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Total 911

THE PORSCHE MAGAZINE™

GT2 RS V GT3 RS

Blown Rennsport takes on nat-asp rival

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GT3 V R V CARRERA T

REVIVAL OF THE

MANUAL 991s

The analogue Neunelfer is back: which is the best modern driver's 911?

911E DRIVEN

Porsche's first MFI engine tested

SPEEDSTER CONCEPT FIRST PICS

930 TO LONDON

Reliving the Turbo's 1980's jaunts to the City

INSIDE LE MANS

Racing the 24 Hours with GTE Am's EBImotors

+

- 911 SPECS 1963-2018
- HURLEY HAYWOOD GUEST COLUMN
- 911 TECH: CARBURETTORS
- 964 AT 30: IMPROVING ON THE 3.2 CARRERA

FUTURE
ISSUE 168

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Welcome

How did you celebrate Porsche's 70th anniversary? A fine weekend in June gave rise to spirited commemorations as enthusiasts came together to salute seven decades of Porsche sports cars, which the 911 is at the centre of.

For me, it was rather serendipitous that over this weekend I was in the Alps with eight other Porsche-crazy friends, driving on as many epic mountain passes as time would allow us. It all started around four years ago when I first called into my local Porsche Centre for them to look at a 991.1 Turbo S, which had a minor mechanical problem. I got chatting to the business manager, Karl, and we subsequently met up for dinner.

In what became a monthly tradition, the dinners continued, our table getting bigger as other friends with the Porsche bug were invited who, in time, passed the invitation on to one or two of their own Porsche-enthusiast friends. Dinners became local drive-outs, which became continental road trips such as the one in the Alps. Don't get me wrong, there is absolutely nothing unique about us. In fact, there are many such groups all over the world – you are likely part of one yourself. The point is, the sole commonality between all of us is, simply, Porsche.

I've always said that without the people, these cars are just organised lumps of metal and componentry, yet without these incredible sports cars we very likely wouldn't have had the privilege of engaging with the people we are lucky to have met on our journey through life. I don't know another car manufacturer, or even brand, which has quite the same effect on its enthusiasts. Kudos to you, Porsche, and happy birthday.

"A fine weekend in June gave rise to spirited commemorations as enthusiasts came together"

LEE SIBLEY • Editor
E: lee.sibley@futurenet.com
T: +44 (0)1202 586200

911 Opening Shot

In the wake of Weissach leaving the top LMP1 class of WEC competition, its 911 is once again left to fly the flag for Porsche at Le Mans. In front of 295,000 spectators the works 991 RSR, dressed in iconic 917/20-style Pink Pig livery, takes the chequered flag after 24 hours of racing in the GTE Pro. Another victory in the GTE Am class gave Porsche's mid-engined RSR a double victory.

Photograph by Porsche AG


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ESSO
Mobil 1
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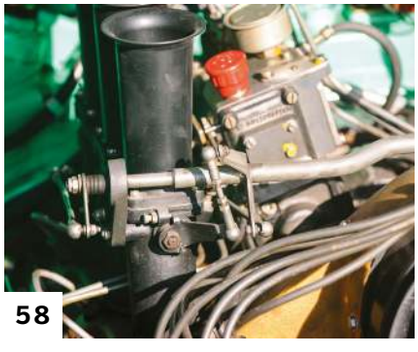
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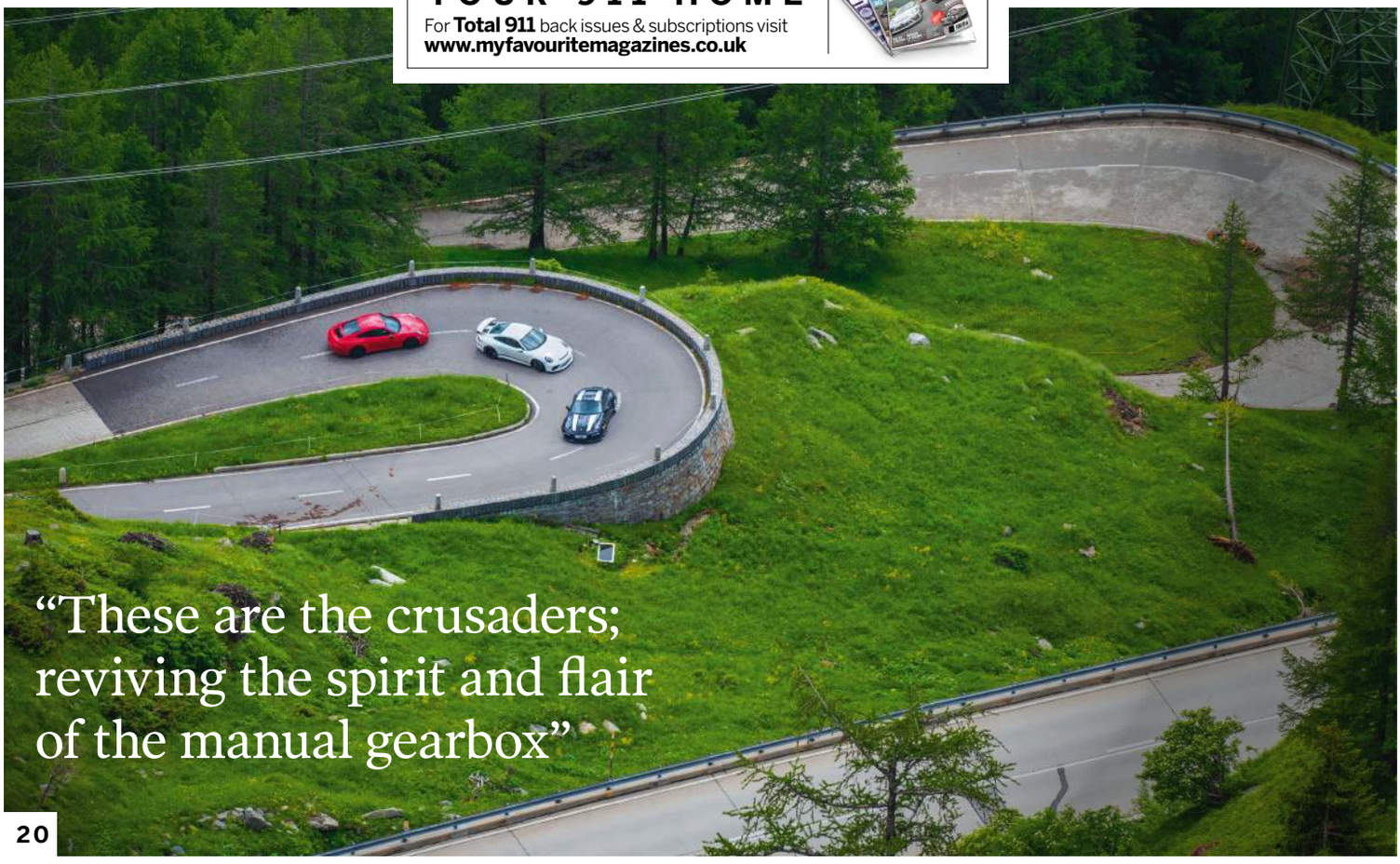


Update

Latest news, key dates, star products & race results from the world of Porsche

New Speedster revealed

Long-awaited 991 model revealed as concept

The new 911 Speedster has finally been revealed by Porsche ahead of its public debut at the Goodwood Festival of Speed. Unveiled as a 'concept' to celebrate the brand's 70th birthday, the Speedster is evocative of Porsche's first 356 Roadster which took to the road exactly seven decades ago. As such there are specific design cues on the 991-platform Speedster which relate to the ethos of the early cars, including talbot-style wing mirrors and a centrally-mounted fuel tank under the front bonnet. Porsche says the white and GT silver two-tone bodywork harks back to its early racing cars.

The new model features traditional elements found on a 911 Speedster, including a shortened and more steeply raked windscreen with shortened side windows. The rear cover with its 'double bubble' design is made of carbon fibre, as are the front wings and bonnet. The tonneau cover is fastened using eight Tenax fasteners, as is the norm for Porsche's Speedster model, and the company has developed Fuchs-style 'leaf design' wheels, as previously seen on the 991 Anniversary, in 21-inch diameter and with centre locks for the first time.

As **Total 911** has previously reported, the 991 Speedster sits in a GT3-spec chassis and even uses the 500hp flat six engine from its tin-topped GT cousin, retaining that now-famous 9,000rpm redline. This 4.0-litre flat six is mated to the GT department's six-speed manual gearbox with mechanical differential.

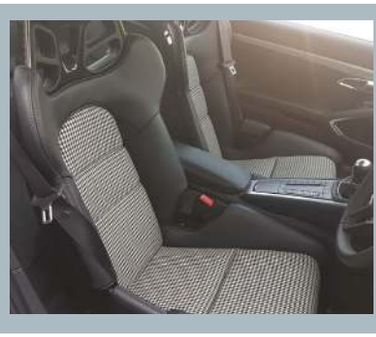
Porsche has officially said it is "considering series production" for its Speedster concept, with "possible presentation of the model" in 2019, however **Total 911** understands the car could be revealed in final production trim at September's Rennsport Reunion, two months after the concept's public debut at Goodwood. **Total 911** also believes all 1,948 examples are already spoken for, with around 350 examples expected in the UK.

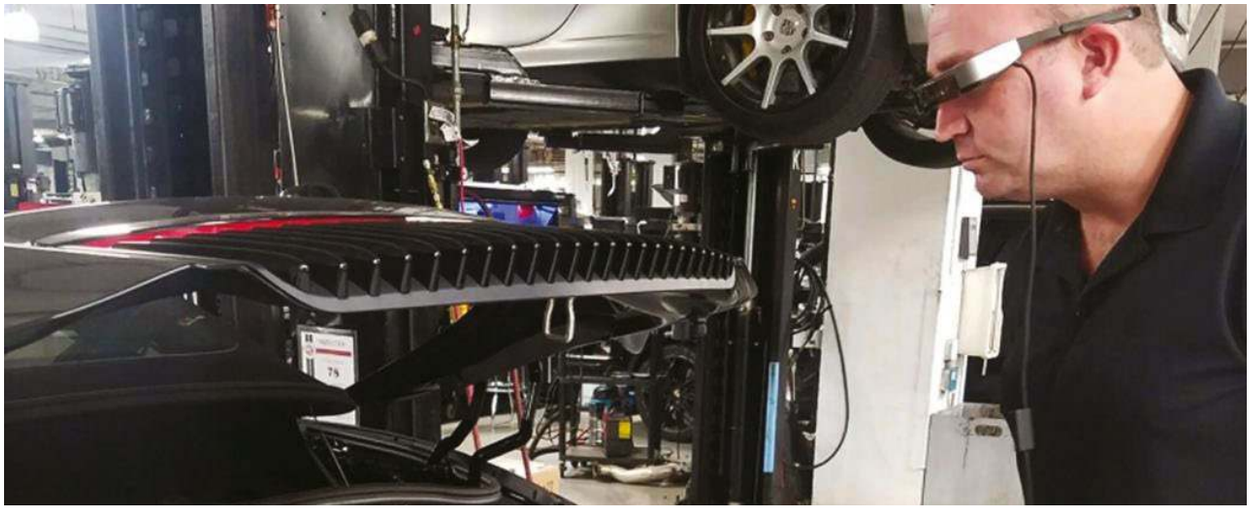
'70 years' Museum display

An all-new exhibition has been unveiled at the Porsche Museum in Zuffenhausen. Featuring what the company describes as "outstanding developments over the past seven decades," the '70 years of the Porsche sports car' is open now and features some 75 exhibits, from the 1948 356 Roadster to the all-electric Mission E project, which will be named Taycan.

Modern GTs go retro

Classicfx has developed new retro-look seat centres for modern GTs. Already a hit with some **Total 911** readers, fabrics from Porsche's back catalogue such as houndstooth and pasha are available. Fitting takes around 15 minutes. The seats use Velcro, so the modification is reversible. Available for £557 plus shipping, visit **classicfx.net** for more info.





Porsche Tech Live Look launched

Augmented reality glasses rolled out in workshops across US

An innovative new augmented reality technology has been rolled out by PCNA. 'Tech Live Look' is designed to improve technical services at Porsche dealerships in the United States using the AiR Enterprise software platform from Atheer Inc, which Porsche says is a leading provider of AR solutions.

The tech centres around a pair of lightweight smart glasses which feature the latest in projection technology and include a bright LED to illuminate dark spaces in a car's engine compartment, as well as a hi-res camera with auto focus. The service works by a technician at any of the 146 dealerships in the US donning the specs and connecting through the software to the technical support team at PCNA HQ in Atlanta. Effectively a 'see what I see' video conference, this allows a team of experts from all over the country to see and interact with a single technical issue.

The desired effect is to speed up the fixing and maintenance process on cars, this information exchange meaning a more efficient approach to practices in the workshop are adhered to. The Tech Live Look service has been rolled out nationwide with immediate effect.

What's on in 2018

- Goodwood Festival of Speed
  12-15 July
  Porsche will once again headline the world's largest motoring garden party
- WEC Silverstone 6 Hours
  19 August
  The first post-Le Mans round of the WEC super-season rocks up in Britain
- Festival of Porsche
  2 September
  Porsche Club GB's national event returns
- Rennsport Reunion VI
  27-30 September
  The world's best Porsche show takes place at Laguna Seca
- Sound Nacht
  13 October
  The annual rev-off of racing greats takes place at the Porsche Arena for the first time

Pollich leaves Porsche GB after six months

Former MD moves on to take the helm at Porsche Deutschland

Alexander Pollich has been appointed managing director of Porsche Deutschland, leaving his role at the helm of Porsche Cars GB after only six months. His surprise move follows the vacancy left by Jens Puttfarcken, who leaves to take over at Porsche China and Porsche Hong Kong – a move which clearly underlines the key strategic value of the far east to Porsche.

Pollich will be replaced at Porsche Cars Great Britain by Marcus Eckermann, previously managing director of Porsche Central and Eastern Europe.

"Alexander Pollich, Jens Puttfarcken and Marcus Eckermann have gained many years of experience in our sales organisation. They will continue to successfully develop the Porsche brand in these important markets", explains Detlev von Platen, member of the Executive Board responsible for Sales and Marketing at Porsche AG.

Derek Bell collects eponymous 911

British Legends GTS handed over to serial Le Mans winner at PC Portsmouth

Racing legend Derek Bell has taken delivery of a special British Legends Edition 991 GTS designed and developed by the man himself. Built to celebrate the achievements of British drivers at La Sarthe, 15 of each of the Bell, Tandy and Attwood cars were available to buyers in the UK market. Each of the 15 'Bell' cars are finished in Sapphire blue, reminiscent of the Rothman's livery adorning the 956 and 962 race cars he pedalled to success in the 1980s.

Over 200 guests descended to watch Bell collect his car, which also included a live Q&A session hosted by Total 911's Lee Sibley. Tony Gatt, centre principal at PC Portsmouth, said: "We were extremely privileged to have Derek join us. It was a real honour to give him the keys to his very own car which celebrates his amazing achievements and the part he has played in making Porsche the most successful manufacturer to race at Le Mans."

Motorsport

The latest news and results from racing series around the globe

991 RSR wins at Le Mans

Pink Pig liveried works car takes GTE Pro crown

Porsche works' RSRs produced a scintillating display to take a 1-2 finish at the 86th running of Le Mans. The result means the factory team ensured a happy first return to La Sarthe since pulling out of top-level LMP1 competition in the WEC, fielding four works 911s in the GTE Pro category instead.

Dressed in iconic 'Pink Pig' livery as part of Porsche's 70th birthday celebrations, the #92 car of Kévin Estre, Michael Christensen and Laurens Vanthoor triumphed in a hugely competitive GT field after a fantastic battle with the factory Fords, both cars trading paint on numerous occasions in a truly bumper-to-bumper showcase.

The victory was followed up by a second-placed finish for the sister #91 car of Richard Lietz, Frédéric Makowiecki and Gianmaria Bruni, decorated in an evocation of the iconic Rothmans livery, to complete a dominant display for Weissach. "We're absolutely delighted that we were able to come out on top in this fierce competition against five other automobile manufacturers after starting from pole position. These two wins underline once again why Porsche is a record-holder at Le Mans," says Dr Frank-Steffen Walliser, vice president of motorsport and GT cars.

Porsche's two other works RSRs in GTE Pro, which featured Porsche Motorsport's current red, white and black livery, didn't quite fair so well, the #93 car of Patrick Pilet, Earl Bamber and Nick Tandy finishing in 11th, ten laps behind the lead cars, after spending 25 minutes in the pits in the night with technical problems. The #94 car of Sven Müller, Timo Bernhard and Romain Dumas had to retire in the night with chassis damage.

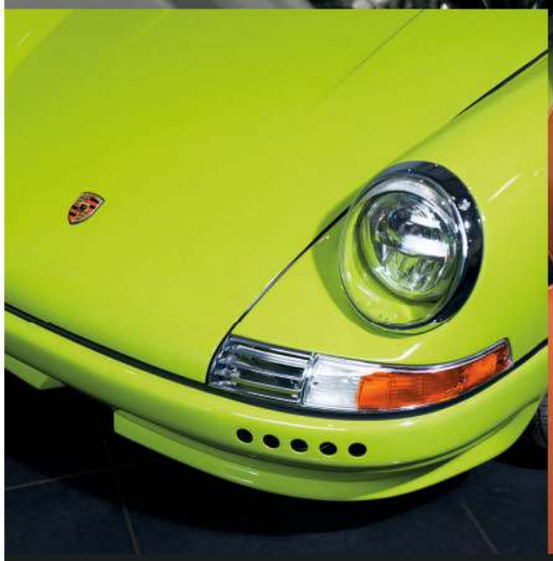
Dempsey Proton Racing claim GTE Am title

Patrick Dempsey's GT team takes maiden La Sarthe Victory

The #77 car of Dempsey Proton Racing took the chequered flag in first place in the GTE Am class, rounding off a double victory for Porsche. With drivers Matt Campbell, Christian Ried and Porsche junior Julien Andlauer at the wheel, the #77 customer RSR held off competition from the rival Ferrari 488 GTO of the Spirit of Race team to claim victory by just one minute and 39 seconds after 335 laps of racing. Andlauer, at 18, is the youngest class winner in Le Mans history. After the race, team owner Patrick Dempsey said: "I'm lost for words. Everyone did a fantastic job, it was a victory for the whole team. The race was incredible. We made no mistakes and our work was rewarded with this great success." The double win for Porsche in 2018 gave the Swabian manufacturer its 106th and 107th victories at La Sarthe.

Elsewhere in the GTE Am class, Dempsey-Proton Racing team's #88 sister car was sidelined with suspension damage, while the #99 car run by Proton Competition just missed out on a podium spot, finishing in fourth place. Ebimotors' #80 finished sixth, with Team Project 1's #56 car finishing in seventh. **Total 911** columnist Ben Barker's Gulf Racing #86 car lead the GTE Am class during the early exchanges before becoming entangled in an accident caused by another competitor.

