runway was 165mph. I'm sure I could have gone faster if it hadn't been raining, but that is when you are pleased that these ceramic brakes really work."

Despite its incredible performance and somewhat firm suspension, the 996 Turbo S can still be effortlessly docile around town, just like the 996 and 997 Turbos that share its price range. Sleek in style, with its huge performance largely masked behind discreet 911 coachwork, the 996 Turbo S is a model that clearly has the power and performance of several supercars many times its value. Though this can be said of the 996 and 997 Turbos, what they lack is the exclusivity of the 996 Turbo S and its ultra-lavish specification straight out of the box. For just £50,000, the 996 Turbo S is a superb and exceptionally fast Porsche grand tourer for a true arbiter of taste – the biggest problem a buyer will likely have is finding one. 911

"The Turbo S has an enviable spec over the 996 Turbo including a Powerkit and ceramic brakes"

Turbo S timeline

930 S
Power hike over 930: 30bhp
Thanks to the success of the 935 race car, Porsche enjoyed a captive audience who wanted the same 'flat nose' look. It featured a lower streamlined nose with pop-up lights and aggressive rear fender air inlets. 948 units were produced.

964 Turbo S
Power hike over 964 Turbo: 61bhp
Turbo S Lightweight featured side air inlets ahead of the rear wheels, a flatter rear spoiler and a weight saving of 180kg, all contributing to a 0-62mph of 4.6 seconds, nearly a half second quicker than the standard Turbo.

993 Turbo S
Power hike over Turbo: 42bhp
The 993 Turbo S was the last to be completed by Porsche Exclusive. Now with a 4WD setup, power was lifted to 450bhp by fitting two larger turbos, a modified control unit and an additional oil cooler. Only 345 cars were made.

996 Turbo S
Power hike over Turbo: 30bhp
To cope with the extra performance, the Turbo S was fitted with PCCB. Metallic paint, Xenon headlights, BOSE audio system, Porsche Communication Management system, full leather trim and 18-inch alloys were fitted as standard.

997 Turbo S
Power hike over Turbo: 30bhp
Fitted with Porsche's latest seven-speed PDK gearbox, the Turbo S returned the same fuel consumption as the regular Turbo model, but acceleration from 0-62mph was now a blistering 3.3 seconds with a top speed of 195mph.

991 Turbo S
Power hike over Turbo: 40bhp
Once again, 3.8-litre twin-turbo engine was modified to produce an astonishing 560hp. Top speed crept up to 197mph, while the 62mph dash was achieved in just 3.1 seconds.

997.1 GT3 RS

Just in case the standard GT3 wasn't quite enough, Porsche added the fabled Rennsport tag to this special 911. When it comes to buying one, Total 911 is on hand to advise

Written by **Chris Randall**
Photography by **Phil Steinhardt**

THE SECOND-GEN 997 RENNSPORT

Given the desirability of the car you see here, it's no real surprise that the second-generation 997 range would include a GT3 RS. It was no mild refresh though, as the new model would receive some substantial changes, not least of which was a 3.8-litre motor that sat on active engine mounts. With power and torque both increased – to 450hp and 430Nm respectively – the 0-62mph time was cut by 0.2 seconds to 4.0 seconds dead, and both response and mid-range shove were boosted. VarioCam Plus and a higher 8,500rpm redline also featured. Further revisions included gorgeous new centre-lock wheels and suspension that featured stiffer spring rates and tweaks to the anti-roll bars. Externally, the new model boasted various subtle changes, including redesigned air intakes, and there was a new aero package to improve downforce. 1,500 examples were produced before the 997 disappeared in 2012.

WATER-COOLED RS TIMELINE

2004
The 996 GT3 is the first water-cooled Neunelfer to get the RS treatment. The 3.6-litre engine produces 381bhp, enough to despatch the 0-62mph sprint in just 4.4 seconds. 682 produced

2006
Porsche follow up with the 997 GT3 RS, with essentially the same engine as the 996. Power is raised to 415bhp though, and a weight-saving regime saves 20kg. 1,106 produced

2009
It's the turn of the Gen 2 997, this time the RS getting a larger 3.8-litre engine with 450bhp that cuts the 0-62mph time to just 4.0 seconds. Aero tweaks and dynamic engine mounts feature. 1,500 produced

2010
A sure-fire future classic arrives in the shape of the 997 GT3 RS 4.0. Boasting a stunning 500bhp, it's the quickest RS yet. 600 produced

2010
It's the 997 GT2 that gets the RS treatment. There's 620bhp from the 3.6-litre engine, a 205mph top speed, and plenty of tasty carbon fibre bits. 500 produced

2015
Huge road presence marks out the RS in 991 GT3 form. Substantially lighter than Turbo variants, the 4.0-litre engine makes 500bhp. 42 sold in the UK last year

You have to head back a little over a decade, to 2004 in fact, to find the first GT3 to benefit from the legendary RS suffix. Then, it was attached to the rump of the 996 with around 680 lucky buyers getting to experience the delights of a 381bhp flat six allied to a useful weight reduction.

It would hardly come as a surprise, then, when Porsche announced that the 997 GT3 would also get the Rennsport treatment, although this time both models would arrive together in August 2006. 996 buyers had to wait five years or so for the same development. Even with an eye-watering £94,280 price tag, this new generation would prove immediately popular, so much so that 1,106 examples would leave the production line before the Gen2 version arrived three years later. Like the 996 incarnation, the first 997 GT3 RS was all about weight saving. The first-generation GT3 RS featured the wider rear bodyshell of the Carrera 4 and Porsche shaved a healthy 20kg off the weight of the Gen1 GT3.

The diet was assisted by using carbon fibre for the adjustable rear wing and engine cover, and plastic instead of glass for the rear screen (saving almost 3kg) and, given the cost, it's worth ensuring parts are undamaged on the example you're looking at. At a gulp-inducing £5,900 for the rear wing, the need for care is obvious. The ten year anti-corrosion warranty means that rust shouldn't be a concern, but it's worth checking whether a previous owner has added paint protection film to the front end as the nose is susceptible to stone chips. If not, ask whether there has been any paint rectification work to the panels and bumper.

Far more important, though, is whether an RS has seen action on the track and while soaring values make it a little less likely today, that wasn't always the case. Aside from the fact that pounding over kerbs can prematurely age the bodyshell – listen out for unusual creaks – there's the risk that trips through the gravel trap has resulted in damage to the underside panelling. A specialist will check for this, of course, but otherwise it's worth a thorough examination of the undertrays and front splitter for grazing. And it goes without saying that you need to be sure of the car's history, looking for any evidence of ➲

"It certainly looked the part, but it's what was hidden beneath that composite engine cover that really captured the imagination"

Model **997.1 GT3 RS**
Year 2006-2007

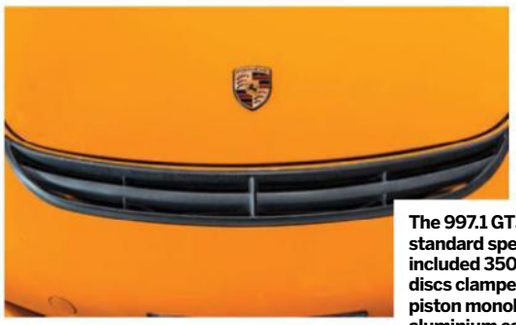
Engine
Capacity 3,600cc
Compression ratio 12.0:1
Maximum power 415bhp @ 7,600rpm
Maximum torque 405Nm @ 5,500rpm
Transmission Six-speed manual, rear-wheel drive

Suspension
Front MacPherson struts with coil springs and anti-roll bar
Rear Multi-link with telescopic dampers; coil springs; anti-roll bar

Wheels & tyres
Front 8.5x19-inch; 235/35/R19
Rear 12x19-inch; 305/30/R19

Dimensions
Length 4,460mm
Width 1,808mm
Weight 1,375kg

Performance
0-62mph 4.2 secs
Top speed 194mph



The 997.1 GT3 RS standard specification included 350mm steel discs clamped by six piston monoblock aluminium calipers at the front, and four piston items at the rear. Customary front bonnet vents and carbon rear wing aids downforce

PARTS PRICE CHECK

• **Front bumper**	£4,458.70
• **Rear wing blade (carbon)**	£5,921.53
• **Exhaust system (exc. Cats)**	£5,712.16
• **Front damper**	£480.60
• **Brake disc set (steel)**	£1,179.24
• **Front wheel**	£1,835.57

Prices are inclusive of VAT and come courtesy of Paragon Porsche

997.1 RS VALUES

As mentioned, prices for the RS have slowed recently, marking an end to a period of strong growth for the model. That's not to say they aren't going to rise in the future, of course (as they almost certainly will), but it's likely to be slower this time around. Left-hand-drive examples are worth a little less than the values quoted here.

• **Project**	£140,000
• **Good**	£150,000+
• **Concours**	£190,000

“An over-rev check is an important indicator of past use and especially vital on track-focused 911s”

major accident repair. It’s also worth mentioning that the RS was available in some pretty extrovert colours, so you might want to consider whether you’d be happier with black or silver rather than the Orange or Viper green! That said, it seems buyers are happy to pay a small premium for their RS to stand out.

It certainly looked the part, then, but it’s what was hidden beneath that composite engine cover that really captured the imagination. A revised version of the unit found in the 996 GT3, the 3.6-litre engine produced 415bhp at 7,600rpm and 405Nm of torque at 5,500rpm, and could safely rev to a stratospheric 8,400rpm. Featuring VarioCam variable inlet valve timing, titanium connecting rods, and a revised dry sump lubrication system, it shoved the RS from 0-62mph in 4.2 seconds and on to 194mph. The good news for buyers is a depth of engineering that rendered it bulletproof in the eyes of most specialists, although it pays to undertake some careful checks before taking the plunge. Oil and filter changes were at 12,000 miles, and while particularly careful owners may well have shortened the interval, you certainly don’t want to find any gaps in the service history. And, while regular maintenance is slightly higher than for the GT3, it’s not by a great deal, so budget around £370 and £800 for a minor and major check respectively at a specialists such as RPM Technik.

More crucial, though, is an over-rev check, something that a reputable specialist will already have done. It’s an important indicator of past use – and especially vital on track-focused 911s – as you’ll want to know how often the motor has nudged that lofty redline. A cylinder leakage test will provide further reassurance that nothing serious is awry within the flat six. Otherwise, it’s just a case of examining the unit for any signs of oil leaks from the cam chain covers and between the engine and transmission, the latter indicating a weeping Rear Main Seal; expect to pay around £1,100 to have this rectified at a specialist such as Parr Motorsports.

The RS used a single mass flywheel, so that’s one less thing to worry about, but expect to reach around 30,000 miles before the clutch requires replacement, an engine-out job that will cost in the region of £1,300. A noticeably high biting point is a sign that renewal isn’t far away, so haggle accordingly. The six-speed transmission is strong, though, benefitting from beefier internals and an

Lightweight carbon-shelled seats in flame retardant fabric came as standard and saved around 10kg compared to the GT3 items. Despite having a track-focused interior, luxury Alcantara covered the surfaces and steering wheel

additional oil cooler, and it would take particularly ham-fisted track use to cause any issues. Likewise for the limited-slip differential, although an obstructive gearshift or any odd noises from either unit would need further investigation as replacement is extremely costly.

You certainly shouldn't have any problems hauling the RS down from speed, though, thanks to the impressively powerful brakes. The standard specification was 350mm steel discs clamped by six piston monoblock aluminium calipers at the front and four piston items at the rear, and they are more than adequate for road use. Any problems are likely to be a result of overheating, so examine the discs for any sign of cracks appearing around the cross-drilling. A replacement set costs around £1,200 but a previous owner may have gone down the aftermarket route for replacements, so check what's fitted. The alternative option was the PCCB carbon items, identified by yellow calipers. While they might have saved a substantial amount

BUYING TIPS

With the earliest examples barely seven years old, it's reasonable to expect that any car you find should be in good shape, both bodily and mechanically. There are no guarantees, of course, so tread carefully, but strong build quality ensures that this is one of the easier 911s to inspect.

- **History:** A track-focused nature means that extra care is needed. Diligence is crucial to ensure you're not looking at a tired or crashed trackday warrior.
- **Bodywork:** Corrosion isn't a concern, so spend time examining the panels for any sign of previous repair or replacement. Ensure there's no damage to the RS-specific carbon fibre parts, and look for evidence of damage to the undertrays, which points to circuit-offs.
- **Engines:** If it's been religiously maintained, there's little to worry about. Check for oil leaks and make sure you see the results of a recent over-rev check.
- **Transmission:** The gearbox is tough and shouldn't be suffering from weak synchromesh unless abused. More likely is clutch wear, so check the history to see if it's already been done as it's not a cheap job.
- **Brakes/suspension:** Hard use will take its toll on the brakes, so be sure to check their condition carefully; extensive cracking around the cross-drillings indicate a hard life and imminent replacement. Adjustable suspension may have been fiddled with, so an alignment check is advisable.
- **Interiors:** Aside from being sure you can live with the Clubsport arrangement, the interior wears well. Just look for scuffed trim and overly-smooth Alcantara.

in unsprung weight – they were around 50 per cent lighter according to Porsche – replacing them costs in excess of £10,000. As we've said before in these guides, think long and hard about whether you really need them.

Suspension-wise, Porsche Active Suspension Management (PASM) was standard and the RS benefitted from a five-millimetre increase in wheelbase and the fitment of split rear wishbones to allow greater camber adjustability. Owners could also make changes to the ride height, toe angle, and anti-roll bar settings, but inexpert tinkering could have resulted in a less than optimum setup. Any doubts about how the car feels on the road, or evidence of uneven tyre wear, points to the need for a specialist alignment check; RPM Technik charges £264 for this, so it's an inexpensive way of ensuring all is well. There are no issues with the hydraulically-assisted steering, but do check the condition of the 19-inch wheels. Refurbishment isn't too pricey, but replacing them is around £1,800 for a front one.

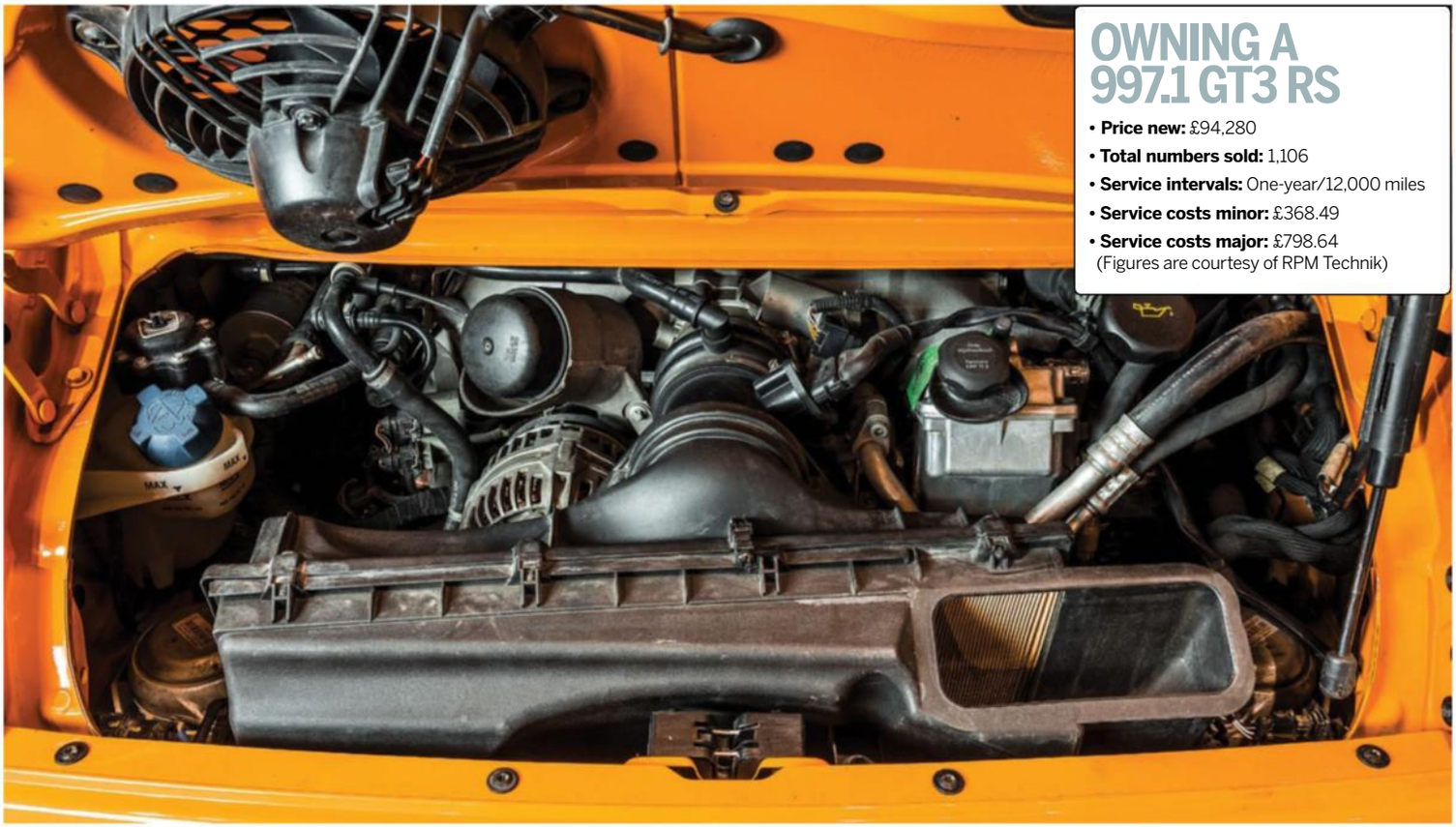
Head inside and you're left in no doubt about where this 911 was intended to spend time. The RS came with the Clubsport package as standard, which bought a roll cage in the rear, fire extinguisher prep, a six-point harness, and wiring for a battery master switch. Also standard were a pair of lightweight, carbon-shelled seats that saved around 10kg compared to the GT3 items and they were covered in flame-retardant fabric. It's a pretty hardcore arrangement for regular use, so you'll want to be sure you can live with it before committing. Despite the track-focused specification, there was luxury on offer, too, with plenty of Alcantara covering the surfaces and steering wheel (which got a straight ahead marker at the top of the rim). Significant wear isn't very common but it's worth checking that a clumsy previous owner hasn't scuffed the seat or door cards. Porsche didn't skimp on the standard kit with the RS, and there was a lengthy options list to dip into, so make sure you establish the specification of the example you're looking at, although everything should work. Also, ensure the air-conditioning is blowing cold as corrosion could attack the nose-mounted condensers, although the system could be deleted entirely which saved a further 20kg.

Ultimately, the 997 generation is renowned for its usable, reliable nature and the GT3 RS does nothing to dispel that view. Yes, it was designed for the ultimate in thrills on road or track but the quality of its construction means there's little to worry about if you're considering buying one today. Find one that has been maintained regardless of cost and it'll prove an immensely rewarding experience. 911

SPECIALIST VIEW

"Any 911 with an RS badge is highly sought after, and the same definitely applies to the 997.1 GT3 RS. They've got a strong following, which is to be expected given their ability and the fact that they are reliable, too. Prices have settled a bit of late, which given their meteoric rise in the past three years is no surprise. Ultimately, an RS like this one will still represent a really good purchase as a machine to get in and enjoy, as well as its investment potential."

Greig Daly, RPM Technik



OWNING A 997.1 GT3 RS

- **Price new:** £94,280
- **Total numbers sold:** 1,106
- **Service intervals:** One-year/12,000 miles
- **Service costs minor:** £368.49
- **Service costs major:** £798.64

(Figures are courtesy of RPM Technik)


PORSCHE
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WORLD FIRST: NEW 991 R DRIVEN

PREUNINGER'S FINEST HOUR

The scintillating 991 R delivers on its brief as a performance Porsche built with driver involvement in mind, but is it the best of all time? **Total 911** is given early access to find out...

Written by **Lee Sibley** Photography by **Richard Pardon & James Lipman**

The 9A1 Rennsport flat six fills the cabin with a howling crescendo of noise as the 991 dashes at an astonishing rate along the asphalt. My right foot buried into the floor, I glance down to see the tachometer needle thrash round towards the redline as the car's crank spins wildly. Approximately 200 yards dead ahead, three pylon-mounted arrow signs point left as the road duly sweeps round and out of sight. Action is required to prepare the car for the upcoming corner, and quickly.

Then something strange happens. After scrubbing some speed with a dab of the brake pedal, convention in a 991 GT car dictates that a mere pull of the left PDK paddle on the steering wheel is all that's needed to change down a gear, a smooth-yet largely excitement-free action for the driver to implement pre-turn in. But then this is far from a conventional 991 GT. It may have the 500hp, 4.0-litre engine of the latest 911 Rennsport, but this is no mere 991 GT3 RS either: equipped with a manual gearbox, this is the GT3 RS's fiery sibling, the 991 R – and it's outrageously brilliant.

We unveiled the rebirth of Porsche's 'R' moniker to you back in issue 138 and now, three weeks ahead of the car's official first drive for journalists around the globe, we're treated to two golden hours at the wheel of a German-plated yet right-hand-drive example on twisty, deserted roads from Scotland's Pitlochry to the Isle Of Skye.

Porsche's new manual six-speeder has given me more to do before that fast-approaching corner though, so I'm coerced into dabbing the brake pedal with the toes of my right foot, shortly before my right heel prods down and right to blip the throttle. Meanwhile, my left foot kicks that all-important third pedal, decoupling the clutch for a split second as I push the shifter across its gate to engage second gear from third, keeping the car in check as it makes the turn.

The practice of heel-and-toe is a classic if well-versed routine to a driver, yet in a 991-generation GT car, the technique is as welcome as it is refreshing, the sensation transformational in providing another stratum of entertainment at the wheel. The return of a third pedal to the footwell of a 'Preuninger 911' is, after all, a victory for the avid peddler. Great as the 991 GT3 and GT3 RS are at lopping chunks from lap times, the caveat ultimately is a detachment between car and driver in terms of involvement. Porschephiles not intent on clinical circuit driving demanded a more traditionally oriented performance 911 and, as is pleasing to see, Andreas Preuninger's Weissach team has listened carefully.

The manual gearbox now found in the 991 R has six ratios, doing away with that overly long seventh gear resplendent across the rest of the 991 lineage. Taking away that final top-right shift on the H-pattern gearbox removes with it a fogginess across the gate that previously dogged higher gear changes, leaving in its wake only a slick, fluid

Manual gearbox forms a glorious partnership with the Rennsport 9A1 flat six. Slightly reduced redline doesn't detract from the R's hair-raising experience either


PORSCHE
LB A 4025


LB A 4025

"The R's levels of involvement are positively intoxicating"

movement for R owners to revel in. The carbon-wrapped shifter itself is shorter, too, and enjoys noticeably less travel between gears, assisting a wonderfully direct, positive throw – the sort that is sure to inspire confidence in a driver intent on hustling this frenetic Neunelfer through every twist and turn.

Just as important as the throw of this new manual shifter is the weight of the clutch pedal accompanying it, and Preuninger's squad has got it spot on again. The pedal has a good weight to it but isn't as overbearing as those found on the 997 GT2 and GT3s of old, its resistance more indicative of entirely palatable seven-speed manual 991s or the six-speed Cayman GT4.

Blessed with incrementally longer ratios only through gears two, three and four over the 991 seven-speeder, a swift swap of cogs remains a regular occurrence here among Scotland's windy roads, and the R's driving experience is all the better for it. At last hailing a proper return to form for the 911 with manual shift, the R's gearbox is scintillating to navigate and proves to be the perfect complement to that firecracker Rennsport flat six powering this lightweight special.

Speaking of which, the 9A1 power plant has had some tweaks while transitioning from RS to R specification, though these are comparatively minor to those bestowed upon the transmission. This latest rendition makes use of the same bore and stroke as the RS (at 102.0mm and 81.5mm respectively), giving the same displacement of 3,996cc, and it even boasts identical peak power and torque outputs at the same RPM. However, the 4.0-litre flat six has an increased compression ratio in the R, up from the Rennsport's already heady 12.9:1 to an astonishing 13.2:1. The proviso to this is a slightly lower redline than the RS at 8,500rpm instead of 8,800rpm, but despite this the R is not found wanting for top end fanfare.

In terms of the *character* of performance on offer, the R's 9A1 is on paper much like that of its Rennsport sister, offering lightning quick response

to throttle inputs and plenty of torque even south of 3,000rpm. Yet somehow, from a driver's perspective, the R just *feels* that little bit quicker than the current RS from corner to corner, this sensation no doubt the upshot of the R simply giving the driver more to do between each turn. Either way, it's far more rewarding to pilot the R than the RS: despite a clinical deficit in comparison to PDK, this marrying of a manual gearbox to a Rennsport flat six fire breather is god-like in its product, offering the driver a scintillating, sensational experience for every second spent at its wheel.

And then there's the sounds a driver experiences at the wheel of the 991 R. Oh, those beautiful sounds. The very crux of the R's coarse nature is perhaps best delivered here as a concert of acoustics and resonance attainable from all around the car. On start-up a perpetual clacking from the optional lightweight flywheel is detectable from the transmission tunnel, though this admittedly is slightly more muted than other recent GT3 and Rennsport variants.

Out on the road, the chief concert is provided, of course, by that howling flat six: while its resonant volume is obviously heightened thanks to the removal of significant amounts of sound deadening and swapping of glass rear windows for plexiglass items, this commitment to a thread-bare cabin reveals a slightly more mechanical engine tone than what is found from inside the cosseted 991 RS. Delightful in its ability to easily penetrate the 991's bulkhead and fill the driver's eardrums under every application of throttle, the aural sensations of piloting this car makes you feel as alive as the hard-working engine behind you.

That said, the mark of any good 911 is in its chassis and handling setup, and even on paper the 991 R's credentials are nothing short of impressive: that pulsating Rennsport engine is carried in a GT3 body, whose wheelbase of 1,551mm (front) and 1,555mm (rear) is narrower than that found on the 991 Rennsport. There's no fixed rear wing on the R, which instead utilises an active panel that raises to a steeper angle than what is usually found on a Carrera Coupe. Even before you press the PASM switch on the R's centre console, damping is firm in line with the 991 RS, keeping the car in splendid contact with the contours of the road surface. In fact, the car's hold right through corners is

Model	**991 R**
Year	**2016**
Engine	
Capacity	3,996cc
Compression ratio	13.2:1
Maximum power	500bhp @ 8,250rpm
Maximum torque	460Nm @ 6,250rpm
Transmission	Six-speed manual
Suspension	
Front	Independent; MacPherson strut; coilover dampers; anti-roll bar
Rear	Independent; multi-link; coilover dampers; anti-roll bar
Wheels & tyres	
Front	9x20-inch centre-locks; 245/35/ZR20
Rear	12x20-inch centre-locks; 305/30/ZR20
Dimensions	
Length	4,532mm
Width	1,852mm
Weight	1,370kg
Performance	
0-62mph	3.8 secs
Top speed	201 mph

991 R first drive: the verdict ★★★★★

Positives

- **Manual gearbox** – Pin-sharp and with a fluidity the seven-speed can only dream of, this six-speed is a return to form for a 911 with stick shift.
- **Chassis** – Confidence-inspiring to the maximum, the chassis is key to the 991 R's lively character and responds well to inputs from the driver.
- **Well-judged factory spec** – Porsche has struck a great balance between fashioning the new 991 R with modern technology and ensuring the car keeps those all-important purist intentions intact.

Negatives

- **Automatic blip function** – In a car that otherwise gives everything back to its driver, the automatic blip function in Sport mode is an unwelcome gimmick.
- **The 9A1 engine is still hidden** – Surely the new 911 R would save even more weight if that detestable 991 engine cover was ripped out and disposed of once and for all?
- **No PTS option for UK cars** – Total 911 understands Porsche GB has vetoed requests from UK 991 R buyers to choose a Paint To Sample hue. International customers have no such infringements.

"This marrying of a manual gearbox to a Rennsport flat six fire breather is god-like in its product"

predictably excellent, with minimal body roll, as a mixture of rear axle steering and a hard-working mechanical diff helps to feed the R through turns. This despite us often carrying speeds that would simply end in tears with a 997. Any excess velocity is scrubbed effectively by the huge 410mm (front) and 390mm (rear) PCCB discs, which even on the road can be a welcome intervention against the ferocious speeds the 991 R is effortlessly capable of.

Steering is fast with great feel, relaying a healthy dose of vibrations and twitches through to the wheel from the road – so impressive is this relaying of information, it feels unlike any electrically-assisted system Porsche has used on a 911 before. The car tracks well too, hunting for cambers in the road but without the dogged ruthlessness of more track-focused performance Porsches of old. The R's steering is simply perfect for its prime environment of the public road.

It takes little time to conclude Porsche's new R is the best 991-generation 911 yet, but comparisons with the last manually-oriented lightweight in the shape of the 997 RS 4.0 are inevitable. To that end, it is the 991 R's directional changes that are most impressive among Scotland's twisting asphalt. Aided by a natural balance the 991-generation enjoys over the 997, this new car's deftness at its nose and surefootedness through a turn is far more beguiling. Yes, rear axle steering in the R's armour means it's not as traditionally pure as the RS 4.0's steer, but such are the punitive real-world inputs of the technology that a driver will struggle to sense it in action, let alone find it overbearing. There can be no doubt then that the 991 R now dismisses the chassis and handling credentials of the 997 GT3 RS 4.0 as antiquated.

That's not to say the 991 R is infinitely balanced, though. Its back end is twitchy as the car struggles to make do without those aerodynamic aids of the 991 RS, and it's relatively easy to break traction should a driver's inputs be too imprudent. That, however, brings with it a flair that any good sports car should possess as a basic requirement, and it's a vital ingredient that helps make this 911 so appealing: sure, it doesn't require the same respect at the wheel that, say, a GT2 demands, but there's no question the R needs an astute driver at its helm to get the best out of it, and safely.

So, where does this leave us? Even from launch, the idea of an RS engine with a GT3 footprint in fastidiously lightweight specification had us speculating this could be the perfect modern-day Porsche. In reality, the car is so much more than that. The R is a very special car indeed, and a driver can't help but get caught up in the moment of piloting it – its levels of involvement are positively intoxicating. I'm wary the 991 RS may have suffered from temporary rough justice in comparison here but, really, there's no comparison necessary. If lap times are the crux of your motoring life then the RS is untouchable.

However, a 911 has always been about its character, its soul, and so in the 991 R, Andreas Preuninger and his team have delivered a fitting return for a performance Porsche with a manual gearbox, and with it the best ever driver's Porsche 911. My biggest hope is that the other 990 examples will be driven in much the same way as Weissach originally intended. 911

TURBO ON TOUR

Total 911 tackles the winding routes around Ireland's Wicklow Mountains in the latest 911 Turbo S – but is this supercar as spectacular as the scenery?

Written by **Lee Sibley**
Photography by **Louis Ruff**

Oh how we all enjoy an impressively good road trip. Just think about it; I'd wager that for most reading this fine bookazine, there's not too much in life that can usurp the idea of slinging some essential luggage into the front of your Porsche 911 and taking on a drive to unfamiliar territory, hitting up some of the most delectable roads on Earth in the process. It is what Butzi's seminal sports car was built for, after all.

Your editorial team is no different, of course, and you'll commonly find our excursions through the continent documented in detail among these very pages. A Total 911 road trip usually sees us head east, too, this being the direction you'll find most of Europe from the bookazine's humble UK offices. However, for our latest venture I'm breaking with tradition and heading to the second most westerly territory in Europe: the Republic of Ireland. Ireland's blend of coastal and mountain roads are among the best on the continent to drive, offering plenty of technically challenging routes set among stunning natural topography. Better still, the roads on the Emerald Isle are quiet compared to the oft-driven mountain passes on Europe's mainland.

Previously in Total 911 we've championed the merits of the Wild Atlantic Way, an extraordinary trail of some 1,600 miles that closely follows the jagged extremities of Ireland's stunning west coast. This time though, my automotive playground is the Wicklow Mountains, an expansive national park of some 20,483 hectares situated just southwest of the capital, Dublin. The roads are great, the accompanying views beautiful, and there's plenty of history to unearth from the area, too. Already, this is sounding like the perfect road trip.

My steer for the jaunt across the Irish Sea is a 991.2 Turbo S Cabriolet. In striking Miami blue, my mission is to find out if this all-singing, all-dancing 911 has any real substance to its drive, or if it really is the mobile poseur's paradise it looks like from the outside. The roads I'm headed for will help settle that dispute in no time. ➲

Below Ticknock Park offers a breathtaking panoramic of Dublin city, perfect to stop and take stock of the Turbo S

Turbo S to Ireland in numbers

1711 KILOMETRES COVERED **AROUND IRELAND**

32.5 BEST **MPG**

17.5 WORST **MPG**

9 SECONDS TO FULLY DEPLOY THE **CABRIOLET'S ROOF**

303 **DEAD FLIES FOUND** ON FRONT OF CAR

4 **LAUNCH** CONTROLS

I awoke early to a glorious day in Dublin, having arrived on the Emerald Isle the previous evening. My journey over in the Turbo S was pretty much standard fare: after negotiating the rural roads through the West Country and the never-ending M4 motorway along the bottom of Wales, the Turbo S and I eventually arrived at Pembroke docks with 40 minutes to spare before our boat set sail (UK-Ireland crossings only require a half-hour check-in period prior to departure). Four hours and one smooth crossing of the Irish Sea later, I was headed north from Rosslare harbour in County Wexford to my night-stop just outside the capital.

Venturing out to the Turbo S at 9am, the clear blue sky high above prompts the removal of the roof. As with all 991-generation Cabriolets and Targas, this operation can be done remotely via the key, so I stand next to the wide-bodied 911 and watch as its four-panel roof peels back and folds onto itself before stowing immaculately between the engine and rear seats. The decklid panel, more expansive across the rear of open-topped 911s, swings out during the procedure and locks back into place over the stowed canvas, neatly hiding the entire roof and running gear. With the roof deployable at speeds of up to 30mph, the process is sheer engineering perfection.

I pick up my photographer, Louis, from the airport to the north of Dublin, before pointing the Turbo S back south to our first point of interest at Ticknock Park. Ticknock is actually in the Dublin Mountains, situated to the immediate southwest of Ireland's capital city. Easily accessible from the M50 orbital, Ticknock Park is at the top of a steep, single carriageway (there's a one-way system in place to avoid any obstructions from oncoming traffic). Reaching the top, there's ample space to park up and take in a breathtaking panoramic view of the city of Dublin. Climbing onto a huge rock perched next to the Turbo S, I take a good five minutes to soak up the expansive vista. There's a real omniscience to the experience: the city's so busy yet it's deftly silent up here, my ears attuned only to the occasional pinging sounds from the 991 as its exhaust begins to cool. Louis, who suggests we get moving again, eventually interrupts my dreamy haze, and we climb back in and begin the descent, heading south towards the Wicklow Mountains National Park.

To date, the Turbo S has practically been in autopilot. Keeping in 'Normal' mode, the car has soaked up the miles (and then kilometres) with aplomb; I've found my sweet spot in the 18-way adjustable Sports seats and damping is nowhere near as crashy as I anticipated for a stiffened Cabriolet chassis riding on 35 and 30 profile tyre sidewalls. Meanwhile, the Turbo S has returned 32.5mpg – not bad for a car packing 580hp yet weighing a portly 1,670 kilograms.

We soon reach the famous Military Road, the spinal road to the Wicklow Mountains National Park, giving me a platform in which to test the car's sporting credentials. Starting just off the Dublin orbital and winding 50 kilometres south to Aughavannagh, the Military Road (signposted as R115) was built by the British Army after the failed Irish rebellion of 1798 as a trunk road through the heart of Wicklow. Today, the road is a glorious slither of tarmac, darting back and forth through sprawling marshlands. The Military Road is narrow and bumpy in places, but well sighted – it's the perfect challenge for car and driver.

Twiddling the 'Mode' dial from the steering wheel, I select 'Individual', which commands the ➲

Turbo S to adopt a manually preselected mapping and chassis setup (in my case; Sport mapping, PDCC Sport damping and all spoilers extended for extra pizzazz). PDK immediately drops a cog as engine revs sit slightly higher, but I push the PDK gearlever away from my body to engage Manual mode and take charge of when the car changes gear. Now, we're primed for action.

With nothing ahead but the horizon, I squeeze the throttle with intent for the first time. The ensuing rush of pace is absurd: response rivals that of a naturally aspirated car, the car shooting forward with a scary immediacy. Peak torque feels perpetual; there's no let-up to the drama as my right foot meets the floor. The only drawback is no sooner have I pinned the accelerator, I'm having to lift off sharply, the Porsche having reached the speed limit all too soon. The rush of straight-line speed may be ferociously addictive in the Turbo S but on the public road, any quest for it will only frustrate, as limits curtail the car before it really flexes its might. Fun at sensible speeds is going to have to be found in the corners.