SERIOUSLY SPECIAL PROJECTS



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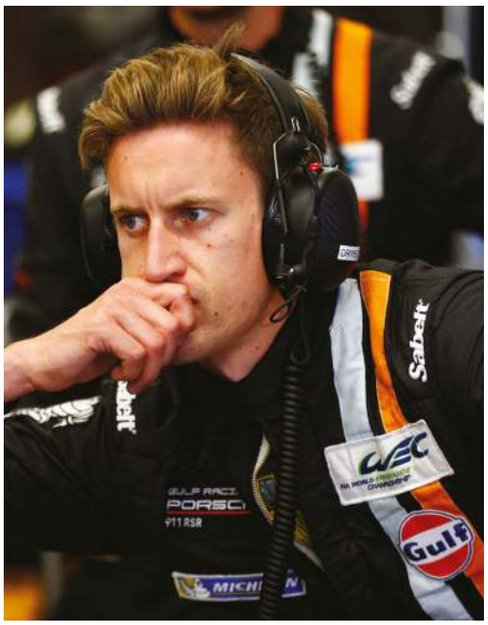
#ENGINEERINGEXHILARATION

Ben Barker

- **2017-18:** FIA WEC Gulf Racing 991 RSR
- **2013-2016:** Porsche Mobil 1 Supercup
- **2012:** Porsche Carrera Cup GB Runner Up

The FIA WEC driver shares all about his world championship campaign



Reflecting on Le Mans 2018

Ben's frustrations with the 24-hour race continue, though there are plenty of personal positives

It's not often that you can say you qualified second, set a new race lap record and saw off a former F1 great in head-to-head combat without having some silverware to show for it but, sadly, that was the story of my Le Mans.

After a frustrating time at the Circuit de la Sarthe last year, the Gulf Racing team returned with reasons to be positive. Okay, we hadn't quite got the results we wanted from either of our first two outings in 2018, but Le Mans beckoned with a much more favourable outlook than 2017. The team had prepared as well as ever, we had the right equipment to do the job – in the shape of the latest Porsche 911 RSR – and, most important of all, the dreaded Balance of Performance actually allowed us to be competitive with the other manufacturers in the LM GT-Am class.

I proved the potential of Gulf's #86 machine by qualifying second in class in the final session on Thursday night and, without the penalties that had taken the shine off decent qualifying performances in the year's first two races, I was also able to take the lead of the race on lap one, albeit after a doorhandle-to-doorhandle scrap with Matteo Cairoli's Dempsey-Proton Porsche that lasted the entire length of the Mulsanne Straight! I'm sure that would have made for some great television had it not been for the obsession with Fernando Alonso's quest for the Triple Crown...

Having put Cairoli in my rearview I was able to get my head down and set some fast laps, including one that remained at the top of the class list for some 23-and-a-bit hours. It's always nice to prove your own personal pace in any race, but to do it with a new lap record is extra special.

Simply being fast isn't enough at Le Mans though, and I still had to make sure that I handed the car back in one piece – even after a battle with former F1 race winner Giancarlo Fisichella's Ferrari. He may be a little older than when he was in his Grand Prix prime, but Giancarlo remains as committed a racer as ever, and it was personally pleasing to get the better of him.

Unfortunately, after a bright start Gulf's race unravelled, with a couple of incidents dropping the #86 down the order and out of contention for any sort of silverware. While it's frustrating not to see the potential of both the team and car rewarded – and to see that possibility slip away so early in the race – it's a great testament to Gulf's preparation and the general strength of the RSR that even after one of my teammates nosed it into the wall at Indianapolis at around 120km/h it continued to run as quickly as ever.

We lost time repairing some relatively minor bodywork damage but, unable to put it on a flat patch to check the geometry, were delighted to be able to continue with only a mild tweak to the steering. It might be built like a tank, but certainly didn't run like one, and I was able to take the #86 close to my fastest lap when I got back behind the wheel during the night. I might have been able to go even faster had it not been for a touch of carbon monoxide poisoning, suffered during a 45-minute spell pootling about behind the safety car while an errant drain cover was repaired. Trying to keep your tyres warm while making sure you don't run into 50-odd other cars trying to do the same is akin to being trapped in a taxi with a very bad driver. Weaving about and getting on and off the gas while breathing in everyone else's fumes isn't an experience I'd recommend!

For all the frustration, however, there are a lot of positives to take from Le Mans, not least the performance of the entire Gulf team. The backroom boys and girls in particular did an exemplary job, with their sharp and systematic pit-stops, immaculate preparation and strategic planning all receiving some positive comments from top brass at Porsche. If nothing else that flags Gulf up as a leading team, not only in the LMGT-Am class, but in the WEC as a whole.

We may not have got the podium our potential deserved, but Le Mans 2018 served as the perfect showcase for the team – and myself – and gives us something constructive to take into the rest of the season.

GUEST COLUMN

Hurley Haywood

To celebrate the release of *Hurley From the Beginning*, America's greatest ever endurance race driver looks back with Tony McGuiness at his illustrious Porsche career

After winning my first professional race in my class at the 6 Hours of Watkins Glen in 1969, driving the Porsche 911S Brumos Racing #58 car, I was on cloud nine when a sobering letter arrived from 'Uncle Sam' drafting me in to the US Army, which ultimately sent me to Vietnam. It's fair to say my promising racing career could have easily have been over after this first Porsche win.

While some of my friends were able to get out of going to Vietnam for varying reasons, I knew it was my duty as an American to go, regardless of how unpopular that war was. It was a big awakening. When you are shot at you tend to grow up in a big hurry. I was yanked out of the cocoon that I was born and raised in and suddenly I was in an unfamiliar country that wanted to kill all the Americans. The heat, the smell of the jungle, fuel in the air and helicopter exhaust, along with wounded and dead soldiers coming back, all had a stench of war. I will never forget that.

While I was never involved in direct combat, I was still very fortunate. I had been on leave in Hawaii and heading back to base, but my flight was delayed from Saigon so I didn't get back on time. That evening our base got hit by mortar fire and one landed where I would normally sleep. I still have a T-shirt with shrapnel holes in it! Racing drivers never think they are going to be hurt, but things happen beyond our control.

In retrospect, that training and discipline I received over there worked in my favour when I came back into racing in 1971. One of the things that makes a great racing driver is their ability to adapt to change, and I was able to do that in Vietnam. I was once told by Porsche race driver Bob Wollek, a close friend of mine that was killed, that if I wanted to have a long career at Porsche I should drive as fast as I could go and keep my mouth shut. It was similar advice I gave to Porsche factory driver Patrick Long.

After returning from Vietnam I came back with a new sense of purpose and a stronger will to make a racing career. In 1969 I was surprised to win. In 1971 I expected to win, but you are only as good as your last result, and nothing in racing is guaranteed. Peter Gregg welcomed me back to Brumos. Porsche had just directed its teams to start racing the 914, and my second professional race was in the 914-6 at the 1971 24 hours of Daytona. Instead of being rusty from my time away from racing, my senses were actually sharper, and I felt great.

In 1971 and 1972 Brumos raced in orange livery with the number 59. 59 was used because Peter Gregg had been in the Navy on the USS Forrestal and the font and deck number of the carrier was 59. Peter chose the colour orange as a tribute to Professor Porsche, as that was his favourite colour. It was changed to the famous red, white and blue livery when Bob Snodgrass came into the picture. Bob said to Peter the black and white photography of an orange car does not stand out. Bob suggested the colour scheme be changed to red, white and blue stripes since we were an American team. The colours were on the car when we went to the 1973 Daytona, and have been the colour scheme ever since.

The 1971 24 Hours of Daytona included the powerful Porsche 917 and the Ferrari 512. These prototypes were driven by legends such as Pedro Rodríguez, Jackie Oliver and Mark Donohue. We were not only competing against them, but also Corvettes, Camaros and Porsche 911s. We qualified on pole in our class, beating other 914s and 911s. Unfortunately we had bad luck and blew an engine after 266 laps. A lot of the Porsche community were slow to accept the 914, but we showed it could win races and beat the powerful Corvettes, Mustangs and Camaros. Porsche had done a great job with the 914. We would wear down the big block cars and they would fade away.

The next race was the 12 Hours of Sebring, which was funny because a few years earlier I had sneaked in there to watch my first professional race. We finished mid-pack, but that set us up for the Virginia 300, which I won. By the end of 1971 Peter and I were co-IMSA GT champions. I was feeling great about my career. I was working at Brumos as Peter wanted me to learn the business. Porsche was taking notice and my racing career was really taking off.

Then the bottom dropped out of my world again. My mother brought the family together. I was shocked as she announced she was divorcing my dad. We were a close family and I never thought that would happen. It wasn't long afterward at another meeting I had some extremely important news to share with the entire family, too. I had been through the Vietnam war and I had something to say. I wasn't going to hold it back anymore...

Views

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The very best of your Porsche opinions via emails, letters, the website & social media

911 R v GT3 Touring: the verdict is in...

Dear Sir,

It's been a year-and-a-half and 4,000km in the 911 R versus a day-and-a-half and a couple hundred clicks in the GT3, so here's my first assessment.

First, I think it's important to reflect on the philosophy behind these cars, as it really sets them apart. What I love about both of these cars is that Porsche has taken all its motorsport technology and applied it to imbue a real sense of personality and occasion in both cars.

Everybody talks about the GT3 engine and how it dominates the car. Having been spoiled by the 911 R, my first impression wasn't that at all, but rather the steering. Weighted a little heavier than the 911 R, it also has more feedback and weights up so organically as you pour it into a corner. It has the best steering of any water-cooled Neunelfer I have ever driven.

You also need slightly more lock to point the front end of the GT3 where you want it to go. I assume the mechanical steering set-up of the cars is the same, so can only conclude it's a slightly less aggressive application of the RWS. Yes, the GT3 steers sweeter than the 911 R.

The ride of the cars is also very different. While both firm, the 911 R has some of that traditional 911 plush, loping ride. It moves around underneath you in a controlled, informative and charming way. It's an event even at very low speeds. Both cars have incredible damping, but the GT3 is less playful, and definitely more planted as you go down the road.

You also notice the weight difference between the cars, particularly as you change direction. The R feels more alert and agile, but you have to pay more attention to the rear axle as it is easy to over-rotate the car. You can't be lazy or casual in your approach to peddling the R, while the GT3 is more accommodating and sure footed, with greater high-speed stability and less tendency to dance around on poor road surfaces.

The R also seems to have sharper throttle response and 'zing'. That may change a bit as the GT3 loosens up, but what I love about the R is the way the accelerator pedal instantly produces a simultaneous response in both the engine and the chassis. The car feels hard-wired and alive. The GT3 is a shade behind that in terms of tactility, but definitely has a stronger, torquier mid-range and a more usable powerband.

As to the top end, well I haven't taken the GT3 there yet. I find myself constantly hitting the limiter in the 911 R on upshift as it revs so quickly, and it feels and sounds so unburstable. I'm hoping another 500rpm will give me that extra tenth or so to stay on top of the engine in the GT3.

What is a great joy is the ability to control both engines through the use of a manual gearbox. It just adds that extra dimension of driving engagement that makes every journey such an event. And, while on the subject of gearboxes, there are certainly subtle differences in the gear shift itself. The R is more rifle-bolt precise, the GT3 a little more accommodating and easier to live with on a day-to-day basis.

I'm a little disappointed that the Touring feels a little overserved. I'm hoping once the pads bed in they will deliver a little less power and a lot more feel. Heel and toeing is not great so far, but I refuse to push that damn Sport button. As for engine noise, the Touring is much quieter and much easier to live with on a daily basis than the R.

So, what's the verdict? The 911 R demands your full concentration and loyalty at all times, but rewards you for driving it well. The Touring has a much wider repertoire – more accessible high performance, easier to drive, with more usability and high-speed stability. Both are incredibly entertaining and great fun. The 991.2 GT3 Touring is one of the all-time-greats, but the 911 R is ultimately the more rewarding car, provided you are up for it.

Scott van der Helder

Great to have your very detailed insight into the GT3 Touring and R, two 911s which have caused a lot of debate in recent months as enthusiasts attempt to gauge just how similar the cars are. Thankfully, and as you have elaborated so well on, the two cars are very different, despite that familiarity in their spec sheets – it underlines the genius of Porsche, because every 911 model is intrinsically different from the next. As we've said before, R owners can be pleased their car remains unique as the ultimate road-going Porsche lightweight, while Touring owners can be happy they've got a more accessible car that manages to accomplish most of the R's driving experience. Everyone's a winner!

Write to or email us with your Porsche opinions and the star correspondence will receive a complimentary copy of the **Porsche 911 Buyer's Guide 3rd Edition** bookazine, worth £9.99!

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Auction houses vs dealers

Dear Sir,
I found great value in your two-part series looking at both buying and selling a 911 via an auction house or a specialist dealer – these are decisions many of us have considered in recent years as auction houses have become more popular, their auctions more frequent. They are generally more trusted than ever, too. What the article didn't mention, though, and what muddies the water somewhat, is that several dealers do actually use auction houses to sell some of their cars. I wonder why this is?
Jack Naismith

A specialist dealer will use an auction house to sell a 911 for the exact same reason as a private seller: speed. As we discussed, selling via auction guarantees a date of sale, if not the price. Dealers may put a car through auction to improve cashflow or to clear stock quickly and effectively.

Club Coupe

Dear Sir,
I wanted to give you a heads up that as part of our ownership of one of the 12 Club Coupes in the world (plus the one in the Museum) Porsche has organised for us to meet in Stuttgart in June as part of the 70-year Anniversary event. There will be at least six of the Club Coupes there, and if the owner from Hong Kong flies his in we could have seven.

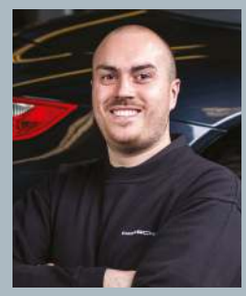
In 2017 my son and I met with representatives of Porsche Design Beverly Hills to explore the concept of commissioning a Club Coupe limited-edition watch. The project was taken over by Porsche Design Timepieces in Germany, and as part of our meeting in Germany we will be travelling to Porsche Design Timepieces in Solothurn. We will be the first group of sports car owners to be granted access to the Manufaktur, and as part of our time there we will be presented with our watches!

Our Club Coupe has a tremendous place in the history of Porsche as its build commemorates the 60th anniversary of the original 13 founding members of the two Porsche clubs in Germany in 1952. And now, with the special consideration that Gerhard Novak from Porsche Design is giving to our limited timepiece, I thought you might have interest at some point in doing a story on the Club Coupe and the watches.
Ken Smith

It's great to see Porsche Design forging ever-closer links with the Porsche 911, both of which were created by the one-and-only Butzi Porsche. The Club Coupe is a very special 911 indeed – particularly due to its immense rarity – and you can look forward to further coverage of the car in an upcoming issue of Total 911.

Ask the expert

Got a question for our Porsche technician? Email us **editorial@total911.com**



Scott Gardner
Job title
Gold Diagnostic Technician
Place of work
Porsche Centre Bournemouth, UK
Time at Porsche
12 years

I'm looking to purchase a 993 Carrera and have read much online about shrinking cam cover gaskets and how they leak oil as they shrink, and how the 993's undertray often hides this. How often have you seen this in your time? Even if the car isn't leaking, would you recommend having the gaskets changed anyway?
Martin de Zeeuw

Scott's answer: "I have in fact seen a fair few 993s with leaking cam covers over the years. Often you will see residual oil on the undertray, however, if you are concerned don't be afraid to take a trolley jack with you to view the car and take the cover off – they are held on with a few 90-degree twist Phillips clips so it is not a difficult cover to remove. You will want to be sure before you buy the car and give it a thorough check, as this can be expensive to replace. Failing that, you could negotiate a 'check over' with the seller as part of the terms of the sale with your local Porsche Centre for peace of mind – this is again something we've facilitated here at our Centre in the past. However, if the covers are not leaking, I wouldn't replace them. If it isn't broken, don't fix it..."

At last, a good Porsche works livery

Dear Sir,
Great to see Porsche, in its 70th year, has revived a series of iconic liveries for its 911s at Le Mans. To my mind, the sight of a Porsche – albeit a 911 and not a 956 – hurtling down the Mulsanne adorned with the Rothmans colourway on its bodywork made for an evocative sight. While I'm still sad about the fact Porsche won't be competing in the top category of racing at Le Mans any longer (we'd just got used to it again and so Le Mans wasn't the same this year), the move to re-introduce these liveries is a positive move. Not only has it reminded me of my early trips to watch this racing spectacle in northern France but, actually, it's about time a factory Porsche will carry a noteworthy racing livery – it's been years! I wonder if Porsche Motorsport has looked at the tribulations of your regular columnist, Ben Barker, and his team in sporting the Gulf colours. Simply put, an iconic car such as the 911 should sport an iconic livery!
Michael Kilkenny

We have to say we completely agree with you, Michael, though Total 911's friend and former columnist, Nick Tandy, is keen to interject. Asked after the race if he was disappointed his no.93 works RSR didn't get a remake of an iconic livery to match the sister no.91 and 92 cars at La Sarthe, the Brit replied: "I was perfectly happy to have the normal livery for Le Mans this year – remember in 2015 which car livery won the race!"

Porsche in Brazil

Dear Sir,
I'm a Brazilian in love with Porsche. Among others I've built a 1973 RSR in iconic Martini Racing livery, which I use for track days. I'm also the vice president of Porsche Talk here in Sao Paulo, a group of 632 partners who own Porsche. We regularly hold meetings and track days at Interlagos and would be proud to appear in an issue of **Total 911**. Congratulations on your wonderful magazine.
Thank You,
Paulo Loco

Great to see that Total 911 – and Porsche – has a truly global reach, Paulo. We're proud to have you featured in our magazine, and hope you similarly inspire others to get out in their 911s and engage with like-minded enthusiasts. Enjoy!

Total 911
THE PORSCHE MAGAZINE

Future PLC Richmond House, 33 Richmond Hill
Bournemouth, Dorset, BH2 6EZ

Editorial
Editor **Lee Sibley**
lee.sibley@futurenet.com
01202 586200
Senior Art Editor **Stephen Williams**
Production Editor **Nikole Robinson**

Contributors
Rob Clarke, Tony McGuiness, Joel Newman, Gina Purcell, James Samuel, Rich Pearce, Joe Williams, Chris Randall, Chris Wallbank, Kyle Fortune, Joe Croser, David Grover, Daniel Pullen, Craig Llewellyn, Ali Cusick, Kieron Fennelly, Ben Przekop, Neill Watson, Tim Pitt, Glen Smale
Cover image
Rich Pearce

Advertising
Media packs are available on request
Regional Advertising Director **Mark Wright**
mark.wright@futurenet.com
Advertising Manager **Toni Cole**
toni.cole@futurenet.com
Account Manager **Alex Choma**
alex.choma@futurenet.com

International
Total 911 is available for licensing. Contact the International department to discuss partnership opportunities
International Licensing Director **Matt Ellis**
matt.ellis@futurenet.com

Subscriptions
Email enquiries **contact@myfavouritemagazines.co.uk**
UK orderline & enquiries **0344 848 2852**
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Circulation
Head of Newstrade **Tim Mathers**

Production
Head of Production **Mark Constance**
Production Project Manager **Clare Scott**
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Management
Chief Operating Officer **Aaron Asadi**
Commercial Finance Director **Dan Jotcham**
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Head of Art & Design **Greg Whitaker**

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HF18 SGY

REVIVAL OF THE

MANUAL 991s

Stick shift is well and truly back at the centre of the 911, but which of these driver-focused 991s offers the most scintillating steer?

Written by **Joe Williams & Lee Sibley** Photography by **Rich Pearce**

What a difference a few short months can make. For a time it looked like the 991 generation was threatening the very existence of a manual gearbox in a Porsche 911 altogether. Unwanted alterations to the new stick shift, twinned with the prominence of PDK, lead some to believe the company was at one point shaping up for a future solely dedicated to auto-shifting sports cars, similar to events at some of its rivals.

While this 'death of the manual' movement has raged like a fire through the workshops of other automotive manufacturers, nobody really expected the flames to be fanned as far as the doors of Zuffenhausen. After all, a Porsche has always been about style over outright speed – exemplified by the company's time-honoured tradition of placing the tachometer and not the speedometer in the centre of the 911's five dials. It's *how* you get there, not how fast.

And yet, as is well documented, it was the 991 generation which began to change the 911's relationship with the manual gearbox from the get-go. Upon launch at the tail end of 2011, enthusiasts found the six-speed stick shift in the 997.2 replaced by an all-new gearbox for the 991.1, which featured an additional seventh ratio. Conceptually something of a modern-day overdrive gear, this seventh ratio was exceedingly tall, intended for cruising on motorways or the Autobahn, all the while keeping engine revs low and thus improving the new 911's MPG return.

On paper these changes made sense, but in reality enthusiasts struggled to adapt to the feel of the seven-speed shifter, it unnecessarily clunky and lacking a directness through each gate which the 997's unit had mastered so wonderfully. Somewhere beneath that protracted H-pattern, Porsche's slick stick shift had seemingly been lost.

Then the arrival of Porsche's first 991-generation GT car in 2013 gave rise to another revelation. The GT3 was presented for the first time with a PDK-only transmission, Porsche telling **Total 911** in issue 99 at the time: "There's no chance of a manual gearbox in the future." The PDK-only GT3 RS that followed went some way to hammering home the point, which left many enthusiasts wondering what future lay ahead for the manual gearbox in a Porsche.

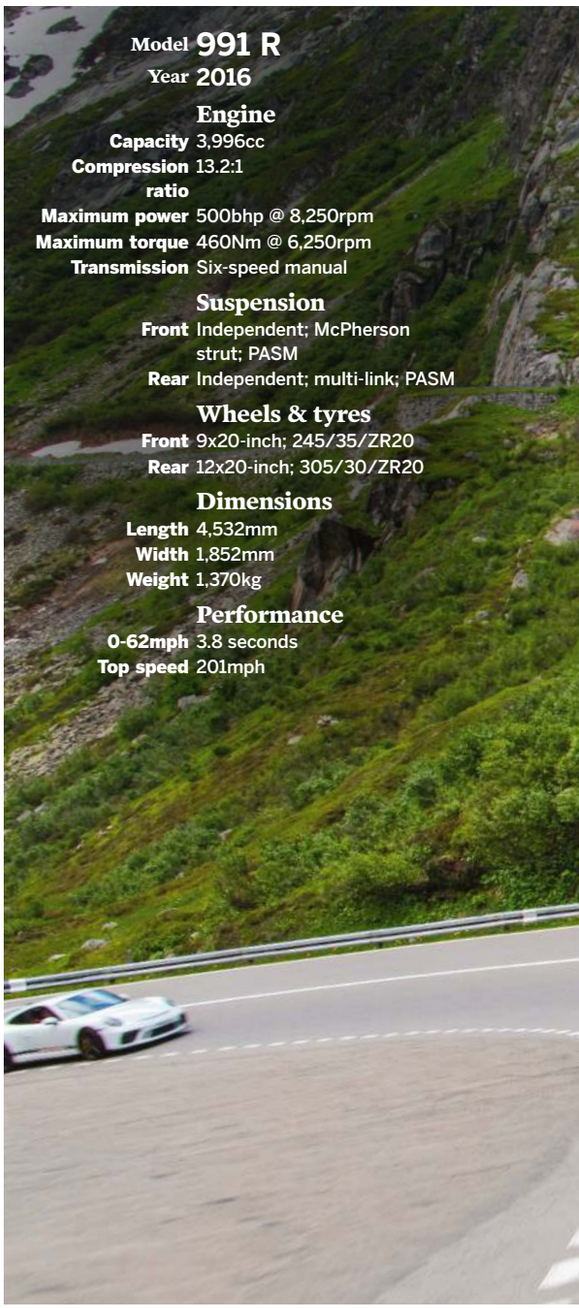
Alas, we know how the script developed from there. A wave of appreciation for manual gearboxes (some might even have called it a public outcry) brought about the Carrera S-engined Cayman GT4 in 2015, before the emphatic arrival of the 991 R in 2016 as the 911's savior of the stick shift.

The R proved Porsche's GT department was prepared to listen to its customers, yet the car's exclusivity (just 991 were produced worldwide) meant only a few could benefit from this significant U-turn in company policy. Porsche again listened, unveiling the 991.2 GT3 last year with PDK but, crucially, a six-speed manual gearbox was available as a no-cost option.

The company went further still. For those who couldn't get their hands on this latest prize GT car, Porsche presented the Carrera T: essentially a pared back and driver-honed version of its base Carrera 911. The line-up was thus complete, with stick shift available, at last, throughout the entire contemporary model range.

So, these are the crusaders; reviving the spirit and flair of the manual gearbox, this the crucial ingredient in any sports car that wishes to be associated with any notion of an analogue, purist drive. The big question, of course, is what is the driving experience on offer from all three?

It's the weekend of Porsche's 70th anniversary, so we've taken these three special 991s to possibly their best and most suitable playground to celebrate: the Alps. Our three manual driver's cars are in tow, their flat six symphonies echoing off the rocky canopies of Switzerland's Gotthard Pass. The R leads, closely followed by the GT3, though really it's nip-and-tuck between the two all weekend. ➲



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; McPherson strut; PASM
Rear Independent; multi-link; PASM

Wheels & tyres
Front 9x20-inch; 245/35/ZR20
Rear 12x20-inch; 305/30/ZR20

Dimensions
Length 4,532mm
Width 1,852mm
Weight 1,370kg

Performance
0-62mph 3.8 seconds
Top speed 201mph

ABOVE The lightweight 991 R is a masterpiece in mechanical precision, its six-speed manual gearbox and optional lightweight flywheel at the heart of this

Model 991.2 GT3
Year 2017

Engine
Capacity 3,996cc
Compression ratio 13.3:1
Maximum power 500bhp @ 8,250rpm
Maximum torque 460Nm @ 6,000rpm
Transmission Six-speed manual

Suspension
Front Independent; McPherson strut; PASM
Rear Independent; multi-link; PASM

Wheels & tyres
Front 9x20-inch; 245/35/ZR20
Rear 12x20-inch; 305/30/ZR20

Dimensions
Length 4,562mm
Width 1,852mm
Weight 1,413kg

Performance
0-62mph 3.9 seconds
Top speed 199mph

In many ways it makes for a nice metaphor, as much debate is currently encircling Porsche forums as to how similar these two cars are – particularly when the GT3 is in flat-back 'Touring' trim, which brings it ever closer to the R's silhouette. Indeed, these two 991s have a lot in common: they both make use of Porsche's Carrera 4 body, have a purely atmospheric, four-litre flat six hanging out back producing 500hp, mated of course to the GT-department's specially crafted six speed manual. Both are rear-wheel-drive, fed via a mechanical LSD, and both have the same footprint too in terms of wheelbase, track widths and tyre sizes. While in Touring guise the GT3 shares that unmistakable flatback outline as the R, Guy's car here comes complete with full GT3 aero addenda.

There's no denying similarities between the two are overwhelming, on paper at least. But there are a few crucial differences too. The GT3's engine is the later, Cup-derived 4.0-litre lump also found in the GT3 RS, so there's no lightweight flywheel to speak of, Porsche saying it is simply not required. A single-mass flywheel, however, was a popular option on the R, fitted here to Richard's black example with silver stripes, the R also benefitting from a magnesium roof as it looks to save as much weight as possible. This meticulous dedication to weight saving, which includes a rather more comprehensive paring back of sound deadening inside, means there is a 43kg difference between the two cars, in favour of the R, of course.

The R has long been a **Total 911** favourite for what it represents and for how it drives. The first model of this great swing back in favour of the manual Porsche, really the company never needed to build it – unprecedented demand for its PDK-only GT2 and GT3 RS has since proved this. However, the R showed Porsche could listen, and the idea of a modern, lightweight manual is every bit as good in reality as it is on paper. The crux of it is that absolutely everything in the R has been optimised, especially when compared directly to the 991.2 GT3. Its steering is lighter, the R's system featherlight by comparison to the GT3. That's not to say steering in the GT3 is heavy by any means, with both systems providing wonderful communication right to the driver's palms, but there's a delicacy to the R's wheel which adds another layer of finesse. Likewise, the R's clutch is notably lighter without feeling superficially so, its immediacy in throttle response too providing an edge over its white-winged rival next to us. That single mass flywheel plays a key part here.

It's louder inside the R, detritus flicking up into the arches from these mountain roads penetrating the cabin more than in the GT3. Then, of course, there's the gearbox: the bastion of both of these cars, there were claims from launch that the GT3's six-speed shifter has been taken directly from the R. While this may be the case, there have been tweaks. Both have a wonderfully short and direct throw, possessing none of the vagueness which has long blighted the 991's seven-speed, but the R, again, offers a more precise action through the gate. Its movement is akin to a rifle bolt, its dedication to precision offering the perfect driver's companion when making the most of that glorious four-litre flat six. Throwing the carbon-lined shifter effortlessly around the R's H-pattern as we dance up the mountain, it doesn't take too long to decide this is the most polished manual gearbox fitted to a 911 in years.

Switching gears in the GT3 is nearly – oh, so nearly – as good, its stubby alcantara shifter finding its home with ease through every cog swap. There's just a little clunk through the gate compared to the R though, the feeling here reminding me of the throw in a 997.2 GT3 RS. It's incredibly positive and perhaps more welcome on a car destined for track work, but it just can't live up to the supremacy of the R's rifle bolt precision.

As you can see, there's a theme emerging here, Porsche's time-honoured philosophy of adding lightness meaning as great as the GT3 is, the R seems to hold an additional 10 per cent of superiority in almost every department. It's by no means a whitewash though, for when it comes to those 500hp flat sixes, the later unit found in the GT3 is far and away the superior power plant. It shows this in two areas: first, it has more torque south of 4,000rpm than the 9A1 engine in the R, though north of 8,000rpm is most impressive. Whereas the R tails off on approach to its redline, the GT3's pull is relentless. In fact, it's hard to pick out a weak spot in the rev range full stop – this could well be the greatest ➲

"Whereas the R tails off on approach to its redline, the GT3's pull is relentless"

ABOVE LEFT
Three pedals make an emphatic return to the 991.2 GT3, though it's still a track-focused 911

BELOW The GT3 & R give chase to the Carrera T approaching Stelvio

Model 991 Carrera T
Year 2017

Engine
Capacity 2,981cc
Compression ratio 10.0:1
Maximum power 370bhp @ 6,500rpm
Maximum torque 450Nm @ 1,700-5,000rpm
Transmission Seven-speed manual

Suspension
Front Independent; McPherson strut; PASM
Rear Independent; multi-link; PASM

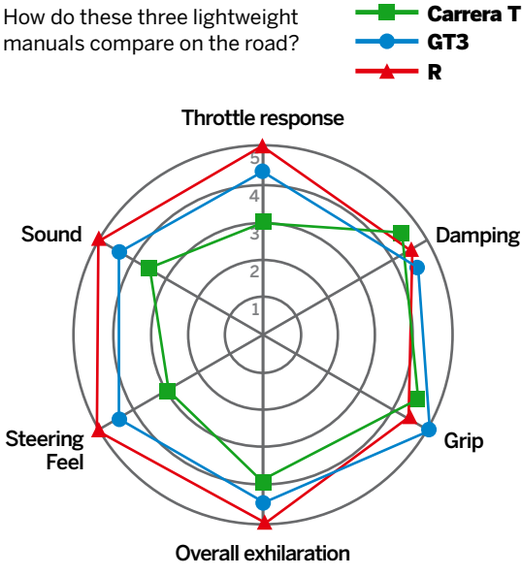
Wheels & tyres
Front 8.5x20-inch; 245/35/ZR20
Rear 11.5x20-inch; 305/30/ZR20

Dimensions
Length 4,527mm
Width 1,808mm
Weight 1,425kg

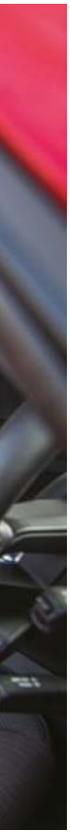
Performance
0-62mph 4.5 seconds
Top speed 183mph

From the driver's seat

How do these three lightweight manuals compare on the road?



ABOVE Stubby shifter, door pull straps and SportTex seats give the impression of a driver's 991, but the T could have been even better



BELOW T's Sport chassis is excellent, it communicative and rewarding on the limit

flat six ever to be shoehorned into the back of a road-going 911.

The GT3, too, offers more stability at higher speeds than the R, which here is clearly missing the extra downforce offered by a fixed rear wing. The GT3's damping is stiffer too, this expected from what is ultimately still a track-biased Neunelfer, but on these roads, slightly softer springing and a little extra body roll offered by the R in the corners is most welcome. Whereas the GT3 has a greater tendency to remain planted to the ground, the R's chassis is happy to move around, though it's not unnerving. The R just seems to talk to you more.

What we have here are two absolutely scintillating 911s at the very zenith of the modern analogue driving experience, and while the 991.2 GT3 is clearly leap years on from the 991.1 before it, Porsche has expertly sought to protect its halo R as the ultimate. The spec sheets may point to a single-mass flywheel and a magnesium roof (and therefore a lower centre of gravity) as primary factors, but really the R's genius is found in the sum of its parts. On roads like these, it is superior in very nearly every way.

The Carrera T, by comparison, is a rather different proposition. Though its thesis for driver focus is the same as that of the GT3 and R ahead of it, it goes about this is an entirely different way. There's no GT engine, no wide body and not even that slick six-speed found in the cars up ahead. Instead, there's a modest 20kg saving and a shorter final-drive ratio over a Carrera, the T employing a delightful simplicity as a focused rendition of the entry-level 911.

The T does much to appeal to the senses: the roar of that turbocharged 9A2 engine is louder from inside than a base Carrera, the standard-spec Sport wheel, measuring 360mm in diameter, more princely to hold, too. A PASM Sport chassis, dropping the T's ride height by 10mm, is also more communicative. The seats, covered in SportTex rather than leather, add to the car's sporting intentions, as do the fabric door pull straps – something even the GT3 misses out on. However, the gearbox is a big let-down, for while evocative red paint is used to mark out the H-pattern of that seven-speed atop a stubbier shifter, its mechanicals are unchanged, and so the 991's inherent problems remain. It's too clunky, and too vague through the gate, the T not achieving anything like the same league of precision as those GT cars ahead of it.

Porsche could and perhaps should have gone a lot further here, for a rework of the gearbox would suitably have transformed the car. Then there's the issue of weight. At only 20 kilos lighter than a basic Carrera, once PCM is added back into the car (at no cost) the savings over a similarly specced C2 are modest at best.

Still, it's a fun 911 in which to tackle an Alps mountain pass, especially when you're trying to keep pace with a GT3 and 991 R. Despite the T being the only turbocharged Neunelfer in our trio of manuals, its engine still feels peaky (maximum power is delivered at 6,500rpm), and keeping revs above 4,000rpm is about the only way the T can hang on to the tails of the other two. On smaller brakes, the middle pedal is called upon earlier in the T, it not lavished with the immediacy of PCCB's sitting behind those centre-locking wheels of the others. Lacking behind the GT3 and R even on what can be restrictive mountain roads, the better brakes and additional power and torque of a GTS are sought to keep up with present company.

As we said before though, with a Porsche it's not how fast you go, but how you get there, and in this regard the T is very much in keeping with its peers. All are exquisite driving machines in their own right, keeping true to the 911's genesis as a sports car built for driving. Four years ago nobody thought this test would even exist, yet the R, GT3 and Carrera T have shown us the manual is still very much at the centre of the Porsche driving experience. Far from killing it off, the 991 generation has done justice to not just preserve the manual, but evolve it, bowing out as arguably the most technically exhilarating era of analogue 911 yet. **911**

RENNSPORT TITANS

Two blistering lightweights at the top of Porsche's GT game, one burning question: which is best?

Written by **Lee Sibley** Photography by **Rich Pearce**

Lambourn, Berkshire, UK. It's a cloudy yet hot, muggy summer's day, the mercury creeping into the high 20s by early afternoon. The countryside, booming with life after a soggy winter, is awash with vibrant greens and glorious yellows, vegetation clambering high for the sun above.

However, the most striking shade of green today doesn't come courtesy of British shrubbery – in fact, it won't be found in the fields of Berkshire at all. Instead you'll have to look on the roads cutting through them, the vibrant Lizard green hue adorning those wide, aggressive hips of Porsche's new GT3 RS. The 'Lizard', as it has affectionately become known as by enthusiasts, storms along an undulating B-road, its low-slung nose glued to the asphalt at the front, its striking wing towering into the sky from behind. Following closely behind is another visually arresting 991: a Miami blue GT2 RS, no less, offering a hot pursuit as it too bobs along, its chassis stubbornly hugging the contours of this bumpy British back route.

Currently the hottest two products from Porsche's famous GT line, seeing – and hearing – these two 911 Rennsports as they tear through the countryside is one of the most visually arresting sights anyone will have seen for a long time. Boasting gargantuan presence on the asphalt, their rarity (not to mention value) means it won't be often you'll see even one of these blue-chip 911s on the public road, let alone both at the same time, side by side.

These are two 991s married by their devotion to delivering the ultimate in modern Porsche performance in focused, lightweight packages, divorced spectacularly in exactly how that performance is administered. It's 991 GT2 RS v

991.2 GT3 RS – and we're the first to put these two titans to the test.

Delve a little deeper and you'll notice the two cars have many similarities in their spec: the most obvious is simply outrageous aero on a super-wide Turbo body. Then there's a PDK gearbox, an electronic differential and rear-axle steering, not to mention a comprehensive weight-saving program which includes thinner glass, a deployment of different materials and a removal of sound deadening.

But there are key differences too, beginning, of course, with their respective flat sixes. The 4.0-litre unit in the back of the GT3 RS has been carried over from the 991.2 GT3, albeit with revised breathing (in the form of modified intakes and a titanium exhaust) for an extra 20hp, its 520hp total an astonishing feat for a naturally aspirated, six-pot motor. That maximum output is realised at a heady 8,250rpm, though its redline is the headline snatcher, it being a mighty 9,000rpm. This is the first Rennsport to spin all the way up to a full nine grand after the 991.1 was pegged back to 'just' 8,600rpm.