We're in the right place though, and as the Military Road darts left and then right, I'm using my left foot to brake and right foot to balance the throttle through each sweeping turn. I'm pointing the nose through each apex and flicking incessantly up and down between second, third and fourth gears, the minimal travel of those PDK paddles when pulled adding to the sensation of instant, precise gear selection. It's hard, too, not to wax lyrical about the stability of the chassis through each turn, aided by that game-changing rear axle steering. The rear just feels so planted. Granted, the steering lacks any great feel but there's at least a pleasing directness to turn-in from the front, but push too hard on tight turns and the Turbo S will still invoke understeer.

Before long we're at Sally Gap via a short stop at Glencree (the only one of five military barracks built along the road that's open to the public today). A crossroads of the main routes heading north-south and east-west through the middle of the Wicklow Mountains, we turn right here and head along the R759 towards Blessington. The route is similar in character and topography to the R115 but this time headed in a westerly trajectory and, with minimal traffic to thwart us, we're making great pace. At times the Turbo S is truly flying and my elbows rise and fall in sharp contrast to one another as I work hard at the wheel from corner to corner, yet my fingertips and feet controlling the car's gearing and speed are only ever moving a few millimetres at a time. From Blessington we head south on the busier, yet no less wriggly, N81 and turn off 11 kilometres later, rolling into Ireland's very own Hollywood.

Differing somewhat in extravagance to the home of the US film industry, this pretty, petite village near the Wicklow/Kildare border plays home to a community of less than 100. Fittingly, one of those is a farmer whose land enjoys a steep rise overlooking a public house and a smattering of houses and, teemed with a great sense of humour, he has erected nine large letters spelling the town's name in homage to the famous sign on Mount Lee in Los Angeles. After pausing for a chuckle to admire the farmer's handiwork, I input 'Glendalough' to the 991's PCM, taking

Above The cabin of the 991.2 Turbo S Cabriolet is a great place to be, roof up or down

us east along the rather more cavernous R756, known as the Wicklow Gap. Faster paced than Military Road, this route skirts along the bottom of the Wicklow Mountains. The scenery here is spectacular; if it wasn't for the enthralling drive offered by the Turbo S, I'd stop to take a look.

As I'd previously discovered, outright acceleration in the Turbo S is ludicrous: smatterings of tourist traffic moving along the route are dispatched of with relative ease. Ignoring the Overboost button in the centre of the Mode wheel (which I find more gimmicky than practical), I use the Kickdown function instilled in all PDK-clad 911s to drop several cogs at once, giving instant, brutal torque with a press of the accelerator – perfect for overtaking quickly and safely on a single carriageway such as this. Doing so makes me realise that, despite the absurd power at my disposal, the car never feels remotely edgy or fidgety as it shoots along the road. It's ➲

a clear marker of this supercar's character: fulfilling its duty (and £154,614 price tag) as the all-conquering current 911, while the Turbo S's straight-line performance is GT2-like in its savagery, it's aided by a chassis composure to rival that of a well-specced Carrera 4S, so rounded and polished is it as an engineering feat.

In fact, the more kilometres roll underneath the Turbo S's 20-inch centre-lock wheels, the more I realise that, pleasingly, there are several sides to the car's character, too. Sure, there's a gung-ho side as the Turbo S tries to engage warp speed while remaining glued to the asphalt, but it's also possible to drive the Turbo S in a rather more gentle fashion, soaking up the sights and, in the case of a Cabriolet, enjoying the fresh air. It really is such a bloody good all-rounder.

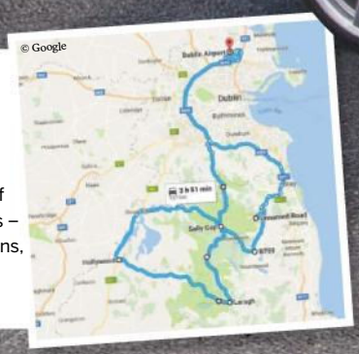
Second-generation 991 Turbos and Turbo Ss still have the brilliant 9A1 engines as their beating hearts, don't forget, though exhaust acoustics have been retuned to address the Gen1's Achilles heel of being far too quiet. Porsche has delivered with expert finesse, those quad tailpipes emitting a gruff roar behind me and, letting off the gas in Sport mode, there's a lovely popping too. After stopping for a refuel (that 68-litre tank just doesn't seem big enough in the Turbo S!) and an ice cream at Glendalough, we turn left and head north on the lower half of the R115 back up to Sally Gap. This is by far the most glorious section of Military Road; the road snakes through the base of the mountains before rising up, where the scenery becomes more dramatic. I finally pull over and take in the breathtaking vista before me.

As I perch atop a rock, overlooking a beautiful, evergreen valley, I ponder my thoughts of the Turbo S. Porsche's all-singing, all-dancing 911 is certainly a crowd pleaser. Adept as both a comfortable city cruiser and a blistering B-road warrior, it is perhaps the ultimate grand tourer – the exemplary automotive partner to those with a diverse driving lifestyle. The caveat to such an indomitable car usually means the driver is often bored behind the wheel, with little input needed to get the best from it. But that's not true here: I'm surprised by how much I enjoyed munching through the kilometres, its improved acoustics sustaining my levels of engagement. Is it worth its price tag of more than double a bog-standard 991.2 Carrera? Probably not, but that speaks more of the value for money a new Carrera holds in comparison to this top-spec 911 Turbo than anything else.

Hopping back into the car, we leave the Wicklow Mountains via Lough Tay, a spectacular lake owned by the Guinness family and which, ironically, looks like a pint of Guinness thanks to its dark, peaty waters and imported white sandy beach at the northerly tip. I drop Louis back at the airport, leaving me in Ireland for four days with just a Miami blue Turbo S for company. What to do next? Well, what would you do with an exemplary 911 and thousands of kilometres of breathtaking road at your disposal? 911

The route

Our route (outlined right) encompasses nearly 200 kilometres of driving to and from the Dublin port/airport area, with some four hours of driving. However, we recommend stopping off at the numerous points of interest and spreading the drive over two or more days – don't forget, these roads are enjoyable in both directions, too! If you've time to spare and are yearning for more, head to the west coast to tackle the Wild Atlantic Way.



Model	**991.2 Turbo S**
Year	**2016**

Engine

Capacity	3,800cc
Compression ratio	9.8:1
Maximum power	580hp @ 6,750rpm
Maximum torque	750Nm (with Overboost) @ 2,250-4,000rpm
Transmission	Seven-speed PDK; active all-wheel drive

Suspension

Front	Independent; MacPherson struts; PDCC
Rear	Multi-link; MacPherson struts; PDCC; active rear steer

Wheels & tyres

Front	9x20-inch centre-locks; 245/35/ZR20
Rear	11.5x20-inch; 305/30/ZR20

Dimensions

Length	4,507mm
Width	1,880mm
Weight	1,670kg

Performance

0-62mph	3.0 secs
Top speed	205mph

Below from left: Headed for Hollywood; keeping the car clean while enjoying the sun; the Turbo S turns the heads of locals; stopping to enjoy the view


074
088
SMF 4M
LTC645 GP
PORSCHE
911
A 911

"The shriek of three hard-working flat six engines is augmented by the raucous Sport exhausts"

Head to Head

Targa 074
Desirable classic or desperate investment? We investigate the renewed appeal of the rollover bar Targa

964 RS v C4 Lightweight 080
The 964 RS is revered as one of the best performance 911s of its generation, but can the rarer C4 Lightweight topple it?

993 Turbo v Turbo S 088
Is the Exclusiv-built Turbo S worth the hefty premium over its Turbo brethren?

996 094
We celebrate the best of the Mezger-engined 996, featuring 996 GT3 RS v GT2, GT3 Gen1 v Gen2, and 996 Turbo v 991 Turbo head to head tests

GTS 108
Our trio of 991 GTS cars do battle in Wales to see which is best

991.1 v 991.2 Carrera 116
We take both 991 Carreras on a 600-mile road trip to find out if the turbocharged variant can topple its naturally aspired predecessor

RISE OF THE CLASSIC TARGA

TARGA RISING

Once an unloved classic 911, the air-cooled Targa is now a resurgent force in the Porsche marketplace. **Total 911** finds out why...

Written by **Kyle Fortune** Photography by **Alisdair Cusick**

Born out of necessity, the Targa is an enduring if sometimes unloved model in the 911 range. Its inception was the result of Porsche's obvious desire to offer an open-topped version of the 911 in the 1960s, though early 911s lacked the structural rigidity to offer a full open top. Fate would intervene, with proposed US safety legislation effectively killing development of conventional Cabriolets thanks to the anticipated demand for roll-over protection. Given the potential of the US market and as Porsche is not one to shy away from the insurmountable, it took a more unconventional approach to give customers an open-air choice.

The solution was the Targa in 1967, which featured a full roll-over hoop, to which a removable panel was fitted. On the earliest, short-wheelbase cars there was also a removable 'soft' rear window, which simply unzipped. Somewhat amusingly, Porsche's safety-orientated open-top car took its name from a famously dangerous road race, the Sicilian Targa Florio. Coincidentally though, 'Targa' in Italian refers to an ancient shield; fitting given the Targa's safety-derived inception. That US legislation would never materialise, though the Targa would remain Porsche's only open-topped 911 until the Cabriolet joined the line-up in 1982.

The Targa added little weight over its Coupe relations, the roll hoop adding strength while the lightweight roof counteracted ➲


SMF 4M
Carrera
PORSCHE
D202 EPR

The pre-impact bumper 911T highlights the Targa in its purest form, though the silhouette was largely unchanged until the 993

This 1974 Carrera 2.7 is a rare MFI-engined Targa, sharing the same flat six as that from the famous 2.7 Carrera RS

This slim-hipped 1981 SC features a technically correct teatray rear wing, as the Targa received it before the SC Coupes

The Turbo-look body was introduced on the 3.2 Targa in 1985. This example features Sport seats and later wheel

The Targa, first introduced in 1967, featured a full roll-over hoop and removable panel, opening the 911 up to the elements

the additional weight of the four strengthened panels. The tooling costs were minimal, too, with most of the sheet metal below the waistline unchanged from the Coupe. The removable rear window didn't last long though, Porsche soon replacing it with that evocative curved glass, which was as much a signature of the Targa as that brushed Nirosta stainless steel finished roll-over bar (which later changed to black aluminium). That formula would remain from its late 1960s introduction through to the 964 series. The arrival of the 993 Targa in 1996 would see it adopt a large glass-opening sunroof, which slid behind the rear window. This remained the case with the 996 and 997 models, which also benefitted from opening rear glass, creating a hatchback 911 as such. From the 993 onwards though, the Targa was no longer so visually distinct from its Coupe relations.

Only a company with the stubbornness of Porsche would persist in offering more than one open-top model in its range. At times when Porsche offered Speedsters, customers had as many as three ways of opening their 911 to the elements. The Targa could have quietly slipped away following the 993, 996 and 997 iterations. But Porsche revived its appeal with the 991; with its evocative, brushed aluminium roll bar, aping style and complex push-button folding mechanism, the 991 created a resurge in the popularity of all Targas. No longer the poor relation to the Coupes, the Targa's time is very much now.

There are four Targas for us to enjoy upon arrival at Canford Classics Porsche specialists, the earliest being a 1973 2.4-litre 911T. In its original yellow paint with black leatherette interior, it's beautiful. It's impossible not to reach out and touch the roll-over bar, such is the tactility of the surface finish. It's a pretty, perfectly proportioned car, that roll bar finish neatly fitting with the other brightwork on this pre-impact bumper 911 to sensational effect. In original condition, it's a matching numbers car, with factory options including tinted windows, a rear wiper and that unusual nudge bar on the rear (option 569 for you detail obsessives). Delivered in July 1973, it's a year older than me, and I wish I still looked so good.

By contrast, the others here lack the 911T's purity of line. That's not to say they're not all visually appealing, but the year that separates the yellow 2.4 T and the white 2.7 Carrera is the one that saw US safety regulations impact on the 911's shape. Literally. We're all familiar with the 5mph requirement and what it did to the 911, but they're not without their own huge appeal. Especially in the case of the white Targa here, the 'Carrera' badge and 2.7-litre engine designation atop the engine cover's grille underlining it's a rare MFI-engined car. It might lose some of the 2.4's purity of line, but it gains a good deal of driving appeal. The two Guards red Targas epitomise their era too; the slim-hipped 1981 SC looking slightly incongruous with its teatray rear wing, and the 1986 Carrera Super Sport Targa with its wide Turbo-look body working better with that famously overt rear wing.

All are appealing, and despite their clearly shared DNA, all are enormously alluring because of – not in spite of – their Targa tops. The fact that a customer wanted a Targa re-imagined by Singer Vehicle Design tells you everything you need to know about how much the opinion of Targas has changed in recent years. I get chatting to Richard Dear, owner of that 1986 Super Sport, who's kindly dropping it off for our shoot. "I wanted a wide-body with a big wing, and it had to be a Targa," says Dear, as he likes the duality of it, even if he admits that it's not the most watertight of cars. It's a rolling project though, and with a ramp at home he enjoys tinkering with it, as it's easy to work on.

By sheer coincidence, Total 911's in-house staff of Lee and Josh arrive in a 991 Targa. It's always

911T TARGA	2.7 CARRERA TARGA	Model	911 SC TARGA	3.2 SUPER SPORT TARGA
1973	1974	**Year**	1981	1986
		Engine		
2,341cc	2,687cc	**Capacity**	2,994cc	3,164cc
7.5:1	8.5:1	**Compression ratio**	9.8:1	10.3:1
130bhp @ 5,600rpm	210bhp @ 6,300rpm	**Maximum power**	204bhp @ 5,500rpm	231bhp @ 5,900rpm
197Nm @ 4,000rpm	255Nm @ 5,100rpm	**Maximum torque**	267Nm @ 4,300rpm	284Nm @ 4,800rpm
Five-speed manual	Five-speed manual	**Transmission**	Five-speed manual	Five-speed manual
		Suspension		
MacPherson struts, telescopic shock absorber on lower wishbone	MacPherson struts, telescopic shock absorber on lower wishbone	**Front**	MacPherson struts, telescopic shock absorber on lower wishbone	MacPherson struts, telescopic shock absorber on lower wishbone
Trailing wishbone with transverse torsion bar	Forged aluminium trailing arms, transverse torsion bar	**Rear**	Forged aluminium trailing arms, transverse torsion bar	Forged aluminium trailing arms, transverse torsion bar
		Wheels & tyres		
6x15-inch; 165HR	6x15-inch; 185VR	**Front**	6x15-inch; 185/70/VR15	7x16-inch; 205/55/VR16
7x15-inch; 165HR	7x15-inch; 205VR	**Rear**	6x15-inch; 215/60/VR15	9x16-inch; 225/50/VR16
		Dimensions		
4,127mm	4,291mm	**Length**	4,291mm	4,291mm
1,610mm	1,610mm	**Width**	1,626mm	1,775mm
1,100kg	1,125kg	**Weight**	1,210kg	1,310kg
		Performance		
7.6 secs	6.3 secs	**0-62mph**	6.5 secs	5.6 secs
128mph	148mph	**Top speed**	146mph	152mph

Restoring a Targa

"The fit of the roofs has never been great," admits Alan Drayson, owner of Canford Classics. He's worked on plenty of Targas, saying that they are a bit more difficult to restore thanks to that roof creating difficulties with panel gaps (Porsche have a jig which the cars were built on). "They're never quiet," Drayson adds in reference to the noisy roofs, though with most Targas dry stored and only driven with the roof off, now it's not really an issue. Structurally they have four different panels compared to a Coupe, but that's it. Indeed, the Targa's biggest issue over its Coupe relation comes from being at the cheaper end of the market for so long, meaning that many haven't had much care or attention lavished upon them. Find a good one then, but likewise you shouldn't be afraid of cars that might need some attention – especially given the growing interest in them.

shocking when you see how large the new 911 is when parked alongside its ancestors. Even so, it's a sizeable factor in why we're here today. Interest in Targas might have been on the rise before, but it really piqued when Porsche revived the classic roll hoop styling and curvaceous glass rear with the 991. An immediate reminder of its predecessors, the 991 Targa looks thoroughly contemporary while being unashamedly retro. The 991 Targa is the most disappointing to drive out of the current range, yet its looks knock me out each time I see it.

Today, the 991 is a bit part, here as a visual cue for the rest of the day's activities, which centre on a run over some quiet, sun-drenched Dorset roads in the four air-cooled cars. First though, I take a wander around Canford Classics' showroom and immaculate workshop while chatting to owner Alan Drayson. He admits interest in Targas is high at the moment, with a few for sale and having restored plenty. The reason? Inevitably, the 991 crops up, as does the factor of occasional use. As fair weather cars, Targas make sense and they are typically more affordable over their Coupe relations. If you want a pre-1982 open-top 911 then they are the only option, too. Drayson's thoughts are echoed by all of the specialists I've recently spoken to, the feeling among all that the Targa is at a point where it's no longer a secondary choice, but rather one that many are looking for. I'll admit that, until today, the only Targa that I'd driven was that 991, but I'm determined not to let that stymie my objectivity. With any drive I'm drawn to the earliest car first, as by definition it represents the starting point from which to build on.

Having taken all the roofs off, I climb into the 2.4 T. It's all very familiar, apart from the fresh air above your head. Taking time to adjust the rear-view mirror reveals the Targa's most impressive facet; that view out back. There is nothing like it; a high-definition view hailing from an era of crackly black and white televisions. The 2.4 T's cabin is also familiar vintage 911; the thin-rimmed steering wheel and the simple, beautifully clear instruments. The five-speed shifts with surprising precision, its accuracy backed with fine weighting, this car feeling surprisingly tight for its age.
The engine is similarly enthusiastic, the 2.4-litre unit developing 130bhp – plenty given its 1,100kg weight. It's an absolute delight to drive, in the way that all early 911s are. I might just be a convert.

If the 2.4 seduces with its retro style, the 2.7 Carrera, just one year newer, shocks with its more modern performance. The 2.7 MFI engine is an absolute belter, its 210bhp not having to work too hard to produce impressive pace. The gearbox is similarly crisp, the view out back identical, with only the cabin's thicker steering wheel highlighting the greater 'modernity'. It retains the external chrome and Durant mirror that otherwise betrays its vintage. Unadorned with any frivolity, yet packing the most desirable engine of the four cars, it's the sleeper here.

Following behind the SC, its teatray, which initially jarred looks, is increasingly appealing. It's not the most immaculate example of a 911 SC, but for all its patina of use it feels fantastically mechanically robust. Like the SC, the 3.2 Carrera wears its mechanical age exceedingly well. It's been very well looked after; the wide-bodied look introduced in 1985 on both the Coupe and Targa. It sounds great too, the low rev muscularity of the sports exhaust is its defining feature, along with its feelsome steering and fine ride. It's firm, riding on the Turbo's lower suspension, but it's revealing; the Targa's not as overly compromised as I'd expected, rarely revealing any movement in its body. Of course, there's some loss of torsional rigidity over the equivalent Coupe in all cars, but it's marginal, and as they are likely to be driven as fair weather, weekend drivers, you're unlikely to find it lacking.

Indeed, the Targa adds a further dimension to the 911's appeal. No wonder the market is starting to take notice; it's surprising it has taken so long. I only wish I'd driven one sooner... 911

964 RS V C4 LIGHTWEIGHT

One is a hugely loved Rennsport legend, the other a little known motorsport footnote. Can the Leichtbau manage to trump the RS? We take to the track to find out...

Written by **Josh Barnett** Photography by **Ali Cusick**

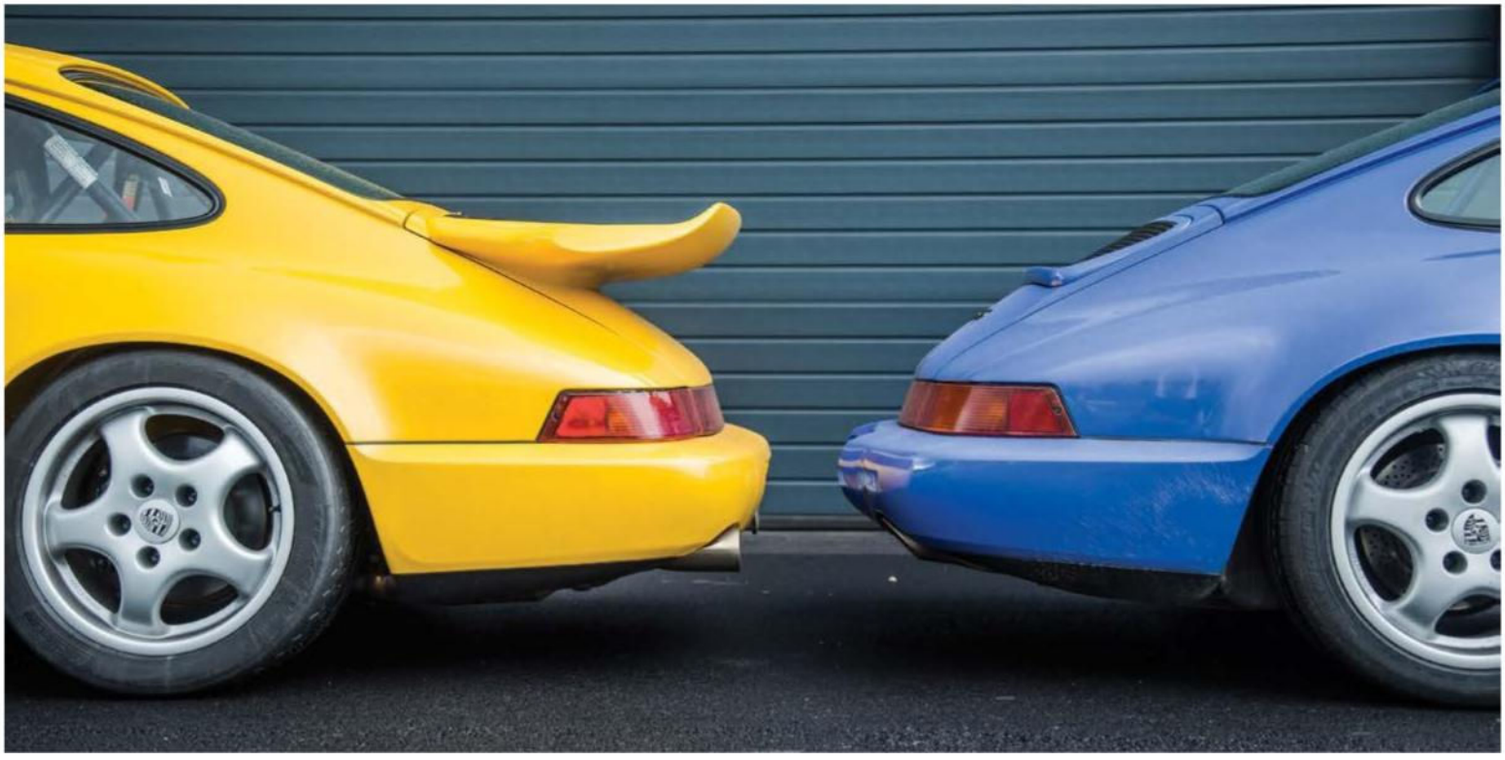
As introductions to a new track go, this undoubtedly registers at the 'surreal' end of the spectrum. I'm no stranger to learning unfamiliar circuits, but I don't normally initiate myself to new surroundings quite like this.

At the wheel of a 964 Carrera RS, I'm familiarising myself with Botniaring's nine distinct turns, all the while battling 1.62 miles of damp Finnish Tarmac soaked an hour or so earlier by an unseasonably heavy rainstorm. As if that wasn't challenging enough, I'm attempting to keep up the pace with one of Weissach's racing legends, Jürgen Barth. Yes, that Jürgen Barth, the man who has stood on all three steps of the La Sarthe podium, topped off by a victory in the 1977 24 Hours of Le Mans.

Did I mention that Jürgen is driving a near-priceless 964 Carrera 4 Lightweight, a car that he devised while heading up Porsche's customer motorsport division? No? Well he is, and the advantage of four-wheel drive traction (and his obvious surplus of talent) is making my job entertainingly difficult. I said it was surreal.

Thankfully, the 964 Carrera RS – as I found out on the Peak District's roads in issue 128 – is the friendliest Rennsport partner a 911 enthusiast could ask for, one of the key factors behind its current resurgence in the eyes of Porsche collectors. Unlike later GT3-prefixed RSs, the 3.6-litre 964 is no high horsepower animal, meaning that I'm left to revel in the delicious chassis devised by Roland Kussmaul and co at the turn of the 1990s. More on that later though.

The Porsche 964 RS – the first Rennsport to get a large production run since the iconic Carrera 2.7 RS – was, like many of Weissach's greatest road car creations, born out of the necessity to go racing. In 1988, after a six-year stint at BMW, Ulrich Bez returned to Weissach as technical director after Helmuth Bott's decision to retire. At the time, Porsche's Cup series in Germany and France were using the front-engined 944 Turbo but, with the 964 generation of 911 due to debut at the end of 1989, Bez believed that the one-make ➲



championships were the best shop window for the new neunelfer.

Based on the newly launched Carrera 2, research director Helmut Flegel devised the specification of the 964 Cup car before the build process was entrusted to Kussmaul, who oversaw the seam welding of the body shells and the fitment of the Matter roll cages. Contrary to popular belief, the Cup cars' engines weren't blueprinted. Instead, Kussmaul simply tested a selection of M64/03 engines on a dynamometer, before choosing those with the best power outputs.

With Barth in charge of the commercial side, the 964 Cup cars proved popular, debuting in 1990 with Olaf Manthey winning the inaugural Carrera Cup Germany to feature 911s. However, in order to be homologated for international competition, the FIA required a number of road cars to be built as proof of the Cup car's production credentials. Step forward – in numerous 'flavours' – the 964 Carrera RS. Featuring the same seam-welded shell and 3.6-litre air-cooled flat six (boosted to 260bhp by a tweaked ECU as the Cup car), even the touring version of Rennsport inherited the Cup car's motorsport DNA.

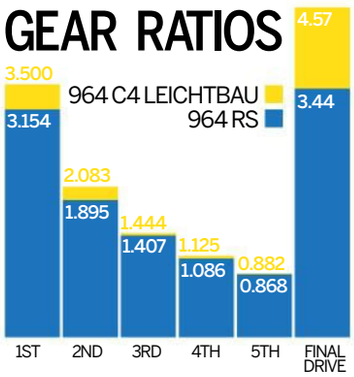
Compared to the standard Carrera 2, which hit the scales at a portly 1,350 kilograms, Kussmaul's team managed to diet the Rennsport version down to a sprightlier 1,220 kilograms in Lightweight trim. An aluminium bonnet, three millimetre side and rear glass, and plastic 92-litre fuel tank all helped to reduce the RS's dry weight, as did the pretty teardrop wing mirrors borrowed from the Turbo. Perhaps the most famous mass reduction measures though were the iconic 'Cup I' alloy wheels, forged from magnesium. An instant icon, they were later offered as an option on base Carreras (albeit in a heavier aluminium alloy guise).

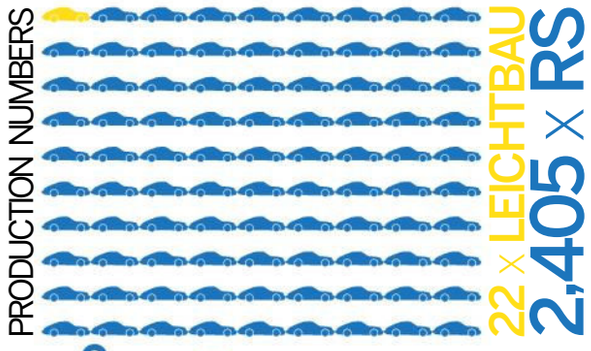
While a focus on weight reduction has always been a central tenet behind the Rennsport philosophy, Weissach's engineers did not forget to upgrade a number of the 964 RS's mechanical components either. The majority of examples were fitted with a single-mass flywheel, aiding the M64/03's throttle response, while the standard Carrera 2's Getrag-built 'G50' was bestowed with different ratios and stronger synchromeshes. A limited-slip differential was a spec sheet highlight, as were the addition of the Turbo's cross-drilled and ventilated (ABS assisted) brake system.

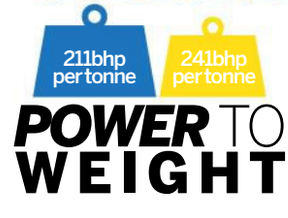
The pièce de résistance though was undoubtedly the suspension setup. Benefitting from the 964's switch to coil springs at all four corners, the RS sat a full 40 millimetres lower than the standard car, while a brace across the front axle helped to stiffen the MacPherson struts. Even at rest, the 964 Carrera RS looks right; it's no wonder the stance has been copied by many a Carrera 2 and 4 owner.

It was also proof that, despite the lack of engine tinkering, Porsche had given the RS the attention that its famous moniker deserved. The mainstream automotive press may have been underwhelmed by its lack of headline-making power figures (the horsepower arms race continues to blind many motoring hacks) but Weissach's attention to detail on the 964 RS truly pays off in spectacular fashion, especially on track.

Over the last 24 months, Porsche 964 Carrera RS values have shot skyward, with cars that were previously available for around £40,000 now changing hands for, in some cases, north of £200,000. The market's reappraisal has created more than its fair share of speculators though, with the end result that many Rennsports no longer







964 Carrera 4 Lightweight
1991-1992

Engine
Capacity
3,600cc
Compression ratio
11.3:1
Maximum power
265bhp @ 6,720rpm
Maximum torque
304Nm @ 6,720rpm
Transmission
Five-speed manual with adjustable differential lock

Suspension
Front
MacPherson struts; Bilstein dampers; coil springs; anti-roll bar
Rear
Semi-trailing arms; Bilstein dampers; coil springs; anti-roll bar

Wheels & tyres
Front
7x16-inch magnesium 'Design 90' alloys; 205/55/ZR16 tyres (17-inch Cup 1s optional)
Rear
9x16-inch magnesium 'Design 90' alloys; 245/55/ZR16 tyres (17-inch Cup 1s optional)

Brakes
Front
322mm drilled and vented discs
Rear
299mm drilled and vented discs

Dimensions
Length
4,275mm
Width
1,652mm
Weight
1,100kg

Performance
0-62mph
4.5 secs
Top speed
125mph






964 Carrera RS
1991-1992

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

Suspension
Front
MacPherson struts; gas-filled dampers; coil springs; anti-roll bar
Rear
Semi-trailing arms; gas-filled dampers; coil springs; anti-roll bar

Wheels & tyres
Front
7.5x17-inch magnesium Speedline 'Cup 1' alloys; 205/50/ZR17 tyres
Rear
9x17-inch magnesium Speedline 'Cup 1' alloys; 255/40/ZR17 tyres

Brakes
Front
320mm drilled and vented discs
Rear
299mm drilled and vented discs

Dimensions
Length
4,250mm
Width
1,650mm
Weight
1,230kg (Sport)

Performance
0-62mph
5.4 secs
Top speed
162mph

"At the time of the RS's genesis, Barth was dreaming up his own featherweight special"

Left: It may have the same redline but, thanks to added trimmings in the cockpit, the RS feels noticeably less sprightly on track

Right: The half roll cage points to the RS's motorsport pedigree, without compromising day-to-day usability

see much active service. Thankfully, the maritime blue 964 Carrera RS I've strapped myself into has been entrusted to me by Jussi Itavuori, a Porsche collector who appreciates that the true beauty in a 911 is not its shape or its investment potential, but the experience it creates behind the wheel.

The RS is already warm and ready to go after the morning's trip to the track through wooded Finnish lanes, which is just as well, as Jürgen has shot out of the Botniaring's pit lane in the 964 C4 Lightweight like the proverbially scalded cat. My pride isn't the only thing that requires me to keep up either; our seasoned snapper Ali needs me to keep the two cars in frame for some of our planned photos. I better get a shift on...

On the road, many have complained that the 964 RS's springing and damping is simply too stiff to enjoy. With freshly resurfaced tarmac under the Michelin Pilot Sports though, the car actually feels remarkably soft, with a suppleness to its weight transfer that immediately and, most importantly, clearly informs you of the impending changes to the Rennsport's cornering attitude. Coupled with a power steering system that doesn't go overly light at speed, you've got the perfect recipe for a hugely capable track car that anyone can get along with almost immediately.

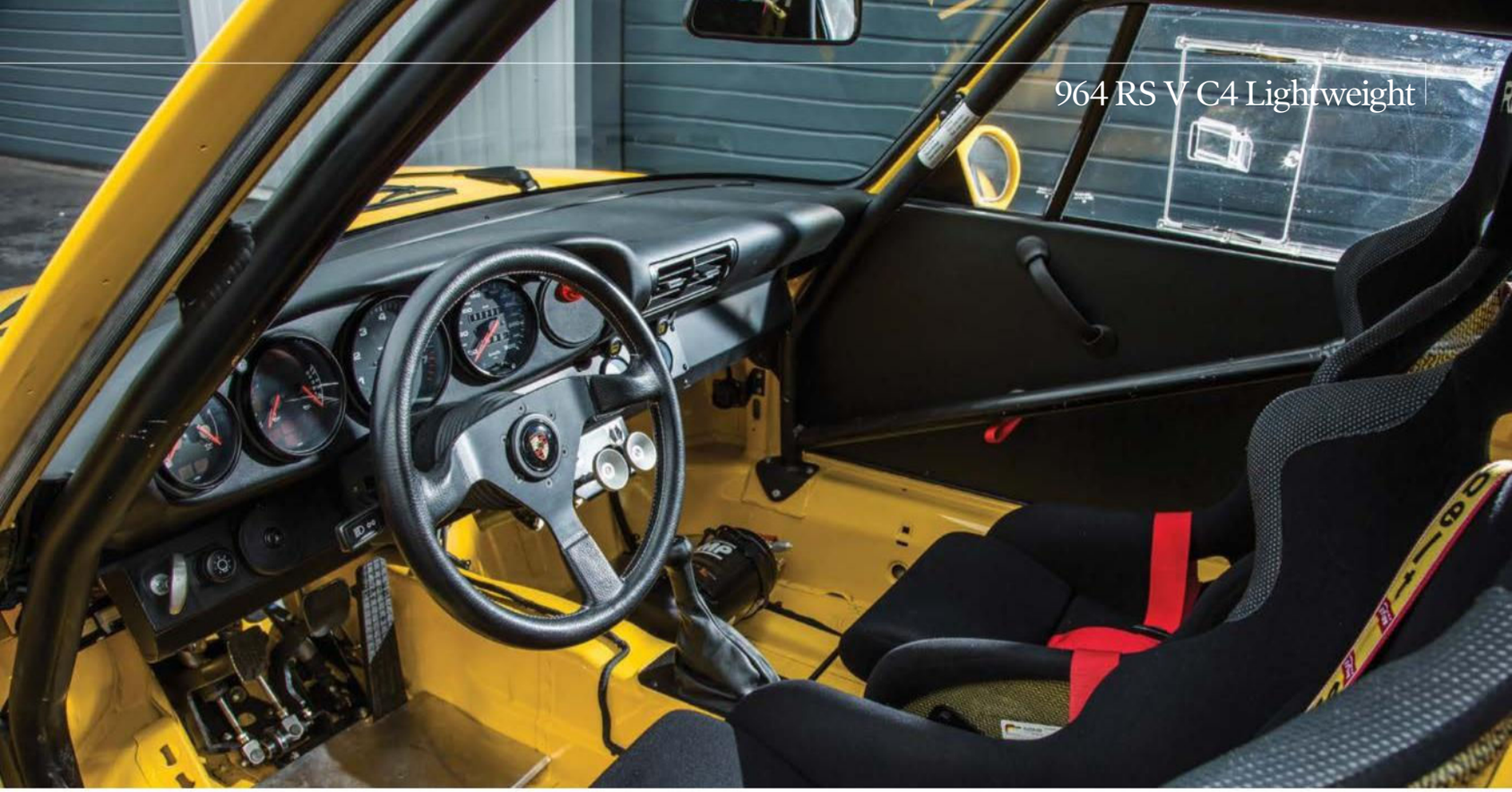
With a single lap of the circuit under my belt, I'm already confident enough to start pushing the 964 RS's limits. Barrelling into the 95-degree first corner, a mixture of a rapidly tightening exit parabola and a hidden damp patch at the apex conspire to give me a scare, as the kerbing on the outside of the circuit rushes up to greet me. Thankfully the car's behaviour is constantly telegraphed to my fingertips and backside, but my complacency has taught me a key lesson.