The GT3 RS's engine credentials are mighty, but its Miami blue brother takes things further still ➲

"If the GT3 RS is akin to a scalpel knife, the GT2 RS is more of a sledge hammer"

– to the tune of 700 maximum horsepower and a ludicrous 750Nm peak twist. The GT2 RS achieves this via alternative means to the atmospheric GT3, bolting bigger turbochargers to the 3.8-litre 9A1 engine found in the 991.2 Turbo S. A remap sees this blown Rennsport achieve what is unprecedented power and torque figures for any road-going 911, ever.

But how do these polarities in power delivery translate on the road? Or do their similarities justifiably pull them together? Most importantly of all, which of these 991 Rennsports offers the most thrilling drive? We had better find out.

We begin in the GT3 RS, perhaps out of newsworthiness more than anything: it's the 911 of the moment, providing either a fit of excitement or a stark bone of contention among enthusiasts, depending on how a given individual fared in the allocation process. Its Lizard green tone is already well known in Porsche circles, Andreas Preuninger having apparently 'rediscovered' the colour on an impact-bumper car at Rennsport Reunion in 2015, it now set to enter the pantheon of iconic 911 hues thanks to this 991.2 GT3 RS launch.

There's a hint of yellow to it when viewed in person, likely contributing to its borderline luminous glow. It's striking, but suits the car's lines, broken up here by carbon and black plastic addenda. Changes to the car's bodywork over the Gen1 GT3 RS are plainly evident – the Gen2's revision of air management has resulted in a more chiselled front end, those front arches now following the GT2 RS's mantra of having externally-flared vents. There are additional vents in the bonnet feeding air to the front brakes too (and better managing airflow through the car, as we reported on our first drive in issue 166), plus the car's near Cup-spec rear wing now sits slightly higher. It looks absolutely incredible.

The green theme very much continues inside, Porsche GB's press team having gone 'full Lizard' with green seats, grill surrounds and even the 12 o'clock marker finished in the exterior launch colour. Sliding into the carbon-backed 918 Spyder bucket, the view ahead feels familiar. Changes over the Gen1 here are negligible, but that's immaterial: the engine and chassis holds our attention most.

It's a slightly bassier note than the GT3 on start-up, though as we head out from Lambourn and onto the bumpy, undulating blacktop of the B4000, we soon discover its tone further up the rev range is more of a gilt-edged howl than the banshee note of that lesser GT3. You can thank the Rennsport's titanium exhaust for that.

That engine quickly establishes itself as possessing all the magic we've come to appreciate from the 991.2 GT3, its throttle response ludicrously snappy, its ability to rev willingly – insatiably – at almost any point utterly intoxicating. Never before has that rev needle swept so vigorously around the GT3 RS's tachometer, it bearing down on that mighty 9,000rpm redline seemingly without any let-up. It just pulls so strongly, and better still, there's barely any drop-off between peak power at 8,250rpm and the full nine thou. It is a simply relentless machine, its hasty travel met with a cacophony of noise from within the stripped-out cabin. Changing gear doesn't bring even a momentary halt to proceedings, either. Such is the instantaneous relationship between the driver pulling the up or downshift paddles and the PDK 'box swapping cogs, it is as if the system knows the precise moment you're going to pull the paddle and reach for a new ratio.

Perhaps the most impressive element of the new GT3 RS, though, is its chassis. Particularly evident on this lumpy country route, the naturally aspirated Rennsport's ride is revealed as being far superior to that of its predecessor. On paper, this just shouldn't work: a chassis with ball joints and solid mounts is not the environment to tackle such poor quality roads with 520hp worth of pace, yet such is the sophistication of the car's ride you'd barely notice the Cup-spec set-up. This is largely down to the ➲

ABOVE GT2 RS delivers savage performance but precision is found in its chassis

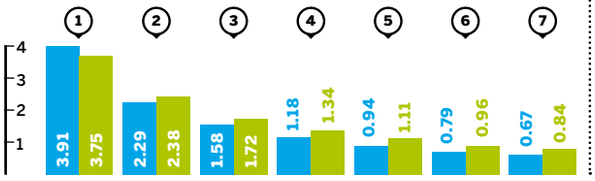
991 GT2 RS		991.2 GT3 RS
2017	Year	2018
Engine		**Engine**
3,800cc	Capacity	3,996cc
9.0:1	Compression ratio	13.3:1
700bhp @ 7,000rpm	Maximum power	520bhp @ 8,250rpm
750Nm @ 2,500-4,500rpm	Maximum torque	470Nm @ 6,000rpm
Seven-speed PDK	Transmission	Seven-speed PDK
Suspension		**Suspension**
Independent; McPherson strut; carbon fibre ARB; PASM	Front	Independent; McPherson strut; ball joints; PASM
Independent; multi-link; carbon fibre ARB; PASM	Rear	Independent; multi-link; ball joints; PASM
Brakes		**Brakes**
410x36mm PCCB discs; six-piston callipers	Front	380x34mm discs; six-piston callipers
390x32mm PCCB discs; four-piston callipers	Rear	380x30mm discs; four-piston callipers
Wheels & tyres		**Wheels & tyres**
9.5x20-inch; 265/35/ZR20	Front	9.5x20-inch; 265/35/ZR20
12.5x21-inch; 325/30/ZR21	Rear	12.5x21-inch; 325/30/ZR21
Dimensions		**Dimensions**
4,549mm	Length	4,557mm
1,880mm	Width	1,880mm
1,470kg	Weight	1,430kg
Performance		**Performance**
2.8 seconds	0-62mph	3.2 seconds
211mph	Top speed	193mph

ABOVE Both models share identical 2,453mm wheelbase plus wheel and tyre specs

IN NUMBERS

ACCELERATION

GEAR RATIOS



DRAG COEFFICIENT

0.35
0.36

CURRENT MARKET VALUE

£500K

£285K

POWER TO WEIGHT

2.1 KG/HP

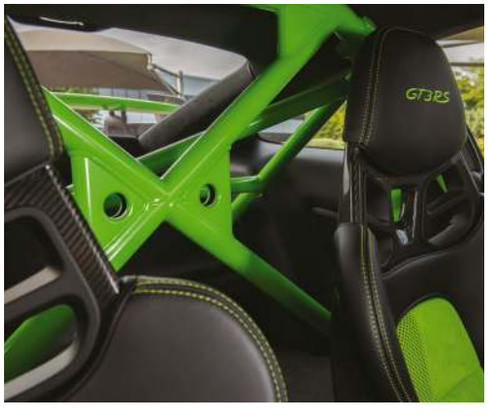
2.75 KG/HP

MAXIMUM DOWNFORCE

450 KG

450 KG

BELOW GT3 RS rear wing has greater aerodynamic adjustability; Weissach Pack means GT2 RS has lighter titanium cage, saving 12kg



GT3 RS's helper springs, which take the crashiness out of the ride comapred to full Cup spec but does not affect the car's roll. Where the Cup chassis characteristics do become evident is in cornering. Turn-in is razor sharp, it possessing a directness not seen before on a 991-generation 911. It really is hard to believe this car has made the Gen1 so numb by comparison. Revisions to the rear axle steering system ensure the back of the car remains settled, particularly through higher-speed corners, the pace we're reaching on these roads meaning most of the grip is achieved mechanically rather than via aerodynamic means. Amplified by a wonderful steering system which is beautifully weighted, providing welcome feedback without pulling the RS all over the road, it is astonishing how much sharper the Gen2 car is, while also appearing more polished. It's an absolute scalpel knife.

Porsche's latest GT3 RS is still undoubtedly a car for the track, but whereas the 991.1 GT3 RS was largely uncompromising on the road, the 991.2 has successfully sought to install a greater compliance, and therefore finesse to its drive. Revision has equalled precision, but what can the blown GT2 RS throw into the mix?

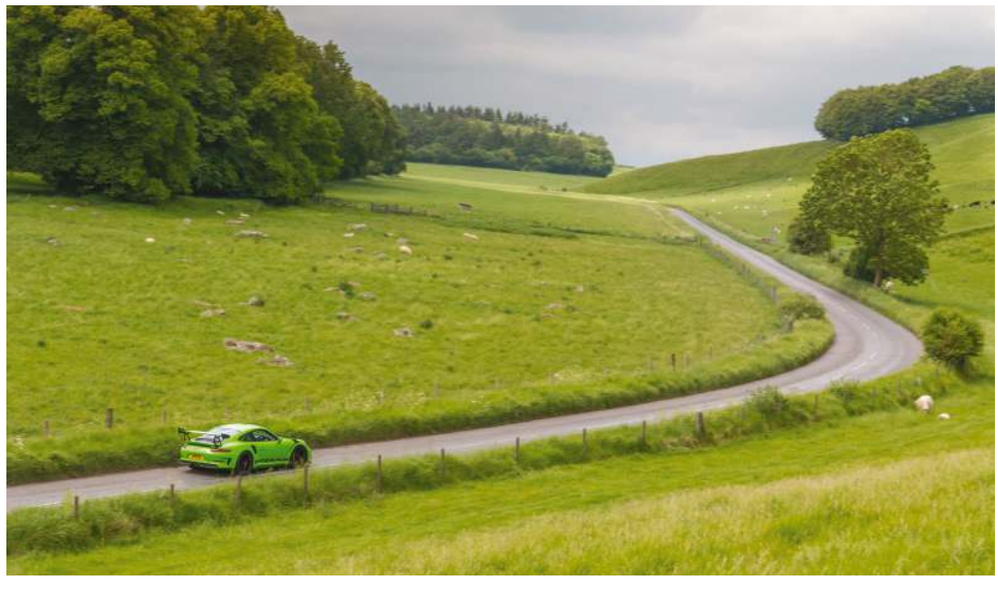
Whoever says turbocharged Porsche engines are too quiet obviously hasn't sat in this latest blown Rennsport. Twisting the key while applying the brake pedal, the GT2 RS emits a thunderous boom as that 3.8-litre flat six instantly rumbles into life. Blasting right through the pared-back cabin, it takes me by surprise. Not only is it loud in here, it's louder than the naturally aspirated Lizard car sitting next to us. It is just the start of the GT2 RS's blitz on a driver's senses.

The chassis of this turbo'd Rennsport shares much of the GT3 RS's Cup suspension (indeed, the 2 was the trailblazer for it), with the addition of carbon anti-roll bars and drop links to save further weight. In fact, weight saving has been taken to the next level by the GT2 RS, which employs carbon fibre nearly all over the car to keep overall mass reduced. In addition, that optional Weissach Pack, saving another 30kg of mass, is not as elusive on blown GT2 RSs as its naturally aspirated rival, and brings with it magnesium wheels, a titanium cage and a carbon roof instead of the magnesium found on the GT3 RS. The GT2 RS weighs only 100kg more than Porsche's current lightweight genesis, the 2016 R, with a mere 40kg penalty over the GT3 RS beside it. Given the presence of turbochargers, intercoolers and associated plumbing, including innovative jets which spray water from a five-litre tank over the GT2 RS's intercoolers to reduce temperatures by up to 20 degrees, this small difference is staggering.

Rolling out on to the same triangulation of the B4000, B4507 and B4001 ('the **Total 911** Triangle', anyone?), the GT2 RS takes around 2.8 seconds to underline its prowess at the top of the 991 tree, this being the time it takes to reach 62mph from a standstill. Even on paper the time is incredible, especially when you consider power is being fed to the rear wheels only. In its presence, the word 'incredible' doesn't do the GT2 RS's accelerative prowess justice. Its power delivery is simply explosive, chucking your insides backwards in a way I've not experienced in a road car before.

The redline starts at 7,200rpm for the GT2 RS, and it takes absolutely no time to reach that whatsoever. There's more of an event to the rev needle in the GT3 RS surging round its tachometer, partly because its redline is so high, but the pace with which it surges around the GT2 RS's central dial is frightening. It lashes for the redline and, once a hasty change up is executed, it'll lash round again. There's less of a pull needed on the GT2 RS's PDK paddle, which is carbon here (what else) instead of the aluminium found in the GT3 RS. The feel is more akin to a click as you pull back on it, such is the lack of travel offered, and the gears are revised, now shorter and fully utilising that final seventh cog.

Needless to say, ground is covered quickly in the GT2 RS, which comprehensively thrusts you back in your seat while its lightweight titanium exhaust bellows a bassy chorus of noise into your ear drums. It's overwhelming at first, there's so much to take ➲



"Here you have two cars which offer the most breathtaking performance with nothing more than a good old flat six combustion engine"

ABOVE Five-litre tank stores water for jet system to reduce GT2 intercooler temps; dirt rises through GT3's arch vents

in, but after a period of adjustment (which namely involves cursing a lot in disbelief after each stab of the accelerator) you can begin to attempt to build into the car and its capabilities.

Sure, it lacks the razor-sharp immediacy in throttle response of the GT3 RS, but no matter: the GT2 makes up for it with explosive torque anywhere north of 2,000rpm, with peak twist delivered between 2,500 and 4,500rpm.

Respect is needed, this thing more of a guided missile, destination wherever you point the steering wheel. If the GT3 RS is akin to a scalpel knife, the GT2 RS is more of a sledge hammer. It's not helped by the amount of movement going on beneath you, those Cup 2 tyres squirming for every millimetre of grip they can get in trying to appease up to 750Nm of torque across a less-than-perfect surface. Managing the car is the name of the game here, it imperative to keep the chassis happy. It's a real workout, and both brain and body has to be well and truly engaged – this is not a car you can just hop into and drive fast without disaster.

To suggest the GT2 RS is purely about brute power though is to do the blown Rennsport a disservice. It has a meticulous side too, its suspension as sophisticated as it is palatable on these bumpy country roads. There's no such savage fallback on to the 911's hind axle under heavy acceleration, and standard-spec PCCBs do a fine job of halting the GT2 RS from its speed haze as you approach a corner, before pinpoint accuracy at the nose of the car delivers you a sharp yet precise turn-in. A squeeze of the gas pedal sees the GT2 RS monstering the exit, getting on the power too early resulting in a nervous squirm from the rear of the car. Get it right, though, and there's surely not a more intoxicating experience available on a car adorned with licence plates.

So, which is the better 991 Rennsport? Really, it depends on what you prefer from your driving experience: the precision of the GT3 RS or the brute power of the GT2 RS. There are of course merits to both, and each car is no less stimulating to drive than the other.

I'm not about to sit on the fence though. I prefer the GT2 RS: for me it covers both bases in being precise and explosive, something the naturally aspirated car cannot achieve by the same extremes. The GT2 RS can possess a delicate side like the GT3 RS, but turn it up to ten and it has the ability to morph into a monster. For the first ten minutes it's positively petrifying, but as you grow accustomed to the car and build into its characteristics, that soon turns into an excitement which will never get boring.

However, in the grand scheme of things, both cars are the winners. This is because we're about to enter an unprecedented era of great change in the automotive industry, with companies – including Porsche – already hard at work behind the scenes, ploughing considerable investment and resources into this new world of e-mobility. These technologies will change the very concept of the automobile forever, offering cars which will be faster and more efficient. And yet, in the midst of this great rush to adopt electric-powered vehicles, here you have two cars which offer the most breathtaking yet clinical performance ever found in a Porsche, yet in doing so they rely on nothing more than a good old flat six internal-combustion engine. These two Rennsports show there's plenty of life yet in what will soon be known as traditional power sources which, looking at the bigger picture, is the most important and reassuring message to take away from our Lambourn test. Long live the Rennsport flat six, whether blown or otherwise. 911

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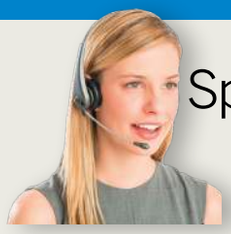

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Written by **Kieron Fennelly** Photography by **Daniel Pullen**

964
THE FIRST MODERN 911

The 964 was a technical leap over the 3.2 Carrera, but how and why was this once controversial new model introduced? **Total 911** assesses the Neunelfer's crucial evolution of 30 years ago

By 1984, as the latest 3.2 was appearing in the showrooms, the 911 was already a phenomenon: it had far exceeded the impressive 15-year life of the 356 and, thanks to the passion and insight of then-CEO Peter Schutz, showed no signs of flagging. No other mass-production car conceived in the 1960s survived into a third decade. In 1982 Ford had built the last Cortina, but that car had been rebodied no fewer than four times; only the primitive Land Rover could offer the visual continuity of the 911.

The Porsche remained both profitable and near the top of the performance league. In 1984 231bhp was respectable, and on the quieter roads of those times a driver could deploy such horsepower regularly in a way quite impossible for today's 500bhp 911s. Indeed, to beat a 3.2 you needed an Italian exotic of the type that required a mechanic in the boot, and even then it would never sustain day-in day-out 120mph use on the Autobahn.

But if the 911 was still a selling proposition, the strength of the dollar during the early 1980s making Porsche an increasingly attractive proposition to Americans, this masked the fact that it was dated. It had no power steering, a ride quality not worthy of its price bracket, no auto transmission option and ➲

RIGHT Enthusiasts had to wait a year for a rear-drive C2 model, despite evocative Porsche marketing pushing the C4's arrival (far right)

Byzantine heating and ventilation systems. Australian journalist Peter Robinson said in 1978: "The 911 belongs to another era. It's showing its age and not just around the edge, so let's put it out to pasture with the other thoroughbreds before it breaks down and has to be destroyed in front of its adoring public."

Such antipodean directness was too much for Porsche, and Robinson later revealed that it was 11 years before Porsche would let him near another press car. Nevertheless, there were rumblings within Porsche too. Styling director Tony Lapine was a well-known 911 dissident, but Peter Falk was also critical. A man steeped in 911 development, and who before retirement produced the famous Lastenheft which sought to redefine the fundamental characteristics a new 911 should have, Falk represented the very essence of 911 integrity and tradition. After 20 years he wanted to see improvements, such as dispensing with the archaic torsion bars.

Falk's voice did not go unheard. In April 1984 the board authorised development of the next 911, Typ 964. This would be the 911's first step to making up lost ground. In fact, when it was revealed in 1988, the 964 looked remarkably like its predecessor. The board had stipulated that nothing was to be changed above the level of the axles. This had vastly restricted the designers, but Dick Soderberg's skilful melding of the impact bumpers into the bodywork was widely praised, and the smooth-surfaced, technical-looking 'Design 90' 16-inch wheels were much admired. All of a sudden the Fuchs appeared old-fashioned.

The 964 remit to the chassis engineers was just as challenging this time because of everything that had to be changed. The success of Ferdinand Piëch's Audi Quattro had convinced Ferry Porsche and Helmuth Bott that a version of the 911 should have integral transmission. That meant abandoning torsion bar suspension and redesigning the 911's underside to accept conventional springing, which at the front would also make room for power steering. Air suspension was also planned. In October 1986 Bott hinted in *Auto Motor & Sport* that the next 911 would be a very significant advance; evolutionary, but using 959 technology, and positioned more closely to the Porsche super car to make a "better 911". For a car barely changed since its inception, such statements raised expectations.

To simplify production one floorpan was designed to cover both types, four- and two-wheel drive. The new suspension used struts at the front, as had the previous 911, but with lower wishbones and with adjustment of the steering axis to accommodate power steering, and a geometry suited to another advance, ABS brakes. At the rear, revised struts were configured so that toe-out of the inner wheel during cornering was eliminated, held in place by steel semi-trailing arms designed with a degree of flexibility. Anti-roll bars were fitted, 20mm at the front and 21mm at the rear.