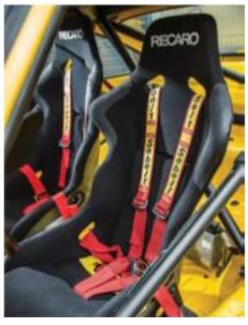
This is a 911 where managing your entry speed and angle is key. Every time I'm too aggressive with my turn in, the front end's trajectory quickly zeroes in on the track's edge (and the barriers beyond). Turning in too late only provokes large doses of understeer from the RS, requiring me to focus on perfecting my lines at each corner. What's more, with stereotypically sterling traction, I can't go all lead-footed on the accelerator in the hope of provoking some oversteer. Minimising my steering inputs and carving the ideal arc is the key to keeping up my momentum and carrying prodigious amounts of speed at each apex through the third-gear corners at turns two, three and nine.

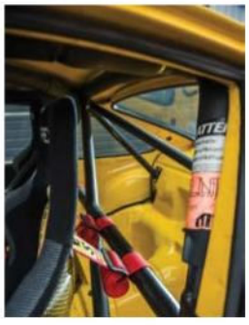
Through the slower hairpins at turns five and six it's easy to provoke a little bit of tail out action, especially with a judicious lift off the loud pedal. Through the ever-tightening turn four/five sequence, the business end of the RS quickly swings around. The talents of Kussmaul's team flatter my abilities though, with a beautifully balanced relationship between anti-roll control and damping enabling me to catch the slide with relative ease. Unlike classic 911s, where the torsion bar suspension setup catches out many, the coil sprung rear end of the 964 proves much more progressive, enabling you to really get down to the business of exploiting and playing with the fantastic chassis.

Not that the handling is the only highlight to the RS's on-track experience – 260bhp may not be much on paper but, in practice, the 964 Rennsport packs plenty of punch, especially with a welcome slug of torque from about 3,000rpm. So much so that its possibly more satisfying to shift early and enjoy another shove from the M64/03's mid-range than ride the rev counter all the way around to its Cup car soundtracked red line.

The Botniaring's almost constant succession of corners (linked predominantly by short straights) certainly accentuates the G50 gearbox's long ratios. I'm only hitting fourth gear on the chute between turns one and two, with all the corners taken in either second or third gear, utilising the flat six's torque rather than exploiting an electric top end







Left: Kevlar-backed bucket seats hold you firmer than the RS, which is just as well given the Lightweight's ability to stick to tarmac

Right: The Lightweight's interior makes the RS feel plush and luxurious. Door cards are especially Spartan

(as you do in later GT3s). The relationship between the engine and gearbox doesn't feel perfectly suited to the track, especially somewhere as tight and twisting as our Finnish venue. Thankfully though, with Jürgen peeling into the pit lane, I'm about to experience a more hardcore 964 that should be better suited to the rigours of circuit work.

Across the hallways at Weissach, at the same time of the 964 RS's genesis, Barth was dreaming up his own featherweight Porsche special – not as a rival to the impending Rennsport, but as a project to keep his customer motorsport department busy. After the end of Group C's turbocharged era, and the subsequent demise of the 956 and 962 programme, the engineers under Barth's guidance needed something to build; something to save them from redundancy. The result was the 964 Carrera 4 Leichtbau, a delectable concoction brewed up with the assistance of Porsche Motorsport's significant spares store.

Ever the astute businessman, Barth identified that the 964 Carrera 4 (the newly introduced four-wheel 911) could be appropriated for competition in the US rally scene, where rules were a novelty. After convincing the board, Barth's team set about giving the 964 its most extensive diet yet, putting even the Cup car to shame.

The bonnet was fashioned from aluminium, as were the lightweight doors, while the decklid and whaletail wing were made from fibreglass. The latter was actually a direct carry-over from the SC RS, another of Barth's limited-run rally specials. Apart from the windscreen, all the glass was replaced with Perspex to reduce weight, with the 964's standard Design 90 wheels forged in magnesium specially for the C4 Lightweight. Officially listed at 1,100 kilograms, the Leichtbau truly lived up to its moniker.

Inside, the interior was also completely gutted, the cockpit featuring just a pair of nomex-clad Recaro seats, a custom roll cage and a pared-back dashboard. Of the additional race-bred switchgear, two turn dials (borrowed from 935 stock) dominated. These controlled the trick differentials, the star of the C4 Lightweight show. With no rules dictating running gear, Barth decided to use up the surplus drivetrains from the 953 Dakar-winning project. The left-hand knob controlled the

front-to-rear torque distribution, with the right-hand dial adjusting the level of locking on the two differentials. Mated to these trick diffs was a short ratio five-speed 'box, while propulsion was served up by a Cup-spec 964 engine. With a motorsport exhaust manifold installed and catalytic converters removed, the Lightweight's flat six pushed out around 265bhp (and made one hell of a racket – 107 decibels at 4,500rpm).

Mechanically, the attention to detail didn't end there, with an adjustable front strut brace, stiffened and lowered Cup suspension (with adjustable dampers), and a dual-circuit brake system – with bias adjustment – taken, like the whaletail wing, from the SC RS. The oil tank was moved forward of the rear axle to improve weight distribution, seeing a return of the 1972-style external filler cap on the right rear wing.

This particular 'Blume Gelb' 964 Carrera 4 Lightweight (the only such lemon-hued Leichtbau) also belongs to Jussi and, even though it is one of just 22 ever built, I'm now replacing a Le Mans legend in its cockpit. The rapidly drying track is mine, after I've secured myself into the Kevlar-backed bucket seat and ensured I'm not dreaming.

Unlike the RS, which always feels like a road car from the driver's perspective, the Lightweight's motorsport lineage is obvious. The MOMO steering wheel is perfect to grasp, and the Spartan cockpit quickly puts my mind into focus. This car means business and that's before I even twist the ignition. With a flick of my wrist, spark, fuel and pistons surge into life with barely hidden fury. With only a simple metal bulkhead (rather than layers of sound deadening) between my ears and the flat six, the Lightweight is noticeably more trebly and raucous, even if Jussi's example does feature some TÜV-approved Cargraphic exhaust components.

The clutch is proper race car stuff too. It feels like 95 per cent of the pedal's minimal travel is nothing but free play before all the engagement comes rushing in aggressively. It's not my prettiest

launch but I'm away, quickly snatching second as I approach the blend line at the end of the pit lane. Here we go.

Foot to the floor, the 6,800rpm limit rushes up so much faster than in the RS. The short ratios make the M64/01 engine feel much livelier, with my right hand almost constantly on standby for the next shift through the perfectly weighted gearbox. The lever's throw feels a lot shorter and much more precise than the Rennsport too (though that may just be a virtue of this Leichtbau's incredibly low mileage). The entire package feels immediately more suited to this environment. The car is certainly in its element, but can such an extreme chassis and drivetrain inspire the same levels of confidence in me that were achieved by the RS?

I needn't have worried. With around 130 kilograms less mass than a standard RS (Jussi's C4 Lightweight hits the scales at 1,095 kilograms thanks to those originally optioned Kevlar seats and the Cup 1 wheels), this is a 964 that just wants to get its nose into each corner with such verve that it takes me a few turns to readjust my driving style. With less weight to shift around, the Leichtbau is more accommodating to a direct turn in and, when required at the Botniaring's final corner complex, can change direction in a hurry. Darting left then right under my every input it's readily apparent that, where I was driving around the idiosyncrasies of the RS's chassis, the Lightweight accommodates my style, a sign of a thoroughbred racing weapon.

Adjusting those trick differentials is a true epiphany though. Choosing to leave the level of lock alone (I trust Jürgen's set them pretty much correctly), the left-hand dial – the front-to-rear torque spread – enables me to alter the C4's attitude turn-by-turn, without having to change my driving style. It's no wonder that similar (albeit more complex) modern systems are now found on cars such as Porsche's Le Mans-winning 919 Hybrid.

Botniaring's fast turn three sees the track transition from heavily cambered to flat on the exit, which should normally create understeer. However, the early rain coupled with the topography has left an excitement-inducing damp patch that has been unsettling the car. By winding the dial clockwise, I send more torque to the front wheels, countering the track conditions with greater understeer. This enables me to keep my foot hard to the floor when, in the RS, I would be lifting and losing time. Conversely, for the hairpins, I wind the torque bias all the way to the back (a total split of 80:20), forcing the Lightweight to oversteer more when I get on the throttle. It's truly a revelation, enabling me to adjust the car's handling on the fly, without pitting for anti-roll bar changes.

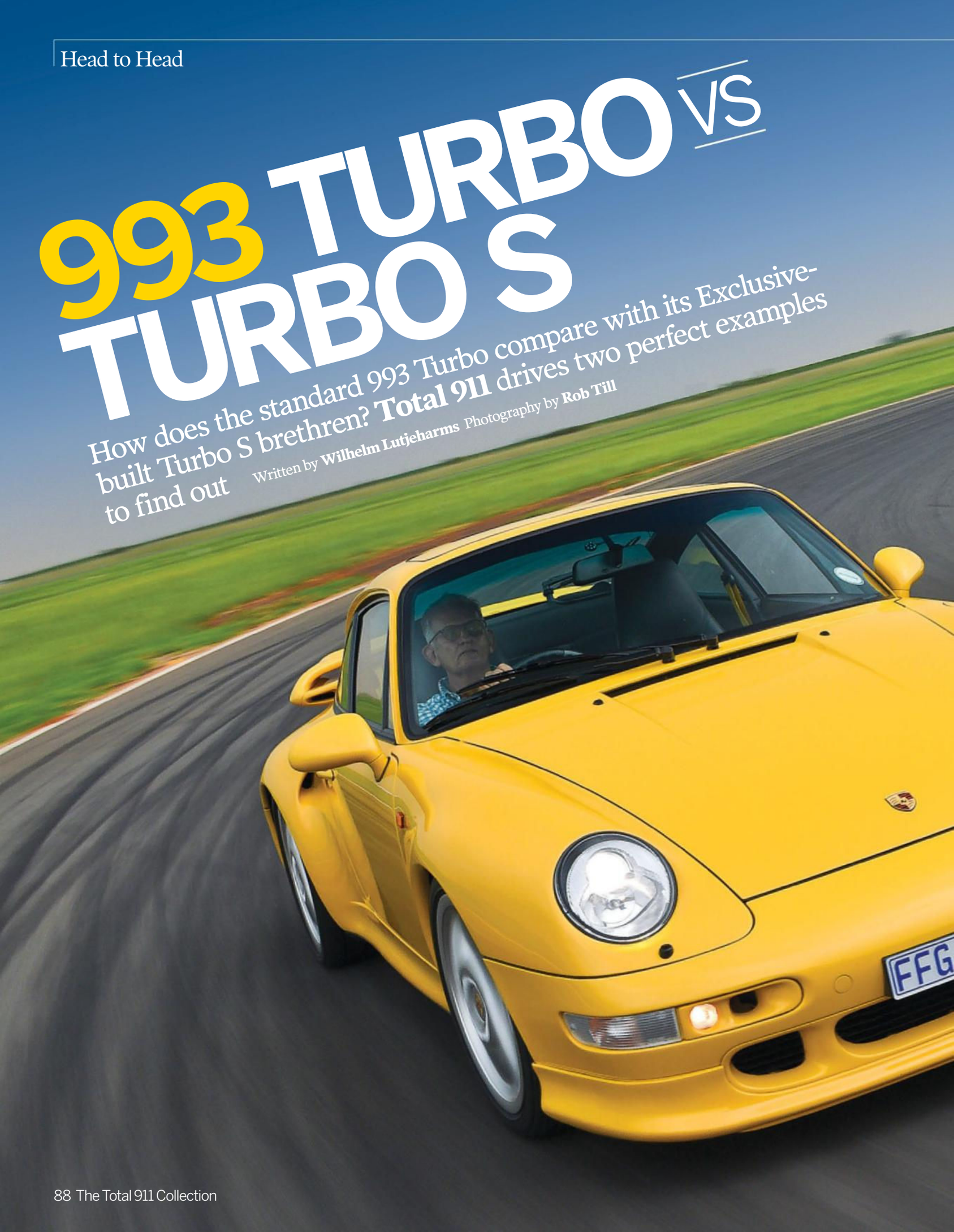
As the track dries out, I find myself winding the torque more and more to the rear while, thanks the much shorter ratios, I'm a gear up in every corner compared to the RS. It's truly invigorating. The sound, the chassis, the drivetrain, all combining to produce an on-track experience unlike any other Porsche 911 out there. It doesn't take me many laps to decide that I want one. Badly.

Unfortunately, prising it out of Jussi's hands may prove difficult. Considering they are around 100 times rarer than a standard 964 RS, pricing a Leichtbau is a truly dark art (one recently sold for a rumoured €800,000). To secure the keys to this one, you might as well write down a sensible figure and then add a zero to the end of it for good measure. Compared to a Rennsport though, it would be unarguably worth it, with the RS shown up as a jack of all trades and the Leichtbau being the undoubted master. 911

993 TURBO VS TURBO S

How does the standard 993 Turbo compare with its Exclusive-built Turbo S brethren? **Total 911** drives two perfect examples to find out

Written by **Wilhelm Lutjeharms** Photography by **Rob Till**



Isn't it remarkable how associations of certain cars and specific events in our lives become etched into our memories? The more impressive the car is, based on your experience of it at the time, the more vividly you remember it. My first experience of an air-cooled 993 Turbo was during the first year after I finished high school. I joined the Porsche Club in the Western Cape, South Africa (without having owned a car of any kind, whatsoever), and I recollect that I turned up at the national event in my parents' 1977 Volkswagen Kombi. Fortunately, I shared a passion for air-cooled motors – and, at the very least, the Kombi's engine position and layout, albeit a flat four, was reasonably the same as that of the 911's! The highlight of the entire event for me was a passenger ride in a 993 Turbo, when its owner (who is now a good friend of mine) achieved an indicated top speed of 174mph. Up to that point in my life, I hadn't travelled in an even moderately fast car, so the performance and speed of the 993 Turbo impressed me beyond my wildest imagination.

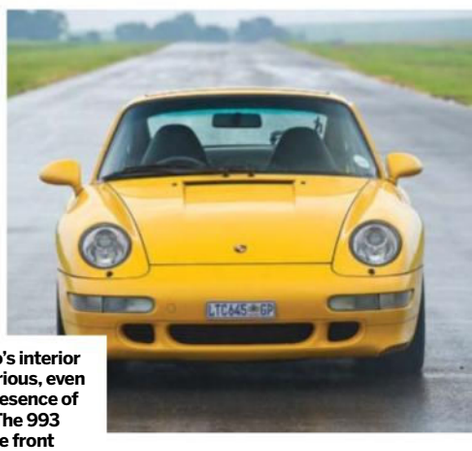
The memory might be all of 16 years old but back then the car looked devastatingly fast – it certainly felt that fast and, for its day, it was rapid. So I was eager to find out how the car would stack up today, especially in comparison with its more powerful and much more sought-after sibling, the 993 Turbo S. Porsche's model range has advanced a lot since those days. With the recent introduction of the 991.2 Turbo, 911s with two turbochargers, replete with safe and secure all-weather ability availed by all-wheel drive are the norm, but their lineage can be traced back to none other than the 993 Turbo.

Released in model year 1996 (although a few were produced earlier), it was the first 911 Turbo to feature four-wheel traction. It was well received by the media and buyers, and even when the 996 Turbo arrived, some unofficial in-gear tests showed that the 993 Turbo still rained supreme in some aspects. After all, when the US publication *Motor Trend* tested the 993 Turbo, they achieved a scarcely believable 0-60mph time of 3.7 seconds and summed up the car as follows: "The bottom line of the new 911 Turbo states, unequivocally, that this is the greatest road-going Porsche ever created." Lofty praise indeed.

Based on the 3.6-litre engine from the Carrera, the new engine (M64/60) featured twin turbos for the first time. The 993 Turbo also introduced several new technologies to the 911 range. These included electronic boost control, an exhaust monitoring system, a hot-film mass air flow sensor and aluminium hollow-spoke wheels – the latter was a first for a production car and reduced the weight at each corner, by 23 per cent at the front and 20 per cent at the rear.

Shortly before the 993 Turbo's production ended in model year 1998, Porsche launched its Turbo S derivative – unlike today where both models are launched at the same time. Offering the same principle of a near-perfect combination of performance and luxury, the S featured a host of updates that partially justified a near 45 per cent higher price tag

The 993 Turbo S interior is lavished with carbon trim, which is found around the steering wheel and along the dashboard (complete with 'Turbo S' script in front of the passenger). Door card inserts were also carbon fibre



The 993 Turbo's interior is no less luxurious, even without the presence of carbon fibre. The 993 Turbo lacks the front spoiler of an S and sits 15mm higher, too. Brake cooling ducts in the front bumper are also deemed not necessary

than that of the standard model. The exterior of the S featured a new front bumper that incorporated a revised design with a lower lip spoiler. The rear wheel arches featured those soft and rounded air intakes, the rear wing was also different with two small side air inlets, while the two exhaust pipes featured a quartet of outlets instead of two. The wheels, which covered yellow (instead of red) calipers were shinier, while most notably the car was lowered by 15mm, resulting in a visible hunkered down stance with the wheels filling the arches more than ever before.

As could be expected, there was a power increase to complement the exterior modifications. The Turbo S's engine was based on that of the Turbo, but was simply coded with an S or RS after the engine code (depending on if you had the 430bhp or 450bhp version). The most notable changes were upgraded turbochargers and the addition of an oil cooler. Porsche evidently succeeded in its aim to offer a special run-out model of its last air-cooled 911 Turbo...

When opening the doors to both cars, the carpet inserts on the cars' door cards definitely add to the level of luxury. However, if it is a high equipment level you desire, the S ticks a few more boxes. Carbon fibre is used for the inside door handles, door cards, fascia, around the instrumentation cluster and on the steering wheel. On this specific Turbo, the lightweight material (optional at the time) features only on the handbrake lever and gearknob.

The seats are of the same design on both cars, although for some reason I feel like I sit lower in the S, which could be attributed to the difference in how the cars' seats have worn over the years. Both cars' steering wheels are slightly off-centre to the left, the pedals even more so, but you soon get used to it.

Further changes to the S include instrument dials in aluminium with inner rings in chrome, standard coloured seat belts, carpet behind the rear seats with neat "Turbo S" logos, roof liner in leather, a self-dimming rear view mirror and, if something is not covered in carbon fibre, it is likely covered in leather.

Its current owner bought this Turbo from new in 1995 and it was one of the first models to arrive in South Africa. Since then, he has covered an exciting 53,000 miles with the car. By contrast, he bought the Turbo S, which has 31,000 miles on the odometer, only two years ago, as he thought it would make a perfect addition to his collection – we are in full agreement on that score. None of these cars are trailer queens, as both cars have been driven extensively to the tune of return trips of over 500 miles apiece.

With most of the photography done and the track surface quite wet, I was eager to see how the Turbo behaves. It was, after all, labelled Porsche's first all-weather production supercar, following the limited run of the 959. The engine catches the moment you turn the key and sounds only slightly subdued, compared with those of the Turbo's naturally aspirated contemporaries. I pull away, short shift to second gear and lean on the throttle pedal. The turbos take a brief moment to spool up, and then above 3,000rpm the needle immediately starts swinging zestfully towards 6,000rpm. Moments later, I shift into third, and the blowing noise mixed with that characteristic flat-six note fills the cabin once more.

Red Star Raceway outside Johannesburg is a compact circuit. Even though the track measures 4km, its 13 corners are notoriously tight. As I approach the first corner, the centre pedal feels firm, and the braking system confidently scrubs off speed. I take it easy through the wet corners, but I have slightly more trust in the car's grip than I would in a rear-wheel-drive 911. The gearshift action is relatively precise and you are never

Above main: Many body tweaks to Turbo S give it visual appeal over its sleek, simple Turbo brethren

Above right: Corners are enjoyed more in the Turbo S thanks to its lower ride height and front strut brace

in doubt about which gear you've selected or into which slot you should guide the gearlever next. The steering is notably heavier than today's cars, but not to such an extent that you couldn't drive the Turbo every day. After all, the 911 was, and still is, designed to be used daily. A further testament to this is the fact that, compared with its predecessor, the car's clutch pedal travel was reduced by 15 per cent, while pedal effort decreased by 25 per cent thanks to a hydraulically-assisted clutch.

I park the Turbo next to the S and, shortly after, climb in behind the latter's partial carbon fibre steering wheel. It's immediately apparent that the S has a slightly deeper exhaust note than the Turbo and, as I did with the latter, I plant my right foot in second gear. Suddenly there is a quicker and more forceful urge from the engine. It feels as if the throttle pedal is more sensitive than the Turbo's, although that could simply be attributed to the additional power and torque delivered by virtue of the S's mechanical improvements.

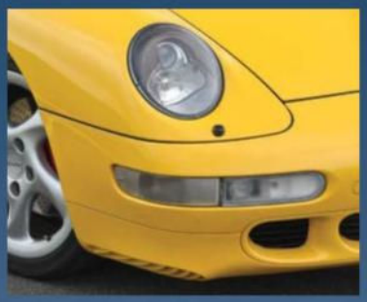
The moment I turn the wheel the S ducks into the corner with more confidence than its sibling, which is a result of the car's lowered chassis and the front strut brace. I immediately trust and enjoy every corner ever so slightly more than with the standard car, and marvel at the additional push from the engine in (what feels like) every part of the rev range. After I pull in next to the Turbo, the owner urges me to drive the S some more. However, common sense prevails and I decide to call it a day on a successful track outing with two supercar heroes from the 1990s. What a privilege it was to have driven them back-to-back on a track.

Fortunately, there is still some 40 miles of driving to be enjoyed on the highway that leads to Johannesburg. Because I drove the Turbo to the track, I opt to return home at the wheel of the S. As the sun begins to set and the traffic begins to clear, there is, luckily for me, ample space to stretch the S's legs. I select to view the boost indicator in the information screen below the rev counter, and watch as each time I put my foot down how it climbs from 0 to 0.8 bar. Even by today's standards it feels fast. I survey the wide body of the Turbo through the windscreen, its gorgeous curves truly effortless in design.

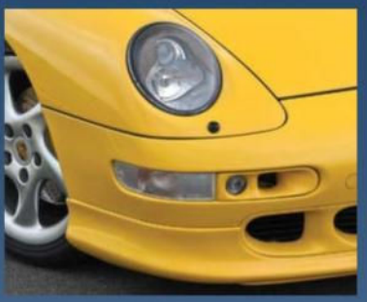
The S's firmer chassis setup feels fairly pliant on the highway but its stiffness is apparent in the car's interior – the cabin of the ultimate 993 emits a few more trim creaks than that of the Turbo. After handing the S's key back to its kind owner, I reflect on the two cars' qualities. After a few laps on the track and, having driven the respective cars either to, or from, the track, I realise there are clear differences between them.

In terms of outright collectability, the S is undoubtedly the model to have. However, taking the current market prices of both models into consideration, the S is definitely not twice the car the Turbo is. Interestingly, the price difference in the 1990s was also quite significant, and so it remains to this day. The fact that this is a right-hand-drive version makes it even rarer, as only around 25 of these are said to have been built. We must also keep in mind that Porsche's Exclusive department offered Turbo S engines with 450bhp, and many customers chose this specification for their standard 993 Turbos.

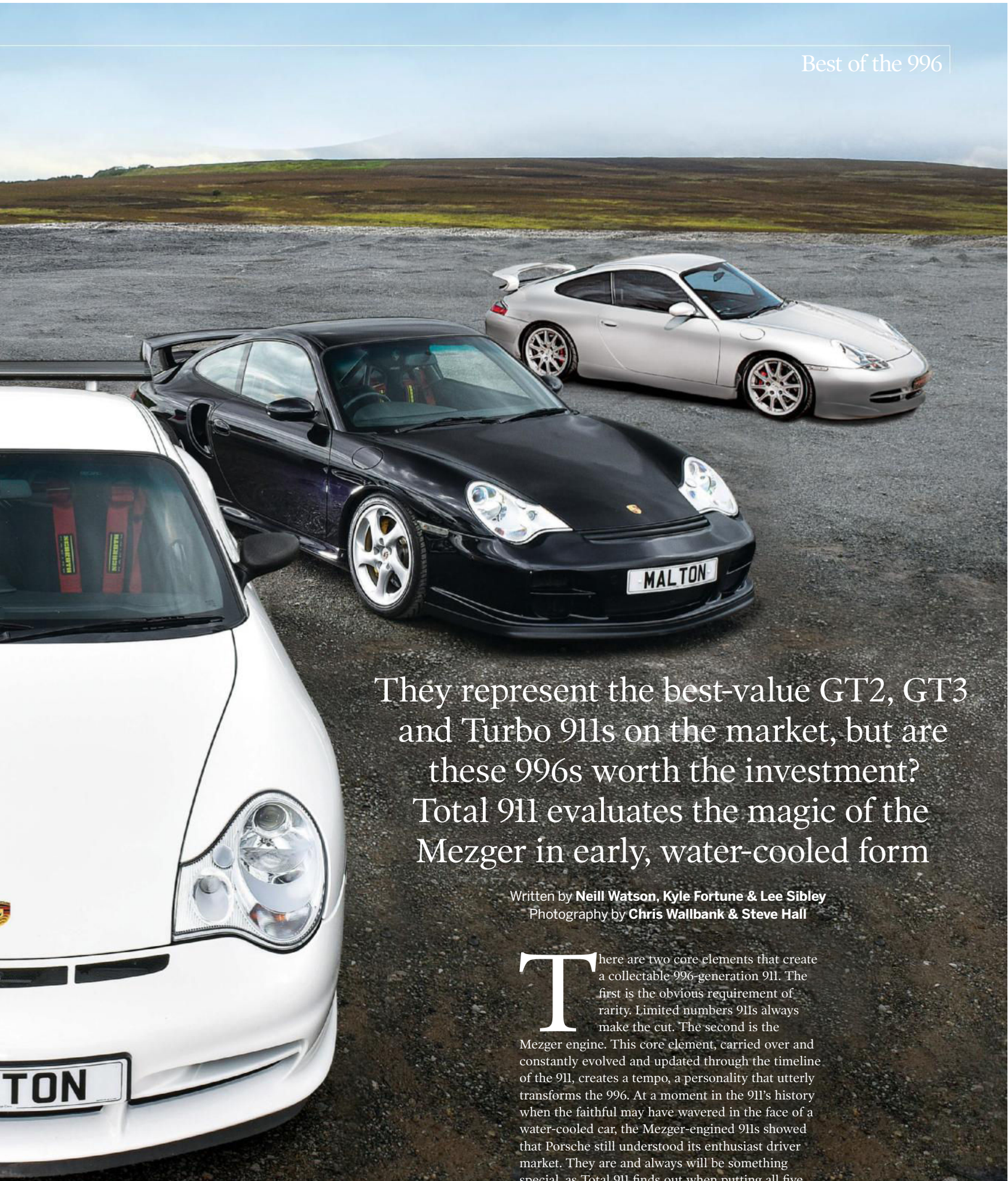
However, Porsche successfully delivered an overall package that does justice to the S badge on the rear of the 993 Turbo. In terms of performance, design and driving experience, it pips the Turbo for the ultimate air-cooled 911 Turbo experience, but for half the money, the latter seems a veritable bargain.



993 Turbo 1996	Model	993 Turbo S 1998
	Year	
	Engine	
3,600cc	**Capacity**	3,600cc
8.0:1	**Compression ratio**	8.0:1
408bhp @ 5,750rpm	**Maximum power**	450bhp @ 5,750rpm
540Nm @ 4,500rpm	**Maximum torque**	585Nm @ 4,500rpm
Six-speed manual	**Transmission**	Six-speed manual
	Suspension	
MacPherson struts; coil springs; anti-roll bar	**Front**	MacPherson struts; coil springs; anti-roll bar
Multi-link with telescopic; coil springs; anti-roll bar	**Rear**	Multi-link with telescopic; coil springs; anti-roll bar
	Wheels & tyres	
8x18-inches; 225/40 ZR18	**Front**	8x18-inches; 225/40 ZR18
10x18-inches; 285/30 ZR18	**Rear**	10x18-inches; 285/30 ZR18
	Dimensions	
4,245mm	**Length**	4,245mm
1,795mm	**Width**	1,795mm
1,500kg	**Weight**	1,500kg
	Performance	
4.3 secs	**0-62mph**	4.1 secs
180mph	**Top speed**	186mph



BEST OF THE 996



They represent the best-value GT2, GT3 and Turbo 911s on the market, but are these 996s worth the investment? Total 911 evaluates the magic of the Mezger in early, water-cooled form

Written by **Neill Watson, Kyle Fortune & Lee Sibley**
Photography by **Chris Wallbank & Steve Hall**

There are two core elements that create a collectable 996-generation 911. The first is the obvious requirement of rarity. Limited numbers 911s always make the cut. The second is the Mezger engine. This core element, carried over and constantly evolved and updated through the timeline of the 911, creates a tempo, a personality that utterly transforms the 996. At a moment in the 911's history when the faithful may have wavered in the face of a water-cooled car, the Mezger-engined 911s showed that Porsche still understood its enthusiast driver market. They are and always will be something special, as Total 911 finds out when putting all five dry-sumped 996s to the test. ➲

GT2 v GT3 RS

Forced induction versus natural aspiration, torque against track: but which is the best buy?

For anyone investing in Mezger engined 996 Porsches, the GT3 RS has long been the default choice. Iconic in appearance and exceptionally rare, the 996 GT3 RS was a collectable for Porsche enthusiasts well before the current global 911 collecting phenomenon.

But there are other 911s of that era produced in limited numbers that are equally collectable, just as challenging to drive, and in some ways could be more satisfying to own. We are talking, of course, about the 996 GT2 – and with both cars currently commanding the same money in the Porsche marketplace, suddenly a GT2 vs GT3 RS is a 996 showdown many serious buyers may look to ponder over. Introduced in 2001 and intended for those who felt the 996 Turbo was just too civilised, the GT2 uses essentially the same engine as the Turbo but with larger KKK K24 turbochargers. Together with uprated intercoolers, a revised exhaust system and ECU, the maximum power increased to 468bhp. The huge torque figure of 620Nm at just 3,500rpm was all delivered to the rear wheels only and the ever reliable Porsche Stability Management was deleted. With the GT2 it's all down to you.

The fact that almost every 996 GT2 that I've seen is finished in Basalt black makes the Porsche development engineer's nickname for the car of 'widowmaker' particularly apt, as we walk over to the stunning GT2 Clubsport in our pictures. Open the door and you see a hybrid of conventional 996 Turbo componentry and motorsport elements. The Clubsport specification of this car marks it out as just one of 129 right-hand-drive cars supplied to the UK. It's rare, just a few production numbers more than the GT3 RS sitting opposite.

Wriggling down into the Clubsport seats, a glance over the shoulder shows the motorsport cage, yet looking forwards we have a leather-stitched dash, some nice optional aluminium trim components and a conventional leather-bound steering wheel, but with a large fire extinguisher in the passenger footwell. The doors have a real door handle (not the red fabric door pull) and are clad in leather.

Turn the key and the GT2 engine note is significantly different to the GT3 RS, which sits with cams whirring away, gears chattering, ready to rev all the way to 8,000rpm. The RS feels tense, eager to move. The GT2 tone is far deeper, like

a 60-a-day Marlboro smoker, yet with an engine note quite unlike the 996 Turbo. Like the GT3 RS, the throttle response is equally lightning quick, which is a surprise if your muscle memory is of the 996 Turbo and its heavier flywheel. The rev counter may only read up to 6,000rpm but with peak torque developed between 3,600-4,500rpm, you're unlikely to venture higher than 5,500rpm.

Moving off, the GT2 feels more GT3 than 996 Turbo. The tight Clubsport seats that took some wriggling into now give a connection to the car, the engine vibrations drumming in between your shoulder blades. The short clutch action is heavier than both a standard 996 Turbo and the GT3 RS. It's not as grabby as a full blown competition clutch, but there's no denying this unit is designed to accept some serious torque.

The lightweight flywheel feeling and that clutch perhaps require more attention in traffic as we rumble slowly through the market town of Malton, but as the roads clear, the GT2 begins to flow as our speed builds. Squeeze some power and there's a superb whistle from behind as the rear squats and we're instantly refocusing our vision a long way ahead. That stiff ride around town now comes to life and the car smooths out enough to control the North Yorkshire A Road undulations without the track orientated settings of the GT3 RS behind.

With less than 11,000 miles from new, this car feels tight and sharp. The punch out of slow corners is something that no normally aspirated car can manage, the exhaust note turning from that deep gruff note, passing 3,500rpm and turning smoothly into a linear howl, the close-ratio gears giving continual seamless power. As I grab a quick glance in the mirrors, I almost expect the tarmac to be buckling behind us. When braking is required, the early generation carbon ceramic brakes and six piston calipers control progress with a complete lack of drama.

The whole combination of conventional Turbo comforts and trim levels, coupled with the revised suspension, that brilliant engine with Clubsport seating and a roll cage, brings an impression of being a race car in disguise. The Basalt black finish tones down the initial impression, but the rear wing and deep front splitter cannot disguise what lies beneath. The GT2 is like Jason Bourne in a tuxedo. The GT3 RS is far more contemporary motorsport, the results of

those RS-style obsessive lightweight measures instantly apparent with that caricature of a rear wing, unpainted and revealing the carbon weave. Drum your fingers on the rear screen and the polycarbonate shimmers and flexes. Cup your hand and peer inside and you'll see that usual GT3 deletion of rear seats and a stout, purposeful roll cage, along with five point Schroth harnesses wrapped around the cross tubes and threaded through the lightweight Recaro FIA-spec seats. Reach in past the fabric door pulls, release the front bonnet and walk to the latch, and you'll notice as your arm lifts there's a curious lack of weight, that unexpected feeling you get when you imagine that a suitcase is full of bricks, but it contains feathers. It's all part of the RS's brief of saving weight, characterised here by the carbon composite bonnet, complete with adhesive transfer of a Porsche crest, not an enamel badge.

Right away, the GT3 RS feels significantly different to the GT2. That flick knife throttle response is addictive and yet, after the GT2 Clubsport, it needs a mental adjustment to recall that this revs all the way to 8,000rpm. Over the bumpy Yorkshire A Roads, I can feel the rear tyres spending quite long periods off the floor and under braking, the nose darts around like a hungry ant eater. GT3 RS suspension can be set to Cup car positions on the top mounts and I'm wondering it this car is set like that. Visually, it has significant rake when viewed from the side, albeit not apparent in pictures. For sure, the track-focused castor and camber settings means that the car needs significant attention under braking to stop it diving off the heavy camber. And all the time, that Mezger engine is filling my ears with a vivid, banshee-like sound.

Out onto some smoother roads and the GT3 RS feels far more at home. Opening up the higher reaches of the rev range through some sweeping bends unlocks the full Porsche Cup sound over my shoulders, stirring the hairs on my neck. The drama and sense of occasion I feel each time I drive a GT3 RS of any vintage is reinforced once more. But ahead of me, Total 911 Editor Lee, now driving the GT2, constantly puts a three car gap between us each time that wide Turbo body squats out of a corner. While both are outpaced today by the technology of modern cars, they are far from being antiques. They are both brilliant cars that you step away from knowing you've had to put some effort in to drive fast. It's not a bruising workout with the car as an adversary, simply that they expect more of you than to simply sit there and flick another gear on the paddleshift, the stability control light winking in the corner of your eye.

The GT2 and GT3 RS require your absolute involvement, demanding that you're wide awake as soon as you click the seatbelt home. Just like a vintage air-cooled 911, both transmit a wealth of information to you via the wheel one hundred per cent of the time. Pay attention; act on the cues and there are some truly inspirational drives to be had in either 996.

So which one? For me, it's the GT2 Clubsport every time. The GT3 RS is very 'motorsport' with its brilliant white hue, red wheels, and fixed carbon rear wing. On track, a 996 GT3 RS is still utterly brilliant, but the on-road sacrifice personally makes it less enjoyable. If you accept that limitation though, then you'll love it. For me, the GT2's dramatic turbocharger characteristics are in the true tradition of flat-six Turbo 911s and provide that additional dimension to the drive.

Others (including the Editor) may opt for the sheer focus and purity of the GT3 RS, of course, – and there's no denying the throttle response is sublime – but I love the feeling of putting your hand that bit closer to the heat of the fire with the GT2. Get it right, so that as the steering is coming straight, you've predicted just the right amount of power coming in, not too much that the fronts are losing grip as the rear squats, but enough to hook up that limited-slip differential, and you've hit a sweet spot in performance Porsche 911 driving that is truly thrilling.

Either way, both are proving great investments that you can take out and enjoy on the road and track. Choose your weapon! ➲

Model 996 GT3 RS
Year 2004

Engine
Capacity 3,600cc
Compression ratio 11.7:1
Maximum power 386bhp @ 7,400rpm
Maximum torque 385Nm @ 5,000rpm
Transmission Six-speed manual

Brakes
Front 350mm discs
Rear 350mm discs

Suspension
Front Lower wishbones and MacPherson struts with combined coil springs and dampers; anti-roll bar
Rear Multilink with combined coil springs and dampers; anti-roll bar; adjustable top mounts

Wheels & tyres
Front 8.5x18-inch; 235/40/ZR18
Rear 12x18-inch; 315/30/ZR18

Dimensions
Length 4,435mm
Width 1,770mm
Weight 1,380kg

Performance
0-62mph 4.4 secs
Top speed 190mph

Model 996 GT2 Clubsport
Year 2002

Engine
Capacity 3,600cc
Compression ratio 9.4:1
Maximum power 468bhp @ 5,700rpm
Maximum torque 620Nm @ 3,500 to 4,500rpm
Transmission Six-speed manual

Brakes
Front 350mm discs
Rear 350mm discs

Suspension
Front Lower wishbones and MacPherson struts with combined coil springs and dampers; anti-roll bar
Rear Multilink with combined coil springs and dampers; anti-roll bar

Wheels & tyres
Front 8.5x18-inch; 235/40/ZR18
Rear 12x18-inch; 315/30/ZR18

Dimensions
Length 4,435mm
Width 1,830mm
Weight 1,440kg

Performance
0-62mph 4.1 secs
Top speed 195mph

"The GT2 and GT3 RS require your absolute involvement, demanding that you're wide awake as soon as you click the seatbelt home"

996.1 GT3 v 996.2 GT3

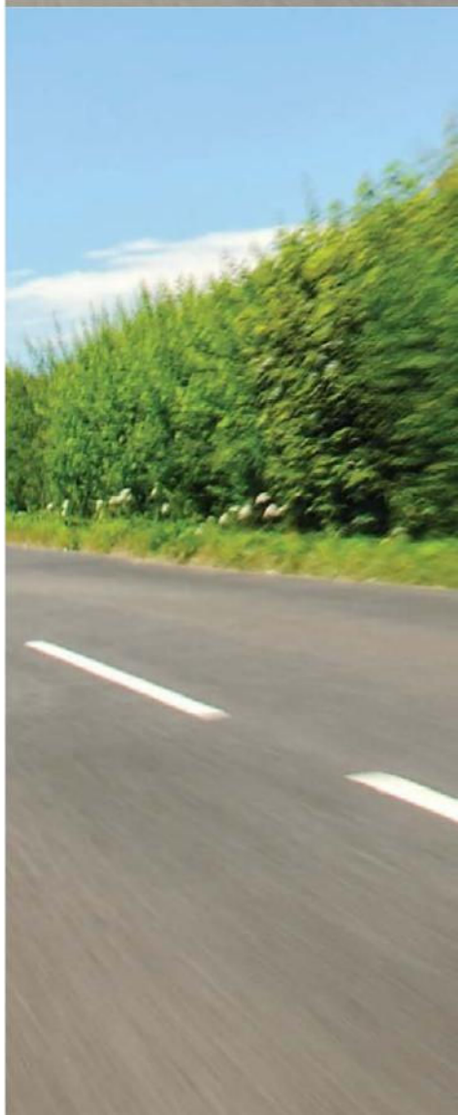
The 996 GT3 might be overlooked by some but it spawned an enduring, much-loved legend

The year 1999 seems like an eternity ago now. The 996 was still box fresh, though Porsche took very little time to offer something special for customers wanting something a bit more focused. The GT3 brought a new, now familiar, badge to the range, adding sharpness for those wanting their 911 with a hint of homologation about it. It allowed Porsche to fulfil the wishes of the motorsport rule makers, creating a tangible link between road and track.

Porsche's answer with the GT3 wasn't the usual lightened route it had taken with RSs, the GT3 actually heavier than its standard Carrera relation (by around 30kg). The addition of a high-revving naturally aspirated, dry-sumped, 3.6-litre Mezger flat six, with its DNA directly traceable to Porsche's GT1 endurance racer, arguably injected the GT3 with more credibility than thinner glass and lighter panels ever could – those lightweight bits, inevitably, coming with the return of the RS sticker with the Gen2 GT3 model.

Arriving at RPM Technik and seeing a Gen1 996 waiting for me reminds me of the excitement when driving them new. A well-known car in Porsche circles (owned by car photographer Antony Fraser) say what you like about Pinky Lai's interpretation of the 911 in 996 form, I have time for the flat flanks it presents. 996 deniers would do well to remember that early 911s did without shapely hips, the 996 very evocative of the earliest cars. Even with the aerodynamic addenda that demarks the GT3 (and a host of aero-kitted Carreras) it's a compact car. It's dwarfed when someone parks a new Boxster alongside it! Sitting some 30mm lower on split-rim 18-inch alloys, behind which sits 13-inch ventilated and cross-drilled brakes pinched by four-piston aluminium calipers, the uninformed could miss its significance. Compared to later and current GT3s with their overt aero, the Gen1 GT3 is very pure, the rear wing's only betrayal to its motorsport intent being the sharp-edged gurney flap on the lower portion's trailing edge.

Clambering in highlights how far Porsche has come with interiors. The 996's cabin hasn't aged particularly well, even if, fundamentally, it's correct in its function. The steering wheel is pleasingly unadorned, the GT3's dash and door cards shared with the standard Carreras, airbags and all, air conditioning and electric windows, too, with Porsche customers, however intent on engagement and speed, still appreciating such modern-day necessities. Turning the key reveals immediately that Fraser's car is not running as it left the factory; there's a Cargraphic exhaust, which combined with a DMS remap, helps that 3.6-litre engine push out 403bhp, in comparison to the standard car's 360bhp. The revisions don't stop there; a racing flywheel and Sachs ➲




RPM TECHNIK


RPM TECHNIK

Model 996.1 GT3
Year 1999

Engine
Capacity 3,600cc
Compression ratio 11.7:1
Maximum power 360bhp @ 7,200rpm
Maximum torque 370Nm @ 5,000rpm
Transmission Six-speed manual

Brakes
Front 350mm discs
Rear 350mm discs

Suspension
Front Lower wishbones and MacPherson struts with combined coil springs and dampers; anti-roll bar
Rear Multilink with parallel wishbones; combined coil springs and dampers; anti-roll bar

Wheels & tyres
Front 8x18-inch; 225/40/R18
Rear 10x18-inch; 285/30/R18

Dimensions
Length 4,430mm
Width 1,765mm
Weight 1,350kg

Performance
0-62mph 4.8 sec
Top speed 188mph

Model 996.2 GT3
Year 2003

Engine
Capacity 3,600cc
Compression ratio 11.7:1
Maximum power 381bhp @ 7,400rpm
Maximum torque 385Nm @ 5,000rpm
Transmission Six-speed manual

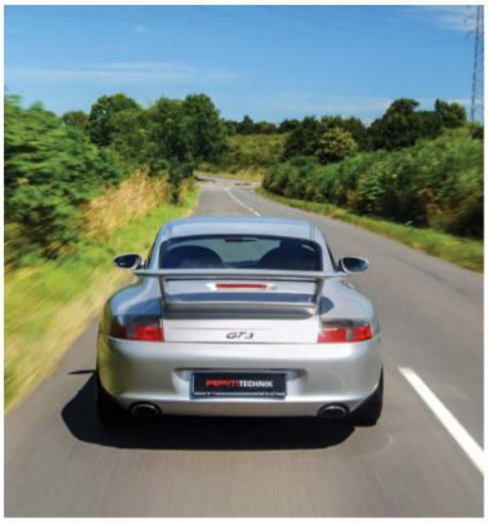
Brakes
Front 350mm discs
Rear 350mm discs

Suspension
Front Lower wishbones and MacPherson struts with combined coil springs and dampers; anti-roll bar
Rear Multilink with parallel wishbones; combined coil springs and dampers; anti-roll bar

Wheels & tyres
Front 8.5-18-inch; 235/40/R18
Rear 11x18-inch; 295/30/R18

Dimensions
Length 4,435mm
Width 1,770mm
Weight 1,380kg

Performance
0-62mph 4.5 sec
Top speed 190mph



clutch, rose-jointed Rennsport control arms, Eibach springs and Bilstein dampers are among Fraser's list of changes. The result is a GT3 closer in character to the car that followed it; more track based and – crucially – used. They were built for driving after all. It's engaging, enjoyable and, despite its track pretensions, the suspension is supple, the performance sensational and the brakes never in question. There's the beautiful steering feel that's apparent in all 996s, heightened by the GT3's more aggressively set-up suspension. The engine is a free-revving masterpiece that's as addictive in its acceleration as its note, remaining one of Porsche's finest engines, mated to a six-speed manual that's long been a highlight in the Porsche line-up.

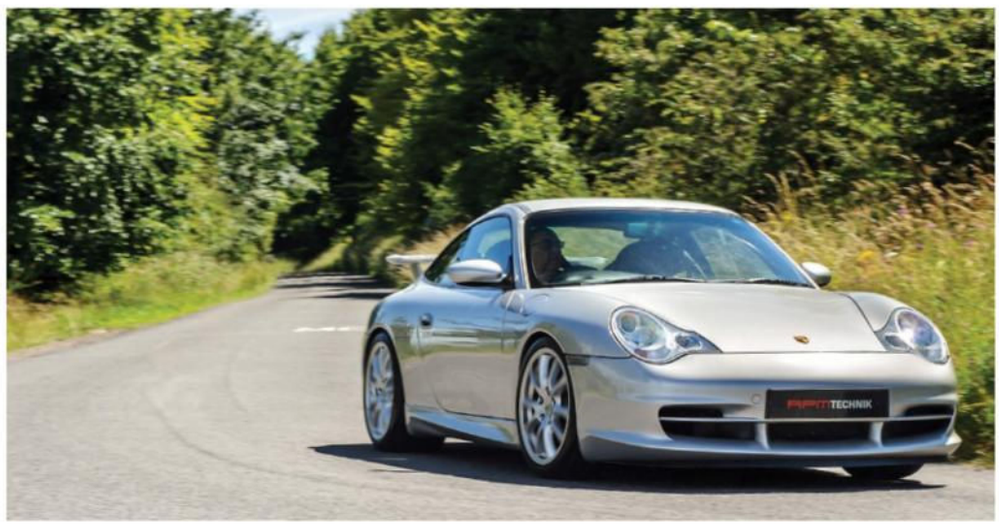
If the Gen1 car is GT3 genesis then Gen2 represents its first obvious evolutionary step. Visually, it's a sharper looking GT3, the later cars, arriving early in 2003, benefitting enormously from the revised headlights that came with the Gen2 996, and the simpler looking but more aerodynamically effective rear wing. The sills add a sharper line along the flanks, and those larger alloy wheels with their reverential styling nod (to my eyes, at least) to the Fuchs that have long been associated with Porsche, yet add a modernity over the split rims of the Gen1 car. The front air intakes are more neatly defined, the more aggressively pouting lower edge further delineating its motorsport origins. Still purposeful rather than overt here, the GT3 Gen2 is arguably peak GT3 for those wanting a discreet road and track weapon. It's gorgeous, as much as the Gen1 car represents pure GT3, it's difficult to question Porsche's shift with the Gen2 to make it sharper still, taking its bias more towards track car over the suppler (in standard guise at least) Gen1.

Key changes are under that simpler rear wing. The engine remains at 3.6-litres, though the GT team went through it with fastidious attention to detail. Anything that could lose weight did; the valves, pistons (losing nine per cent of their weight) and con-rods shaving mass, the loss of a crankshaft damper too, helping to see a reduction of 3.5kg. VarioCam was added, raising the rev limit to 8,200rpm and adding 21bhp to see the GT3 boast 381bhp. The way it responds is so linear, the accelerator sharp, the slightest flex of your right foot having that 3.6-litre's lighter internals spin up towards that redline with an enthusiasm that's unyielding in its ferocity.

The numbers inevitably improved over the Gen1 car, though they're both scintillatingly quick, the real difference being the Gen2's greater mid-range urgency, allied to the suspension's tauter ride. That makes the Gen2 a busier road car, though not too compromised because of it. Walter Rohrl's lap times would demonstrate how effective the Gen2's changes were, particularly when optioned with PCCB carbon ceramic brakes, shaving some useful seconds off the Gen1's hugely impressive lap time of seven minutes and 56.3 seconds around the 'Green Hell'.

Inside, both cars are largely the same aside from a few details on the instrumentation and switchgear, though Gen2 cars inevitably benefitted from the quality improvements that came with the range. This Gen2's interior is lifted by the addition of optional carbon trim and wing-backed seats. It's the car I'd take home, as much for the looks as the small but significant improvements in performance it brings.

And the fact that it's so close to its 996 GT3 RS relation makes it even more of a bargain – you would need to add a one in front of a Gen2's list price to get your hands on a GT3 RS. The 996 might not be a car that's reached its potential, but the GT3s have already piqued the interest of those chasing returns. Financially, that is, rather than the joy they bring on the road, which is a disaster, as cars like this should be driven, as they're designed to be...



"Still purposeful rather than overt, the Gen2 GT3 is for those wanting a discreet road and track weapon"

996 TURBO v 991.2 TURBO

Now 15 years old, is the 996 Turbo an all-time great or a flawed supercar? A test against the latest model reveals its true colours...

It's incredible, in terms of engineering evolution, what Porsche has achieved in 15 short years with the 911 Turbo. As the 996 Turbo sits silently next to its younger 991 brethren, their respective exhausts still making light 'pinging' sounds as they cool from our country blast, the overarching theme of change – even visually – is very much evident.

For context though, we first need to look outside of Zuffenhausen and towards other manufacturers with sports cars who have graced the road for a similar length of time (and we're talking here about a 15-year window, not the Turbo's full 41-year lineage, which is unmatched in the automotive world). One of the most obvious examples is the humble Mazda MX-5. Through two generations from launch in 1989 right up to 2006, the MX-5 barely changed in dimension, engine size, or technical assistance (namely because there wasn't any). Not until the third generation did the MX-5 get a new engine, a larger chassis, and basic commodities such as traction control. Looking slightly more upmarket, the Aston Martin DB9 – an alleged 911 rival among the ill-informed – was granted little evolution in its 12 years of production (2004-2016) aside from a revised centre console in 2008 and more power from its V12 engine in 2013.

Back at Porsche, the introduction of the 996 Turbo in 2001 acts as a good middle post for the lineage of Zuffenhausen's flagship forced induction car. Just 15 years previously, the 930 Turbo's engine was cooled by air and mated to a four-speed manual gearbox, with no ABS.

By comparison, the 996 Turbo is a spaceship, benefitting from an extra 120bhp and buoyed by driving technologies such as PSM (with ABD), all-wheel-drive and a slick, six-speed manual gearbox to best utilise the huge surge in torque (five-speed Tiptronic was also available on the Turbo for the first time here). Unsprung mass was also vastly reduced thanks to lighter brakes and hollow-spoked alloy wheels.

Fast-forward another 15 years to the present day and while the water-cooled '911 Turbo' moniker has remained in place, the technology and componentry on board shows Zuffenhausen has made similar quantum leaps over the same timeframe. Sure, there's a counter argument that with twin turbochargers, four-wheel drive and an active rear wing, the Turbo's basic DNA hasn't changed too drastically on paper at least. ➲

Model	**991.2 Turbo**
Year	**2016**
Engine	
Capacity	3,800cc
Compression ratio	9.8:1
Maximum power	540hp @ 6,400rpm
Maximum torque	710Nm @ 2,250-4,000rpm
Any engine modifications	None
Transmission	Seven-speed PDK
Suspension	
Front	Independent; MacPherson struts with coil springs; PASM
Rear	Independent; multi-link; PASM; rear axle steering
Wheels & tyres	
Front	9x20-inch; 245/35/ZR20
Rear	11.5x20-inch; 305/30/ZR20
Dimensions	
Length	4,507mm
Width	1,880mm
Weight	1,595kg
Performance	
0-62mph	3.1 secs
Top speed	199mph

“The 996 generation provides the more visceral Turbo experience... it feels more like a traditional 911”

However, a mere scratch of the surface reveals a raft of changes that makes the 996 as wholly different from the latest Turbo as it did from the first iteration in 1980s guise.

Aside from the obvious growth in dimensions (which is surprisingly linear when studying 930 vs 996 vs 991), the 991’s chassis dynamics has been altered somewhat, its wheelbase stretched by 100mm over the 996, with the flat-six engine moved forward to sit more on top of its rear axle. That rear axle itself is now equipped with active steering abilities, effectively shortening or lengthening the 991.2 Turbo’s wheelbase depending on speed. In terms of drivetrain, there’s another 120bhp hike to show for 15 years of evolution, with Variable Turbine Geometry (first introduced on the 997) reducing lag and enabling the latest Turbo to hit peak torque earlier compared to the 996.

Power is fed through a PDK double-clutch automatic gearbox, with an extra long final ratio added to reduce fuel consumption. The 991.2 also moves the Porsche Active Aerodynamics game on somewhat, that rear wing altering not only its height but also the angle of attack depending on the car’s rate of velocity, with a new front lip splitter also extending and retracting to aid downforce at its chin. Throw in a raft of digital wizardry, including touchscreen PCM with Apple CarPlay, coast function, Dynamic Boost or even PASM, and suddenly the 996 Turbo’s résumé looks a little antiquated by contrast. So how does this translate in the real world?

There’s no question the 991.2’s chassis feels much more balanced through faster corners, its levels of grip so immense it’d really take something remarkable (read: stupid) to drastically unsettle it on the public road. Attacking those same Yorkshire turns at a similar pace in the 996 simply isn’t possible, so corner entry is markedly slower. Even so,

Model	**996 Turbo**
Year	**2003**
Engine	
Capacity	3,600cc
Compression ratio	11.7:1
Maximum power	450bhp @ 6,000rpm
Maximum torque	560Nm @ 2,700-4,600rpm
Any engine modifications	Factory X50 Powerkit
Transmission	Six-speed manual
Suspension	
Front	Independent; MacPherson struts
Rear	Independent; multi-link
Wheels & tyres	
Front	8x18-inch; 225/40/R18
Rear	11x18-inch; 295/30/R18
Dimensions	
Length	4,435mm
Width	1,830mm
Weight	1,540kg
Performance	
0-62mph	4.2 secs
Top speed	189mph

the rate at which the softer 996 understeers is quite astonishing by comparison: its nose just doesn't hunt the apex with anything like the same conviction as the 991, and so a classic 911 driving style of really weighting up the front end pre-turn in is necessary to harness as much grip as possible. Pace on exit from a corner is electrifying in both cars and while the 996 doesn't particularly suffer from turbo lag per say, the 991's VTG ensures that first burst of pace is noticeably more explosive – exactly the sort of Turbo experience that's made the model so desirable for the last 41 years.

Does all this make the 996 a bad 911 Turbo generation? Not at all. In fact, it is the 996 that provides the more visceral Turbo experience. Its manual gearbox is a breath of fresh air to the driver, and feel through the wheel is sensational, making the filtered 991 feel dead by comparison. The trademark deep, mechanical thrum of that Mezger, even on tick over, is a far more glorious sound than the orchestrated acoustics of the DFI-engined 991.2, and gives a dramatic sense of purpose to this modern classic supercar.

The lesson, then, is that the 996 simply feels more like a traditional 911. The driver sits much higher up, the cabin feels small and cosy, and its driving dynamics are noticeably more rear-biased than today's Turbo supercars. With a manual gearbox and comparatively basic computerised catches, in the 996 it's truly the driver that's in control, and overcoming the car's nuances – while taking advantage of what is still blistering performance – is all part of the fun here. Don't forget, as Porsche's 911 Turbo becomes ever more computerised over the next 15 years and beyond, the charm of the 996 is sure to grow ever more. 911

GTS SUPERTEST

The 991 GTS may be the last bastion of naturally aspirated 911s but do the Cabriolet and Targa really match the Coupe for purist thrills? **Total 911** heads for some twisty mountain roads to find out...

Written by **Lee Sibley** Photography by **Ali Cusick**

GTS: three letters that, when siphoned together, evoke a strong yet wonderfully nostalgic sporting spirit in the Porsche world. As you'll know, the legend started more than 50 years ago with the 904 Carrera GTS, a Targa Florio-winning car that gave rise to the infallible 917, and was reignited for the 911 production line in 2010 with the 997 Carrera GTS. A run-out special with high quality options appointed as standard to the specification, a 997 GTS is an exquisite Carrera with genuine sporting intentions. It's a Total 911 favourite and, if that's not reason enough for you to find similar endearment with it, just take a look at the classifieds to see its current value. Certainly, no other 997 outside of the GT2/3/RS lineup has enjoyed such refusal to significantly depreciate.

Then came the 991 GTS, this time introduced for the first generation. Rolled out across Coupe and Cabriolet body styles in two and four wheel drive along with, for the first time, a Targa variant, worldwide Porsche marketing wasted little time in billing this new GTS lineup as 'driving purity'. And, in context with the rest of the first-generation 991 range, there's a genuine case in favour of that PR slant emanating from Zuffenhausen: all are naturally aspirated and have a passive rear axle, with a manual gearbox offered as standard – a setup you'll never see roll out of Werk II ever again.

However, such a blanket approach to the entire lineup would be naive. While the rear-driven manual Coupe quickly found favour on our first drive back in issue 121 (culminating in a 4.5-star rating in our data file) Total 911's writer extraordinaire Kyle Fortune described the Cabriolet in all-wheel drive form with PDK as "evidence in spirit and reality that the GTS badge should be limited to a handful of models rather than the entire 911 line-up." There were similar musings too when the Targa was later unveiled at the Detroit Motor Show. Suddenly, Porsche had evolved the GTS moniker into an entire sub-brand within the 911 range, but has it proved the right thing to do?

It's a question that Total 911 needed to investigate, and only a trip to our favourite blacktop in rural North Wales with every current GTS variant would suffice. That's why I find myself sitting at the wheel of a Sapphire blue 991 GTS Cabriolet as I zip along the A55 past Anglesey. Total 911's Features Editor, Josh, sits 30 yards ahead of me in a Racing yellow Targa 4 GTS, while my internal rear view mirror reflects the visuals of a Guards red GTS Coupe, piloted by videographer and petrolhead Louis Ruff. It's four in the afternoon and we've already accumulated over 15 hours of driving between the three Porsches. The drive has seldom proved arduous

though aside for the monotony of multiple motorways, a testament to the 991's grand touring credentials if nothing else. However, on the proving ground of the Snowdonia asphalt that sits just 20 minutes down the road, an altogether more pressing challenge awaits as our GTS triplets seek to prove themselves as ever-capable sportscars – the final bastions of quintessential Porsche driving purity – and worthy of sitting just below a GT3 in the 991's model lineup.

We turn off the A55 and head south towards Llanberis and its eponymous pass. En route to this Great Road from issue 132 the road narrows and the nondescript topography around us is replaced by majestic slate cliffs rising high above us and into the dark grey clouds. It's threatening to rain and, though the Cabriolet's roof is stowed, leaving me exposed to the elements, I'm not worried. The roads are quiet so I can slow down to 30mph and continue my journey while the roof mechanism springs into action, returning the three canvas-lined slats and heated glass rear window to their original position in just nine seconds. However, the same cannot be said for Josh in the 991 Targa, who will have to pull over and stop for an agonising 19 seconds while its heavy glass panoramic window momentarily makes way for the stowed canvas roof underneath. With it being North Wales in early autumn, it's a safe bet to assume the open-topped Targa won't fare well in a game of rain roulette.

The rain relents though – for now – and, as our three GTSs approach the lowly north side of the pass, the fun can at last begin. There's a deep growl ahead as Josh deploys the Targa's Sports Exhaust, reverberating a raucous howl around the valley on his exit from the first, tight S-bend. I take after him, selecting 'Sport' on the centre console before blipping the throttle and pulling the manual shifter down through the gate from third and into second. A quick, slick manoeuvre through the S-bend is executed with little drama, the Cabriolet not found wanting for a rapid turn of pace through a corner. Second gear with plenty of revs is perfect for our blast up the pass and, by the time we reach the top at the Pen-Y-Pass, we're ready to turn around, head back down the mountain and do it all again.

The autumnal sun soon starts to disappear behind the peak of the valley's westerly cliff rise, replaced by low-lying cloud and light drizzle as our three GTSs deal with the succession of left-right turns all the way up to the top of the pass for a second and then third time. You can learn a lot about a car on this beautiful road to Llanberis: the corners come thick and fast and there's a brilliant variance in pace and pitch required for each turn. The undulating nature of the surface is delightfully cut-throat too, meaning mechanical grip is important, particularly for our trio of Porsches each with a useful 430hp on tap. I expect this real-world proving ground to quickly denounce the Cabriolet's sporting credentials but, happily, I am proven wrong. The Cabriolet is blessed by that wonderful balance bestowed upon the 991 platform, though this doesn't make the car invincible, particularly in traditional rear-drive form as here. This is characterised by a momentary loss of traction as the rear axle skips over the slippery road surface and slips out behind me on exit from a tight left turn, though the movement is progressive and easily contained with some quick counter steer.

The action makes me smile: it's a moment of added spice that should be a trait of any sportscar worth taking seriously and is evidence enough this Cabriolet is no lethargic grand tourer. With -20mm Sport suspension and PASM, the car feels tight, and with that Powerkit ensuring peak torque is delivered at 5,250rpm, it's certainly no slouch out of a corner either. I'm impressed, though I ➲

Right: Our GTS triumvirate tackle the Llanberis Pass, a beautiful stretch of asphalt offering twisting bends amidst majestic slate cliffs that rise high into the clouds

Total 911's perfect GTS

Porsche preach purity of driving with the new GTS lineup and, though you can still quite easily spec a very accomplished GT, following our choices will get you an incredibly capable sportscar that remains true to that traditional 911 driving heritage. Here's the spec we'd choose:

991 Carrera GTS Coupe (£91,098)

- Carmine red paintwork...**£1,805**
- Black Alcantara Package GTS...**£2,298**
- LED headlights in black with PDLS...**£1,449**
- Seven-speed manual transmission...**£0**
- PASM Sport suspension -20mm...**£558**
- Sports bucket seats...**£2,505**
- Deletion of rear seats...**£0**
- Porsche Vehicle Tracking System...**£1,140**

Total: £100,853

quickly find annoyance with the auto blip function on downshift in Sport Plus mode – it merely takes away the fun of doing it yourself, after all. Damping is firm and you can feel the extra stiffening employed on this open-topped 991 each time a discrepancy in the road's surface is found. Firming the ride up with PASM makes the Cabriolet uncomfortable on public roads and, with only a handful of open-topped 911s ever gracing a track in anger, the PASM button remains a largely superfluous addition to the Cabriolet's armour. These are small blotches on the otherwise immaculate copy paper for the Cabriolet and, as I climb out of its cockpit and swap keys with Josh, I'm satisfied that, with a manual gearbox and rear-wheel-drive, it's a car that upholds the sporting credulity associated with the GTS moniker.

Settling into the Targa though presents an altogether different experience. Stymied by an additional 60kg weight penalty over the Cabriolet (thanks to that heavy glass rear screen and compulsory four-wheel-drive system) the Targa can't help but languish behind the others in a straight line dash. This means that, in order to get the Targa shifting, a very aggressive driving style is required. I'm wringing the revs out before each gear change and keeping that needle firmly on the right-hand side of the tachometer, though Josh and Louis in the Cabriolet and Coupe are similarly on it and the Targa can't help but look lethargic. Ride quality is surprisingly good thanks to revised damping, but still the Targa doesn't feel as tight as the Cabriolet.

Nevertheless, I'm making up ground on the other two GTSs in corners, the all-wheel-drive system with active torque distribution allowing me to carry more speed into a turn, safe in the knowledge that the front end will grip time after time. It's not as fun as having to weight up the front end of my own accord, as I would have to do in the other cars present, but I can't knock a system that lets me lean on the loud pedal more often than not.

Like the Cabriolet, this Targa is fitted with Porsche's reworked seven-speed manual gearbox, and is nothing short of a revelation over old. We never quite got on with the stick shift fitted to early 991s, our PDK vs manual test from issue 113 showing the 'box to be thwarted by an uncharacteristically notchy throw through each gate and an awkward spring loading, meaning we usually found third when dropping from the long seventh into fifth. Porsche listened and revitalised the system in time for the GTS, ensuring that manually changing gears is once again fun in a 911. That horrid vagueness between gates is long gone, replaced by a beautifully direct throw each and every time a new cog is called upon. I'm adamant the shifter itself feels lighter too, though not too light as to be superficial.

Darkness falls as our GTS trinity weaves south to our night-time stopover at Dolgellau. Conversation at dinner revolves around that manual gearbox ("The shift in the 4WD Targa is better than even the old seven-speed in just rear-drive," Josh ascertains) while the Targa continues to divide opinion as to whether it's worthy of that fabled GTS moniker. "The ➲

Model	**991 GTS Coupe**
Year	**2015**
Engine	
Capacity	3,800cc
Compression ratio	12.5:1
Maximum power	430hp @ 7,500rpm
Maximum torque	440Nm @ 5,750rpm
Transmission	7-speed PDK
Suspension	
Front	Independent; MacPherson strut with coil springs & dampers; PASM
Rear	Independent; multi-link; PASM
Wheels & tyres	
Front	8.5x20-inch Turbo centrelocks; 245/35/ZR20 tyres
Rear	11.5x20-inch Turbo centrelocks; 305/30/ZR20 tyres
Dimensions	
Length	4,491mm
Width	1,852mm
Weight	1,425kg
Performance	
0-62mph	4.4secs
Top speed	190mph
Cost inc.UK VAT	£91,098
Additional equipment	PDK gearbox (£2,817); Black leather & carmine red GTS Interior Package (£2,234); PASM Sport suspension -20mm (£558); PCCBs (£5,787); PDLS+ (£1,032); Sports bucket seats with memory package (£2,505); automatic dimming mirrors (£372); vehicle key painted (£170); Bluetooth telephone module (£558); ParkAssist front & rear (£639).
Total cost	£107,770

Model	991 GTS Cabriolet
Year	**2015**
Engine	
Capacity	3,800cc
Compression ratio	12.5:1
Maximum power	430hp @ 7,500rpm
Maximum torque	440Nm @ 5,750rpm
Transmission	7-speed manual
Suspension	
Front	Independent; MacPherson strut with coil springs & dampers; PASM
Rear	Independent; multi-link; PASM
Wheels & tyres	
Front	8.5x20-inch Carrera S alloys; 245/30/ZR20 tyres
Rear	11x20-inch Carrera S alloys; 295/30/ZR20 tyres
Dimensions	
Length	4,491mm
Width	1,852mm
Weight	1,495kg
Performance	
0-62mph	4.6secs
Top speed	188mph
Cost inc.UK VAT	£99,602
Additional equipment	Sapphire blue metallic exterior paint (£801); Black leather & Rhodium silver GTS Interior Package (£2,234); Stainless steel door sill guard (£203); LED headlights with PDLS+ (£1,032); PASM sport suspension -20mm (£558); Cruise control (£267); BOSE surround sound (£802); heated seats (£320); vehicle key painted (£170); Bluetooth telephone module (£558); Auto dimming mirrors and rain sensor (£372); Light Design Package (£300); ISOFIX for passenger's seat (£122).
Total cost	£107,341

Model	991 Targa 4 GTS
Year	**2015**
Engine	
Capacity	3,800cc
Compression ratio	12.5:1
Maximum power	430hp @ 7,500rpm
Maximum torque	440Nm @ 5,750rpm
Transmission	7-speed manual
Suspension	
Front	Independent; MacPherson strut with coil springs & dampers; PASM
Rear	Independent; multi-link; PASM
Wheels & tyres	
Front	8.5x20-inch Turbo centrelocks; 245/35/ZR20 tyres
Rear	11.5x20-inch Turbo centrelocks; 305/30/ZR20 tyres
Dimensions	
Length	4,491mm
Width	1,852mm
Weight	1,555kg
Performance	
0-62mph	4.7secs
Top speed	188mph
Cost inc.UK VAT	£104,385
Additional equipment	Alcantara GTS Interior Package (£2,298); heated seats (£320); vehicle key painted (£170); Bluetooth telephone module (£558); Auto dimming mirrors and rain sensor (£372); ISOFIX for passenger's seat (£122).
Total cost	£108,225

Targa GTS is still flawed as an open-top 911 but dynamically it loses little and, in my eyes, it certainly looks the part," Josh says.

"But it's nearly as heavy as a Turbo and can't rely on forced induction to get it moving," I remind him.

Next morning, we make haste and head for our favourite UK road, the B4391. Though we're no strangers to the blacktop of North Wales, the **Total 911** team knows this 8.1-mile route between Bala and Ffestiniog like no other. Different to the tighter steer of the Llanberis Pass, the B4391 is largely flowing asphalt, broken up by a mixture of sweeping and more technical corners. Gears 2-5 are called upon here, with frequent cog changing necessary to maintain a lightning pace.

I slide behind the wheel of the Coupe first. This 991 is a delight to drive: boasting rear-drive and a comparable featherweight mass of 1,425kg, the 130kg saving – equivalent to two of me – gives the Coupe a dexterity the open-topped GTSs just can't touch. Here, the thesis of Porsche's GTS package reigns supreme: carbon inlays and alcantara inserts decorating the interior feel purposeful rather than flamboyant mise-en-scene; optional lightweight bucket seats offer a firm hold while still proving comfortable over long journeys; even a PDK gearbox is excusable, offering lightning-quick changes as the 991 refuses to drop a single thrust of forwards momentum. It's so sprightly and quick off the mark with a great flat six soundtrack afforded by that bellowing Sports exhaust. Driver inputs still need to be carefully considered, however, as while there's plenty of grip at the car's rear (11.5-inches of tyre width at either corner putting paid to that), the nose can still go light on turn-in – a trademark any 911 aficionado will find familiarity with. If anything, this Coupe is too accomplished, the optional PCCBs making light work of scrubbing off speed with only the lightest press of the brakes. That, coupled with a gear change requiring a mere finger pull of a paddle, leaves any driver with little to do despite the ludicrous speeds on offer.

So, does a 991 GTS offer driving purity? Yes – but that purity is not guaranteed and is dependant on spec. This 991 GTS Coupe makes light work of the B4391 and the amusement on Josh's face in the Cabriolet close behind tells me he's also found favour with its purist intentions. Two of three cars have passed the test. In a moment of softness I take one more go in the Targa to see if it can complete a clean-sweep of success before we depart North Wales. I find myself willing it to impress and take solace with the Powerkit's ability to give greater urgency lower down the rev range, but the sobering reality is I finish our test in a 991 that falls short of that 'purist' model for which Porsche want the GTS to be associated with.

The issue here is vehicle mass. It's impossible to label a car that weighs more than 1.5-tonnes as a 'purist' sportscar, despite plying it with a mechanical LSD and all the technology Zuffenhausen can muster. Perhaps that's the issue: while we take no issue with the all-wheel-drive system (a 4WD Coupe will still make for an exquisite GTS for those who prefer more of an all-round durability in a 991), in the Targa's case, the heavy nature of the lifting glass roof panel and all its associated mechanicals, along with the extra mass of all-wheel drive, creates a 911 that seems to have lost its sprightly character.

Sure, the Targa offers a stunning visual as a modern open-topped 911, but those aesthetics are the closest it gets to a classicist, purist Porsche in GTS form – though, as turbo'd 911s become the norm, history may yet be kind. **911**

991.1 V 991.2 CARRERA

A WORTHY SUCCESSOR?

The new Carrera comes face to face with its Gen1 predecessor, but has turbocharging proved a bridge too far for Porsche's everyday icon?

Written by **Lee Sibley** Photography by **Ali Cusick**

Let's face it: the 911 Carrera has never been far away from a controversy or two. Right from launch as a non-Rennsport model in 1974, the Carrera headlined a sizeable shake-up for Porsche's darling 911, as the adoption of impact bumpers changed the car's silhouette for the first time after more than a decade of design perpetuance. It was an episode that would go on to become something of a trend for the model.

Fifteen years later, it was the Carrera that introduced all-wheel drive to the 911 legend, a full year before Porsche's traditional sports car setup was then revealed in 964 C2 form. Then, just before the turn of the century, the 996 Carrera heralded a change from air-cooled to water-cooled flat six engines in the biggest and most disputed change to the 911's DNA ever seen before. That is, until now. This is because the Carrera has once again significantly moved the goalposts, scrapping the naturally aspirated flat six engine that the 911 has been known for since its very beginning. In its place is a flat six now boosted, quite literally, by two turbochargers, one for each cylinder bank. Thanks to this new Carrera, the 911 experience has changed forever – but to its credit, the new 991.2 has by and large found favour with critics, as exemplified by the sentiments of our own road tester, Kyle Fortune. At the world launch of the 991.2 Carrera in issue 134, Kyle was relieved to find elements of that traditional 911 heritage still apparent with the new engine, borne out of evolutionary necessity, adding: "transformational as it is, there's huge appeal to the differences it brings, yet joy too in the similarities it retains."