If cost put paid to the air suspension for which the 964 had really been designed, the model's essential new development did go ahead. The all-wheel-drive transmission was basically the same as that designed for the 1984 Dakar-winning 953: a fixed torque split of 31:69 front/rear differed from the 964's weight distribution of 41:59 in an effort to reduce the natural understeering characteristic of the 4x4 transmission – an asset on desert sand, but which on dry tarmac detracted from the 911's traditionally sporty handling. Engineer Walter Näher and veteran test driver Herbert Linge would cover many circuit miles in attempts to get this handling balance right. Behind the stylish new wheels were ventilated disc brakes, and their ABS sensors were linked to the transmission, intervening to transfer more torque to front or rear if loss of traction of one axle was discerned. ➲

Timeline

1988
Carrera 4 launched at Frankfurt Motor Show, described by CEO Heinz Branitzki as: "the 911 for the next 25 years."

1989
Carrera 2 becomes available as five-speed manual or four-speed auto; Cabriolet and Targa versions available; Carrera 3.2 and 930 Turbo production ends.

1990
964 3.3 Turbo launched at Geneva.

1991
80 964 Turbo S lightweights built – fastest production 911s made to date; Porsche Cup homologation model built, marketed as 964 RS inviting comparison with 2.7RS; motorsport department builds 20 Carrera 4 Leichtbau models.

1992
RS America built as simplified-equipment US-only version inspired by Vic Elford, priced $10,000 below regular 964, 701 sold worldwide; pared-back Porsche Speedster presented at Paris Show; X33 option boosts Turbo to 355bhp.

1993
Turbo 964 3.6 released; wide-body 30th Anniversary 964 presented, 911 models built worldwide; Targa production ends.

1994
Last 964s produced June-July.

Considering the flat six, unlike chassis and styling, was to be carried over simply with appropriate power and torque increases, it's surprising that it was the engine which caused the greatest head scratching at Weissach, ultimately delaying the launch of the 964 by well over a year. From the outset Bott was concerned that the revised shell and integral transmission, which added 200kg, would demand more power and torque. Another consideration was an engine which would operate worldwide without the need for detuned US/Japan versions. It would also have to be designed around the catalytic converter, scheduled to become mandatory in Europe in 1993.

Work had started as early as 1983. An early decision was twin-spark ignition, long a characteristic of Porsche racing engines, but entirely new for production. This made combustion more consistent and created a more stable idle, allowing the Bosch Motronic to weaken the mixture to the benefit of economy during warm-up.

However, the real challenge was the lower hydrocarbon and NOx levels demanded by California. The production 3.2 produced only 207bhp in 'detoxed' form, and increasing output while keeping emissions in check was generating excessive cylinder head temperatures. There was no room to build four valves per cylinder, and a water-cooled head was too expensive and technically fraught. Using the 97mm bore of the Turbo to make a capacity of 3.3, bench testing achieved 235bhp, still short of the 240bhp Bott believed was essential. Draughting around the flat six was improved, a more efficient fan designed and the cylinder head gasket eliminated to improve heat flow.

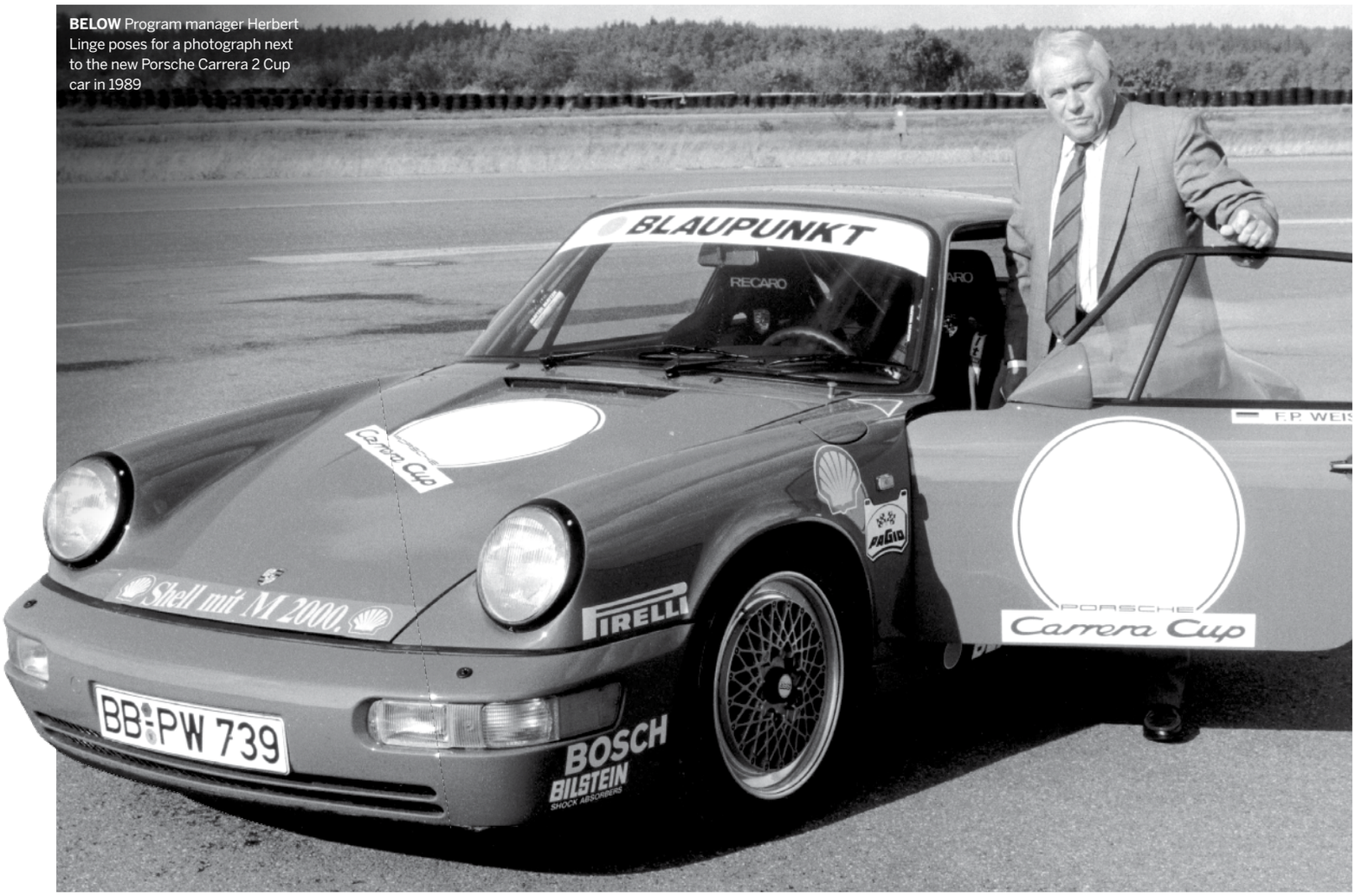
Combined with revisions to the finning, an acceptable operating temperature of 255 degrees Celsius was attained. Now the engineers increased capacity again: a 100mm bore resulted in a 3,506cc displacement, but this demanded modifications to the crankcase halves and cylinder head to accommodate everything. At the same time Porsche and Bosch had to upgrade the Motronic, which did not have the chip power to cope with ignition timing at high rpm, invoking the knock (pinking) sensor and reducing acceleration.

Even the 3.6-litre engine caused Bott doubts, and the power output challenge was finally resolved when his engineers lengthened the stroke to 76.4mm (from 74.4mm), which made exactly 3,600cc. At last testing the engine showed a consistent 250 horsepower at 6,100rpm. Production engines would in fact average 255 to 258bhp at the time. Maximum torque at 310Nm was a substantial increase over the 3.2's 264Nm. The 3.6 proved a fine engine, particularly in the 993, but its protracted development, including a new crankshaft, had been very expensive.

The first pictures of the new 911, the Carrera 4, were released in May 1988, and press cars became available in early autumn. Journalists appreciated Soderberg's styling, and noted Porsche's claimed Cd of 0.32, a remarkable figure for such a short car. In fact, aerodynamically the 964 was just as impressive as this figure suggests. Its neat retractable rear spoiler which eliminated lift was the visible part of an air-smoothing package which included panelling the underside with careful air ducting to cool the engine and prevent frontal lift.

The scribes also viewed favourably the conservative revisions to the cockpit with (at last) rationalised heating and ventilation controls, and they also liked the short gear lever, a gain directly from the 959. On the road, testers approved of the 911's new power assistance, which took some of the kickback out of the 911's steering.

Michael Cotton's comments were typical: "The steering no longer feels alive to every contour of the road and there will always be those who say it has lost its particular charm, but for each of those, ➲



BELOW Program manager Herbert Linge poses for a photograph next to the new Porsche Carrera 2 Cup car in 1989

ABOVE 964's cabin featured many small updates including better temperature and heater interface. Externally though, an active rear wing appeared for the first time

ABOVE Technical cutaway shows 964's comprehensive evolution over 3.2, inset, particularly with regards to suspension

3.2 Carrera		964 Carrera 2
1984-1989	**Year**	**1989-94**
Engine		**Engine**
3,164cc 930/20	**Capacity**	3,600cc M64/01
10.3:1	**Compression ratio**	11.3:1
231hp @ 5,900rpm	**Maximum power**	250bhp @ 6,100rpm
284Nm @ 4,800rpm	**Maximum torque**	310Nm @ 4,800rpm
Five-speed G50 manual	**Transmission**	Five-speed G64 manual; hydraulic clutch; four-speed Tiptronic optional
Suspension		**Suspension**
Independent; wishbones; McPherson struts; longitudinal torsion bars; gas-filled double-action shock absorbers; anti-roll bar	**Front**	Independent; lower wishbones; McPherson struts with coil springs; gas-filled double action shock absorbers; anti-roll bar
Light alloy semi-trailing arms; transverse torsion bars; gas-filled double-action shock absorbers; anti-roll bar	**Rear**	Independent; McPherson struts with coil springs; gas-filled double-action shock absorbers; anti-roll bar
Brakes		**Brakes**
Ventilated, drilled discs; two-piston cast-iron calipers		Ventilated, drilled discs; two-piston cast-iron calipers
Wheels & tyres		**Wheels & tyres**
7x15-inch Fuchs; 195/60/VR15	**Front**	6x16-inch Design 90 alloys; 205/55/VR16
8x15-inch Fuchs; 215/50/VR15	**Rear**	8x16-inch Design 90 alloys; 225/50/VR16
Dimensions		**Dimensions**
4,291mm	**Length**	4,250mm
1,652mm	**Width**	1,652mmm
1,210kg	**Weight**	1,350kg
2,272mm	**Wheelbase**	2,272mm
Performance		**Performance**
5.6 seconds	**0-62mph**	5.5 seconds
152mph	**Top speed**	164mph

ABOVE Four-speed Tiptronic gearbox debuts on the 911 for the first time with the 964

"An early decision was twin-spark ignition, long a characteristic of racing"

a dozen will welcome its modernity and taming of its vices." There are parallels with the debate a quarter of a century later about the merits of the 911's electrically assisted rack.

Nevertheless, the feeling was that despite the company's efforts, the default position of the Carrera 4 was understeer, and there was relief among Porsche fans a year later when the Carrera 2 appeared. The magazines thought the C2 cornered more eagerly than ever, and its accurate assisted steering fatigued the driver less than the 3.2.

Indeed, driving the 964 and the 3.2 today it is not only the later car's more abundant midrange torque, but the linearity of its steering which differentiate them. The unpowered 3.2 rack weights up as corners tighten, making it altogether the more demanding. The 964's shorter gearshift is much more intuitive as well. Otherwise road behaviour and refinement levels are remarkably similar, both 3.2 and 964 Carreras offering a distinctly vintage Porsche 911 driving experience from their air-cooled motors.

The 964 Carrera 4 maintained Porsche's pre-eminence in the performance stakes with 0-62 mph in 5.5 seconds and a top speed of 161mph according to *Auto Motor & Sport*, recording 5.5 and 164mph for the C2; a ZF-developed four-speed automatic was also available for the Carrera 2, and apart from initial step-off it offered virtually identical acceleration figures.

The 964's best year with over 20,000 made was 1990, by which time the 3.2 was out of production. Sales subsequently declined, affected in particular by the collapse of Porsche's US market. The Cabriolet remained popular, but by 1992 – when a mere 9,747 964s of all types were sold – interest in the Targa had all but dried up. A Speedster version hit the market at the wrong time, selling only 800 when a run of 3,000 had been hoped for, and the revised Porsche Cup race series, which from 1990 featured 911s rather than 944Ts, served only to reinforce Porsche's reputation among existing fans.

In a weak market the 911, even the updated 964, lacked wider appeal. It was still raucous, the ride was affected by road noise and harshness transmitted through the rear suspension; overall it lacked the refinement expected of a £50,000+ car.

The 964 was a bold but incomplete first step to renew a model which had served an amazing 25 years unchanged. The 911 story of the next quarter century would be one of rapid developmental leaps, but it's a model which just as amazingly would remain instantly recognisable as a 911 a further 25 years later: a unique achievement.

See how the 964 story developed in an upcoming issue of **T911** celebrating 30 years of the 964. **911**

Thanks

Thanks to Porsche Club GB R27 members Mark Sloane and David Donnell for supplying the cars in our feature.

SC AT 4

It may have looked similar, but under the skin the Carrera 3.0's replacement did bring significant advances. **Total 911** studies the would-be last Neunelfer

Written by **Kieron Fennelly**
Photography by **Daniel Pullen**

THANKS to Allen Erskine for use of his two beautiful SCs for our feature

This year marks not only the 30th anniversary of the 964, but also 40 years of an equally famous 911: the three-litre SC. Like the 964, the SC entered the world at a time of uncertainty for Porsche. The former was introduced by a Porsche impoverished by the collapse of its vital American market, the latter was confronted by California-inspired emissions standards which had hobbled traditional sports cars and completely wiped away the US muscle cars.

For the 2.7 1974 G-series Porsche continued its three-model policy which had begun in 1967. The 1976 911 offering, reduced to two models, comprised a 2.7 165bhp base and a Carrera bored out to 95mm for a capacity of 2,994cc. With K-Jetronic, the subsequent three-litre Carrera packed 200bhp, and enthusiasts noted that for the first time a new Porsche model boasted fewer horses than its predecessor.

For the 1978 model year Porsche announced a further change: there would now be only one naturally aspirated 911 – the SC – available once again as a Coupe or Targa. Such rationalisation made sense for a company now producing no fewer than four models: besides the 911 was the Turbo, now well established; the entry-level 924, despised by purists, but for several years the best-selling Porsche in the UK, and the 928, which won the 1978 Car of the Year. Weissach had also become a research hub like the Konstruktionsbüro of old: once devoted entirely to Volkwagen, Porsche was forced to diversify after 1973 when Wolfsburg tore up its long-standing exclusive development contract. By 1977, Weissach was working on any number of confidential projects both inside and outside the motor industry, and these generated at least a quarter of the company's income.

Nevertheless, the 911 would not be neglected, and although it looked virtually identical to the three-litre Carrera, much redesign work had gone into the new 911 SC: externally the width was increased by an inch and a half thanks to wider rear arches, although rims at six- and seven-inches and tyre sizes were unchanged. Underneath, the rear anti-roll bar was now 18mm, and at the front it went from the Carrera's 3.0's 16mm to 20mm as Porsche sought to reduce the inside front wheel's tendency to lift in hard cornering. For the first time, a 911 featured servo-assisted brakes. Most magazines thought Porsche had struck the balance between feel and sensitivity, but one or two lamented the passing of the un-servo'd variety, much as they would the passing of unassisted steering ten years later. Indeed, the only drawback of the new brakes was the space the servo took up under the bootlid, and inveterate traveller Paul Frère specified his 911 without braking assistance when he ordered a late-production SC (which also had a 3.2 engine).

IDENTIFYING THE SC CHANGES THROUGH MODEL YEARS

- **MY 1977:** SC announced as Coupe and Targa models. 2,994cc flat six as 3.0 Carrera, but refined for greater efficiency. No quarterlights. Sport had Turbo tea tray, while standard UK interiors had pinstripe cloth seats with leather option. Heating and ventilation improved by a third electric fan and minor instruments now had plain backgrounds. Standard SC wheels were 15-inch ATS five-spoke and arches received wider flares.
- **MY 1979:** Chromed window surrounds disappear
- **MY 1980:** Upgrade to 188bhp. SC inherits 380mm Turbo three-spoke steering wheel. Tighter weave carpeting.
- **MY 1981:** Now tuned to run on 98 RON with compression ratio raised to 9.8:1 and delivering 204bhp at 5,900rpm and 265Nm at 4,300rpm. 915 gearbox given higher fifth. Thicker torsion bars fitted and Sport version given own slimmer whaletail, as well as Bilstein dampers and 16-inch Fuchs. 'Pasha' cloth added to options and now extended to rear cabin. Zinc body coating (already standard) warranty extended to seven years. Leatherette (vinyl) upholstery standard for most SC factory production: UK cars almost always delivered with higher spec, including sunroof.
- **MY 1982:** Cabriolet launched; takes over 40 per cent of 911 sales in 1982/3.
- **MY 1984:** Carrera 3.2 supersedes SC.

BELOW Various detail changes between the different model years are apparent. Later cars got side repeaters in the front quarter panel and flushed headlight washers, for example

ABOVE Period shot of a 930/10 engine being assembled on the production line

Model 911 SC
Year 1978-79; 1980; 1981-83

Engine

Capacity	2,994cc; 2,994cc; 2,994cc
Compression ratio	8.5:1; 8.6:1; 9.8:1
Maximum power	180 @ 5,500rpm; 188 @ 5,500rpm; 204 @ 5,900rpm
Maximum torque	265 @ 4,100rpm; 265 @ 4,100rpm; 267 @ 4,300rpm
Transmission	915 gearbox; 915; 915 (longer 5th)

Suspension

Front	(all models) torsion bar; strut/damper; 20mm ARB
Rear	torsion bar; strut/damper; anti-roll bars: 18mm ARB

Wheels & tyres

Front	6x15-inch; 185/70/VR15
Rear	7x15-inch; 216/60/VR15

Dimensions

Length	4,291mm
Width	1,626mm
Weight	1,160kg

Performance

0-62mph	6.5; 6.3; 5.9; seconds
Top speed	141mph; 146mph; 149mph

But if cabin changes were limited to oil pressure and temperature gauges which lost their numbers and instead received coloured fields, the flat six underwent substantial revision. Although inheriting the 95x70.4mm bore and stroke of the Carrera and its 8.5:1 compression ratio, the SC now used the thicker crankshaft and main bearings of the 3.3 Turbo, but thinner connecting rods. The Turbo's breakerless ignition, which worked better with K Jetronic than traditional points, was also introduced, as was for good measure an electronic rather than mechanical cut out for the rev limiter. The emphasis was on improving drivability and economy through better torque, and although nominally less powerful than the Carrera three-litre, judging from the enthusiasm with which the SC responded to the driver's right foot, it seemed to go just as well despite its stated maximum power of 'only' 180 bhp at 5,500rpm; its maximum torque was significantly better than the Carrera's. Rounding off engine developments was an eleven- rather than five-bladed fan which reduced cabin noise, and a proper oil cooling radiator rather than the previous, less efficient serpentine variety. Porsche said this would allow maximum speed running for 30 minutes.