So, the new, turbocharged Carrera has found favour with journalists and sections of the public in isolation, but how does it compare in an

test' against the first-generation 991, the last such bastion of the quintessential, naturally aspirated entry-level 911 as we know it? It is in searching for the answer to this question that around 6,000 miles north of Kyalami Race Circuit, South Africa, where Kyle Fortune is putting both the 991.2 Turbo and C4S through their paces for the first time, I find myself standing in the middle of the bucolic Yorkshire Dales. Temperatures are hovering just above freezing as both generations of 991 Carrera sit before me, the steamy waves from their respective tailpipes rising up and into the atmosphere as both engines begin to warm up.

It's just after sunrise and photographer Ali, Features Editor Josh and I have awoken the Carreras from their nightly slumber as we prepare for a day's adventure up to the Buttertubs Pass. This lofty, twisty mountainside route connects Hawes to Thwaite and is so called because of 20-metre deep limestone potholes stationed along the route which, according to local legend, were used by farmers when travelling between the towns on market day. In hot weather, the farmers would stop at the cavernous limestone fissures and lower the butter they had produced into them to keep the produce cool. Today, the Buttertubs Pass will have a different kind of legend grace its terra firma, as both generations of contemporary Porsche 911 Carrera do battle.

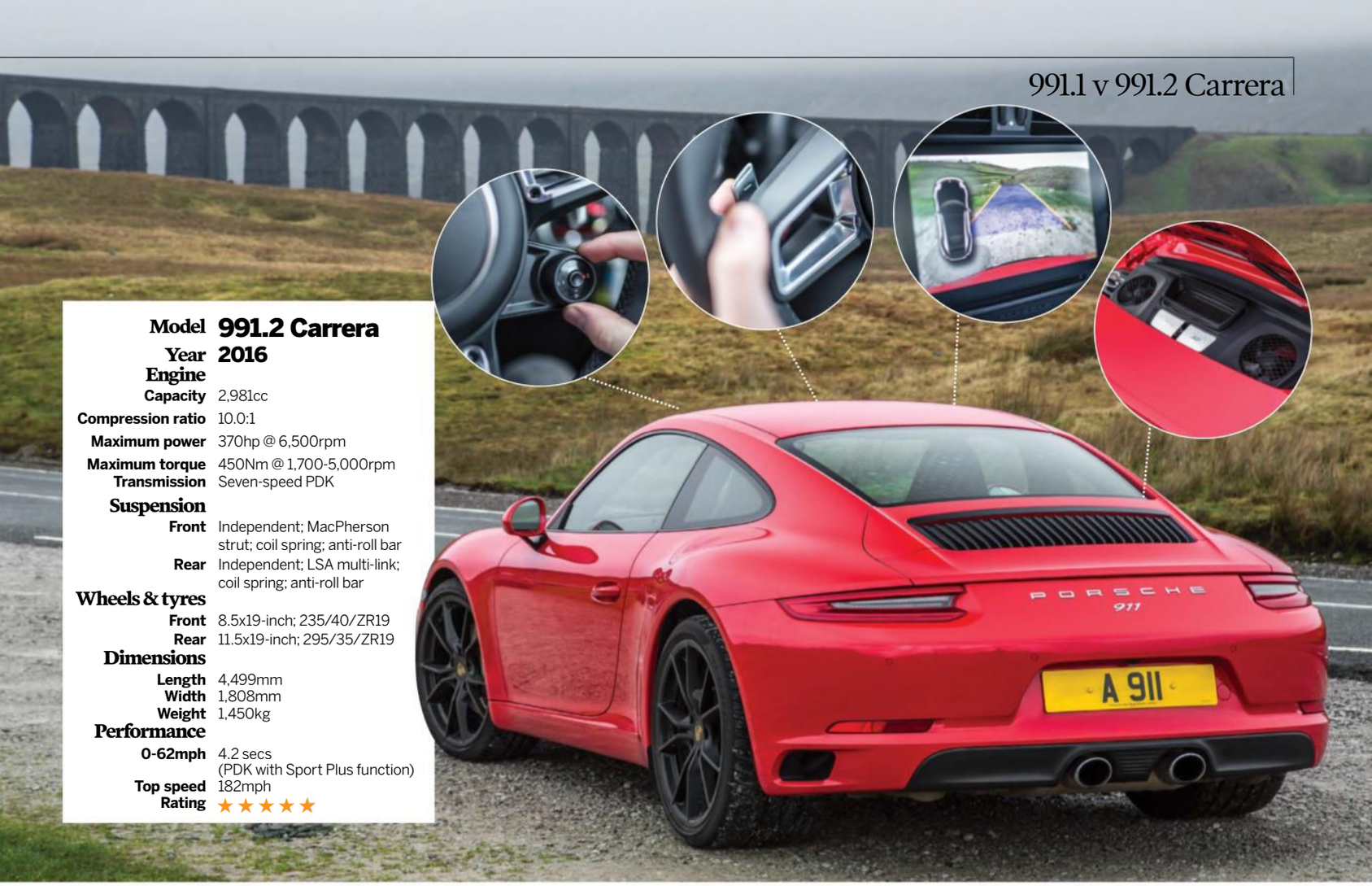
We had made our way to the Dales via a long, six-hour drive up from the south coast the day before. Largely consisting of motorways and duel carriageways, the route north was largely fruitless as a journalistic exercise, with nothing of note to distinguish between both Carreras. Today though, proceedings will be very different.

I start the day in the first-generation 991 as Josh elects to steer 'the challenger' in the 991.2. Heading out from our B&B at Sedbergh, we head east along the A684, delving ever deeper into the sparsely populated Yorkshire Dales in the direction of Hawes. The road quickly begins to rise and fall and then wriggle through the moorland, its smooth surface a delightful contrast to the surrounding rugged terrain. Enticed, we pick up the pace, and I'm quickly reacquainted with the first-generation Carrera's traits that make it a Total 911 favourite. Sluggish at face value, the 991.1 Carrera needs to be driven very hard to get the most from it, with lively progress reserved only for those content at keeping that rev needle comfortably in the upper echelons of the tachometer. Despite its long gear ratios the seven-speed 991 is infamous for, a manual transmission would make for a well sorted purist

Interior pictures: Changes appear only minor at face value, though Mode wheel and PCM are big improvements for Gen2 (top) over Gen1 (bottom)

Top right: Turbocharged Carrera gets revised wheel with Mode switches and fast-action PDK paddles. Rear parking camera is optional

Bottom right: Naturally aspirated Carrera's centre console houses Sport and optional Sport Plus buttons, which now seems clumsy



Model	**991.2 Carrera**
Year	**2016**
Engine	
Capacity	2,981cc
Compression ratio	10.0:1
Maximum power	370hp @ 6,500rpm
Maximum torque	450Nm @ 1,700-5,000rpm
Transmission	Seven-speed PDK
Suspension	
Front	Independent; MacPherson strut; coil spring; anti-roll bar
Rear	Independent; LSA multi-link; coil spring; anti-roll bar
Wheels & tyres	
Front	8.5x19-inch; 235/40/ZR19
Rear	11.5x19-inch; 295/35/ZR19
Dimensions	
Length	4,499mm
Width	1,808mm
Weight	1,450kg
Performance	
0-62mph	4.2 secs (PDK with Sport Plus function)
Top speed	182mph
Rating	★★★★★

Model	**991.1 Carrera**
Year	**2015**
Engine	
Capacity	3,436cc
Compression ratio	12.5:1
Maximum power	350hp @ 7,400rpm
Maximum torque	390Nm @ 5,600rpm
Transmission	Seven-speed PDK
Suspension	
Front	Independent; MacPherson strut; coil spring; anti-roll bar
Rear	LSA multi-link; coil spring; anti-roll bar
Wheels & tyres	
Front	8.5x19-inch; 235/40/ZR19
Rear	11x19-inch; 285/35/ZR19
Dimensions	
Length	4,491mm
Width	1,808mm
Weight	1,400kg
Performance	
0-62mph	4.4 secs (PDK with Sport Plus function)
Top speed	178mph
Rating	★★★★☆

experience here, though our car is fitted with PDK and, annoyingly, 'up/down' toggles mounted on either arm of the basic steering wheel, as opposed to the ergonomically superior Sport Design wheel with paddleshift. The clunky nature of the wheel-mounted gear change stymies the 991.1 Carrera experience on this occasion, though the otherwise lightning-quick response and mapping intelligence of PDK is a worthy ally in both manual and fully-automatic modes respectively.

Reaching Hawes, we realise Buttertubs is shrouded in thick fog, which would make any attempt at the pass a precarious endeavour. Locals assure us the low-slung cloud will clear by the afternoon, so we decide to detour and head south in the direction of the magnificent Ribblehead Viaduct for a few photos. Before long we're shooting along the B6255 as the countryside around us opens up, mountainous rises either side of the road now giving way to flat moorland. The roads are faster-paced here, too, with longer straights interspersed between a succession of tight corners bypassing the stubborn limestone-walled borders of farmland. It is here, as the 991.1 fizzes along, that its acoustics are most impressive, the raucous thunder of the Sports Exhaust bouncing off the sedimentary perimeter. Never before has the 911's flat six sounded so throaty, its note both rewarding and amusing on every application of the gas pedal, though the system's gargling and cackling on overrun may perhaps prove a little embarrassing for the more gentlemanly driver about town.

While there's no getting away from the fact the 991.1 Carrera is primarily more GT than sports car, that doesn't mean it cannot become honest when called upon. Though the ride is by definition the softest of the 991-model lineup, a prod of the optional PASM button firms up damping and, importantly, those engine mounts, affording the 991 added poise through the entry point and mid-section of a bend. The jumping, sweeping route south to Ribblehead also highlights just how well balanced the first-generation Carrera's chassis is, too, that extended wheelbase and rear engine sitting on top of the rear axle creating a deftness on turn-in to a corner that's unrivalled in any previous 911. Traction is most impressive as a result: even in the treacherously wet conditions bestowed upon us for this latest **Total 911** adventure, the 991.1 simply refuses to surrender grip.

Of course, the 991.1's Achilles heel is its steering. The first electrically-assisted Porsche system lacks any supreme level of feel compared to mechanically-assisted previous-generation 997s, and though some feedback from the road is returned through the wheel to the driver, the overriding sensation is one of numbness; too much detail is filtered out for me to feel any true connection with the surface beneath me. That said, the importance of the car's steering as a sponsor of driver contentment will vary from person to person and, as we pull over just short of the Ribblehead Viaduct, I'm hard pressed not to prematurely commend the first-generation 991 as the best modern Carrera. Surely this is the zenith of the everyday Porsche's evolution before the turbocharged version butchers that traditional experience for good, right?

As I stride out from the 991.1, I'm quickly flummoxed by Josh's spirited observations of the new Carrera. He's giddy with delight as he relays his thoughts on the 991.2, commending the chassis, sound and – wait for it – the role of those turbochargers. I'm perturbed. I thought he was a purist? "Give it a chance," he says as we swap keys

Left: Clear of fog, the Buttertubs Pass makes for a stunning drive with superb views

Right: 991.1's rear wing makes for a good sandwich holder as Lee and Josh stop for lunch

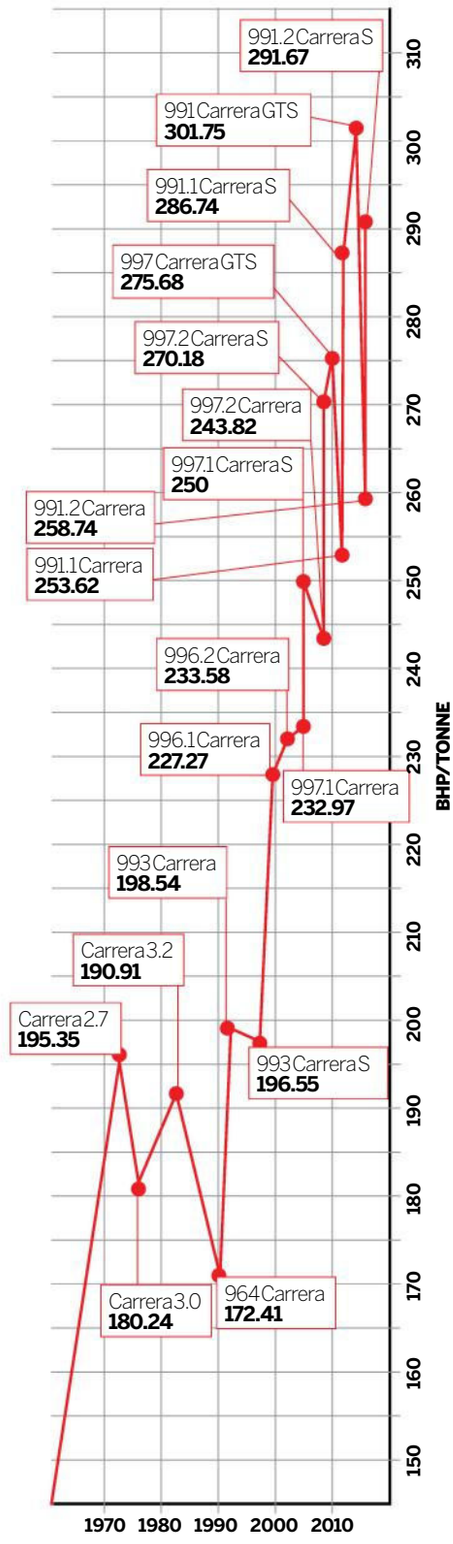
and prepare for our second stint of driving in this wintry road test.

With Ali happy with his shots, we jump back in the Carreras, only this time I'm at the wheel of the 991.2. I slot its key into the dashboard, turn it, and expecting a muted grumble as the flat six awakens, I'm surprised by the shrill bark emitted from the new Carrera's tailpipes as the needle swings up diligently into life before settling at idle. We're due to head north along that same sweeping thoroughfare experienced in the first-generation 991, back through Hawes and onto the Buttertubs Pass, keeping good faith with the locals' earlier weather predictions. The next 30 minutes are going to be of high intensity behind the wheel, though in the second-generation 991 Carrera, the fun begins almost straight away.

I begin by pulling away hard from our lay-by, mesmerised by the new sensations relayed to me. Upshifting a little early on the quick-action PDK paddles into second gear, there's a slight yet pronounced 'whooooosh' as the two turbochargers quickly spool up again, my shoulders and stomach meanwhile being pushed back against the supple leather of the Sports bucket seat. This, all before

911 Carrera: *history of power to weight*

Ever since its first iteration in 1974, the rear-drive 911 Carrera has increased in power output, albeit with a caveat of also gaining mass (not including special edition Rennsport/Clubsport/Lightweight models, of course). So, how does the Carrera's power-to-weight ratio change over time?



"As Porsche aficionados with purist intentions, we were surprised by how easily the new Carrera won over our hearts"

the needle has passed 3,000rpm. 4,000rpm quickly arrives, then 5,000. It's here when things usually get interesting in the naturally aspirated Gen1 Carrera, and I'm eager to see what emotion the Gen2 car has in this hallowed sector of the tacho.

I am not disappointed. That peaky nature of the previous 9A1 engine is still evident, quite dramatically so, as the 9A2 winds up towards its maximum revs. I expect to experience a fall-away in performance near the summit from those fixed vane turbochargers, but this is not the case. This new flat six simply refuses to run out of puff, pulling concertedly right into the red at 7,500rpm. What on earth have I just witnessed?

I'm gobsmacked. Expecting to hereby observe the 911's mechanical character die in front of me (or, more to the point, just behind), I'm astonished to note that flat six spirit is still very much alive, albeit behind the fanfare of those turbochargers. Sure, boost is keenly felt low down, which purists may not like, but it's not enough to put us off the car by any stretch of the imagination. In fact, I rather like it: it gives an extra layer of dynamism to the Carrera's character and, mixed with the better and more intelligent PSM (complete with new 'Sport mode' for greater slip allowance) it creates quite a setup – even on the road. All of a sudden, the playful 991.2 makes the 991.1 seem perhaps a little too anodyne in nature.

Speaking of which, a glance in my rear view mirror shows Josh has caught up, actioning another push of the new Carrera's accelerator. Peak torque in the Gen2 finishes when maximum twist from the first-generation Carrera begins, so I'm well up the road by the time Josh comes back into play with the trailing white car as we re-enter the village of Hawes. This is the last time I look back, choosing instead to focus on the climbing curves in front of me as we pass over the River Ure, with a steep, twisting climb up to the Buttertubs Pass ahead.

The road to Buttertubs was seemingly made for the 991.2 Carrera. Gone are the long, sweeping straights approaching Ribblehead Viaduct, replaced by a succession of tight turns as the silky smooth asphalt undertakes a gradual ascension up the steep mountainside. There are no barriers up here, only snow poles for when the weather gets really tough, so precision is the order of the day. Nevertheless, the Carrera powers up the road with short bursts of rapid acceleration between corners that are dispatched of with deft-defying ease. Its ride is still a little soft but there's plenty of poise about the new Carrera, its 10mm lower chassis noticeably more settled on turn-in thanks also to that 9mm wider front track and redeveloped PASM over the Gen1. Unnerved by our rate of climb, I get the power down early as the 991.2 Carrera shoots out of each corner, hunting the next. The car is extremely planted and so capable, I even begin to ask a bigger question in my head: why would anyone need a 911 Turbo over this?

We reach the summit and complete two runs, there and back, of the Buttertubs Pass. It is only now that I realise the time: 3pm. Our day has vanished in a blur of turbochargers and country roads, with the occasional stop-off for photographs. Bugger. The sun will soon be setting and conditions in the Dales will turn treacherous, succumbing to the rigours of high-altitude winter weather. We need to begin our six-hour journey back down to the south coast, though not before we compare notes. I pull over.

There's no doubt about it, the new Gen2 is a sensationally capable sports car and a better Carrera than the Gen1 in almost every way. As Porsche aficionados with purist intentions, we were surprised by how easily the new Carrera won over our hearts: while it does carry the 911 fully into the digital age (that old school feel really is now a thing of the past), as a modern car the Gen2 ticks a lot of boxes without any real compromise. It is lithe, fast, and entertaining; sure, it's more of a GT car than ever before, but it has plenty of sports car character ready to be deployed when called upon. By comparison, the Gen1 feels a little lumpy, its chassis simply not as good or refined, while PDK further robs the car of its honesty in terms of involvement. We like the Mode wheel on the new Carrera's wheel, too: it's purposeful, allowing the driver to maintain eyesight with the road ahead when switching mapping programmes, a useful update over the clumsily-placed requisites hidden among an army of other commands on the Gen1's centre console. Steering is much improved, too. It's perfectly weighted, and there's distinctly more communication dialled in on the revised system, for which we are grateful of. Even the engine note, muted over the raucousness emitted from the pipes of the first-generation 991 Carrera, is found to be agreeable. Slightly more 'traditionally 911' in its operation, the system on the second-generation car is quiet when it needs to be yet plentiful when it's not. By contrast, the 991.1's Sports Exhaust system can seem a little too ostentatious at times.

We'll admit the complicated new PCM system takes some getting used to (its response to inputs is great but beware of a lot of gimmicky features) and the fuel-saving measures are mere incidentals, though overall these are small bylines when compared to the headlines news. Somehow, Porsche has done it, convincing us rather emphatically that the new chapter under turbocharging is going to be just as exciting as anything before it. I can't wait for more – beginning with the long drive back south in this triumphant 991.2 Carrera.

"Climbing into the seat of this 997 Rennsport is as good as it gets"

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Modified & Motorsport

2.8 RSR 126
This 1970s endurance icon has been made road legal. We drive it along a spectacular route

Jagermeister 934 132
The incredible story of this turbocharged colossal is revealed

RSR Retro 138
Not many 964 Rennsports are backdated to look like a '70s firebreather, but then again this is no ordinary Rennsport

993 GT2 BPR 142
We take to the track in the most brutal form of competition 993 GT2 ever created

Gemballa 996 148
We attempt to tame Gemballa's turbocharged 996 GT3

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Does bigger mean better for this dynamic duo of modified Mezgers?

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RENNSPORT FOR THE ROAD

RSRs are meant for the racetrack. We take one that's road registered for a drive among the stunning Swiss Alps

Written by **Wilhelm Lutjeharms** Photography by **Charles Russell**

I have driven a Le Mans racer on a public road. Now, there's a sentence I thought I'd never write. Having said that, if there is a manufacturer that has built race cars that can, with some effort, be road registered, it's Porsche. Let's start at the beginning of this incredible story.

This 1973 Porsche 2.8 RSR (chassis number 911 360 0636) has a rather illustrious racing history. Tipping the scales in full race trim at just 917kg, it was built in February 1973 and delivered to Max Moritz Racing a month later. During the following few years the car had a busy racing schedule: in May '73 it qualified tenth for the Targa Florio, but unfortunately it did not finish the event following a crash. In June it was time for the 24 Hours of Le Mans, but after 103 laps, it crashed early in the morning after more than nine hours of racing.

As was customary for the period, the car was upgraded to 3.0-litre RSR specification in 1974, while the 2.8-litre engine found its way to Australia to be installed in the Porsche EBS Prototype race car. However, the chassis itself continued to be raced from 1974 to 1976, after which the RSR received a specially-built, 3.5-litre, flat-six engine.

In 1987 the car was bought by UK specialist Autofarm for £25,000 but only a year later it was sold to racer Siggi Brunn, who decided to restore it back to its former glory. From 1993 to 1995 and 1997 to 1999, this RSR also took part in the prestigious Tour Auto. The current owner campaigned the car in those latter rallies,


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The RSR's authenticity had to be proven and a noise test passed before the car could be registered for Switzerland's roads

as he purchased it in 1995. Since then the car has undergone another restoration. This was more of a refurbishment than a full restoration, but when a friend of the owner began researching the car's history, he found more than 50 pictures that detailed the car's racing life. It was subsequently decided to cover the car in the exact livery and stickers that it had during the 1973 Le Mans race. Incidentally, the EBS Prototype came up for sale, but its owner didn't want to part with the engine. Fortunately, the prototype's new owner agreed to sell the engine, making it possible to have a matching-numbers 1973 RSR, which is rare.

However, the owner of chassis 0636 decided to keep the 3.5-litre engine in the car, partly because it was by now such an integral part of the car's racing history. The characteristics of the engine were also similar to that of the original unit; he's kept the precious 2.8-litre in storage, should he wish to reinstall it one day. The car itself resided in South Africa for a while, but unfortunately the country didn't host the type of events that the RSR could compete in and be appreciated for, so the car was shipped to Switzerland. But there was one problem. No other 2.8 RSR had been road registered in the Alpine country. What followed was a year of "jumping through several hoops."

First of all, the owner had to prove that the car was a genuine RSR before the volume of the otherwise characterful noise emitted by its exhaust system was to be muffled. In Switzerland the decibel test is conducted when the car drives by at 100km/h and the driver who drove the car for that test admits he capped the two main exhaust pipes, allowing the gases – and sound – to exit from the single side exhaust. He also selected fifth gear to keep the revs as low as possible.

To cut a long story short, they succeeded: the RSR was road registered just a few weeks before the key to this rare Rennsport was handed to me. This is not only appealing in the sense that the car can now be enjoyed on the seemingly endless number of picturesque Alpine roads, but should the owner wish, he can drive the car to selected European events, take part, and drive it back home. You can't do that in many RSRs!

Walking around it, this 911 is pure race car theatre, especially when you look at it from directly behind and see those fat, wide rear tyres – the rear wheel arches were widened to accommodate monstrous 11x15-inch Fuchs wheels. We are used to seeing wide rear arches on 911s, but it is the front arches that show the car's real intent, housing similarly king-sized 9x15-inch Fuchs. The rear houses the well-recognised ducktail from the 2.7 RS, but when you open the door you instantly realise you are dealing with a different Rennsport altogether. The bucket seats, four-point harnesses and half-roll cage stand out first. I peek in the rear to find a fire extinguisher with copper piping running along the roofline (above the B- and A-pillar) to the windscreen.

As I climb inside and place myself in the seat, it grabs me perfectly along my upper legs and hips, though there is little support around my torso and shoulders. The four-spoke steering wheel is similar in design to those of other road-going 911s of the time, but it seems slightly smaller in diameter. The dials are also similar to those of 911 road cars, except the rev counter has been turned anti-clockwise to put the 7,000rpm marker in line with the 12 o'clock position – and it is marked up to a heady 10,000rpm. After all, this is a race car, and a quick glance at the rev counter should show you exactly where in the rev range you are.

I turn the key and the flat six immediately starts with a rough, off-beat rumble, while the sound, unsurprisingly, pierces the confines of the cabin to a greater extent than in the 911 road cars of the time. I blip the throttle and the engine responds promptly and crisply. As I pull away the rear limited-slip differential (with an 80 per cent slip factor) makes its presence felt, and it is clearly not happy at slow speeds or in very tight turns. We first need to drive through the small village of Les Diablerets and, although the local inhabitants may be used to seeing some special Porsches, I notice that a few pedestrians take longer glances as they gradually realise this is no ordinary, classic 911, but something truly unique.

On part throttle, the engine is not at all noisy, but as the mountain pass beckons, I shift the gearlever of the 915 five-speed gearbox towards me from third into second and squeeze the throttle with vigour. The engine reacts

History of the 2.8 RSR

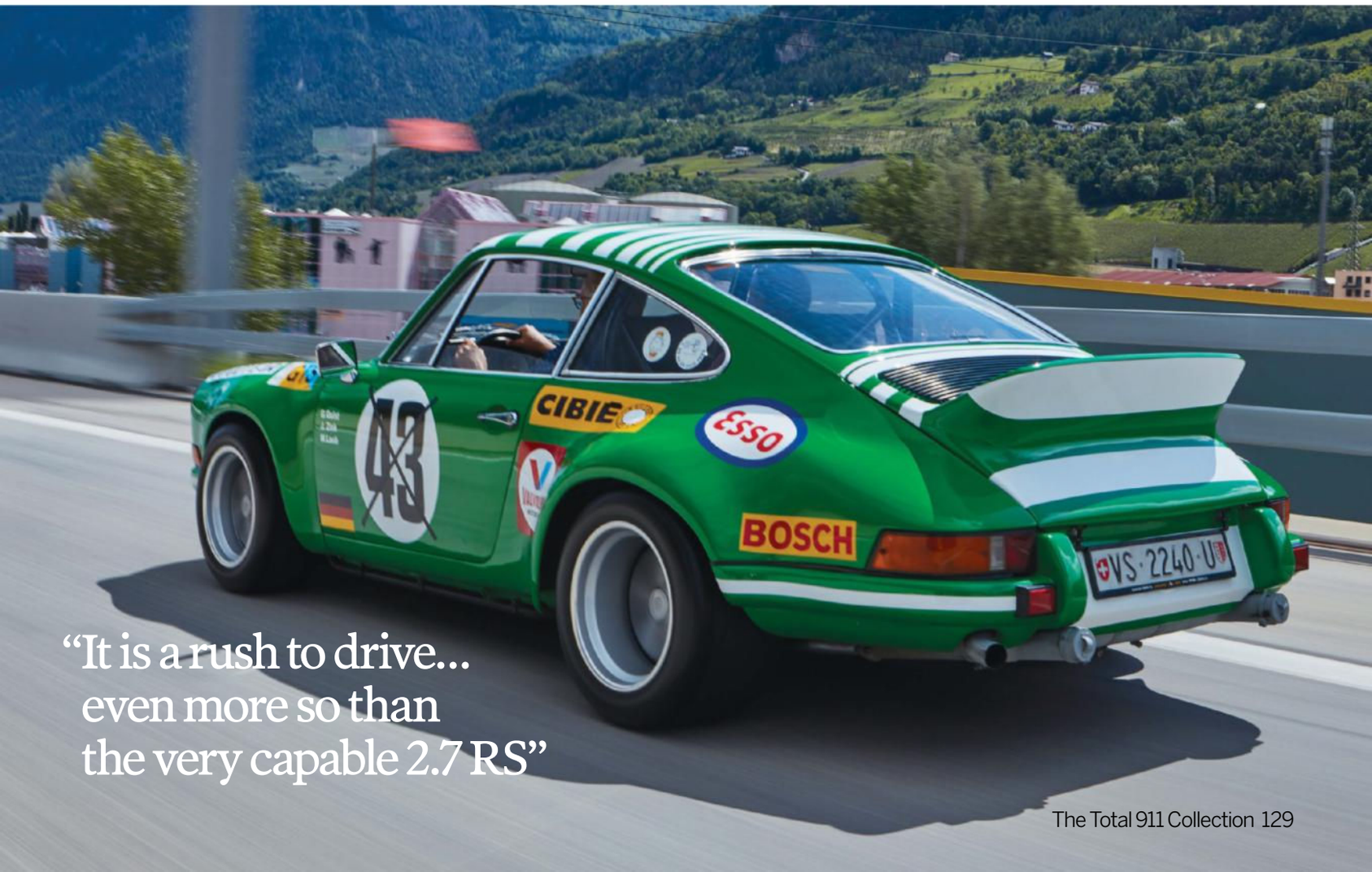
The 2.8 RSR (special order code M491) was built as a fully-fledged race car based on the original 2.7-litre RSH. The latter is the abbreviation used for the homologation version, which was the lightest possible model. The RSR in 2.8-litre specification reflects the engineers' real goal for the car. It was developed and fitted with every upgrade allowed under the racing regulations for Group 4.

Following all these updates, the 2.8 RSR achieved notable race victories. These included overall first position at the 1973 24 Hours of Daytona, courtesy of Peter Gregg and Hurley Haywood. A month later the same duo finished again in first place – with the help of driver Dave Helmick – at the 12 Hours of Sebring. In second place was Michael Keyser and Milt Minter – even though their car was engulfed in flames at one stage during the race!

Also in 1973 Herbert Müller and Gijs van Lennep took overall victory at the famous Targa Florio, while at the 24 Hours of Le Mans the same team finished a credible fourth overall.

In 1974, the 2.8 RSR was replaced by Porsche's 3.0 RSR, while the 2.1-litre turbocharged RSR monster also arrived on the racing scene.

There were few options available on a 2.8 RSR, including a 120-litre capacity fuel tank, altered gear ratios and a side script



"It is a rush to drive... even more so than the very capable 2.7 RS"

immediately, catapulting the car towards the first corner. The RSR doesn't weigh much, yet I'm surprised at how quickly and strongly the engine pulls. Through the first few bends it is evident how perfectly the front turns into a corner, partly owing to the wider track, tyres and a strut brace connecting the front suspension towers.

As with any 915 gearbox, you can't rush through the gears, but if you blip the throttle before a gear change the drivetrain responds better and progress is smoother. This car's brake pedal does require a fair amount of downward pressure, but once you are through the initial phase, the stoppers – sourced from Porsche's 917 racer – scrub off speed well. As I gain confidence in the car, I explore the upper echelons of the flat six's limits. The engine eagerly picks up speed throughout its rev range, but after 4,000rpm it really comes on song and then you can easily keep the throttle pinned all the way past 7,000rpm.

The owner says his RSR will rev cleanly to 8,000rpm (the same point at which the 2.8-litre delivers its peak power), but I change up before this rounded number, only to be surprised, after guiding the gearlever into the next slot, by the sheer eagerness with which the engine continues to push from the rear. It is a rush to drive and, as expected, even more so than the very capable 2.7 RS. As I pull over to have a look below the decklid, it is interesting to see that on the chassis plate, Porsche refers to this car as "Typ 911 SC". Maybe Porsche thought of this car as a "super Carrera", a name they would later use on production 911s from 1978.

Dr Thomas Gruber and Dr Georg Konradsheim's much praised book, *Carrera RS*, contains some fascinating images and details from the entire history and development of the 2.7 and 2.8 RS. Did you know the 2.8 RSR was built on the same production line as the 2.7 RS, but was pulled off and taken to the customer sport department (in Werk 1) where the transmission, suspension and fire extinguisher, to name a few, were fitted? The 5cm wider front and rear arches were also welded at an early stage on the production line.

Once completed, the car would be transported to Weissach's test circuit where the running-in process would take place. Only a few options were available, including a 120-litre fuel cell, special gearing ratios and chromatic side scripts. As only 49 2.8 RSR customer cars were built in 1973, it is no wonder that they command extremely high prices today; at Gooding & Company's Pebble Beach auction in 2015, a similar Viper green Porsche RSR sold for $935,000. Today their value is even higher!

Further research showed that historic Porsche specialist Maxted-Page offered one for sale as we went to press, also featuring some significant race entries. Needless to say, you'll have to search extensively to get your hands on one of the most important early RS cars! Could there be a better way to celebrate this monumental 911 than have it registered in one of the world's most picturesque countries, and enjoy it on some of its best roads? Lee Maxted-Page sums it up perfectly: "They are simple and effective, and still provide a lucky few with the ultimate early 911 driving experience." As we turn back along the mountain pass and head for home, we can't help but agree. 911

2.7 RS V 2.8 RSR

MAX TORQUE

255NM
2.7 RS @ 5,100RPM

285NM
2.8 RSR @ 6,500RPM

NUMBER BUILT

ENGINE CAPACITY

2.8 RSR **2,806cc**
2.7 RS **2,687cc**

WEIGHT

POWER OUTPUT

TOP SPEED

Model	**Porsche 911 2.8 RSR**
Year	**1973**
Engine	
Capacity	2,806cc
Compression ratio	10.3:1
Maximum power	285bhp @ 8,000rpm
Maximum torque	285Nm @ 6,500rpm
Transmission	Five-speed 915 manual gearbox
Suspension	
Front	Adjustable anti-roll bars, torsion bar
Rear	Adjustable anti-roll bars, torsion bar
Wheels & tyres	
Front	9x15-inch; 225/50 ZR15
Rear	11x15-inch; 285/40 ZR15
Dimensions	
Length	4,147mm
Width	1,752mm
Weight	917kg
Performance	
0-62mph	Unknown
Top speed	162mph

ORANGE CRUSH

Total 911 gets up close and personal with an iconically liveried 934 that has raced at Le Mans, Nürburgring, Daytona and Sebring

Written by **Josh Barnett** Photography by **Phil Steinhardt**

During the 1974 and 1975 seasons, Porsche's 3.0-litre 911 Carrera RSR reigned supreme in international GT competitions, helping Weissach to titles on both sides of the Atlantic. During each year of its tenure as the top racing 911, the 3.0 RSR secured both World Championship and European GT honours, while Stateside a similar feat was achieved in the Trans-Am and IMSA GT series. The naturally aspirated car was, therefore, no slouch in the hands of both seasoned professionals and the numerous privateers who campaigned them around the world. However, for the 1976 season, Porsche had a new ace up its sleeve: the 934.

In January, Weissach's valued customers were invited to the Nürburgring to watch Porsche's latest GT contender in action. At the helm of the prototype was test driver, Manfred Schurti, a man no stranger to success behind the wheel of 911s having won the GT class at the 24 Hours of Le Mans just six months prior. When Schurti stopped the stopwatch, the order books opened with most of the established teams switching to the new car. Why? The Liechtensteiner had lapped the Nürburgring 15 seconds faster than the outgoing 3.0 RSR.

The CSI's decision to delay the introduction of the revised Group 4, 5 and 6 regulations, originally planned for 1975, until the start of the following season had allowed Porsche to use the newly introduced 930 road car as the basis for its latest GT racer, with the 911 Turbo's production figures more than satisfying the Group 4 rule book's stipulation that at least 400 examples needed to have been built in a two-year period. The 934 (so named because it was a Porsche 930 built to Group 4 specification) was more closely related to the road car than its silhouette-style brother, the 935. Led by Wolfgang Berger – the man who oversaw the 2.7 RS project – development of the 934 began in earnest in May 1975 and they soon found the restrictive rule book a problem.

The larger-than-standard KKK turbocharger in the 934's 930/71 flat-six engine generated a lot of heat, especially when run at the maximum boost pressure of 1.4 bar. At these speeds, the red-hot turbo would heat the inducted air to around 150 degrees Celsius (300 degrees Fahrenheit), reducing the charge's power and increasing the likelihood of the fuel pre-detonating. What was needed was an intercooler but, unlike the Group 5 rules,


02
AVON
FOR RACING PURPOSES ONLY
NOT FOR HIGHWAY USE

Model	**934**
Year	**1976**
Engine	
Capacity	2,994cc
Compression ratio	6.5:1
Maximum power	530bhp @ 7,000rpm (with 1.35 bar boost)
Maximum torque	588Nm @ 5,400rpm
Transmission	915 four-speed syncromesh manual
Suspension	
Front	Independent; MacPherson strut; wishbones; coilover Bilstein dampers; longitudinal torsion bars; anti-roll bar
Rear	Independent; semi-trailing arm; coilover Bilstein dampers; transverse torsion bars; anti-roll bar
Wheels & tyres	
Front	10.5x16-inch BBS three-piece wheels
Rear	12.5x16-inch BBS three-piece wheels
Brakes	
Front	Drilled and ventilated 917 discs, finned four-piston calipers
Rear	Drilled and ventilated 917 discs, finned four-piston calipers
Dimensions	
Length	4,235mm
Width	1,775mm
Weight	1,120kg
Performance	
0-62mph	Unknown
Top speed	Unknown

the limitations on aerodynamic development in Group 4 required Porsche to use the standard decklid from the road car. While the whaletail wing may have looked cool (and provided more downforce than the old ducktail design), it didn't leave enough space for the large air-to-air intercooler used on the Carrera RSR Turbo 2.1 in 1974.