> "The 911's popularity never waned: a 1979 *AM&S* poll indicated that 83 per cent of readers thought the 911 was the most important Porsche model"

In the US, the SC was greeted with enthusiasm. Deprived first of the 2.7RS, then the Carrera 2.7 MFI (and from 1979 the 911 Turbo), the Americans were at the start of three decades where emissions regulations meant the fastest 911s would not be allowed to enter the country. The advent of the SC, which in catalysed form offered at least 175bhp, meant a much livelier 911 than the federalised 2.7 which had preceded it. The US SC's 258Nm of torque, a 10 per cent improvement, was much appreciated too.

In Europe, Porsche purists were concerned that once again a 911 announced fewer horses than before. It mattered less in Great Britain, where if the SC had to yield 10mph in top speed to the 30 per cent more expensive Ferrari GTBi, it showed the Italian a clean pair of heels to 60mph. Comparing it with the Lotus Esprit, Maserati Merak and the 308GTBi, *Autocar* said: "If you want blistering initial acceleration, beautiful finish, long service intervals and can live with its inconsistent handling, then the Porsche SC may be your car."

Auto Motor & Sport's analyses showed there was little performance difference between the 200 horsepower Carrera and the 180bhp SC, 0.2 and 0.8 seconds to 100kph and 160kph respectively and a 5mph-lower top speed; *AM&S* too liked the torque and better response of the now all-electronic ignition. But the deficit opened the way for tuner Alois Ruf and Porsche dealer and racer Max Moritz to offer 200bhp-plus tuning packages. Between them they sold about 500, and Porsche countered with a discreetly marketed tuning kit of its own, but the SC would soon evolve up the power scale, rendering these tuned or 'Powerkit' versions redundant.

For MY1980, Porsche announced that output had increased to 188bhp, and the compression ratio was also raised fractionally to 8.6:1. It was far from evident where this extra power came from, and subsequently it was believed that Porsche had deliberately understated all the SC's performance statistics and indeed bridled the first SC to an official 180bhp so that its top speed would be lower than the new, but conservatively engineered 928 V8 flagship which yielded only 240bhp and weighed some 250kg more than a 911.

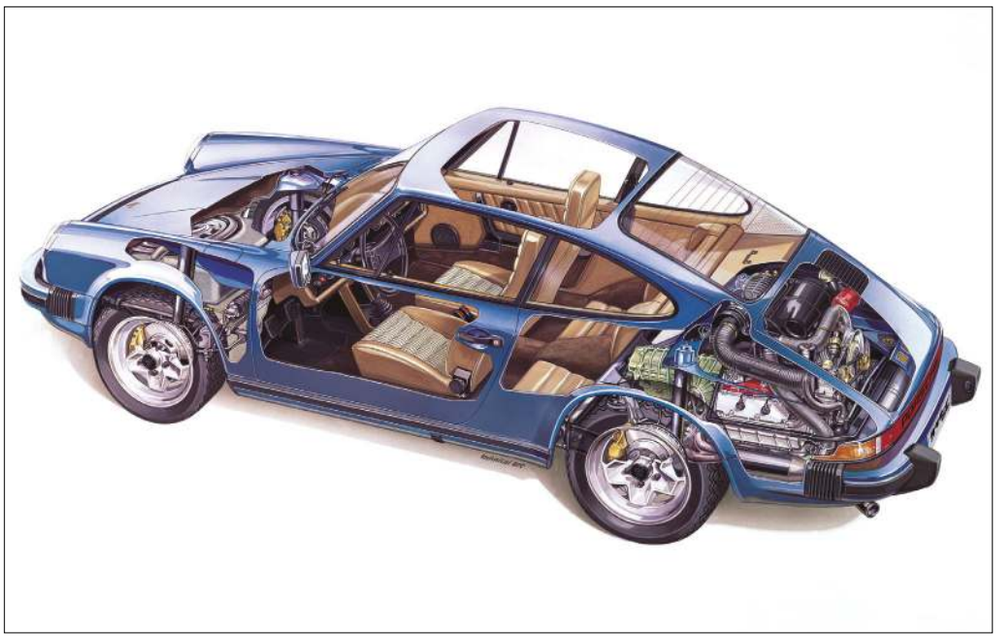
WHAT TO LOOK FOR WHEN BUYING AN SC: THE SPECIALIST'S VIEW

Phil Raby says that smooth running and an even idle are paramount: "If there are flat spots and lumpy idling and the cause isn't simply poor plugs or leads, then investigation needs to be systematic, working through the K-Jetronic to the ignition and timing. Check that electric mirrors and seats haven't seized and ensure that if Cup or non-standard wheels are fitted they have the correct offset.

A good 915 gearbox should change without baulking when warmed up. People force them from cold and they get worse and worse. Be on the look out for any signs of corrosion under carpets and on aluminium brightwork."

Paul Stephens adds that engine maladies are often attributable to broken studs: "The cylinder barrels become loose on the block, so the engine loses compression. We replace with 993 dilivar studs which don't fail; if original the electronic ignition is probably worth replacing, and don't let anyone kid you difficulty engaging first is normal – it's the sign of a gearbox in urgent need of an overhaul."

Both specialists stress the need to examine the underside for corrosion, especialy the vulnerable B pillars, and Paul Stephens cautions if buying a 'restored' Targa: "When you take the sills off the whole Targa shell flexes, so this must be done with the car secured on a jig. Otherwise the panel gaps don't line up on reassembly and the Targa roof won't fit: the car doesn't feel properly taut and water gets into the cabin."



BELOW SC RS is a rare beast indeed; normal SCs either came with a flat back decklid design or, for Sport models, with a tea tray wing borrowed from the 930 Turbo

Although 928 advocate Ernst Fuhrmann had said that as soon as 911 demand fell to less than 6,250 per year, it would be programmed out, the 911's popularity never waned. A 1979 *AM&S* poll indicated that 83 per cent of readers thought the 911 was the most important Porsche model; the 928 gleaned only 3 per cent. Given such a vote of confidence, Weissach was already quietly developing the next iteration of the SC even before Fuhrmann left the company in autumn 1980. This took advantage of better availability of 98 RON to improve combustion efficiency, with faster ignition timing and a compression ratio raised to 9.8:1 (which demanded premium petrol). Now offering 204bhp, in *AM&S*'s test the latest SC shaved half a second off the 0-100kph time and managed a top speed a shade under 150mph.

This boost coincided with the arrival of Peter Schutz and his famous renewal of faith in the 911, which also led to the development of the model so sorely missing on the US coasts: the 911 Cabriolet. This was the car that fresh air fiend Helmutt Bott had simply been waiting to make, but which, like his Speedster project, had fallen foul of the Fuhrmann Verbot. Chassis flexing was the technical reason for abandoning an open 911 in 1965, but an experimental build 924 cabrio had subsequently proved entirely satisfactory. Though the open 924 design was not taken up until the 1989 944, the transmision tunnel conferred the necessary structural stiffness. For the 911 this meant a strengthened floor which, combined with construction techniques which had improved significantly since the sixties, enabled the 911 Cabriolet to become a reality. Work proceeded quickly and within four months of his arrival, Schutz was able to admire the first prototype. The Cabriolet was announced to great acclaim at Frankfurt in 1981 and prototypes tested extensively during that winter allowed Porsche to make this a MY 1983 model. Although the hood was still manually operated (an electric version would take another four years) this did not diminish the desirability of this open 911 and over 6,000 SC Cabriolets were made before the SC gave way a year later to the 3.2. Porsche was also pleased with the SC's drag coefficient: roof-up, the SC managed 145mph and roof down lost barely 9mph.

Finally there was, right at the end of SC production, a little known Rennsport version: although Porsche's competition thoughts in the early eighties were very much around Group B and four wheel drive, Jürgen Barth persuaded Bott to allow him to build a 911 customer racer. A shell lightened with aluminium doors and bonnet, glassfibre bumpers and a simplified interior in a weight of 1,050kg. With forged pistons, the compression ratio raised to 10.3:1 and carburation handled by mechanical fuel injection, the 3.0-litre developed an easy 250 bhp at 7,000rpm and scope to go to 280bhp. Named the SC RS, this was an explosive performer which did well in European tarmac rallies and, prepared by Prodrive, won the Middle East Rally championship three times. Alas, it being classified as an 'evolution model' meant that Porsche needed to build only 20 to gain homologation status, making the SC RS, with only 22 examples worldwide, Porsche's rarest ever Rennsport. 911

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Lapis blue with ocean blue leather,
57k miles.....£34,000

(997) "2S" 3.8 TIP (07 - 2007)
Cobalt blue with black leather,
53k miles.....£34,000

(997) "2S" 3.8 (07 - 2007)
GT silver with stone grey leather,
56k miles.....£34,000

(997) "2S" 3.8 (08 - 2008)
Cobalt blue with black leather,
63k miles.....£34,000

(997) "4S" 3.8 (06 - 2006)
Basalt black with black leather,
56k miles.....£34,000

(997) "4S" 3.8 TIP (56 - 2006)
Silver with ocean blue leather,
51k miles.....£33,000

(997) "2S" 3.8 CAB TIP (06 - 2006)
Lapis blue with stone grey leather,
68k miles.....£33,000

(997) "2S" 3.8 (07 - 2007)
GT silver with black leather,
62k miles.....£33,000

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Silver with black leather,
66k miles.....£33,000

(997) "4S" 3.8 CAB (56 - 2007)
Basalt black with red leather,
63k miles.....£33,000

(997) "4S" 3.8 CAB (06 - 2006)
Seal grey with ocean blue leather,
60k miles.....£33,000

(997) "2S" 3.8 TIP (57 - 2007)
Silver with black leather,
53k miles.....£33,000

(997) "2S" 3.8 CAB TIP (07 - 2007)
Basalt black with black leather,
62k miles.....£33,000

(997) "4S" 3.8 (56 - 2006)
Basalt black with black leather,
63k miles.....£32,000

(997) "2S" 3.8 TIP (55 - 2006)
Silver with black leather,
40k miles.....£30,000

(997) "2S" 3.8 TIP (56 - 2006)
Silver with ocean blue leather,,
57k miles.....£30,000

(997) "2S" 3.8 TIP (05 - 2005)
Seal grey with red leather,
40k miles.....£30,000

(996) TURBO 3.6 TIP (53 - 2003)
Silver with black leather,
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Yellow with black leather,
19k miles.....£34,000

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CAYENNE "GTS" 4.8 TIP (58 - 2008)
Basalt black with black leather,
54k miles.....£23,000

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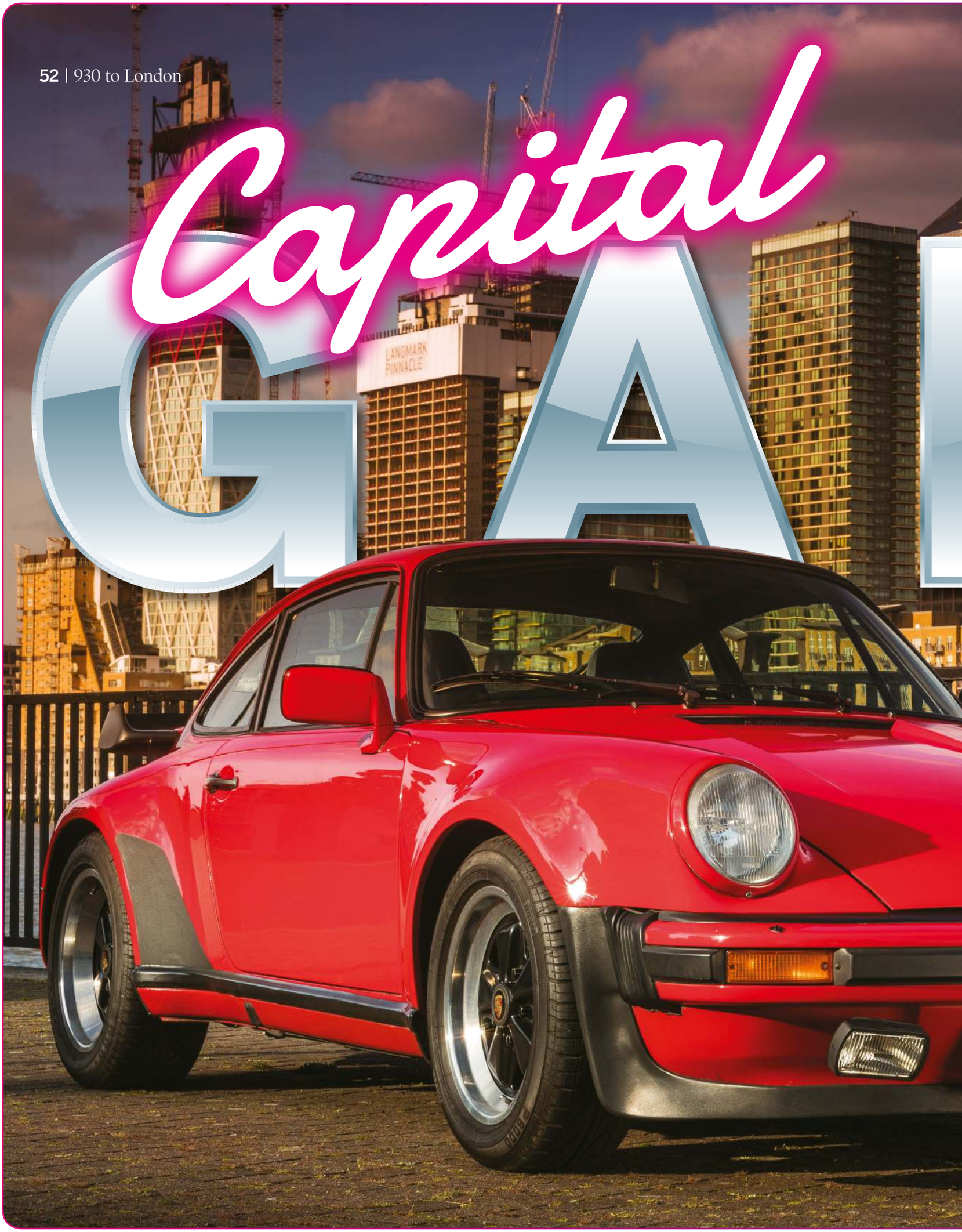

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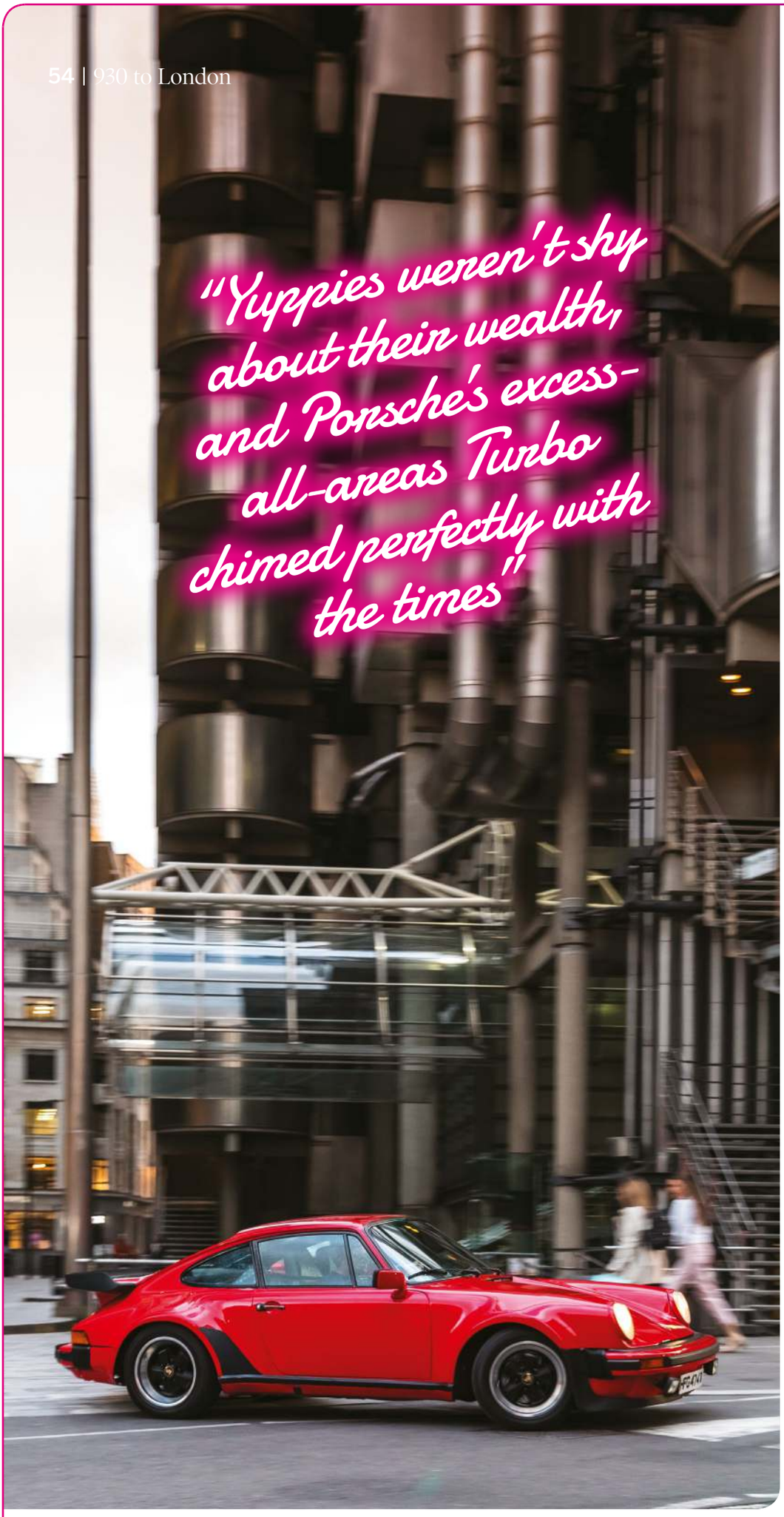
A 930 Turbo was the must-have car for yuppies in 1980's London. Tim Pitt revisit its old haunts with a trip to the City...

Written by **Tim Pitt** Photography by **Daniel Pullen**

This is the oldest part of London; the original Roman Londinium. Its streets have witnessed 20 centuries of congestion, commerce and crime, yet now they are calm. For a few brief moments, the city sleeps.

Abruptly, an air-cooled engine shatters the silence. Its hard-edged howl echoes along the corridor of concrete, scattering the day's discarded newspapers in a fast-approaching frenzy. A flash of Guards red races across the mirrored windows of an office block. The Porsche 911 Turbo is back on home territory, and history is being repeated.

The original Turbo (usually identified by its internal Typ number of 930) was launched in 1975, but the 1980s were its high-living heyday. As stocks soared and London boomed, this flagship 911 ➲



"Yuppies weren't shy about their wealth, and Porsche's excess-all-areas Turbo chimed perfectly with the times"

became the must-have car for a new breed of affluent city slickers. These 'yuppies' weren't shy about their wealth, and Porsche's excess-all-areas Turbo chimed perfectly with the times.