Weissach's engineers went back to the drawing board to see what could be done and soon found a way of mounting two Behr air-to-water intercoolers (one for each bank of cylinders). Unlike the 935 – which was soon fitted with those sloping flatnose fenders – the 934 had to use the idiosyncratic upright front wings, yet under the centre line of the front wheels there was more freedom, allowing an aggressive air dam chin splitter to be fitted (although the impact bumpers, complete with concertinas, had to be retained).

The intercoolers improved the charge density drastically, reducing the intake temperature to 50 degrees Celsius (120 degrees Fahrenheit). The design also improved front downforce and helped to feed fresh, cooling air to the brakes, as well as accommodating an oil cooler.

Inside the 2,994cc flat six, the rule book again dictated much of the specification. The crankcase, crankshaft, con-rods and cylinder heads were identical to the 930/50 engine used in the 911 Turbo, the car used to homologate the 934. Although new pistons were fitted, the compression ratio remained at 6.5:1, but Hans Mezger and Valentin Schäffer were able to fit larger intake and exhaust valves (seated above 41mm ports). The talented engineers were also allowed to fit more aggressive camshafts and a revised Bosch K-Jetronic electronic injection system. Compared to the 260hp road car, the changes were good for a mighty 485hp in the 930/71's initial configuration. A reworked camshaft soon saw that figure jump beyond the 500-mark though, with 530bhp on tap at 1.35 bar of boost, fed through a reinforced version of the 930's four-speed 915 gearbox (complete with three different sets of ratios). The actual output was adjustable via a knurled metal knob mounted in the cockpit where the radio unit would normally sit, allowing each driver to tailor the levels of insanity to the track conditions.

Slowing the 934 from 170mph-plus were a full set of 917-style brakes, comprising drilled and internally vented discs and four-piston, finned calipers. At each corner, these were housed behind centre locking, 16-inch BBS split-rim wheels (10.5-inches wide at the front, 12.5-inches wide at the rear) suspended with adjustable Bilstein coilover dampers front and rear, complete with stiffer bushings. The MacPherson struts at the front were stabilised with an aluminium cross brace, while front and rear anti-roll bars helped to control the car's side-to-side weight transfer.

The bodyshell itself had to be taken from the 930 production line and, with the rule books determining minimum weights based on engine

capacity, the 934 fell into the over 4.0-litre category once the turbocharging coefficient of 1.4 was taken into consideration. This meant a fairly conservative weight limit of 1,120kg was achieved, which was just 75kg less than a 1976 model year Turbo. Lightening the car to the levels of the previous RSR would have been an unnecessary hassle for Berger's team (although Norbet Singer still wanted to prepare the cars to a level suitable of a Porsche race car, so the sound-deadening, rear seats and much of the interior trim was removed).

An aluminium roll cage was bolted in – along with the rest of the required safety equipment – widened, glass fibre arches were riveted on and a huge, 144-litre fuel tank occupied much of the space under the bonnet. But, despite these additions, the racer hit the scales at 40kg under the weight limit. This allowed Berger to position ballast in the nose of the 934 (which was not a new trick on 911s), helping the weight distribution of the rear-engined car. It also meant that, inside, the standard door trims and even the electric windows (still completely operational) were retained, unheard of in almost any racing GT car.

In the metal, the 934 is truly captivating (maybe more so than a 935 because its 911 DNA is even more evident). Seeing one chasing you down in your mirrors must have been an intimidating experience, with the beautifully blistered arches, deep chin splitter and nose-down stance lending the Group 4 contender real menace. It's outrageous but it just looks right. And it looks even better in the legendary, bright orange Jägermeister livery as sported here by chassis no. 0158 ('930 670 0158' to give it its full 934 name), one of just three Porsche 934's to race in the iconic auburn hue in period.

Sportingly (as it had done with the 3.0-litre RSRs), Porsche chose not to run a works team in the Group 4 category, instead focusing on Groups 5 and 6 with the Martini-striped 935s and 936s respectively. This meant that independent outfits were free to campaign the 934s without fear of being beaten by the better-funded Weissach factory. It also meant that Porsche's 'entry level' turbo racer would wear a number of unique liveries during its life. None captured the imagination quite like the simple, striking Jägermeister cars, stag head proudly adorning the bonnet and doors.

For the 934's debut season, two Jägermeister-sponsored cars ran – chassis nos. 0167 and no. 0168 – under the Max Moritz Porsche banner, a Porsche dealer just south of Stuttgart. Driven by Reinhart Stenzel and Helmet Kelleners, the two cars achieved modest success in the Deutsche Rennsport Meisterschaft (Germany's premier national racing championship). With a handful of podiums between them, the Max Moritz duo finished the 1976 DRM season in seventh and eighth (Kelleners leading Stenzel in the standings). Both cars would forego backing from the drinks maker in 1977, before no. 0168 returned to the colours in 1978 for a handful of DRM and World Sportscar outings.

Meanwhile, chassis no. 0158 was delivered to the Cologne-based Kremer brothers, Erwin and Manfred (who had run Clemen Schickentanz to Porsche Cup success in 1973) ahead of the 1976 season. The 934's purchase was bankrolled by wealthy amateur, Gerhard Holup, who chose to predominantly campaign the car in the Deutsche Rundstreckenpokal (the German Race Trophy, a second tier national series) and the DRM, with it painted predominantly in white. Holup's agreement with Kremer enabled the team

to use the car in a number of high profile events with other drivers, though.

The first such event for chassis no. 0158 happened to be the 1976 24 Hours of Le Mans, where Kremer's entry, running race number 65, was bedecked with large red 'Elf' decals, one of France's largest oil companies and the main source of funding for a number of up-and-coming French drivers, including Didier Pironi (who would go on to be a Grand Prix winner for Ferrari in the early 1980s). Pironi was teamed with countryman, Bob Wollek (a Porsche stalwart) and Marie-Claude Beaumont, a member of Elf's roster of female racers. Having qualified 20th overall, the French trio had a solid if unspectacular run to fourth in class.

Pironi had obviously shown something though; for the next season it was racing Renault-Alpine's Group 6 prototype with which he would win Le Mans outright in 1978, beating the factory Porsche 936s. Wollek would race the car again at the ADAC Norisring Trophy (where transmission failure would keep him from finishing) before teaming up with factory aces Reinhold Joest and Jürgen Barth to win the GT class at the Six Hours of Dijon, the final round of the 1976 World Championship for Makes.

1977, once again, saw the car bereft of Jägermeister sponsorship as Dieter Schornstein purchased 0158 and partially updated it to 934.5 specification, including a large, 935-style rear wing. The highlight of Schornstein's year was a fifth place finish at the Nürburgring 1,000km in the blue-and-white Sekurit-sponsored car. However, when Holup bought the chassis back for the 1978 season, the future for this 934 was very much orange.

After starting the season in the hands of Max Moritz, Holup and codriver Edgar Dören (who was using 0158 in the DRM) returned to Kremer Porsche in time for the 24 Hours of Le Mans, bringing Dören's Jägermeister backing with them. Teamed with Frenchman, Hervé Poulain, and Luxembourg-based driver, Romain Feitler, the bright orange Porsche didn't finish after another bout of gearbox gremlins at La Sarthe. However, the Jägermeister colours would remain for the rest of 1978 as the German duo finished either first or second in the GT class at seven other international sports car events.

0158's brief soirée in orange was over by 1979, with Dören's new sponsors, Weralit, bringing in a new white design with bold green and red stripes. The year turned out to be perhaps the 934's most successful, though, with Dören winning four times in the DRM to take the overall title against the faster Group 5 machines. By the end of the year though, the 934's competitiveness in European competition was coming to an end, leading Holup to sell the car to American privateer, Jack Refenning. Now Stateside, 0158's stay of execution was extended and led to the car competing at the 24 Hours of Daytona twice (in 1980 and 1981, finishing ninth in the latter) and the 1981 12 Hours of Sebring.

With its racing career finally over, no. 0158 resurfaced at the turn of the millennium in the hands of renowned Porsche racing specialist, Manfred Freisinger, whose eponymous concern completed a nut-and-bolt rebuild of the car in 2011, returning the chassis to its 1976 Le Mans livery. After being brought to the UK, and entrusted to the care of Maxted-Page, chassis no. 0158 was soon after repainted in its famous Jägermeister livery before going on sale. However, if you want to secure this iconic car for your own collection, you're already too late. After an inspection by Jürgen Barth himself, this eye-catching 934 is already on its way to a new owner in the US. For now, you'll just have to make do with these photos like the rest of us. 911

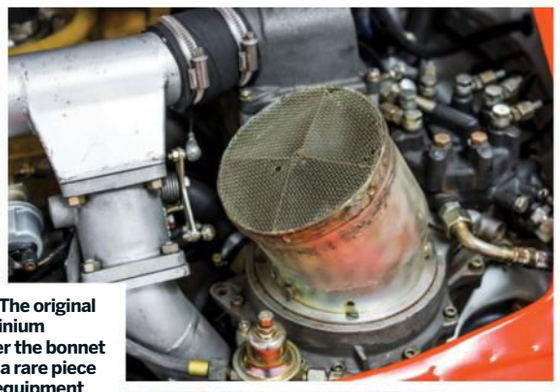
Horizontal fans – the how and why

You will have noticed that on any air-cooled Porsche 911 road car, at the back of the engine bay is a vertically mounted fan. Driven off the crankshaft via a belt, the sole function of this fan is to draw air into the back of the car and cool the engine. However, look under the decklid of a 934 or 935 and you will notice that the cooling fan is mounted horizontally, directly above the flat-six engine.

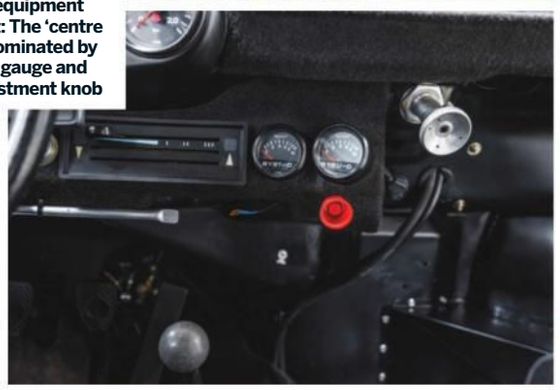
Porsche's horizontal fan design was first seen in the 2.2-litre, flat-eight version of the 907 sports prototype, before becoming famous atop the flat-12 motor of the Le Mans conquering 917. Like any air-cooled 911, the fan in the 934 still takes its initial drive from the crankshaft via a belt and pulley setup but Porsche had to transfer this drive up to a gearbox using a shaft-driven set of bevel gears to turn the motion through 90 degrees.

The hideously complex system robs the 930/71 engine of around 15-30bhp. So why did Porsche use it? Compared to the vertical fans in the road cars, the horizontal design provided more equal cooling of the cylinders (with reports showing that cylinder temperatures varied by less than six degrees Celsius/ 43 degrees Fahrenheit). By controlling temperatures more efficiently, Porsche could run higher levels of boost without the risk of pre-detonating the fuel, improving reliability and increasing the power output.

Left: At first glance the 934's stripped out interior is typical of any 911 racer, until you notice the standard door cards and electric window switch
Top right: The 934's widebody – courtesy of fibreglass arches riveted to the shell – makes for a captivating sight



Bottom left: The original welded aluminium X-brace under the bonnet of the 934 is a rare piece of standard equipment
Bottom right: The 'centre console' is dominated by a VDO boost gauge and knurled adjustment knob



THE ORIGINAL RETRO

Thought retro-moderns were a recent idea? Not a bit of it. Here we unearth a little known 1972 RSR lookalike with the heart of a tuned 964 RS – built in 1994...

Written and photographed by **Steve Hall**

You could be forgiven for thinking the trend towards so called retro-moderns is something new, a recent phenomenon brought about by a groundswell of enthusiasm for classic cars coupled with a desire to use them like a modern car. It's a trend that's easy to understand, with the benefits clear: some of the most iconic classics of yesteryear are remixed with modern mechanicals to deliver a stunning and unique driving experience, with that delicious style we so love about classics. And it's becoming ever more popular, with reimagined versions of everything from the Jaguar E-Type and Jensen Interceptor to the Alfa GT and Austin Healey, available with a modern heart beating beneath their classic curves.

But surely the biggest exponent of the retro-modern philosophy (and perhaps the most suitable) is the Porsche 911. While California based Singer grab many of the headlines (they are, undeniably, stunning objects), while Paul Stephens in the UK will happily build you something equally stunning via his PS AutoArt division, with Autofarm and 911 Retroworks getting in on the game too. Although it may seem to be a modern trend (Singer was formed in 2009), there is a little known company in the countryside west of Frankfurt who first imagined the concept and completed a car in 1994. It's the same car you see on these very pages, the first 'Emmerling Porsche'.

The story dates back to 1991 and the Geneva Motor Show introduction of the now enshrined 964 RS. Emmerling decided he had to try one as soon as possible, and the subsequent drive left a big impression on him. A fan of the classic 911 look, he started dreaming of how amazing it would be to transplant this level of performance and technology into his favourite classic 911 shape, the wonderful 2.8 RSR of 1972. Well, if you're going to recreate a masterpiece, why not choose the best version, of the best version?

Of course, this would be a challenge fraught with difficulty. The engine and gearbox should prove simple enough – but transplanting the modern electronics, the ABS system, the chassis components, and providing a shell with the requisite stiffness? This would be a far harder task. So it seemed natural to turn the whole problem 180 degrees, and think about it like this: if it's not possible to retrofit the older shell, why not fit the retro look, and a dose of that wonderful classic character, to the later car? So was born the first Emmerling project, the result so good that it was never sold. Just like the 1972 RSR it pays homage to, it looks sensational in the flesh.

Perfectly proportioned, elegant but purposeful, it's deliciously free of any unnecessary addenda, with only those tiny – almost useless – mirrors, ducktail spoiler and front splitter interrupting the clean curves. There is good reason why almost every retro 911 remake copies this shape – it's never been bettered.

The interior is similarly purposeful. The fanciful detailing found in other retro-moderns is not found here, for this car is about performance and low weight. So, instead, you sit behind a standard 964 dash with funky blue clock faces, the standard door cards have been ditched in favour of lightweight carbon inners with matching blue fabric door pulls, you're supported by a fixed back bucket seat and braced against an aluminium clutch footrest.

Behind you there's a half roll cage bolted to the shell whilst in front sits a lovely three-spoke Momo leather wheel, with your right hand falling to – what's this? – a gearlever with a six-speed pattern etched on top. This well-used car

Top: 330hp and less than 1,200kg in weight means this retro-modern 911 truly carries the RSR spirit

Right: Rather than inserting the Rennsport M64 engine into an old chassis, Emmerling has backdated a 964 RS

eschews aesthetics at the altar of attitude, so where others place fancy stitched panels, a simple look below waist level exposes much of the car's wiring and, if you could see it, you'd find much of the weighty sound deadening gone from the rear of the car. It evokes exactly the atmosphere Emmerling wanted; this is a machine built purely for the joy of driving, for impressing with lap times and not leather work.

When you start inspecting the mechanical makeup, it's easy to see where those lap times could come from. The 964 RS donor was already a light car, and its 260bhp did a fine job of motivating 1,230kg. The lightweight panels of this car, in tandem with the no nonsense interior and lightweight wheels strip that further, ducking under the 1,200kg barrier. And whilst paring back weight from an RS was always going to be tricky, added power was more readily achievable. Now sporting a programmable ignition, integrated single ignition coils, an improved alternator, more aggressive camshafts, free breathing headers and exhaust, the result is 330bhp with a commensurate boost in performance levels. Access to the newfound power of the tuned M64 is via a six-speed Porsche 993 G50/21 gearbox, ensuring easy access to the motor's rich power band. With a gorgeous set of split rims, adjustable coilovers, a front strut brace and uprated discs, there's no doubting the thoroughness, the seriousness, in the single-minded pursuit of performance on display here. I can't wait to drive it. Thankfully, after a spot of lunch, that's next on the day's schedule.

This is probably one of the more unusual cars you'd find in a McDonalds car park. Trundling into town with me in the passenger seat, we're drawing attention everywhere we go, and – as often seems the way with classics – it's almost entirely positive, with smiles and thumbs up from onlookers. Whether it's the looks, the noise, or sheer lack of pretentiousness – most likely a combination of all three – it does make you feel a bit special. So we park up, wander in for our Big Macs, and talk tactics. Emmerling recants a tale of his first visit to Hockenheim in 1994, where person after person inquired about the RSR, asking "How could such an old car be so fast?" Meanwhile, outside, the grey skies have gone from threatening to drizzling.

In a massively powerful supercar with vast tyres, this could be a huge problem, but the joy of something like the RSR – and perhaps retro-moderns in general – is that they are rarely power cars. Sure, there's enough mojo to light up the rears and turn you around if you're clumsy, but with 8.5x17-inch items wearing 225/45 tyres up front and 10.5x17-inch items wearing 265/40 tyres out back, they're just slim enough to cut through the moisture, whilst the high-revving, linear nature of the power delivery makes it extremely driveable. Perhaps most of all, the car is just so communicative. The steering is sublime with the perfect balance of weight, precision, feedback, and speed – as the central hard point with which to control the car, it fills you with absolute confidence. Now that the rain has subsided, there is merely a greasy – but quickly drying – surface to contend with. It's a brisk five-kilometre drive to our chosen test road, a fantastic little ribbon of Tarmac perhaps four kilometres long, beautifully surfaced, and packed with some stellar corner combinations. Wide-open third and fourth gear curves give way to tighter second gear switchbacks, which tempt you to prod the tail wide on exit. We can go back and forth as much as we like. It'll do nicely.

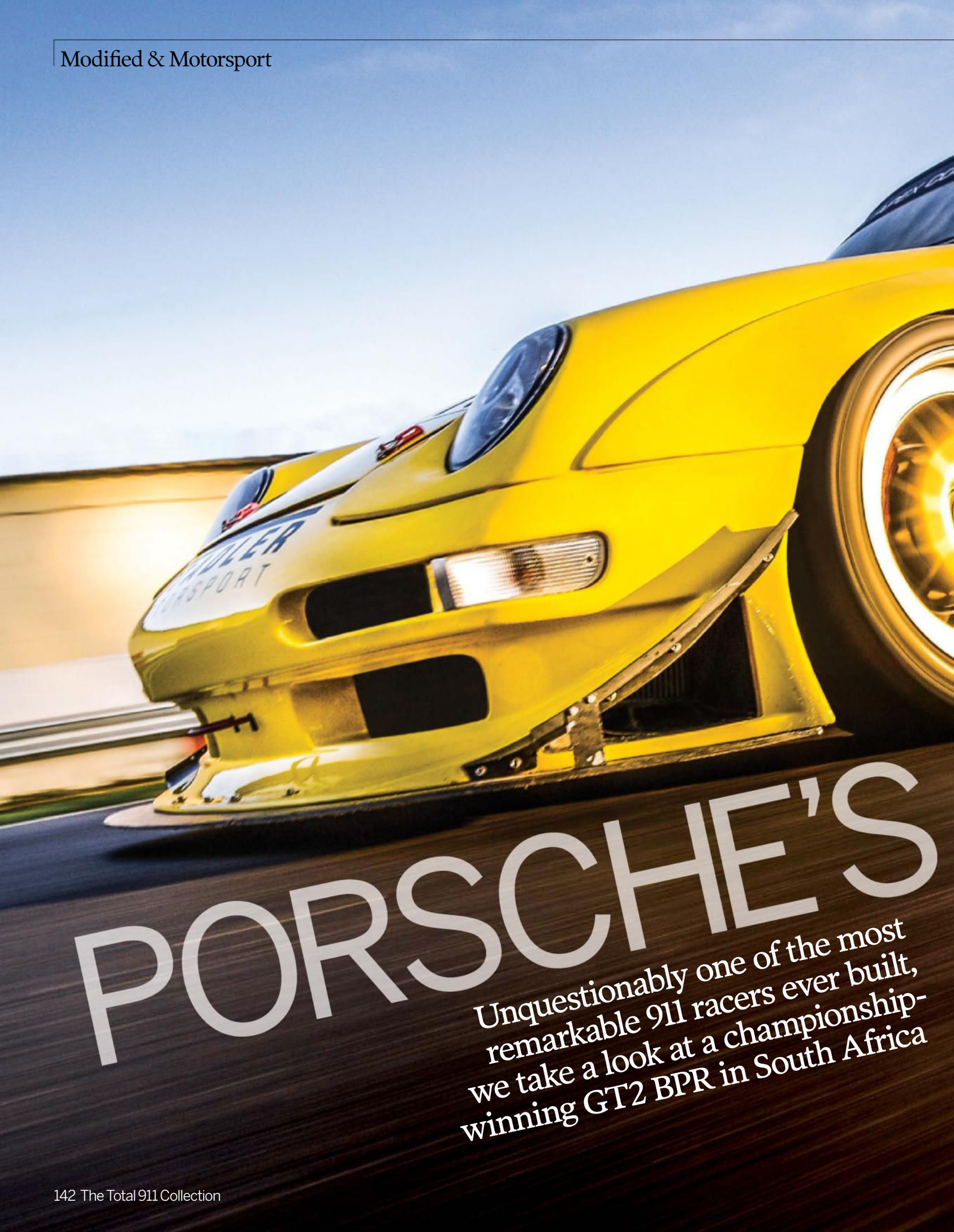
But before we go any further, dear reader, I simply have to mention the element of the RSR's make up which dominates everything it does – that aspect which paints a huge smile across your face, whether cruising in town or

kissing the limiter on a cross-country thrash. It is, of course, the magnificent acoustic show taking place behind my right shoulder, suffusing the cabin with a mechanical melody, the like of which I've never experienced before in something 911 shaped. Crisp, aggressive and resonant, the mid range evokes that classic flat six baritone rumble, smooth as you like and overlaid with the mechanical thrashings of various cams, chains, and belts. Crack open the throttle and the reward is instant. The note hardens and as revs climb the motor strikes a variety of points where the resonant thrashing of the intakes take over, ever changing until the buzzsaw shriek of the last thousand revs. It's loud, but such is the quality you just want to experience it over and over again.

And it's quick. The upper end of the rev range really gets your attention; such is the rate of acceleration and the frequency with which you have to throw gear changes at it. Thankfully, that's a pleasure because the six-speed gearbox melds beautifully with this tuned RS lump; all in all it's a joyous drivetrain. The engine never hesitates, it pulls from way down – you can feel the lightness – and builds in this delicious fashion that makes the redline hugely rewarding. The roads are dry now, and several runs over our chosen route are revealing. The coilovers are beautifully tuned: supple enough to soak up whatever imperfection we encounter and allowing enough body movement to feel the grip levels, whilst simultaneously killing any wheel movements in the first compression. It's totally controlled. In tandem with the fantastic tiller, the wonderful balance of the chassis is a joy to exploit – it's definitively old skool 911, but also malleable.

Sadly, we can't drive until sundown, although I'd be happy to. Comparisons with Singer are inevitable, although I've not had that particular pleasure yet. If it gets anywhere near this in terms of pure driving thrills, then they've done a magnificent job... but, that price. Emmerling's focus on delivering a truly wonderful driving machine, and nothing more, is admirable, and the result borderline magical. This is a car that you just want to drive and drive. I have no doubt it'd be sensational on track but, as a road car, it is simply the most exciting, enjoyable and immersive 911 experience I've ever had. And you know what? I love the unreconstructed honesty of it. I want to drive – I don't need gorgeous stitching and Bluetooth readiness. It's built like a race car: everything you need, and nothing you don't. It's the original, and it might just be the best. 911

Model	**964 RS / 2.8 RSR Replica**
Year	**1994**
Engine	
Capacity	3,600cc
Compression ratio	11.3:1
Maximum power	330bhp @ 6,100rpm
Maximum torque	396Nm @ 4,800rpm
Transmission	Six-speed manual from Porsche 993
Suspension	
Front	Independent; MacPherson Struts; anti-roll bar
Rear	Independent; Semi trailing arms; anti-roll bar
Wheels & tyres	
Front	8.5x17-inch split rim; 225/45/R17 tyres
Rear	10.5x17-inch split rim; 265/40/R17 tyres
Dimensions	
Length	4,275mm
Width	1,775mm
Weight	1,180kg
Performance	
0-62mph	4.2 secs (est)
Top speed	155mph (est)



PORSCHE'S

Unquestionably one of the most remarkable 911 racers ever built, we take a look at a championship-winning GT2 BPR in South Africa

ULTIMATE RACE CAR

Written by **Wilhelm Lutjeharms** Photography by **Kian Eriksen**

"I actually don't know what all the fuss is about," remarked the owner when standing next to his 993 GT2 BPR championship contender. My jaw nearly dropped to the floor. He was referring to his beautiful black with orange 997.1 GT3 RS. Fortunately, he continued to explain his opinion: "Once you've driven a 911 race car, even the good road cars simply don't feel that special. They are less eager to turn in, you can't brake that late." He does have a point, but this is coming from a collector that fully enjoys his 993 GT2 Clubsport (see issue 121) on the road and the track – and why not? The other reason is that part of his collection is a very special 993 GT2 race car. He has owned it for the past 13 years and in his own words describes it as "as good as it gets". The main reason for his opinion is the fact that since the 993 GT2 race cars, Porsche has never again developed a turbocharged 911 race car.

This specific car was built in 1994. A year later, it started its long racing life and participated in the BPR Global GT Endurance Series, which included races in Europe, China, and Japan. The BPR Series of the mid-1990s (1994 to 1996) was surely one of the racing world's highlights. To witness cars, which today are valuable beyond belief, race against one another was an event that is almost difficult

993 GT2 Clubsport v BPR

From a distance, both the GT2 Clubsport and race car might look similar, and both also weigh around 1,150kg. However, there are significant differences. Whereas the gearbox and engine use solid mounts in the race car, the Clubsport features rubber mounts. The race car's roll cage has more bars at the front of the cabin, while the brake system is also upgraded. In terms of aerodynamics, the race car is also lower to the ground. The result is that on a circuit like Kyalami in South Africa, where the owner has driven both, the difference is a notable six seconds.

"Once you've driven a 911 race car, even the good road cars simply don't feel that special"

to comprehend. Think of it as almost the same league as Porsche 918s racing against McLaren P1s and LaFerraris. Fortunately, there are hours of YouTube videos that allow us to relive these races of some two decades ago.

The race series was founded in 1993 by Porsche's Jürgen Barth, Patrick Peter and Stephane Ratel. The first year of racing officially started in 1994 and included cars such as McLaren's F1, Ferrari's F40 and Callaway Corvettes to name a few. The aim of the BPR Series was to use production cars as a starting point that could be developed into racing cars. The cars that were eligible for this GT series were also allowed to compete at the 24-Hours of Le Mans in two classes: GT1 and GT2. During the first season of 1994, Porsche did well with its 964-based RSR. However, during the European winter of 1994/95, Porsche developed the wide-arched GT2, now based on the 993 Turbo. The M64/81, 3.6-litre, twin-turbo engine was almost identical to the 993 Turbo, but featured turbos that ran a higher boost pressure of up to 2.1 bar. In 1996, with the addition of 'Evolution' M64/83 camshafts, power is said to have increased to 465bhp at 5,700rpm (up from 450bhp), producing torque of 670Nm at 5,000rpm.

In the 1995 season the GT2 Group was ruled by 911 GT2s entered by privateers. At that year's Le Mans race they took a very respectable sixth, seventh and eight place. But, as an overall winner, the 911s could not beat the very expensive McLaren F1 GTRs and Ferrari F40s. The result was that Porsche offered a further development of the GT2 to actually compete in the GT1 class. The GT2 came equipped with larger 40.4mm air restrictors, the catalyst was removed, the exhaust system was completely unrestricted, and larger turbos were also fitted. To feed the engine, the fuel system was also unique to these upgraded cars, which featured no less than five fuel pumps. To put all this power down, wider tyres were used, while the car also had a few upgraded visual elements and was decreased in weight to 1,100kg. Overall, the new GT2 Evolution was a faster car, developing over 600bhp at 7,000rpm, with the redline at 8,000rpm.

Even the pace of these early BPR race cars, but more specifically this GT2, takes some explaining to appreciate. Take for instance the qualifying times at the Silverstone 4-Hours race in 1995. This car qualified in an overall fifth place with a time of 1:57.637 (raced by Lilian Bryner and Enzo Calderari), the first of no less than ten GT2s. However, what really shows its strength is the fact that it was only five seconds slower than a McLaren F1 GTR raced by Andy Wallace and Olivier Grouillard.

But 1995 was only the start of this particular car's impressive racing CV. In 1995, 1996 and 1997 it qualified and raced at Le Mans. However, racing is a cruel game and a mechanical problem and an accident kept the car from finishing this iconic endurance race. This car's ultimate victory came in 1995 when it won the Porsche Cup with the same race duo behind the wheel. Needless to say, this car has seen several of the most notable racetracks around the world.

Originally covered in black paint, the car's colours evolved over the years to its current yellow hue, which has been in place since 1999. ➲

BPR GT series: *10 quick facts*

- The BPR series was founded in 1993 by Porsche's Jürgen Barth, Patrick Peter and Stephane Ratel, which resulted in the abbreviation 'BPR'.
- The season kicked off in 1994 with eight races, starting at the Paul Ricard circuit in France.
- The Series ended in 1996 with a four-hour race in Zhuhai, China.
- Most races were four hours in length, with the exception of a few three-hour and 1,000km races.
- The 1995 season boasted 12 races, followed by the 1996 season with 11 races.
- Initially the cars were divided into four classes (GT1 to GT4), but from 1996 there were only two classes, GT1 and GT2.
- The race series also featured a female driver, Lilian Bryner, who actually raced the very GT2 featured on these pages.
- Each team was required to have two drivers per car.
- In the UK this race series visited Silverstone in 1995 and 1996, and Brands Hatch once in 1996.
- Visit **racingsportscars.com** for more information and race results, including some pictures and programme scans from the racing series.

But this was not the only aspect of the car that evolved over the years. Originally, it also had the smaller rear wing, but that changed through the car's racing life to include the EVO race car specification 'banana' wing – with the end tips bending towards the front. I might be wrong, but if my memory serves me correctly it is the largest official Porsche wing to ever grace a 911!

As mentioned, this GT2 originally featured the standard restrictors, but once it ended its class-specific racing career, they were removed. As I walk around the car, I also notice the wheels and tyres are similar to the EVO specification cars. There are three-piece, centre-lock BBS wheels wrapped in 285/645 tyres at the front and massive 325/705 tyres at the rear. Not to my surprise it says "Competition use only. Full slick" on each tyre's side wall. Peek through these multi-spoke 18-inch wheels and you will note the perforated and ventilated discs at the front and rear.

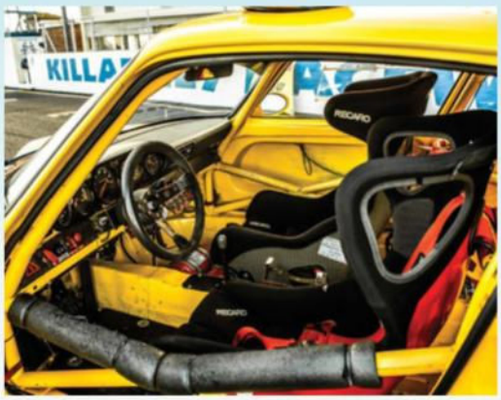
At the rear, once the engine lid has been opened there is a huge intercooler below the teatray wing, while the owner has added specific air filters in those triangular air intakes, which form part of the rear deck. The Perspex windows (side and rear) scream race car, while the rear unit features two exterior carbon-fibre straps to keep the window in place at high speeds as the pressure lowers outside the cabin. As I kneel down, I can barely run my hand between the tyre and the wheel arch, that is how hunkered down this GT2 is. An interesting fact is that the front, extended wheel arches are actually a single unit and not bolted on as is the case with the road car.

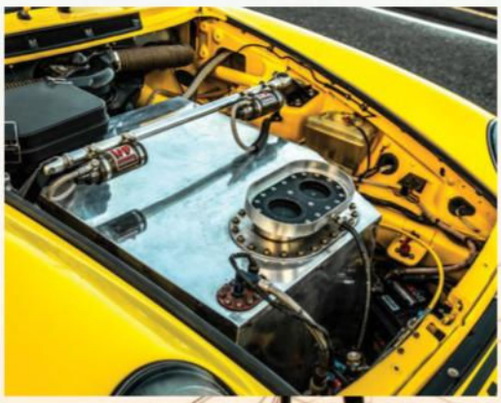
Open the very light door and the interior features a full roll cage, three fire extinguishers, switches for the fuel pump, ignition and a start button to name a few. A further lure is the open gearshift mechanism. The only feature in the cabin that reminds you of the road car is the dashboard, the rest is all purposely added or stripped out for race purposes. Move to the front, and the compartment lid can be removed in its entirety within seconds. Below this lid rests a large, 100-litre competition fuel tank.

At Cape Town's Killarney Raceway circuit, where we did this shoot, the owner has managed a 1:14 lap time with this car – without it being properly set up. To put this time into perspective, a new McLaren 650S supercar manages around 1:17.9. He has also driven the car on international circuits such as Circuit de Nevers Magny-Cours as well as Spa-Francorchamps. It is on the latter where our owner has a particular favourite corner: "Eau Rouge is probably one of the most memorable corners I've taken with this car. In a car such as this GT2 you can't go flat-out through there, so at the bottom, close to the river, you tap off, just ever so slightly. Once you have turned, you put your foot down and hope the laws of physics stay on your side." In South Africa he has also participated in the African 2-Hour endurance race, winning twice.

Unfortunately, before I could head out on the track, the one turbo packed up, owing to a small stone that entered the 'charger and caused serious damage to the vane. That is the reality of owning such a car. Maintenance is a permanent challenge. But, after 13 years, the owner is in the best position to summarise its racing experience: "As long as you keep the wheels pointing in the correct direction and respect the fact that you have around 600bhp behind you, it won't throw you any surprises. The brakes are also extremely capable and the grip levels are high. In a nutshell, it is just an honest racing car and the ultimate racing car Porsche has built. I haven't driven the new 991 race cars yet, but up to and until those cars, I've driven several 911 race cars and this one remains the highlight for me."

To be in the presence of such a piece of 911 heritage is truly a privilege, and thankfully today this car is everything but a trailer queen. Even though values of these cars have skyrocketed in recent years, it is still used at selective track days, where there certainly is a level of fun to be had in beating modern Porsche machinery.





Above: Porsche's GT2 was designed specifically to race in the BPR series, which didn't support all-wheel-drive cars and is why the Turbo-based GT2 is rear-drive only. Fully equipped racers such as this sold for 335,000 Deutschmarks

Model	**993 GT2 BPR**
Year	**1995**
Engine	
Capacity	3,600cc
Compression ratio	8.0:1
Maximum power	550bhp @ 6,000rpm
Maximum torque	637Nm @ 4,000rpm
Transmission	G50, six-speed, straight-cut gears
Engine modifications	Larger turbos than original race car
Suspension	
Front	MacPherson struts with coil springs; gas-filled double action shock absorbers; anti-roll bar
Rear	Independent, multi-wishbone; coil springs; gas-filled double action shocks; anti-roll bar
Wheels & tyres	
Front	10x18-inch; 265/645/18
Rear	11x18-inch; 305/645/18
Dimensions	
Length	4,245mm
Width	1,855mm
Weight	1,112kg
Performance	
0-62mph	Not tested
Top speed	Not tested

GEMBALLA 996 GT3

GT ARGH!

Created by famous tuning house, Gemballa, this 996 could be the ultimate sinister sleeper...

Written by **Josh Barnett** Photography by **Steve Hall**

Some people swear by coffee; others vouch for less legal means of perking themselves up. Personally, I've never had a need for either, however, the automotive industry has – since the 1970s – preferred turbochargers as its means of giving petrol-powered cars a boost, with Porsche using forced induction to good effect on the 911 for over 40 years. From the standard Turbo to the simply crazy GT2s, turbocharging has helped define the performance Neunelfer. More recently, forced induction has found its way onto the 911 Carrera for the first time, dividing Zuffenhausen enthusiasts and causing naturally aspirated aficionados to grab their pitchforks. Despite this, forced induction has more than its fair share of fans, especially in the world of tuned Porsche 911s, where bigger turbines and remapped electronics can result in impressive gains without a significant amount of work.

If you want to look for really big gains, you'll need to start thinking about commissioning more extensive modifications in order to allow the Porsche 911's flat six to handle the extra boost, without over-stressing the internals. Over the years there have been a number of specialists capable of carrying out such work, none more famous than German tuning house, Gemballa. After it was formed in 1979, Uwe Gemballa's concern grew to prominence amid the modifying boom experienced across the car industry during the 1980s. His increasingly


RPMTECHNIK

Only when looking up close do you spot clues to this 996's crazy performance. Note eight-pot brake callipers, extra VDO gauges and modified hoses and airbox

"At 3,000rpm, the twin turbochargers violently spool up and funny things start happening to the view outside"

extravagant creations – originating with the 930-based Gemballa Avalanche in 1985 – were not just aesthetically radical renditions of Porsche's 911 platform though. The mechanicals were suitably bolstered, too, the engine shop at Leonberg (near Porsche's home in Stuttgart) turning out some ludicrous power figures thanks to the ever-more extreme turbocharging technology.

Gemballa's pursuit of ever-higher power was reinforced by the dawn of the water-cooled Neunelfer at the end of the last millennium, the Porsche 996 package providing a more efficient base from which to work. The German team set to work quickly and, by 1999, had already launched the GTR package – a twin turbo conversion for 996 Carreras. Two years later, having also created a bi-turbo GT3 engine, Gemballa understandably turned their attentions towards the newly released 996 Turbo as the basis for their fastest ever car.

The GTR 600 – as the name suggested – developed a heady 600bhp thanks to an extensively reworked version of the 996 Turbo's 3.6-litre twin turbocharged Mezger engine. In a to-and-fro battle with fellow tuning house, TechArt, and after even more development of the chassis, the GTR 600 was eventually able to lap the Nürburgring Nordschleife in 7:32.5. With long-time Porsche racer, Wolfgang Kaufmann – a personal friend of Uwe Gemballa – at the wheel, the GTR 600's record run was so impressive that it wasn't until the release of the Carrera GT that a stock Porsche was able to best Gemballa's efforts around the Green Hell.

You may think it's odd that I'm telling you all of this when the car before you appears to be nothing more than a 996.2 Carrera sporting a GT3 front bumper, however, this particular Porsche isn't all that it appears to be. Despite its understated looks, Gemballa converted this 911 to GTR 600 specification for its second owner in 2001 after the car had covered just 1,300 miles with its original keeper. But, unlike the original 996 GTR or the later GTR 600, this 911 didn't start life as a Carrera or even a Turbo. As you may now have guessed, this specific build originally left Stuttgart as a first-generation 996 GT3! After its brief spell in factory specification, the second owner quickly realised that, as great as the GT3 was on the twisty stuff, on the Autobahns that link Germany's many metropolises, the lack of bottom end torque left his new purchase vulnerable to being upstaged by various turbo'd diesel estate barges. It's a frustration we've had ourselves with Porsche's more cooking models, so we can certainly understand his vexation. At this point, the GT3's owner decided to take drastic action to turn his Neunelfer into something truly potent, so he handed the 996 over to Gemballa, who – as I've just explained – had recently launched the GTR 600 package for contemporary 911 Turbos. But, this customer didn't want a straight GTR 600 conversion with the Turbo-derived power plant that would entail.

Instead, the 996's owner insisted that Gemballa retain the GT3 version of the famous Mezger engine and bolt on two rather large turbochargers to its previously naturally aspirated architecture. While the technicians at Gemballa had turbocharged one the year previous, they hadn't attempted to perform the GTR 600 upgrade to a GT3 before. Luckily for them, the story that has travelled with the car from Germany to here in the UK suggests that the owner was well connected with the fine

folk at Weissach, Porsche's R&D and motorsport nucleus. This, allegedly, allowed Gemballa to fit a special development crankshaft, pistons and con rods, all taken from the racing department's metaphorical store cupboard. The end result is a 3,600cc flat six unlike any other. According to the car's history, this is the only GTR 600 running a completely independent cooling setup for both turbochargers and water-to-air (rather than Gemballa's more common air-to-air) intercoolers, helping to improve the efficiency of the forced induction system when ambient temperatures were higher than normal. It also meant that the rear end of the car didn't need any visual reworking to fit the standard air intakes normally seen on Gemballa's standard GTR 600 builds.

With the aim of creating the perfect sleeper, the owner instructed Gemballa to remove the GT3's sweeping rear wing and fit a standard flat back decklid. Gone too were the deeper side skirts, replaced by stock C2 versions. Even the kickplate inserts were swapped for Carrera-scripted items to complete the Q-car look. The only concession to the understated aesthetic was the switch to the GT3 Gen2 front end (including the sharper, facelifted headlights) required to house the bespoke cooling setup. Even the split-rim GT3 wheels could be mistaken for standard Carrera options, although those with keen eyes may have noticed the 295-section tyres; 10mm wider than the GT3's normal rear rubber and two inches broader than a Carrera's back boots. As I'm about to find out though, the tyres could do with being wider still...

Inside, it becomes a little more obvious that this isn't the 996 Carrera that it initially appears to be. I lower myself into the leather-clad GT3 bucket seats and, as I glance over my right shoulder, I notice that the rear seats – a standard Carrera fixture – are absent, replaced by the GT3's carpeting. In my hands, Gemballa's own steering wheel (smaller in diameter than a normal 996 wheel) sits well, my fingers wrapping its thick rim almost perfectly into my palms. Bar the steering wheel, the only clue from my perspective that the unassuming clothing hides something more sinister is a trio of extra VDO dials in the centre console where the 996's CD holder normally sits: on the left is an intake temperature gauge, in the centre, an additional oil temperature indicator and, on the far right, a boost gauge, marked all the way up to 1.5 bar.

After a couple of attempts, the Gemballa GT3 surges into life, a black cloud of unburned fuel – accompanied with the requisite aroma – drifting out of the twin tailpipes. The flat six sounds more purposeful at idle but it's certainly not what you'd call angry. The same can be said of the car's behaviour ambling around below 2,500rpm; there's no real torque and the sound track is more akin to a mildly tuned Carrera than a 600bhp monster. However, when I eventually muster the courage to keep my ➲

Model	**Gemballa 996 GT3**
Year	**2000**
Engine	
Capacity	3,600cc
Compression ratio	Unknown
Maximum power	600bhp @ 5,800rpm
Maximum torque	640Nm
Transmission	Six-speed manual
Suspension	
Front	Independent; MacPherson strut; coil springs; anti-roll bar
Rear	Independent; multi-link; telescopic dampers; coil springs; anti-roll bar
Wheels & tyres	
Front	9.5x18-inch alloy wheels; 245/35/R18 tyres
Rear	12x18-inch alloy wheels; 295/30/R18 tyres
Brakes	
Front	380mm vented discs; eight-piston calipers
Rear	330mm vented discs; eight-piston calipers
Dimensions	
Length	4,430mm
Width	1,900mm
Weight	1,482kg
Performance	
0-62mph	3.4 secs
Top speed	211mph

foot in, that all changes. Crawling at barely 20mph, I bury the throttle to the bulkhead. Nothing happens. For the first half second or so I'm left waiting but, then, as the 3,000rpm mark is ticked off by the sweep of the tacho's needle, the twin turbochargers violently spool up and funny things start happening to the view outside. The 996's rear tyres scrabble hopelessly for some semblance of grip. It's as if an atom bomb has been unleashed in the engine bay though. The modified Mezger gives no quarter to the back axle, spinning the rear wheels well beyond their limits and sending the engine speed quickly towards the redline. Despite the monumental loss of traction, the Gemballa has – thankfully – kept itself pretty much in a straight line and has, in just about a second, sprinted to the 60mph speed limit. I said it does funny things to the vista outside the windscreen. If the Millennium Falcon can do the Kessel Run in under 12 parsecs then I'm in no doubt that this ludicrous creation can do it in less than ten.

Lifting off the throttle when on full boost is nearly as violent as the acceleration, the engine snapping off suddenly and sending my head swinging forward. Behind me, the crisp crack of the wastegates scatters a few crows from the nearby trees. With all that firepower behind me, I'm thankful for the Gemballa's eight-piston calipers at either end of the 996. Gripping 380mm Brembo vented discs at the front (330mm at the rear), the brakes aren't initially that positive but, what they lack in bite, they more than make up for in potency.

Combined with a firm, almost race-car-like pedal feel, the stoppers are exactly what are needed after engaging warp speed, especially in the tight confines of our test route. Like the brakes, the 996's suspension is also to Gemballa's own design and is surprisingly effective when you attempt to guide the GT3 through a corner. Compared to a Gen1 GT3, the spring rates feel a touch stiffer, making the front end feel more direct than its stock counterpart. Despite this, the overall damping feels slightly more compliant, especially at lower speeds. The Gemballa doesn't try and sniff out cambers and bumps quite so much as a standard GT3 either, which is just as well, as getting tramlined by the road surface at the sort of speeds obtainable in this 911 would reduce most grown men to a quivering wreck. It really is that fast. For all the talents of the 996's accomplished chassis though, this car is all about that engine.

Having tasted it once, at every chance that now arises, I ham-fistedly step on the gas and wait for the explosion of tarmac-shredding pace. Wait, wait, wait and... the trees outside of the side windows blur into a green-brown mess and my insides are left some 100 yards back down the road. How much boost is this thing pushing? I try to glance down at the boost gauge but, before I can get a clear reading, I'm already about to buzz the limiter. As I go to shift up I'm sure I see the needle jump north of 1.0 bar. Every blast of acceleration can't help but cause a smile to creep from the corners of my mouth, the 996 snarling with a 934-esque bellow.

I've never leapt from the top of a building before but I'm adamant that this creation from Leonberg provides a similar level of exhilaration as BASE-jumping. It's that feeling of falling through the air and not knowing if your parachute *really* is going to open until you actually pull the cord. Gemballa has synthesised that same shot of adrenaline and forced it through each cylinder. And yet, from the outside, no one bats an eyelid as I cruise through the nearest town at the end of the day. This is, undoubtedly, the ultimate wolf in sheep's clothing. Just make sure your heart is ready should you make the jump. 911

PERFORMANCE PERFECTION?

SharkWerks' tuned 997s offer increased power in both turbocharged and naturally aspirated guise but is bigger really better for these modified Mezgers?

Written by **Lee Sibley** Photography by **Patrick Lauder**

There's a famous quote, once uttered by Ferdinand Alexander Porsche, which neatly elucidates the existence of a car on which this very publication is dedicated to. "I couldn't find the sports car of my dreams, so I built it myself," he said, of course in reference to the revelation of the 911 in 1963.

More than half a century later, Ferdinand's dream is still very much alive, with nearly one million examples of the 911 having rolled their wheels on roads (and off them!) all over the world. But while Herr Porsche's 911 may represent the pinnacle for many, for others there's work to be done before that tag of a dream sports car can be truly upheld.

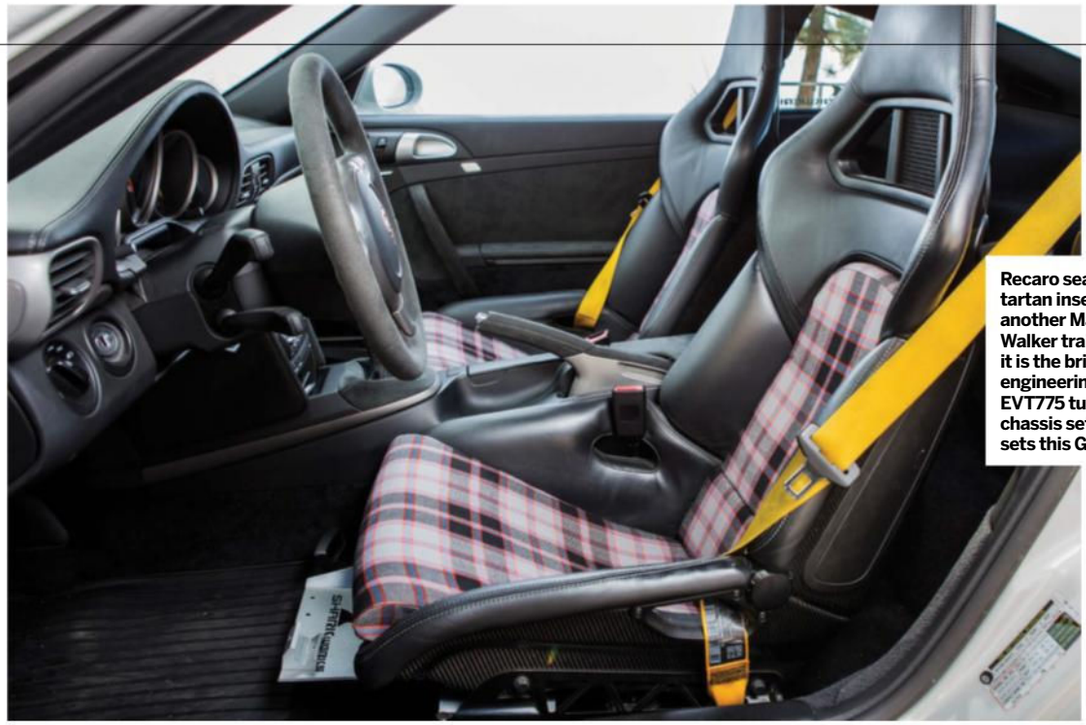
It's early autumn and I'm in California to get behind the wheel of two very different cars that nevertheless share one common goal: to improve on Porsche's factory specification and offer enhanced performance and driving dynamics. As we know, the 911's 52-years of continuous production and high reverence suggests such a feat is a tall order at the best of times – and that is before I reveal the two models under scrutiny here are to be a halo 997 GT2 and GT3, no less.

Think modified GT3 and there are only a handful of specialists with an impeccable worldwide reputation in the field. In Germany, you need look no further than Manthey Racing, Olaf himself being the king of the early Carrera Cup and master of the Nordschleife with numerous VLN victories to his name. Rest assured then, Herr Manthey knows his way around a Mezger, especially when it comes to making it even faster – and with Manthey themselves based next to the Nürburgring, they certainly get plenty of practice. In the UK, Parr Motorsports are often the specialist of choice, with a sustained Carrera Cup experience over a number of years from Paul Robe and his team an obvious selling point for owners wanting even more from their track-focussed 911.

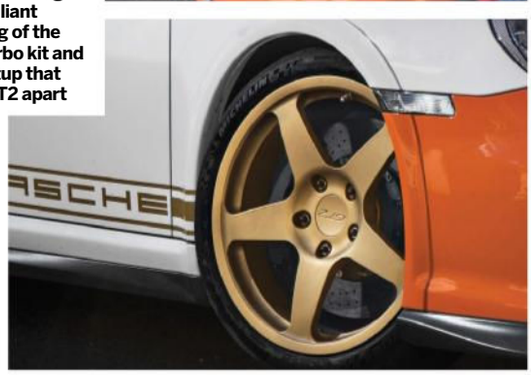
Here in the USA, things are a little different. Historically Porsche's biggest market, the States doesn't have its own Porsche Carrera Cup series to garner the expertise of specialists. Instead, this sector is dominated by tuner specialists who started by modifying their own Porsche, often to extreme lengths according to personal taste, rather than manipulating a street GT3 to behave more like its Cup competition counterpart. A disadvantage over a pro race team, perhaps? Not even a hint of it, especially when the tuner specialist in question goes by the name of SharkWerks.

Of course, SharkWerks should be no strangers to readers of Total 911. Based in Fremont near San Francisco, this innovative triumvirate of Alex Ross, James Hendry and Dan Kennedy have long fused their mechanical and technological know-how with a fervent Porsche passion that has seen them produce some sensational modified 911s, the most notable of which is the 997 GT3 RS 4.1 cover star from issue 122. To this day that reworked Rennsport remains one of the very best examples of the 'other' prancing horse we've ever driven, so there's no question the Bay Area company has form. Fully aware of this as I step out of the glaring morning sunshine and into the cool lobby at SharkWerks HQ, I can't help but get excited at what the day has in store.

After a warm welcome and concerted Porsche chat with Alex, James and Dan, I'm lead into the colourful SharkWerks workshop where my eyes are greeted by that gorgeous Riviera blue GT3 RS 4.1. The 4.1 is like a celebrity in the room but there's no time to bask in the wonderment of its presence because I'm here to examine the flamboyantly decorated 997 GT2 next to it. Packing 650bhp thanks to an Evolution Motorsports EVT775 turbo Kit along with what Alex describes as some "heavy-hitting bolt-ons", the idea behind this 911 was to unleash some truly gnarly power while still making it drivable daily using a 'street' clutch.



Recaro seats with tartan inserts are another Magnus Walker trait, though it is the brilliant engineering of the EVT775 turbo kit and chassis setup that sets this GT2 apart



The SharkWerks GT3 saves 30kg over a factory equivalent, its 3.9-litre engine meanwhile offering a superbly intense driving experience. A thicker TechArt wheel is the only deviance inside the 997's cabin

Behind it sits a first-generation 997 GT3 in an altogether more subtle white hue, though its bodywork cloaks a vastly reworked drive including a 3.6 to 3.9-litre engine conversion that is to be another subject of our impending mountain blast. So, though one of our 997 duo boasts turbo power while the other relies on the purity of natural aspiration, both are seeking to add a bit of spice to Zuffenhausen's traditional flat six flavour, and both cars boast substantially increased power figures over their factory equivalents. But is bigger necessarily better?

By midday the busy urban highways of Fremont are long behind us, swapped for the tranquility of Mount Hamilton and its twisty tarmac. It is the naturally-aspirated GT3 that first demands my examination as Alex passes me the keys and I take my position behind its thick Techart alcantara steering wheel.

The environment within the cabin is unmistakably GT3 and, as I fire up the car and let it settle quickly to idle, the usual gear rattling (a result of that dual mass flywheel) indicates a familiar 997 GT3 experience. However, it is once moving that the SharkWerks 3.9 steps into a whole new world of performance – without losing its inherent GT3 character, something that Alex was always keen to retain. As we carve through every left-right turn of this desolate canyon run, he tells me: "This era represents the final modicum of lineage with the original cars and we simply didn't want to lose that."

Scrupulous attention to detail is exerted on the GT3's Mezger engine during the five-week build process from 3.6 to 3.9-litres (with an additional week necessary for a bottom end build with new rod bolts and bearings), with SharkWerks utilising their own tooling to make the installation possible. Larger bore pistons are used with higher compression for increased torque and horsepower throughout the entire rev range. Meanwhile, lightweight components including pistons (with rotating mass reduced by 20 grams per piston) ensure the motor revs freely and responds well in the upper echelons of the tacho, even increasing the redline to a heady 8,800rpm. The result is best described as a GT3 on steroids: that additional torque is keenly felt at lower rpms and as that needle begins to rise on the central dial, so too does driver excitement.

The most remarkable aspect of this reworked Mezger is its responsiveness: it's so zippy and willing to rev quickly that I'm charmed into unleashing its full power on the road almost immediately. And, when the power is delivered, it's mighty linear too. There's still a sense of the factory GT3's peaky nature, but there's now enough low-down torque to get my adrenaline pumping well before 5,000rpm. That said, power deliverance at the top end is still a mighty spectacle, the 3.9-litre GT3 not only boosted by that 400rpm increased rev limit but, more spectacularly, with just a five per cent drop off here from peak torque. It all makes for an incredibly intense experience that genuinely has my pulse racing.

The GT3 3.9's intensity is of course aided by the noise emanating from the 997's rear. Thanks to that SharkWerks Street Exhaust – which is switchable, while saving 18 pounds over a reciprocating factory part – the GT3's soundtrack is beautifully changed from the factory system's higher-pitched howl into a raucous, red-blooded flat six shriek as car and driver are rapidly propelled towards the horizon.

SharkWerks have been making these 3.9-litre conversions for well over five years now, bringing an accomplishment to the overall package that's unlike anything I've come across before. The chassis feels tight, too, with a slightly firmer ride at the rear (just how we like), though on this tarmac's uneven topography I am having to be wise with my throttle inputs to avoid any unwanted snap-out from the rear axle. The GT3's factory gearbox displays its usual trait in offering a tight, short throw, complementing SharkWerks' electrifying powerplant, and I welcome the influx of information available to my senses afforded by the 997's mechanically assisted steer, fortified superbly by the Bilstein suspension and ever-communicative Michelin Pilot Sport Cup 2s. Interestingly, there is no PASM in sight either, with SharkWerks disabling the factory suspension management in favour of this more traditional setup.

Constantly flicking between second and third gears as we weave up the mountainside pass, ekeing the revs out each time for a quick change-up, I'm completely submerged in the ingenuity of the 3.9's character. The factory GT3 is a brilliant machine, yet this is somehow more involving, more intense, and it's hard not to hide my sheer fanaticism for it. SharkWerks' exquisite craftsmanship here is no fluke either. Our test car in question, kindly donated to us for the day by the legendary Ralph Jackson, an affable 69-year-old Porschephile and one-time Vasek Polak mechanic, has been peddled through more than 65,000 miles of very hard use as a 3.9, and I'm certain it's all the better for it.

Halfway up Mount Hamilton, I reluctantly pull over and bring the GT3 3.9 to a halt. I kill the engine and hop out of the cockpit cooled by air

SharkWerks 997 GT2 2008	Model Year	SharkWerks 997.1 GT3 3.9 2007
	Engine	
3,600cc	**Capacity**	3,900cc
9.0:1	**Compression ratio**	13.0:1
650hp @ 6,000rpm	**Maximum power**	502hp @ 7,800rpm
813Nm @ 5,300rpm	**Maximum torque**	442Nm @ 5,400rpm
GT2 RS single mass flywheel; RS 4.0 pulley; SharkWerks stage 2 clutch kit; Guard GT Pro Chromalloy LSD unit	**Transmission**	RS lightweight flywheel; Cup car clutch and pressure plate
EVOMS 775 kit (EVT775 Clubsport ECU calibration with 7,000rpm rev limit; high-flow VTG turbochargers with 65mm billet compressor wheels; SharkWerks GT2 exhaust & high-flow cats; third generation clubsport intercoolers; reinforced silicone hoses; reinforced silicone turbocharger air inlet ducts; billet turbocharger boost recirculation valves; EVY specification spark plugs; IPD competition intake plenum; Porsche GT3 82mm throttle body; high energy discharge ignition coils; improved turbocharger spool time); Cargraphic 200 cell cats with straight-through SharkWerks stainless steel exhaust; SharkWerks coolant pipe kit; GT3 RS front fender flares; GT2 RS front lip; TechArt rear wing gurney	**Modifications**	SharkWerks 500hp GT3 3.9-litre engine kit (forged, lightweight pistons; stock Mahle 3.6 con rods; steel liners; new rings, clips and wrist pins; displacement increased by 8%); SharkWerks Street exhaust; Cargraphic front wheel kit; EVOMSit ECU tune; specially profiled intake/exhaust cams; EVOMS head stud kit
	Suspension	
Bilstein Clubsport dampers; RSS inner monoballs and adjustable thrust arm bushings	**Front**	Bilstein B16 Damptronic coilovers; RSS/ SharkWerks bump steer/toe steer kit; RSS inner monoballs and adjustable thrust arm bushings; Brembo GT six piston, 380mm disc kit
Bilstein Clubsport dampers; RSS/ SharkWerks rear adjustable links; RSS/ SharkWerks bump steer/toe steer kit & lock out plates; RSS semi-solid engine mounts	**Rear**	Bilstein B16 Damptronic coilovers; RSS/ SharkWerks rear adjustable links; RSS/ SharkWerks bump steer/toe steer kit; RSS inner monoballs and adjustable thrust arm bushings; Brembo GT four piston, 380mm disc kit
	Wheels & tyres	
9x19-inch Champion RS 184 forged monoblock alloys; 235/35/19 Michelin Pilot Sport Cup	**Front**	9x19-inch HRE Competition C93 three-piece alloys; 235/35/19 Michelin Pilot Super Sport
12x19-inch Champion RS 184 forged monoblock alloys; 325/30/19 Michelin Pilot Sport Cup	**Rear**	12x19-inch; HRE Competition C93 three-piece alloys; 305/30/19 Michelin Pilot Super Sport
	Dimensions	
4,469mm	**Length**	4,445mm
1,852mm	**Width**	1,808mm
1,413kg	**Weight**	1,365kg
	Performance	
2.7 secs	**0-62mph**	3.5 secs (estimated)
Not tested	**Top speed**	200mph+
$45,000	**Cost**	$35,000

"Though the GT3 quickly consumes you into driving fast, there's a gentlemanly side to the GT2 that's unexpected of a 650bhp monster"

conditioning, giving the keys to Alex, who replaces them with keys to the GT2 that has followed close behind to this point thanks to the pedaling of SharkWerks' Dan. Allowing for a few minutes at the roadside to reset my mind, I then make my way over to the GT2 and take my place in the tartan-insert Recaro driver's seat.

This GT2 represents something of a personal project for Alex, the last widowmaker offering him a second chance with a forced induction 911. Alex's history with turbocharging involves an 800bhp 996 Turbo once used to conquer the salt flats, though the purist in him soon found favour with the response and progressiveness of a GT3, which is why SharkWerks have specialised in naturally aspirated flat sixes since.

Firing up the GT2, I'm not sure what to expect: big-number turbo Porsches aren't new, and usually come with the caveat of being undriveable on public roads, typified by a brutally heavy clutch pedal and unpredictable surges of boost. That is not the case here. The weight of the left pedal is palatable, even lighter than that of a factory car, and the driver experience isn't ruined by overzealous turbo spooling.

In fact, I'm startled as to just how docile the SharkWerks GT2 can be. Finding the biting point and moving away is a smooth affair time after time, and incremental throttle inputs are rewarded with swift progress along the road without those VTG turbochargers booting me into next week. Press that loud pedal right to the floor, however, and the GT2's rate of acceleration becomes savage. In an instant, the car switches to come good on its claimed 650bhp max output, thrusting the car forward, its power surge unrelenting all the way to 7,000rpm. I'm impressed to note there's only the slightest hint of turbo lag coupled to this, and, though the huge powerband is delightfully linear, there's no crass 'on-off' flip of pace that would usually blight the complexion of a turbocharged 911 of this magnitude. In fact, it's as if there are GT3 elements of character instilled in this GT2 – it's the most sophisticated, mature tune I've come across.

Though the GT3 quickly consumes you into driving fast, there's a gentlemanly side to the GT2 that's unexpected of a monster capable of 650bhp. Its tractability means I'm still having fun at sensible speeds, carving through each corner before blasting venomously along each short straight, and the GT2 is ready to push on as my confidence begins to build.

The ride is firmer than a stock GT2, though not as crashy on the road as a GT2 RS, and I am again grateful of the feedback afforded by those immense second-generation Michelin Sport Cup tyres and factory PCCBs. The GT2 sounds great too, its rasp from the straight-through SharkWerks exhaust with Cargraphic 200 cell units giving possibly the best exhaust note of any forced induction Porsche I've heard.

Alex says this car currently represents something similar to a stage one tune, though in my opinion there's no need to take the car any further. Usable in terms of both practicality and performance on road, a track session at Willow Springs circuit 48 hours later reinforces its perfect blend of GT2 prowess with GT3-like progressiveness. As a true driver, I promise you will want nothing more.

All too soon, we reach the Lick Observatory at Mount Hamilton's summit, offering a panoramic view over San Francisco's Bay Area. The vista before me is absolutely breathtaking, yet in all honesty I couldn't care less, for behind me, the GT3 and GT2 are sat awaiting the drive back down the mountain to our base, their cooling engine components 'pinging' away delightfully under the hot Californian sunshine.

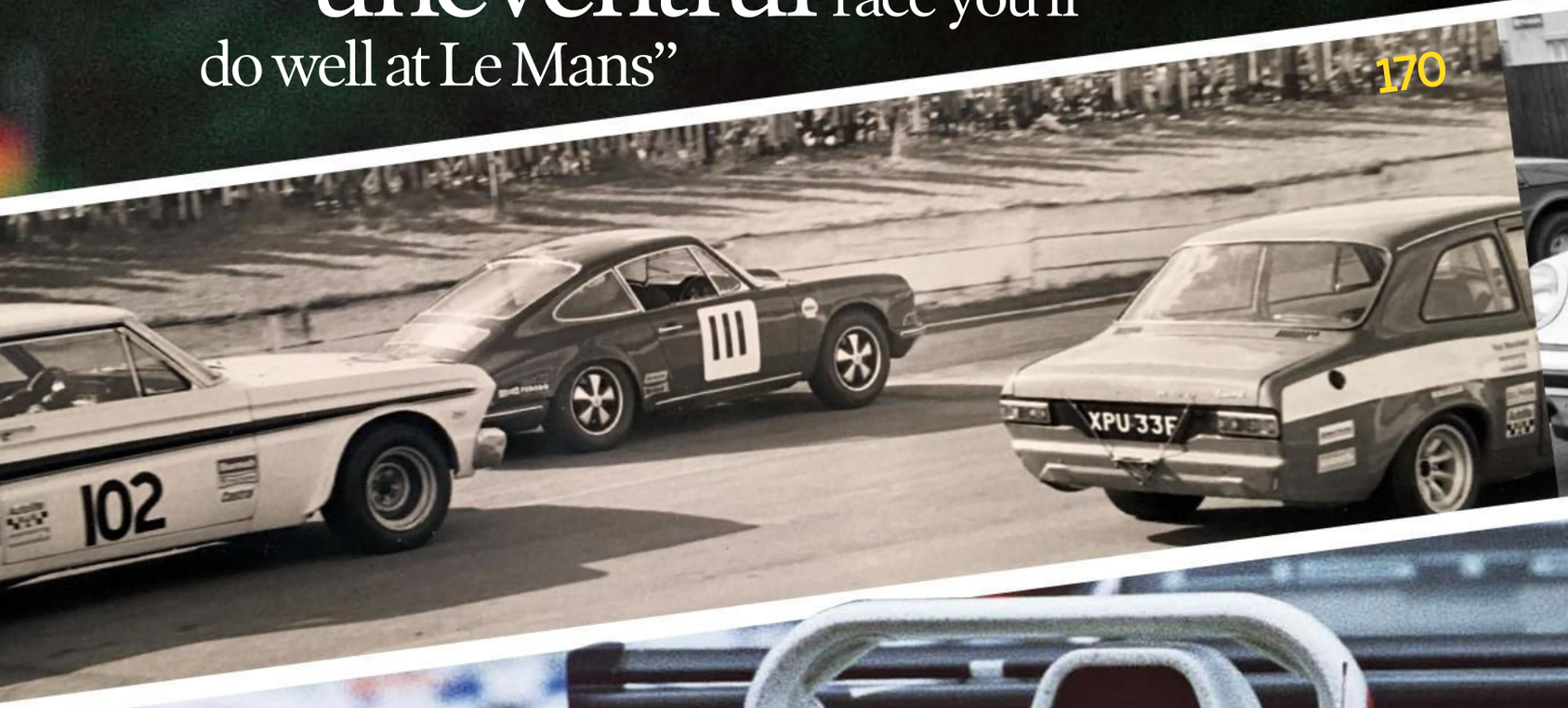
Remember that quote from Ferry Porsche? Well, it rings true of the efforts of Alex, James and Dan too. In the GT3 3.9 and 650bhp GT2, SharkWerks have simply taken two of the most revered 911 platforms we'll ever see – and bettered them. 911

Magnus Walker and the GT2 Livery

While our journalistic intent is to study how Sharkwerks have better-engineered the 997 GT2, we couldn't possibly complete the feature without mentioning that livery. Designed by Magnus Walker after he and fellow British ex-pat, Alex Ross, agreed a week-long loan deal for the car, discussions soon turned to its simple white hue, where Alex implied Magnus should design a modern take on his #277 livery to replace it. "We'll do better than that," Magnus replied, promptly designing the vibrant livery you see in our pictures. The inspiration? Porsche's 2010 GT3R Hybrid, of course.

Alex found favour with the initial renderings and sent the car away for its new livery to be painted onto it. That was back in January 2015 and while the GT2's new skin has undoubtedly divided opinion since, we rather warmed to its aesthetics in the metal. Whether it 'mangles your Mezger' or not is besides the point. Alex himself insists the livery is just a bit of fun, and stands as the most pertinent reminder that the spec of any Porsche is a very personal matter indeed.

“If you have an uneventful race you’ll do well at Le Mans”



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Norbert Singer

Norbert Singer must rank as one of the most successful race engineers in Zuffenhausen's history. Total 911 talks Porsche, race cars and Le Mans with the convivial genius himself

Written by **Glen Smale** Photography by **Porsche AG**

For many, growing up in the 1950s and 1960s was the most exciting time ever. It was the start of the Space Race, while jet air travel literally took off and anything transport related was usually described in terms of power and speed. On the racetrack it was no different, as race car technology embraced the science of aerodynamics, while engine power seemed to increase rapidly. For a young boy with engineering nous, this was the stuff of dreams.

Norbert Singer was born in 1939 in Eger, a town in the former Czechoslovakia on the eastern border with Germany. The young Singer showed an early affinity for the world of space exploration and it was when he began his studies at the Technical University of Munich that he considered a career in this field. However, one of Singer's tutors suggested that he consider motor racing as an outlet for his engineering skills and, fortunately for the world of motorsport, an opportunity would later open up in this field. The rest, as they say, is history, and who better than the man himself to look back on his distinguished career of more than 40 years?

Your career kick-started after a successful spell at university...

Yes, I studied Mechanical Engineering at the Technical University of Munich, Germany – they called it Diplom-Ingenieur (Graduate Engineer). At the start, though, I was more interested in space science. This was before they really started with the first satellites, for me this was very interesting. During my degree, I studied under a lecturer who worked in the Institut für Fahrzeugtechnik (Institute for Vehicle Technology), which was part of the university. While at university, I attended the Monaco Grand Prix and Nürburgring where I saw drivers such as Jim Clark, and so I could say that racing was a second interest.

ESSENTIAL FACTS

- One of Singer's university tutors suggested he consider motor racing as an outlet for his engineering skills and, fortunately for the world of motorsport, an opportunity would open up in this field
- Singer became project leader of the Carrera RSR project at the end of 1972, a model that would boost the 911's racing pedigree more than any other
- In 1988 he was reassigned from the racing department to the suspension department, a 'dry spell' in racing terms that would last for five years. Singer returned to the racing department when the Dauer GT project got the green light
- On 7 June 1998, Porsche scored its 16th victory at Le Mans with the GT1/98, and Singer had a hand in all of them, right from their first win in 1970
- In June 2003 Singer was awarded the 'Spirit of Le Mans' by the president of the ACO, Michel Cosson
- Norbert Singer left Porsche in 2004 but remained a consultant until 2010 when he fully retired, at which point he took on a consulting role with the ACO

How did your involvement with Porsche and motorsport come about?

When I had finished my studies, I already had some work opportunities to consider with various companies, and I must admit the favoured one was Opel. This was because when I talked with some people there, they said: 'After one or two years we send our young engineers to General Motors in America'. This was at the end of the 1960s and in those days this was a great attraction, and so this opportunity was my favourite.

I was interested in motorsport but at that point I saw no chance of working in racing. When I finished my studies, however, Porsche was looking for a young engineer and they approached the Institute to ask if they could recommend anyone, and they asked me if I was interested. When this request came my way I changed my mind and decided to go for the racing position, and so I started my first job with Porsche as an engineer at the beginning of 1970, aged 30 years old.

What was your involvement with the 917 then?

1969 was the 917's first year of competition and when I started in March 1970, Porsche was preparing for Le Mans. I began with some small details like the pickup for the 120-litre fuel tank – this had been a big problem in the beginning.

Then I worked on the gearbox cooling system because they did not want to have a radiator in order to cool the gearbox oil, as that was extra weight and it would require an extra pump, which was a further drain on engine power. They wanted a very efficient air cooling system for the gearbox, and I had to find a solution, somehow, to get enough air to it. There was very little room, but I managed to

The 1982 Silverstone 6-Hour saw the debut of the Porsche 956. Singer is seen here next to the car in headphones (left). Norbert Singer also helped engineer the RS Spyder for LMP2 (right)

run the ducting from the tail section, routing it down through all the spaceframe tubes, brake lines and pipes, to the gearbox. Everybody was focused on winning the 1970 Le Mans because in 1969 they lost the race by three seconds against Jacky Ickx in that famous finish, so everybody was under extreme pressure. As a result, I could not find anybody to help me make up the pieces, but eventually the guys in the carbon fibre department agreed to help me. They said that I had to make the model first, and then they would fabricate the moulds and make up the pieces. And it worked.

Explain how the Carrera RSR came into being...

The idea of homologating the ducktail on the roadgoing 2.7RS was ultimately with a view to motorsport. It was a first step and was quite a revolution for a road car. One of my tasks was to take this car to the wind tunnel and show the downforce, the downforce balance and drag.

I took over the Carrera RSR project at the end of 1972, and the first competition car we had was a rally car. After the 1972 Corsica Rally, we took this car to the Paul Ricard circuit for the RSR's first big track test. There, the car was modified and we converted it into a race car by removing the air filters and mufflers. In 1973, the first big race was Daytona and there we had two RSRs for Peter Gregg and Roger Penske. The Gregg/Haywood car won the race overall, which was a great start for the RSRs, and with that background we entered the World Championship of Makes in 1973.