I don't have red braces, a Filofax or, regrettably, a bonus-boosted bank balance, but I do – for one night only – possess the keys to a 930: a 1979 3.3 Turbo currently for sale at Carbitrage. The plan is to revisit its old stomping ground, criss-crossing the capital and driving into the small hours. If any car is worth losing sleep for, it's this one.

I rendezvous with photographer Dan at Greenland Dock, close to the Millennium Dome. The evening sun glints off the 930's shapely hips as it strikes a pose by the Thames, the tightly packed towers of Canary Wharf twinkling in the distance. It looks like a classic 911 on steroids, oozing latent aggression. Guards red paint – a Porsche staple since 1974 and the Turbo's signature shade – is the pièce de résistance, perfectly offset by the gloss-black Fuchs alloys.

Four decades ago, this area of east London was a virtual wasteland; now it's crammed with des-res apartments. The 930 has travelled a similar trajectory in its 43 years, morphing from black sheep to blue-chip classic. Its story starts with the 917/30: Stuttgart's first foray into forced induction. This fearsome racer produced up to 1,600hp in qualifying tune, winning Can-Am championship titles in 1972 and 1973. Porsche chairman Ernst Fuhrmann saw the potential of turbo technology for the road, saying: "I was of the opinion that racing must have a connection to the normal

automobile... I said to my people, why don't we put this success into our car?"

Testing for a turbocharged 911 began in 1973, using a 2.7-litre engine and the wider bodywork of a 3.0 RS. The production 930 debuted at the 1974 Paris Motor Show with a 3.0-litre engine, four-speed 915 gearbox and a Kühnle, Kopp & Kausch (KK&K) turbo that delivered 0.8 bar of boost. The figures that mattered were 0-62mph in 5.5 seconds and a top speed of 155mph, elevating performance to Ferrari Boxer and Lamborghini Countach levels. For the first time, the 911 could square-up to supercars.

Porsche purists, however, felt perturbed. Some hated the idea of a 911 that majored on brute force, with a turbocharged engine that exacerbated its occasionally treacherous handling traits. Not me, though. As a child of the 1980s, I had a Guards red 930 Blu Tacked to my bedroom wall (and probably still would if my wife didn't have other ideas). For a generation raised on Athena posters, arcade games and MTV, this was Porsche's hardcore hero. At least until the 959 arrived in 1986.

This Turbo has the 304hp 3.3-litre engine, uprated brakes and a 'tea tray' spoiler, introduced for 1978. Nought to 62mph dropped to 5.4 seconds, with a 160mph maximum. Not that I'll be testing either in the tail-end of evening rush hour. We crawl through Greenwich, passing the Cutty Sark and the imposing Old Royal Naval College. The pavements are packed with camera-toting tourists, and the 911 becomes an attraction in its own right. In a city saturated with supercars, a classic Porsche still turns heads.

Once you acclimatise to being a social media happening, the 930 is a pleasant way to go nowhere fast. Standard equipment included leather trim, electric windows and air conditioning. Robert Binder, responsible for engine development, had envisioned a stripped-out special in the mould of the Carrera RS, but Fuhrmann disagreed, positioning the 930 as a series-production model and halo car for the 911 range. A template was thus established that endures to this day, with the Turbo offering daily-driver comfort rather than the race-bred rawness of a Rennsport.

The 930 may be comfortable, but that doesn't make it an ideal city car. Its floor-hinged clutch is heavy in traffic, while the non-assisted steering – plus wider, 7x16-inch front tyres – flexes your biceps when manoeuvring. With no meaningful boost at low revs the turbocharger rarely gets a chance to spool-up either. As we crawl across Tower Bridge, dicing with buses and black cabs, it starts to feel like hard work.

Fortunately, our target is ahead. We pass a marker stone and enter the de facto City of London: engine room of the capital's power and prosperity. This Square Mile is the 930's spiritual home and boasts a dizzyingly diverse mix of architecture, from the baroque St Pauls Cathedral to modern landmarks such as 30 St Mary Axe (the Gherkin), 20 Fenchurch Street (the Walkie-talkie) and, just across the river, the 310m Shard, the UK's tallest building.

If the Shard is like one of those Italian stallions, ostentatious and impractical, the 930 seems more

Model 930 Turbo 3.3
Year 1979

Engine

Capacity	3,299cc
Compression ratio	7.0:1
Maximum power	304hp @ 5,500rpm
Maximum torque	412Nm @ 4,000rpm
Transmission	Four-speed manual

Suspension

Front	MacPherson struts; lower wishbones; longitudinal torsion bars
Rear	Semi-trailing arms; lateral torsion bars

Wheels & tyres

Front	7x16-inch; 205/55/VR16
Rear	8x16-inch; 225/50/VR16

Dimensions

Length	4,291mm
Width	1,775mm
Weight	1,300kg

Performance

0-62mph	5.4 seconds
Top speed	160mph

BELOW Undoubtedly the business end of the 911 Turbo was its rear, those wide hips and domineering tea tray wing a striking sight. On full boost, this was the view most had of the 930

How is the Turbo thought of today?

We spoke to Jamie Tyler of Paragon Porsche and Russ Rosenthal of JZM to learn their views on the 930. Both were enthusiastic, Jamie describing the Turbo as a "poster car that everyone remembers," and Russ noting that "quite a few collectors have one tucked away – they have stood the test of time."

We found in excess of 30 original Turbos for sale in the UK at the time of writing. Prices range from around £40,000 for a project in need of serious work to £150,000 for a low-mileage example in unrestored or concours condition. Our experts caution against the costs of full restoration, however, which may exceed a completed car's value.

When it comes to the most desirable models, rarity rules. Jamie names the first pre-1978 3.0-litre models and the final 1989 five-speeders as his top choices, while Russ also nominates the 930 Cabriolet, Targa and limited-run Turbo LE – along with the rare Martini Championship Edition. Guards red, as seen in many of Porsche GB's original press photos, is the most-wanted paint shade, although Grand Prix white and Solid black are also popular. Early cars in bright, off-the-wall 1970s colours also fetch a premium.

With the children of Thatcher now grown up and looking to buy their heroes, the 930 looks a safe bet. Russ says: "It's a solid investment, just like other early, relatively low-production air-cooled 911s. They seem to be a good market indicator, and values will move up and down over time. The days of buy today, make profit tomorrow have gone for now, but long-term we expect the 930 to do rather well." Jamie agrees: "Appreciation for the Turbo is growing. We can only see the values continuing to rise, particularly as good examples become increasingly hard to find."

akin to a fellow 1980s icon: the Lloyd's building. Located on Lime Street, this Grade-One-listed workplace shuns showy flamboyance for a form-follows-function approach. The 930 is no different. Every detail, from its distended rear wheel arches, shrouding steamroller 8x16-inch Pirellis, to its mighty spoiler – housing the top-mounted intercooler – is there to enhance performance.

We stop for photographs and several city workers stroll over from outside a pub. Their shoulder pads and mobile phones have shrunk, but this scene looks otherwise unchanged from the mid-1980s. The usual 'How fast?' and 'How much?' questions are asked as they take photos of their own. For these 21st-century yuppies, the Turbo is clearly still a valued commodity.

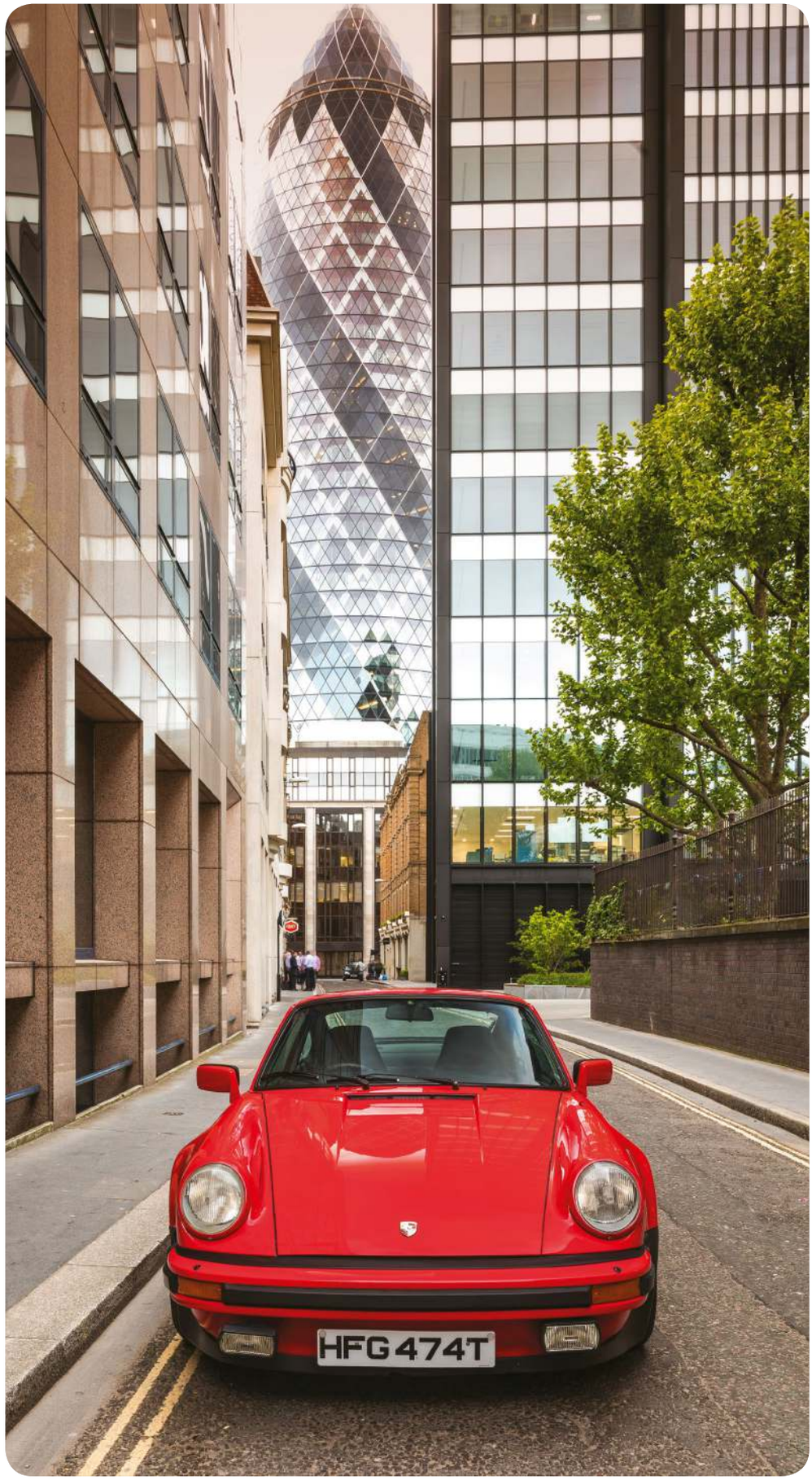
I indulge in some gratuitous throttle blipping in the short Upper Thames Street tunnel, then dive along side streets towards the heart of the Square Mile. Stopping for a snap outside the Bank of England, I register a certain irony. Here we are in front of a symbol of steadfast stability since 1694, driving a car that's enshrined in folklore as the exact opposite. Depending on your outlook, the 930's oft-quoted 'widowmaker' nickname is either a source of perverse pride or a salutary warning, but only a drive on real roads will separate myth from reality. Besides, I'm tired of red routes, box junctions, suicidal cyclists and constant CCTV scrutiny. To quote a 1984 pop hit, "Now I've gotta cut loose..."

I drop Dan off at Aldgate tube station and head west again. My plan is to take the long way home via some favourite Kent, Sussex and Surrey lanes, stretching the Turbo's legs on roads more suited to a supercar. After yet more congestion on the A2 I cross the orbital M25, and gradually the street lights disappear, followed by the never-more-welcome sight of a National Speed Limit sign. Without hesitation, I bury my right foot.

Until this moment, the boost gauge – located front-and-centre beneath the rev counter – has mostly lain dormant, but now the needle swings into life. The 930 lunges forward like it's just been rear-ended by a rocket, an almighty shove that builds from 3,500rpm to the 6,700rpm redline. Even in 2018, when a basic 718 Boxster matches its power output, the Turbo still feels fast.

Such waaait-for-it lag seems alien in an era of electric compressors and small-capacity sequential turbos, yet it's also part of this Porsche's unique character: a textbook example of a flaw becoming a charming quirk. It's also a reminder of when forced induction meant more than mid-range torque and lower CO_2 emissions. Even hairdryers were labelled 'Turbo' in the 1980s, but this one is the real deal.

Its power delivery may be sledgehammer-subtle, but the 930 still offers the nuanced driving experience you'd expect from a 911. On meandering, hedge-lined lanes, its three-spoke steering wheel feels alert with textured feedback, the nose bobbing restlessly, the rear end squatting as you wind out the boost. The 917-derived brakes are excellent, too – hugely more confidence-inspiring than those of a contemporary SC. ➲



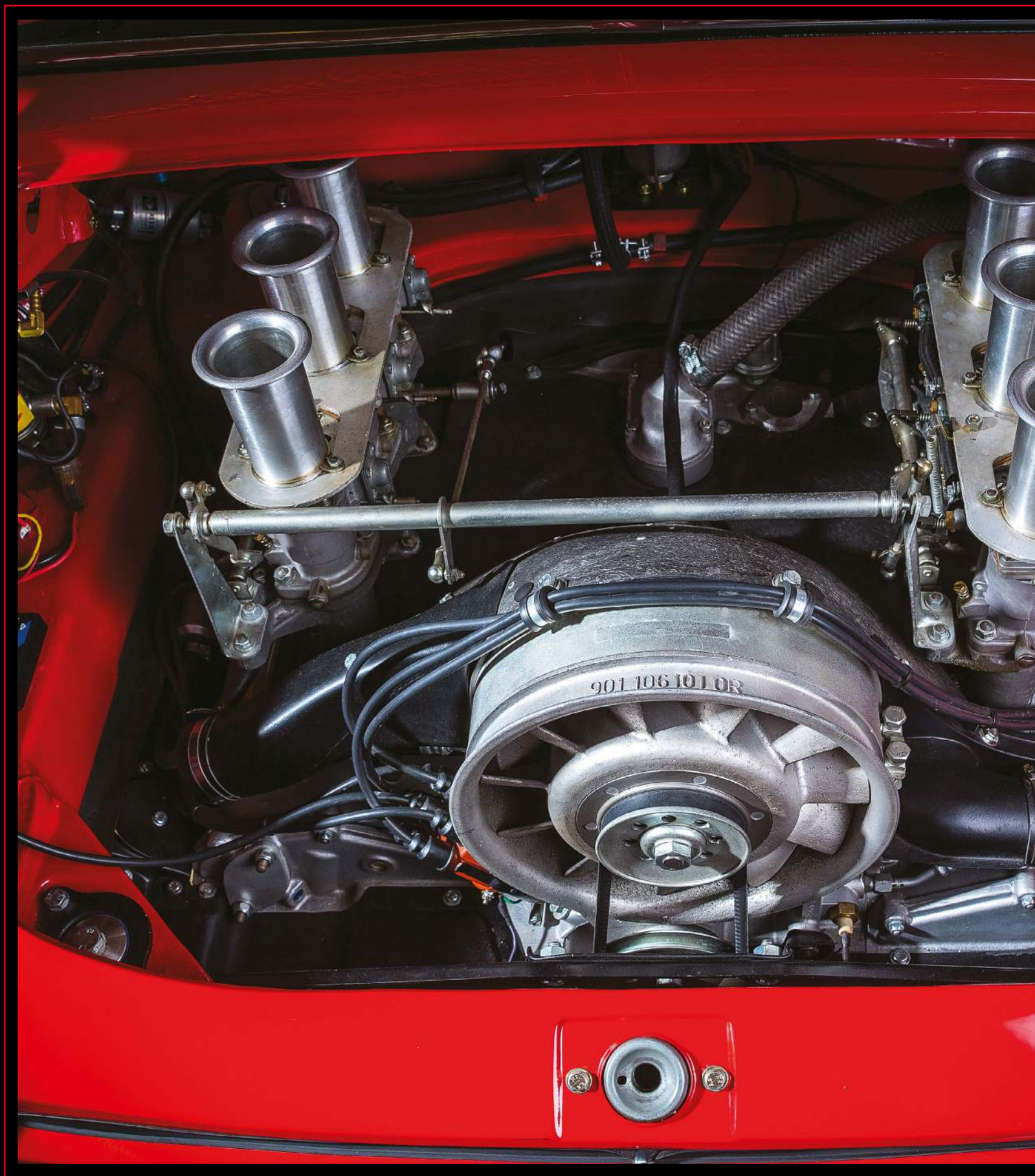
And what of the famed sting in the tail? It's there alright; a transition from gust to gale that can throw the car off balance mid-corner, leaving the driver firmly at the mercy of physics. However, in the dry at least, the 930 isn't the ravenous rottweiler I'd been led to expect. Its wider track means plenty of grip and its limits are much lower than, say, a 996 GT2. The key is to be smooth with your inputs, gradually learning the car's abilities – and your own. Frankly, if you spin a 930, you probably have yourself to blame.

I stop for fuel near Crowhurst, then reluctantly point the 911's nose back towards London. The night air is cool and dense now, and the flat six gulps it down hungrily. I could swear I've gained an extra 30hp. Even with just four ratios (the 930 only gained a five-speed G50/50 gearbox in 1989 – its final year of production) it's easy to keep the 'charger spinning, blasting between bends on a seamless wave of boost.

Crossing the M25 again I'm suddenly back to the inner-London suburbs, contending with Uber drivers, night buses and a blanket 20mph speed limit. The 930 shrugs it off, but its talent feels wasted in town. Those yuppies didn't know what they were missing. I rumble gently home, still buzzing from my cross-county dash. It's been an evening of two halves: starting sedately, then exploding into a heady, high-octane rush. Now, which car does that remind you of? 911

Thanks

Many thanks to Carbitrage for loaning us the 930. Call (+44 20 3544 2757) or visit carbitrage.co.uk for info.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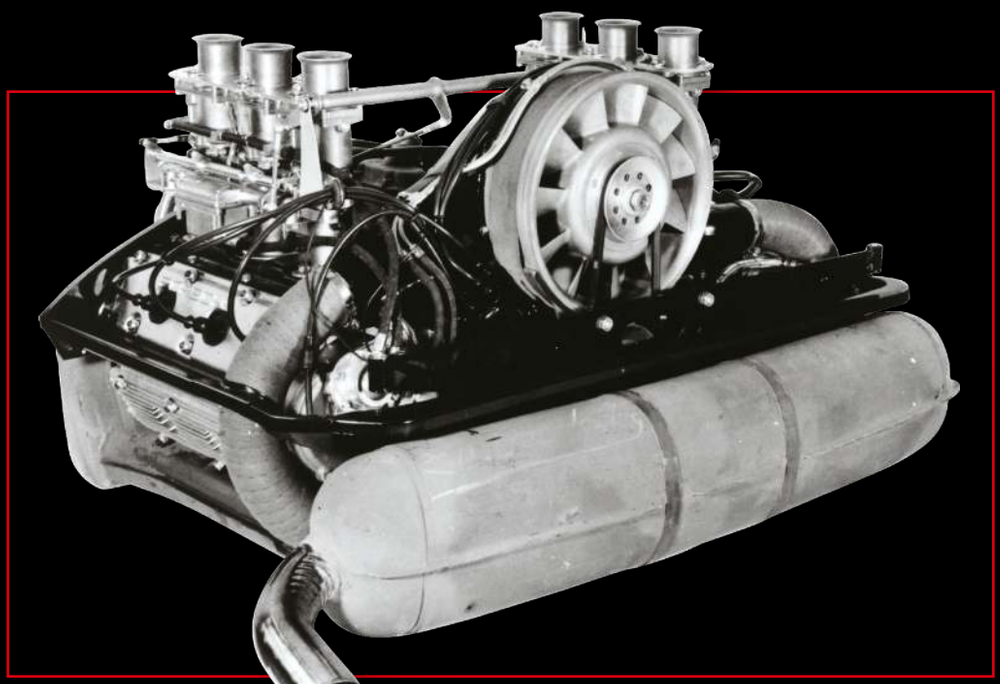


CARBURETTORS

As the internal combustion engine nears the end of its life in a Porsche, we look at early fuelling methods of the 911

Written by **Neill Watson**

Today, the internal combustion engine is both at the zenith of its development and also beginning the twilight years of its career. In decades to come people will look back at the unique combination of almost-Victorian engineering, alchemy, chemistry and metallurgy with curiosity and remark: 'so they used to add fuel, compress it and ignite it? That's amazing.'