We reclassified the works RSRs as prototypes so that we didn't compete against our customers but, as a Group 4 car, any modifications would have necessitated re-homologation, requiring another 50 cars to be made. This change, however, meant that we raced against the Matras and Ferraris in the prototype class. On a race car, you want to have even more downforce, and this was also one of the reasons why we changed to the prototype class because I could immediately increase the size of the rear spoiler. After Monza, we fitted a wider rear spoiler, which we integrated into the fenders, and they called it the Mary Stuart collar.

Can you elaborate on Porsche's victory in the 1973 Targa Florio then?

Because it is an open road and not a racetrack, I asked Gerard Ducarouge, the chief engineer at Matra, if he was coming to the Targa Florio. He said, "No, our Matras would break in half if we went to the Targa Florio," and for that reason the Targa Florio was a very important race for us. The Targa Florio was run over 11 laps of the 72-kilometer course of normal roads through the mountains, and the cars just used normal racing slicks.

The Ferrari of Ickx crashed, but Stommelen in the Alfa Romeo started strongly and led for some time, although later his partner de Adamich was knocked off the course. The other prototypes also had problems, and in the end Herbert Müller and Gijs van Lennep won the race overall in the RSR because we had no problems, and so that was the second big victory of the year after the Daytona win.

There was also a trophy for us, it was the Challenge Mondial de Vitesse et d'Endurance. Only four races counted towards this trophy and these were the Spa-Francorchamps 1,000km, Targa Florio, Nürburgring 1,000km, and the Le Mans 24-Hours. We won the Targa Florio, Ferrari won the Nürburgring race, and Matra also won one of the races, but we had the maximum points in those four races, so we won the trophy. We didn't win the championship that year because Matra was so superior, but 1973 was an amazing year.

Shortly after, Porsche began looking at turbocharging with the 935...

The FIA published the Group 5 regulations for the 1976 season, and this allowed us considerable freedom with which to come up with some favourable interpretations that the FIA hadn't really intended. My favourite was the regulation for the fenders. Normally, you can run wider tyres, and for this you needed a fender extension of 50mm. They wanted to avoid these ugly extensions around the wheel arches, and so luckily – or unfortunately depending on who you were working for – they said the shape of the extensions would be free. The fender of the 935 is very wide because at the front you have the headlights and so with the sentence 'the fenders are free' we could then modify the 935 completely. So, we removed the headlights and put them down in the bumper.

In 1977, we found that the airflow could be improved on the 935 if we raised the rear deck but the regulations required us to keep the production car windows. We then made a double window, with an outer window on top of the standard production window inside, which could still be easily seen from the outside, but the airflow was much better.

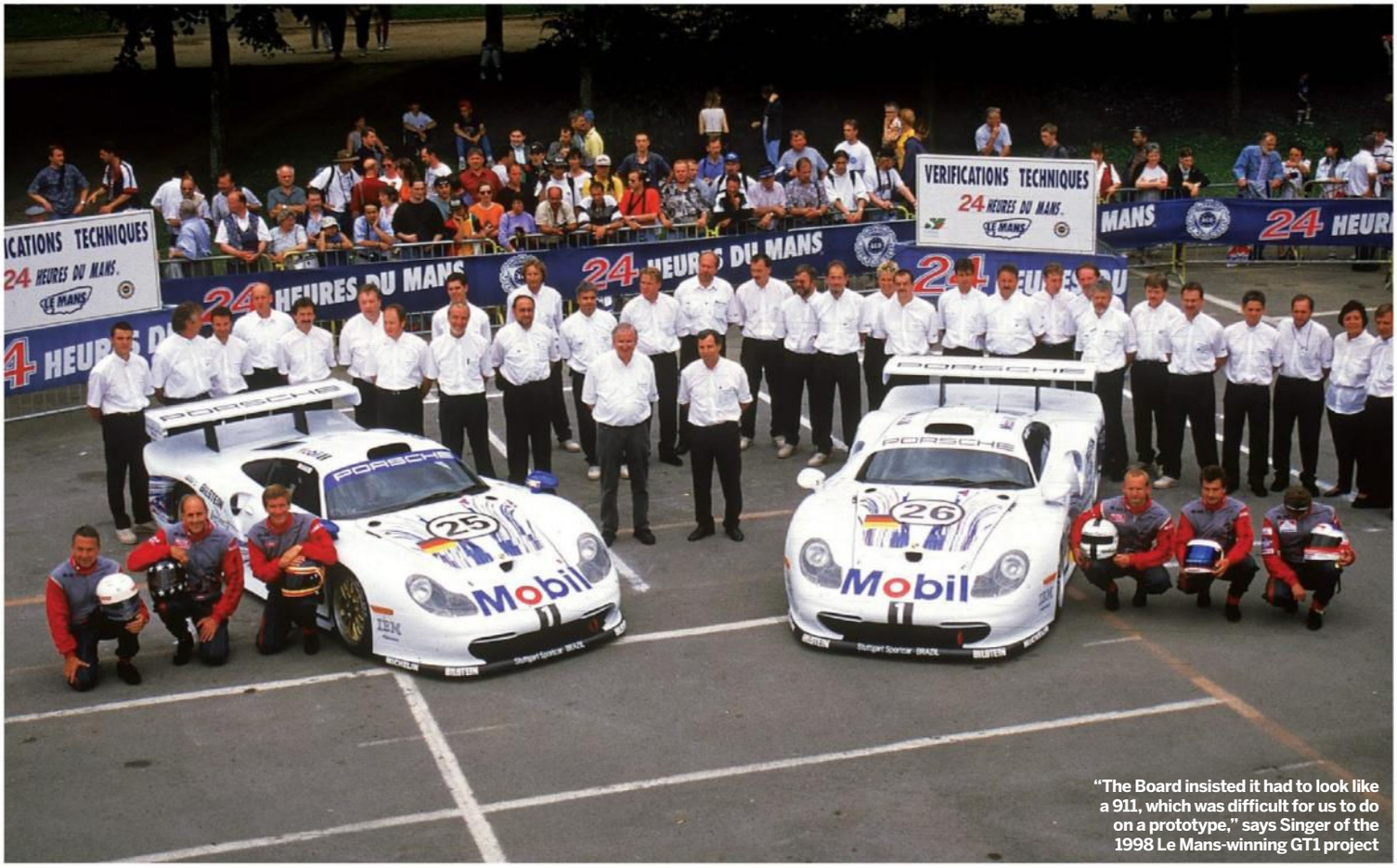
This gave us the idea for the Moby Dick. At a meeting late in 1977 in Paris, Ford and BMW said that Porsche had a big advantage with its rear engine, and rear-exiting exhausts. The front engined cars had to route their exhausts under the car, causing a higher ride height. The FIA agreed and luckily for us, or again unfortunately for them, the FIA amended the regulations to say that the side panel could be modified. This meant we could also modify the side panel of the 935 and we cut the bodywork along the bottom, so the car was 8cm lower, and this was the baseline for the Moby Dick. Because we had wide fenders on the front and

Above: Test weekend for the 1971 Le Mans race with the Porsche 917/20. Norbert is holding the clipboard

Right: Hans-Joachim Stuck, Derek Bell and Al Holbert won the 1986 Le Mans in the Rothmans Porsche 962


Norbert Singer
Esso
20
CIBIE


Shell
Rothmans
RACING
Rothmans
PORSCHE
DUNLOP



"The Board insisted it had to look like a 911, which was difficult for us to do on a prototype," says Singer of the 1998 Le Mans-winning GT1 project

rear, the next step was to also cover the side where the door is, and here we made a big NACA duct in front of the rear wheels to cool the radiator. The FIA technical committee said 'no' to this modification, as it was not in the spirit of the regulations, and so we had to find a solution because it would have had a significant influence on the aerodynamics. For this reason, the front fender extends just beyond the door pillar of the 935, ensuring a better airflow to the rear wing. Actually, with these smaller panels, we achieved nearly the same aerodynamic effect as with the complete door covered.

And how did the 936 project evolve?

Porsche developed a 2.65-litre engine with a four-valve water-cooled head, which was to run in the Interscope car at Indianapolis in 1980 for the Hawaiian driver Danny Ongais. The engine was well developed and reliable and they did some successful tests but unfortunately the Indy car project was shelved. In order to get more cars on the grid in 1981, the ACO relaxed the regulations for Le Mans because the following year the Group C regulations would kick in. This meant we could take the 2.65-litre Indy engine and put it into the 936, which had already won Le Mans twice (1976 & 1977), and race it again at Le Mans in 1981 and win (with Ickx/Bell). The 936 was the last Porsche space frame race car.

By then, Porsche had turned to the iconic 956/962...

This was a completely different story. We started from scratch with everything new including a new gearbox, but the engine was the same reliable, and successful engine as used (in the 936 in 1981) at Le Mans, and this was the baseline for the 956. We had never made an aluminium monocoque at Porsche before, so I went to Dornier in Friedrichshafen to ask them what materials and what tools to use, because we had absolutely no idea.

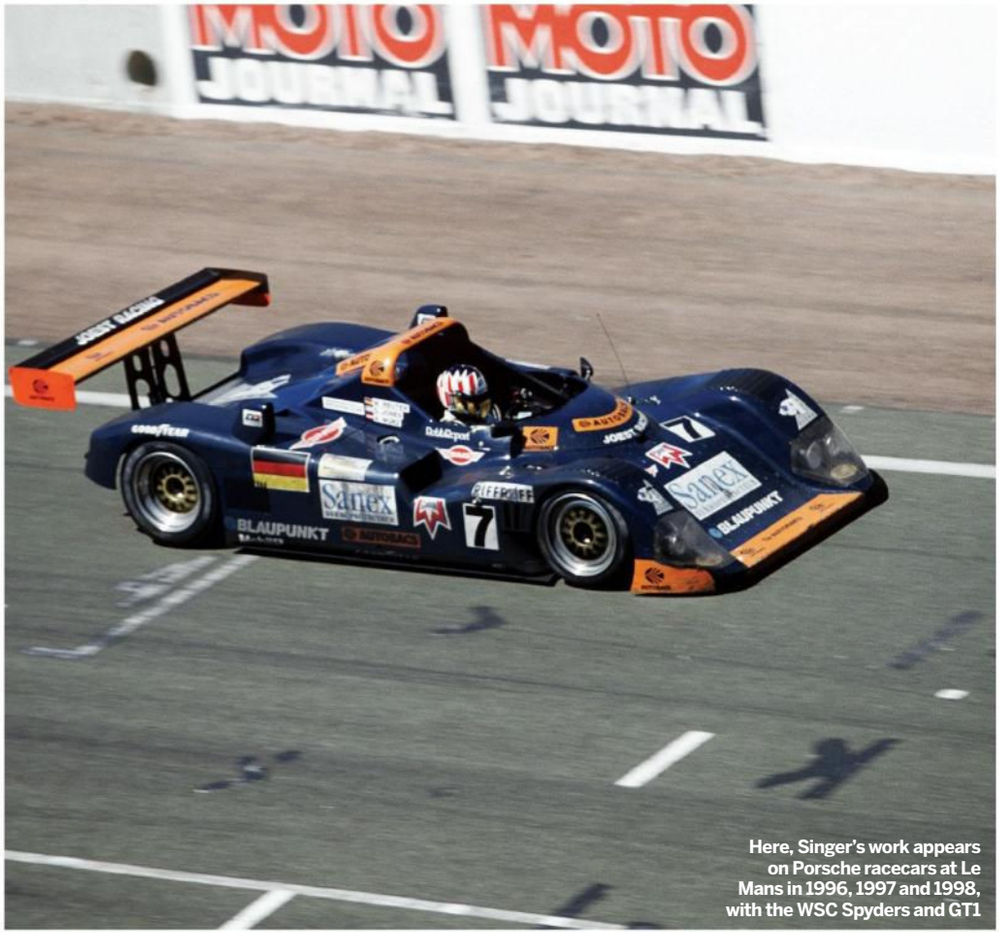
> "Group 5 regulations were published for the 1976 season, and this allowed us to come up with some favourable interpretations that the FIA hadn't really intended"

The windscreen was completely different from the Group C cars because we had to have a maximum width of 95cm. This measurement described a band which had to be 10cm high, 95cm wide and 30cm below the highest point of the windscreen, so the windscreen was much smaller. With the aerodynamics, we also entered the area of ground effects, but Formula One ground effects were not suitable for sports cars. We tried a similar system on our car and it didn't work at all.

On the 956 air was, instead, drawn in along the sides of the car around the mid-point of the wheelbase, and then channelled out between the wheels at the back. When we created the 956, I think altogether we only had about 50 people, so there was not a separate test team and race team. We did the 956 in just nine months, from beginning up to the first race, and we were successful immediately at Le Mans. The 956/962 was the most successful race car in the world, scoring 232 major international victories.

Then, of course, we must come to the GT1. How did Porsche go about developing a car that, until a year ago, was Weissach's last Le Mans winner?

We actually had three years of GT cars (Dauer GT 1994, GT1 1996, GT1 1998), because we started with the 962 Dauer as a GT car. Dauer had spent all his money making a road car, which was shown at the Frankfurt Motor Show, so I looked at it, and it was really nicely done. We knew there was some



Here, Singer's work appears on Porsche racecars at Le Mans in 1996, 1997 and 1998, with the WSC Spyders and GT1

strong competition coming from McLaren, but we finished first and third at Le Mans in 1994 with the Dauer Porsches. The Le Mans people didn't really like this car (laughs), but it was again to the letter of the regulations.

Out of this, we developed the GT1 car, and the initial idea was to have it closer to the road car. It was clear with all of our 911 experience that the rear-engined cars were very good on traction and braking, but in all other aspects such as cornering, we had problems. We knew, though, that if we did it correctly and the regulations allowed it, then we could make a mid-engined car. So, for 1996, we took the steel body shell of the 911 and cut it behind the driver's seat and made a frame for the rear section. We turned the engine and gearbox around, and this gave us a mid-engined car. The regulations required at least one road car for homologation, but we actually made 20 road cars and sold them all.

Moving on to 1998, we realised that we needed to have a lighter car, so we dropped the steel chassis and made a kind of 911 with a carbon chassis, which was actually a prototype. The Porsche Board said it had to look like a 911, but it was not easy to get the face of the 911 on a prototype car. We were lucky to win Le Mans in 1998, but this was very important for us because it was our 50th anniversary year. By this stage, we were a much bigger team, probably between 80 to 100 people.

You've had many great moments at Le Mans, Norbert, but which is your favourite?

For me, my favourite memory is still 1982 with the 956 because we had so many new developments. I remember when we saw the qualifying times on the Wednesday and Thursday and we were the quickest, and everybody came up to us and said that we could easily win.

But when you talk about winning Le Mans this was, for me, so far away; it was like talking today about what might happen in five years' time. First of all, bearing in mind all these new components that we had of course tested, but testing is not like real racing because a small problem at Le Mans can take you out of the race for good. So I thought: well, let us see if we are still running after 12 hours or after 18 hours and after that we could then start thinking about where we are in the field, and what we should do about winning.

Which was your favourite race car that you worked on and developed?

It is hard to say because that would depend on which period you are looking at. For instance, the 935 was, in its time, the most interesting racer, it was the best you could have. When you talk about the 1980s, it was of course the 956, and later there were the GTs, but in the end you could make the choice easier and just ask with which car we had the most success, and that would have to be the 956. But I think the 935 was also a lot fun. It was a different time though, a different era.

The answer is also, of course, linked to the situation the company was in at any point in time, because Porsche did not have a lot of money. When you look at our sales, through the 1970s and 1980s Porsche sold between 8,000 to 18,000 cars per year and running a race car project with that level of sales takes quite some courage, which Dr Fuhrmann had. He said we had to stay in racing because Porsche is racing, but we only had a small budget, and so we could only take on small racing projects.

You left Porsche in 2010, so what has life been like for Norbert Singer since?

I left in 2004, but I was contracted to support them with their customer teams. I was actually already doing this from as early as 2001 because I provided support to our Customer Department! In this way, I helped the Freisinger team with the 911 when they won the 24 hours of Spa with Stéphane Ortelli, Marc Lieb and Romain Dumas. Dumas was a completely unknown driver in those days!

Then I changed to Felbermayr Racing because they had Porsche factory drivers Richard Lietz and Marc Lieb driving for them. I could see how this team was building up their experience, and in 2010 they won the GT class in the inaugural season of the Intercontinental Le Mans Cup – they won Le Mans even beating their fellow Porsche factory teams. It was a very successful year for them.

I eventually retired from Porsche in 2010 after 40 years. After I left Porsche, I became a consultant for the ACO but that has slowed down because there have been some changes at the ACO, and so now I have taken a further step back.

Nick Faure

Long known as 'Mr Porsche' due to his glittering racing and sales career with Zuffenhausen's finest, Total 911 talks all things motorsport with the first man to race a Porsche 911 in Britain

Written by **Kieron Fennelly** Photography by **Nick Faure**

Nick Faure was the first man to race a 911 in Britain: he won the Saloon Car Championship in 1968 and later graduated to a very successful season with a 2.7 RS. He then had a year racing the 3.0 RS followed by a series of drives in RSRs, 934s and the Kremer K3 at Le Mans. Appointed official demonstration driver by Porsche Cars GB, he alone was allowed to drive the first 911 Turbo in 1974. Long known as 'Mr Porsche', Nick Faure traded used Porsches for over 30 years and continued to race air-cooled 911s in occasional historic events until the early 2000s. **Total 911** met him at his home on the UK's south coast to reflect on his glittering career with Zuffenhausen's sports cars.

How did you become interested in racing?
I was at Stowe School in the early 1960s and you could hear Silverstone just over the hill. In those days, the circuit still belonged to the school and to get in [to the track] I just needed to be wearing my school tie. In fact, I got fantastic access and I was able to wander about the pits during the week when teams were testing. I took numerous pictures of people like Clark, McLaren and Hill and even managed to get some shots of John Surtees and Jack Brabham testing the very short-lived rear-engined Vanwall F1 car.

Further education took you to Switzerland and your first car, a VW Beetle...
Yes, I was living in Neufchâtel and that's where I learned car control with the Beetle. The winter of 1962 to 1963 was a very hard one and for weeks many of the roads were covered in ice or hard packed snow. Grip just disappears and steering and braking require altogether different techniques in those sorts of conditions.

You have been a lifelong Porsche exponent: how did that come about?
The chap I was sharing accommodation with in Neufchâtel had a 356. Compared with my Beetle, that was something else. It's the steering – a Porsche talks to you. It's a pure driver's car. When I got back to Britain in 1965, I bought a three-year-old 356 for £600. Imagine that! I also started racing, though not with the 356, but with a Mini Cooper: it was the oversquare 970cc engine so it really revved and that got me established in the British Saloon Car Championships.

But what I really wanted was a 911: Porsche had homologated the 911 for saloon car racing and I managed to buy GVB 911D. That's the 911 that started life as Isleworth's demonstrator, which Vic Elford used to beat the Lotus Cortinas in the first ever Rallycross event in Britain at Lydden Hill. Then the car was rebuilt with a 225bhp Carrera 6 engine, and Elford won the 1967 European Rally and UK Saloon Car Championships with it. I acquired GVB 911D in 1968: it cost me £4,000 and I had to sell a couple of family heirlooms to pay for it!

Did the results justify it?
I won the [1968] Saloon Car Championship against the likes of Gordon Spice, Frank Gardner and John Fitzpatrick. I was even faster than Elford had been the previous year on some circuits. After the first few wins, Porsche UK took over the preparation of the car.

That proved useful...
We had lots of stupid problems because GVB had the oil tank high in the wing with the filler next to the petrol flap. When the car cornered, the drive shaft was crushing the oil feed pipe and we blew up three or four engines through oil starvation before we understood the reason. Another time, I was in the support race to the British GP at Silverstone and I went from the second row to the lead by Copse Corner, but the oil light came on and that was that. Someone had left a rag in the engine and it got twisted around the pulleys, pushing the fan belt off!

But I had some fantastic races in GVB. I remember at Cadwell Park in 1968, I just beat Mike Crabtree's Escort with three more Escorts in close attendance: 1.2 seconds covered first to fifth!

Above: Nick Faure reminisces on a glittering Porsche career that saw him win the UK Saloon Car Championship in 1968 and become the fastest demonstration driver in the UK

You didn't race in 1969?
No, as I had to start working! I'd been putting it off, so reluctantly GVB had to go. I am a freelancer as a commercial artist and over the years I have done a lot of work for Fleet Street. Paddy Hopkirk had a long running column entitled '*Driving With Paddy Hopkirk*' in the *Sunday Mirror* and I used to do the illustrations for that.

When did you return to the track?
I had got to know John Aldington (boss of AFN) when I had GVB and in 1972 he asked me to drive one of two Lightweight RS 2.7s that AFN was entering in the UK Saloon Car Championships.

By March 1973, Porsche still hadn't delivered our right-hand-drive Lightweights and John didn't want to miss the season so he sent me out in the demonstrator, a standard RS Touring with just a roll cage added. We won first time out and that qualified as the RS 2.7's first victory anywhere!

Then the Lightweights arrived and the demonstrator went back to the sales department. The Lightweight pair had exactly the same specification and at Castle Combe the lap times were identical. However, the steering was so sensitive that it took some getting used to. We scored 17 wins that season.

For 1974, we switched to the 3.0 RS, but this time in the modified sports car class. That was more of a challenge: the RS was faultlessly reliable, but couldn't win against the highly tuned Jaguar XK 120 of Jack Pearce.

The 3.0 is reputed to have much more torque than the 2.7: what was it like?
Lovely to drive, it's a gorgeous car. It was the last generation of 911 to lift the inside front wheel. That was fun: you'd hear it thump as it came back into contact with the tarmac as you came out of the corner, rather like an aircraft landing wheel.

For the Turbo, Porsche designed shorter trailing arms, which countered the tendency to lift, and these became standard for all 911s. I don't think Porsche ever really appreciated how good those RS 2.7s and 3.0s were and they were competitive in races well into the 1980s. I remember out of a stock of 20 911s for sale on my forecourt in the mid 1980s, five would be RS 2.7s selling for £12,000-£15,000.

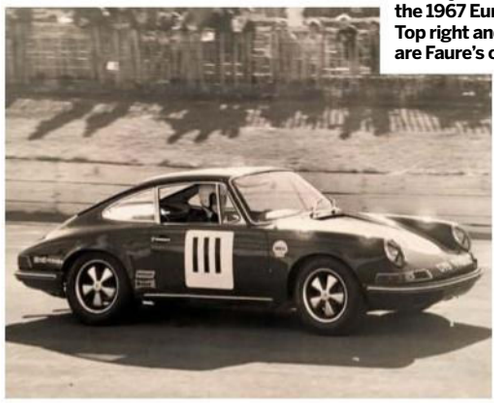
Why did Porsche build so few RS 3.0s (109 were made of which 55 were then converted to RSR specification)?
First it was very expensive: the UK price was over £12,000 when the RS 2.7 had been below £6,000, which really disappointed people. Then the oil crisis more or less killed it off. It was a real shame. Porsche had stated me as a works driver, one of six in RS 3.0s for the German championships, but in the end, it didn't happen.

> "I acquired GVB 911D in 1968: it cost me £4,000 and I had to sell a couple of family heirlooms to pay for it"

But you managed to get into Le Mans...
I was hired by Jacques Swaters, team owner of Ecurie Belge, and asked to drive his RS 3.0 in the six-hour race at Brands Hatch in 1974. On the strength of that I was invited to race at Le Mans for Ecurie Belge in 1975. But the condition was that I had to get £1,000 sponsorship.

I managed to charm Harley Davidson and another sponsor into parting with the necessary amount

Faure had a stint in GVB 911D, a car that started out as Isleworth's demonstrator and was used by Vic Elford to win the 1967 European Rally. Top right and below left are Faure's own drawings



and I painted the car myself – today it's known as the 'Harley Davidson' RS! It even ran with the 69 number I painted on it. I reckon that was probably the best £1,000 Harley Davidson ever spent because we finished second in class behind a Georg Loos (effectively works) RSR and sixth overall! I remember it was a fantastic race, tremendous camaraderie. In 1976 we went back, this time with the 934. But it was a disaster.

Porsche hadn't fully understood that when the engine is switched off, the turbo carries on spinning, but without proper lubrication. We went through four turbos just to finish the race. In 1977 I drove a Kremer K2 935 with Guy Edwards and John Fitzpatrick: effectively a works car that was a mighty 911, with 750bhp and 220mph on the Mulsanne.

By then I was taking the kink (on the Mulsanne straight) flat out without thinking about it, but I could not resist sneaking back to this point on the circuit outside of my stints just to watch and listen to cars going past at maximum revs: quite staggering. John went off at Arnage so we failed to finish.

You became the fastest demonstration driver in the country. How did that come about?

When AFN at last got its hands on a right-hand-drive Turbo in 1974, Porsche made it clear it was the only one they could have so they had to be a bit circumspect about how they used it – there was no question of lending it to the press!

John Aldington asked me to be the demo driver and I worked my way round the official Porsche outlets doing customer rides. The dealer would draw up a route locally and the most important thing was to get the local police chief to come on the first run in order to impress him with the car and to show it was in safe hands, after which we got 'carte blanche' (otherwise known as minimal interruptions from the local constabulary) for the rest of the day. Turbocharging was completely unknown in those days and the shock as the boost suddenly came in used to stun the passengers. This was really great fun: 40 years ago the roads were much quieter than they are today and with the Turbo I could blast well into three figures.

In fact, I remember doing over 160mph on Marlow Bypass. Approach speeds were so great you really had to learn to look ahead, though the Turbo's brakes (ex-917) were always up to the job. What we didn't know at the time was that our preproduction Turbo had 1.2 instead of 0.8 bar (and probably well over 300bhp against the standard car's 260bhp) so there were a few disappointed customers when Porsche finally started deliveries!

Do you think you had the best of it?

People said I was a natural driver and I never went beyond my ability. I could adapt to a car within a few laps and I could always remember circuits like the Nürburgring Nordschleife after just a handful of laps. I'd love to have had a chance to drive the Targa Florio in a works team, though.

And what about today?

I still get invitations [to drive]: if it's ready in time you'll see me driving a Shelby Mustang at Goodwood this year. 911

ERNST FUHRMANN
THE INSPIRATION BEHIND THE 911 TURBO

Porsche's first CEO is usually maligned as the man who tried to kill off the 911. But there is far more to his Porsche career than this misconception, as Total 911 investigates...

Written by **Kieron Fennelly** Photography by **Porsche AG**

The dominance of the 917 was such that the FIA banned it: after two Le Mans wins and the prospect of another Porsche walkover in 1972, the Paris-based organisation passed the 3.0-litre rules, designed to exclude Zuffenhausen's all-conquering 5.0-litre racer. Porsche turned to the North American Can-Am series where, to rival the power of the 8.0-litre McLarens, it turbocharged its flat 12 and promptly won the 1972 and '73 championships. This success excited Porsche's new CEO Ernst Fuhrmann, who saw the potential for a turbocharged 911.

Family run concerns are prone to disagreements, as the Porsches and Piëchs discovered, and the problems of integrating each of Ferry's and Louise's children into the family firm worsened as the 1960s wore on. In 1970 the ruling families decided Porsche needed professional management to end the often paralysing internecine warfare. To manage the business, Ferry thought of his erstwhile colleague Ernst Fuhrmann.

Fuhrmann had recently quit Goetze, so Ferry deputed Helmut Bott and Ferdinand Piëch to see how interested he might be in returning to Porsche. They made him an attractive offer: Ferry would stand back to become chairman of the supervisory board of the new Porsche AG and Fuhrmann would be managing director, with R&D at Weissach and production at Zuffenhausen under his command. With Bott as his second in command, Fuhrmann accepted: he was unemployed and Porsche was offering far more than the promotion he had aspired to back in 1956, which he had not been offered at the time.

A tense-looking Ernst Fuhrmann with the 911 and 928 in this 1978 photo

Dr Fuhrmann, the only Porsche CEO who has ever been a "total car nut," according to his former assistant Tilman Brodbeck, who knew them all well, was always interested in the racing scene. After Porsche's victorious 1970/1 season with the 917/10, there was plenty to excite him. The next competition object would be the Canadian-American series, the Can-Am, which through the Penske team and Mark Donohue would result in two consecutive championships for the turbo charged 917/30. Both he and Ferry recognised that after the positively grandiose 917 program, Porsche would have to cut back its racing budget and Fuhrmann also saw that, given the development time and budget a new production model would require, the 911 would need to remain Porsche's mainstay for the foreseeable future: he also understood the importance of racing for Porsche's electorate and at his urging, the Carrera RS 2.7 was developed for GT racing. He had to overcome a conservative Porsche establishment and won his case through strength of character. It proved an inspired move: the RS famously sold out and its track derivative, the brutal 2.8 RSR, won at Daytona in February 1973 before homologation was even complete.

Porsche was not alone in turbocharging racers and turbochargers were now on several car manufacturers' agendas: in 1971-2, factory turbocharged BMW 2002s had the measure of naturally aspirated 911s in the German championships. Fuhrmann had his engineers dust off their early turbo projects: he envisaged a new high performance 911 which, homologated for racing, would sustain Porsche's racing reputation relatively cost effectively. He was also keen to have a 911 Turbo himself and by spring 1973 was

driving a prototype 2.7 Turbo. Launched at the 1974 Paris Salon, the series production 911 Turbo 3.0 – the 930 – was a far bigger success than Porsche imagined, endowing the company with a genuine supercar and bringing a new and well-heeled clientele into the Porsche fold. The 400 unit FIA homologation requirement was achieved in a few months and by 1977, barely three years later, the 911's track supremacy reached its zenith with customer turbocharged 934s, and 'silhouette' 935s dominating GT and sports car racing. As Le Mans victories accrued, Porsche would become a byword for turbo mastery.

Fuhrmann was an engineer's engineer: in his first years as CEO he occasionally liked to involve himself in projects instead of going through his subordinates, dealing directly with Valentin Schäffer for example, who was carrying out the preproduction turbo installation: this used to exasperate technical director Helmuth Bott; Fuhrmann also liked to try the latest technology and had his 930 fitted with an early ABS system, though he quickly had it removed (and vetoed further development) when the system failed completely and he sailed across a busy crossroads, miraculously without accident. Often imperious, the Austrian could also be extremely personable. Mark Donohue recalled how Fuhrmann had sought him out after the American finished a bitterly disappointing fourth at Riverside in 1972. A pit misunderstanding had cost him a certain win, though Porsche still took the Can-Am title.

In his autobiography, Donohue recalls how, disconsolate, he had gone back to his motorhome in the paddock only to have Fuhrmann knock on the door: "He said: 'You should have won, let's have a drink.' He produced a bottle of whisky which we drank without ice or glasses: it showed how much he appreciated what I had done and what a fabulous down-to-earth guy he was."

When Ernst Fuhrmann arrived at Zuffenhausen the future of cars like VWs and the 911 was in doubt because of impending American emissions and safety regulations. But he saw this as his opportunity to make a Porsche according to his own interpretation. This amounted to a kind of better engineered Chevrolet Corvette, because, as Tony Lapine, who had the widest US experience put it, the Americans would be unlikely to outlaw the kinds of cars they were making themselves. Hence the futuristic-looking 928, which combined a front-mounted and water-cooled V8 with Fuhrmann's famous transaxle – the gearbox mounted at the rear to achieve near perfect weight distribution, an obsession of his. The 928 proved a very fine GT but, knowing observers remarked, built by the wrong company. Few in Porsche liked it – too far from the Porsche tradition, said Horst Marchart, the man who would later mastermind the 986-996 platform. The 928 drove a wedge between Fuhrmann and Ferry Porsche as the latter understandably felt the Porsche heritage was being usurped, even if crucially he failed to say so openly. The experience seemed to turn the CEO in on himself. He lost interest in racing, became angry and shrill with subordinates and issued his famous *verbot* on further 911 developments, even threatening Bott with consequences if the latter pursued his Speedster project.

Above: Liqui Moly and Georg Loos 935s lead at Nürburgring start, 1980. The dominance of the 935 lasted well into its second decade

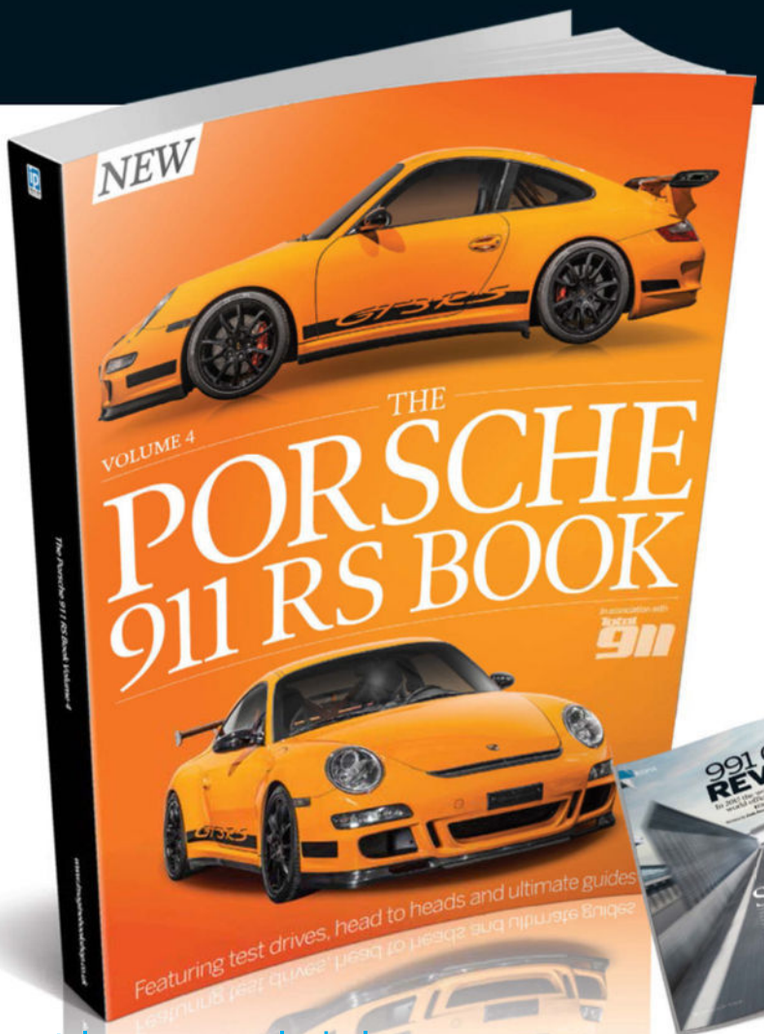
The 928 nevertheless won the 1978 European Car of the Year award, but in Ferry's absence, it was a lonely triumph for Fuhrmann. Antagonism increased when Ferry discovered that his managing director had not followed up a four-wheel drive project in conjunction with Piëch, now at Audi NSU. Such technology would have been incompatible with the transaxle, but typically Ferry and his CEO had never discussed it. Fuhrmann became more defensive and unapproachable and his sense of isolation increased as Ferry moved his office to Ludwigsburg to avoid seeing his CEO on a daily basis. This surreal standoff couldn't continue and mutual friends arranged for Fuhrmann to retire elegantly by taking a vacant professorship at Vienna Technical University.

It is easy with hindsight to say he was wrong to want to phase out the 911, but in 1972 it was uncertain whether the 911 concept could survive and, in any case, few car designs could now expect to last the 15 years of the 356. As for the 928, in its early years almost as many units were sold as 911s; its transaxle siblings, the 924 and later 944 provided vital turnover for more than a decade and broadened Porsche's market. In 1991, journalist and author Randy Leffingwell journeyed to Teufenbach in Austria to interview Ernst Fuhrmann, now in retirement. Reflecting on his departure from Porsche, he told Leffingwell: "The 928 failed because it wasn't a 911. I said to Dr Porsche I was prepared to go any day he had a new man capable of starting a new (post-911) program." Fuhrmann maintained his three achievements at Porsche were the four-cam engine, turbocharging the 911, and giving engineers their head. He believed that in 1972 he saved the company.

Small in stature, Ernst Fuhrmann had to make up for this disadvantage, says Karl Ludwigsen in *Porsche: Excellence was Expected*, through sheer competence. And that he did: a brilliant engineer whose vision for the 911 put it on race tracks and in the public eye, effectively creating through its storming second decade the icon it would later become. If he made any error it was in not recognising this. His continued obsession with leaving his mark on Porsche finally blinded him to the fact he already had: his legacy is the 911 Turbo, arguably the most recognisable and aspirational sports car of the 20th century.

"Fuhrmann had his engineers dust off their early Turbo projects: he envisaged a new high performance 911"

From the makers of Total 911



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