Today, fuelling an engine is a highly computerised process with direct-injection systems introducing fuel into the combustion chamber with incredible micro-metric precision, injectors not just squirting fuel in but creating spray patterns to ensure an ever more efficient combustion under incredibly high pressures.

Of course, it was not always like that. For many decades atmospheric pressure and gravity were the main tools, using simple methods of mixing fuel and air to create an approximation of the correct mixture and ensure the creation of horsepower.

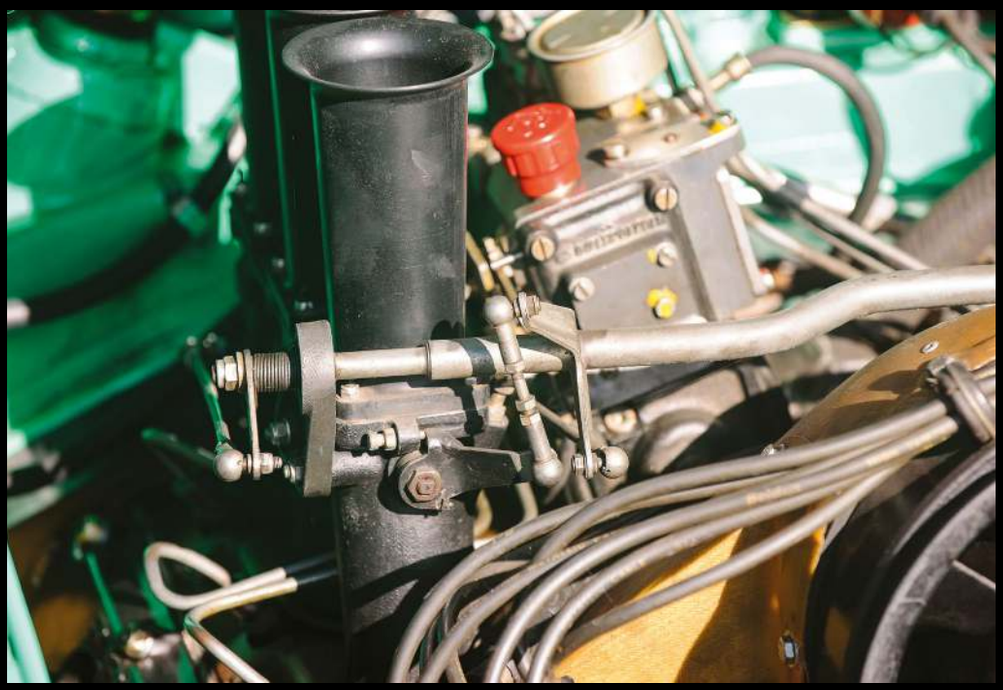
We take a look at the earliest methods of induction on the Porsche 911 engine and examine the factory's progression from the birth of the 911 to the beginnings of computerisation.

Solex

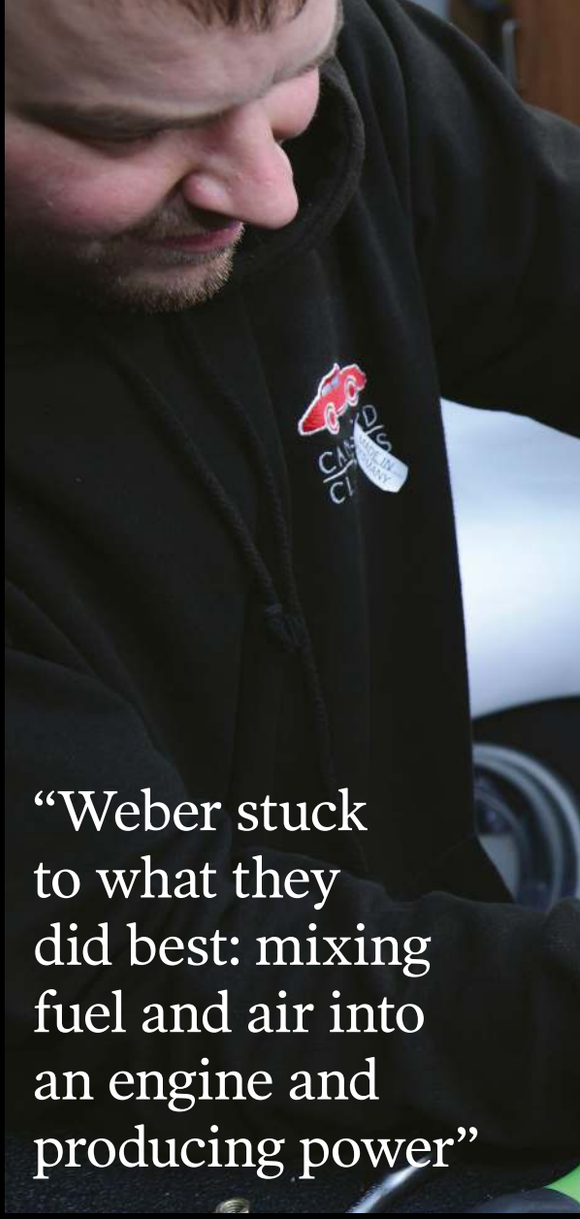
Solex were the carburettors that Porsche originally launched the 911 with. They generally have a less than stellar reputation, with much discussion as to why they were replaced so quickly with the Weber. Hard facts after all this time are difficult to come by, with many elements obscured by personal opinions and preferences. However, it appears that while the pairs of triple Solex were perfectly matched for induction and were, in fact, designed specifically for the 911 – they were a direct match for the manifold, whereas Weber needed a small modification – they did not remain in tune for very long.

After as little as 4,000 miles from new, cars were reportedly returning to dealers with running problems including flat spots, poor idling and misfires. The fact that Porsche quickly moved over to the triple Weber as their default system after only 18 months is testament to the probability that this was true. This may seem as if the Solex set-up is one to be avoided and that they are a poor system of induction. In 1966 that was quite possibly the case, though today things are a little different.

Today, a set of good Solex carbs are desperately hard to find, and can be very expensive indeed. In historic motorsport, FIA Appendix K rules state that cars must run with the original induction. So if you're racing in the Peter Auto 2.0 Cup, for example, your pre-1966 911 will have to run Solex. The passage of time and advancement in engine tuning has meant that today, a well set up and fully rebuilt set of triple Solex carbs will actually run every bit as well as a set of Webers. Phil Hindley of Tech 9 explains: "I am too young to have known these cars back in the day! However, from a racing viewpoint, the



ABOVE Mechanical Fuel Injection eventually replaced carburettors (below) in the 911



"Weber stuck to what they did best: mixing fuel and air into an engine and producing power"

reliability and set-up issue is simply not relevant. In racing the car is carefully set up with great precision, then monitored throughout the event before being inspected again afterward. So any race car with Solex should run perfectly well. Though I can imagine that in the 1960s, an owner who simply closed the engine lid and left it for 5,000 miles could well have issues."

So would a well-sorted 911 2.0 on Webers be better than a Solex car, or just different? "Just different, really," Phil continues. "I think it was the durability issue that made Porsche change, not anything to do with performance. The fact that you may have to pay as much as £15,000 for a set of freshly built and overhauled Solexs with manifolds is remarkable."

Specialist Solex rebuilders include Duel Racing in Amsterdam, whose expertise in rebuilding Solex carburettors and making them more efficient than ever claim to solve all of the problems of Solex on the Porsche 911, their modifications giving them a smooth power band and greatly enhanced reliability.

Weber

Quite simply the hero of carburettors. Anyone with a passion for cars growing up in the 1970s will recall the distinctive induction howl of the Ford Escort twin cam running the famous 'Twin 40s". Indeed, even to this day a popular, though expensive conversion of EFI air-cooled 911s is to install a set of beautiful IDA 3C carbs. Porsche moved quickly over to Weber

for induction after just 18 months of 911 production, and Weber remained the mainstay until emissions regulations dictated the move to Mechanical Fuel Injection. The Triple Weber system is not unique to Porsche's 911. The Italian company at that time probably supplied 99 per cent of the performance cars in the world with either single-, double- or triple-choke systems. Triple Webers can be found on Lamborghini, Ferrari and Maserati of the time.

Webers in varying sizes, from 40mm through to 50mm, are often seen sitting majestically atop many Porsche 911 engines, and while 'genuine' Webers continued to be produced in Bologna until 1992, today the company has transferred production to Madrid in Spain and is owned by an American automotive group. The Spanish Webers produced today are not held in the same high regard as the Italian originals. We talked to Weber dealer and specialist Mark Hardy of Automark: "If you set up a pair of perfect vintage Webers alongside a new set of Spanish ones, they would perform completely differently. The castings are different and various elements have been moved to different locations."

So, why are Webers still held in such high regard, even to this day? Mark explains: "Weber made a great product that was not too complex, and it simply just worked. While other manufacturers tried to satisfy advancing emissions regulations by adding complications to carburettors, Weber stuck to what it did best: mixing fuel and air into an engine and producing power. You could never ever solve emissions with carbs anyway, so why bother trying?"

Mechanical fuel injection

Mechanical fuel injection is the father of modern electronic fuel injection, and in many ways is almost an acknowledgement that the Porsche engineers knew exactly what they wanted to do with electronic fuel injection. However, the computing power and electronic miniaturisation wasn't in existence yet, so instead they adopted mechanical fuel injection.

The advantage of MFI over carburettors is that the fuel delivery can be proportionally synchronised to engine RPM, throttle position and barometric air pressure using a system of mechanical fuel mapping. Unlike carburettors, where fuel delivery is more or less controlled by throttle position, MFI takes account of other factors. The critical element of this is the mechanical fuel injection pump which controls fuel delivery to each cylinder by mechanically synchronising with the opening of the intake valves.

The atomisation of the fuel is achieved by injecting it at a pressure of up to 250psi. This level of control enabled new levels of efficiency that both improved fuel economy and also gave more performance. In addition, a barometric regulator on the pump measures barometric pressure and adjusts the fuel even more finely. Unlike carburettors, which often have a slight lag, throttle response from MFI engines, especially in wide throttle openings at low rpm, was massively improved.

Mechanical fuel injection is a truly remarkable achievement, though it comes at the cost of significant mechanical complexity. Considerable expertise is needed to adjust all of the available settings on the system to ensure the best from an MFI Porsche 911, but when they're set up well they really are an engine that stirs the soul.

We have much to thank our digital age for. Computerisation and the ability to solve complex mathematical problems in fractions of a second mean that modern Porsche injection systems are incredibly precise. Modern car engine management systems make the carburettors and MFI we talk about here seem ancient in technology terms. Today's cars meet emissions regulations that would have been unheard of a few decades ago, and we have much to be thankful for about for this.

For the air-cooled Porsche enthusiast though, there's simply nothing to beat starting up your car with the door open slightly, listening to the fuel pump tick to build the pressure before a twist of the key brings the car to life, a smell of hot oil and freshly burned fuel wafting into the cabin. Unlike the robotic precision of a 991 today, these binary Porsches have a heart and soul that's missing from many modern cars. Carburettors are part of the allure of the early 911. 911

Written by **Neill Watson** Photography by **Chris Wallbank**

MEET THE ANCESTOR

The 911E introduced mechanical fuel injection to production 911s. What are these early MFI cars like to drive today?


MALTON

Tangerine. One of the very best colours for an early Porsche 911 in my view. Add in the generous chrome finishings of these early cars with that lovely gold badge lettering and it all comes together very nicely – especially in the light mid-week traffic of the North Yorkshire Moors. It's time for a drive.

I always feel a slight quickening of the pulse when I drop into the seat of any early 911. In today's bloated cars, surrounded by safety and electronic aids to make progress across the ground ever faster and more efficient, it's always refreshing to go back to the very essence of the Porsche 911 and be reminded of the true spirit of the original cars.

This one is particularly authentic. An essentially unrestored Porsche 911 2.0 E from 1969; one of the final models of the original 2.0-litre-engined cars before the company began the Darwin-like progress of capacity increases and the 911's continual development into the cars we see today.

That black interior with houndstooth pattern on the seats added to the simple embossed black trim of the dashboard all show design cues that you will find in a modern Porsche showroom. If you've never opened the door of an early 911 and only have experience of the modern generations of 911, you should take the time to enjoy the moment. It will be educational, as you see design elements that will have you instantly making the connection between the cars you see regularly today, and these ancestors.

Sliding down onto the patterned seat, I have the usual fiddle with the position before my unfeasibly long legs accept the fact that I have to make a compromise between leg room and distance from the steering wheel. As ever I fold my legs up and prefer to enjoy the perfect distance from the wheel. Reaching over my shoulder for the seat belt reveals an original non-intertia reel strap with a remarkably heavy buckle.

This is an original Irvin seat belt. The development history of this manufacturer is apparent as, almost like an early aviator's flying harness, this heavy 'D Ring' takes a few moments to figure out. I've seen them before, though never had to use one, but I figure that if Irvin kept so many aviators safe, I should be just fine for a drive in Yorkshire today.

Once in place and adjusted it's actually a very secure belt, with none of the momentary slack you experience from inertia reels. It does mean that my equally unfeasibly long arms finally come in useful for reaching out across the scattered switchgear without straining...

> "If I were a 911E owner, I certainly wouldn't feel short changed at not owning an S"

This 911 is an 'E'. The E designation, quite simply, stands for Einspritz, German for Injection. This is the first mass-produced Porsche 911 that moved away from Solex or Weber as the fuelling method and moved towards the actual injection of fuel into a road-going 911. Having driven several carburettor 911s recently, it's going to be interesting to feel the difference that Mechanical Fuel Injection makes to the 2.0-litre engine.

Twisting the key, the engine snaps into life with the same instant response. A slight tweak of the fast idle lever between the seats has us sitting there with the engine gently warming through with no additional assistance needed from my right foot. Rolling gently through the Yorkshire town of Malton, the narrow-section tyres and soft suspension give a ride that is remarkably compliant. The 911E ran with Boge hydropneumatic gas/oil struts, and even after a British winter's full-on attack on our roads leaving them in dire need for attention, they give a very supple ride. As the engine oil warms through, I gently slide down the idle lever.

We're moving out onto the open moorland now, and as the gauges show adequate temperatures we start to indulge in more rapid progress. There's a short period of driver calibration as the familiar road opens ahead and I slice through one of my favourite sections of open bends. Playing with the white dashed centre lines moving from right to left across the upright windscreen, the open view through the bends soon finds me settling into that happy Porsche 911 rhythm, a rhythm that still comes so easy in these early cars. The mid-week traffic all seems to appear at a remarkably opportune moment to be dispensed with easily, and Chris in the camera car falls slightly behind in the tiny, single circular door mirror. This 2.0 MFI engine certainly has plenty of mid-range, and the gearshift is a particularly well-adjusted one.

Turning off the main road to our photo location, I rumble across the cattle grid and then crunch to a halt on the gravel ground as I reflect on my initial impressions of a 2.0 MFI 911. Without doubt it is ➲

BELOW 'B' series cars were the first to adopt a 57mm longer wheelbase for the early 911, identifiable for the gap aft of its torsion bar cover

RIGHT The 911E with MFI system employed a green fan shroud; the T's was black and the S had red

Model 911E
Year 1969

Engine

Capacity 1,991cc
Compression ratio 9.1:1
Maximum power 140bhp @ 6,500rpm
Maximum torque 175Nm @ 4,500rpm
Transmission Five-speed manual

Suspension

Front Boge self-levelling hydropneumatic struts
Rear Trailing wishbones; telescopic dampers; torsion bars

Wheels & tyres

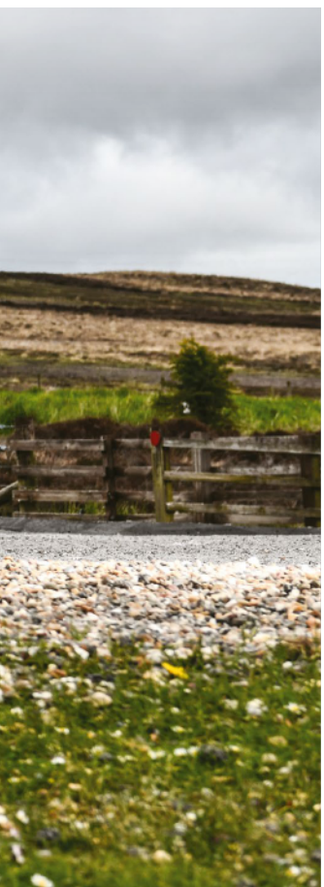
Front 5.5x15-inch; 185/70/VR15
Rear 5.5x15-inch; 185/70/VR15

Dimensions

Length 4,163mm
Width 1,610mm
Weight 1,020kg

Performance

0-62mph 8.3 seconds
Top speed 124mph



THANKS The car in our pictures is currently for sale at Specialist Cars of Malton. For more information call +44 (0) 1653 697722 or visit specialistcarsltd.co.uk

Mystery of the 911L

Only produced for one year, the 911L was introduced in 1968 and stood for 'Lux'. Featuring the same 130 horsepower as the original 911, the 911L was the most expensive of the 911s, since the 911S wasn't available in the US in 1968. Rarely seen in the UK then, the 911L was considered to be a tuned-down US version of the Euro S model to pass – you guessed it – US emissions standards.

Sitting in the middle of the-then 'A' series 911 range between the entry-level T and performance S, the L offered a softer riding, higher specification 911. This was optimised for the driver who would never buy the T due to the trim and inferior performance, though wished for more luxury than the S. Featuring a five-speed manual transmission as standard, the L came with a 1,991cc air-cooled engine. Its top speed was 132 mph, 8mph faster than the T, and boasted a 0-62mph sprint time of 8.4 seconds, knocking four-tenths off the 911T's time.

However, the 911L would be a short-lived proposition. The following year, as MFI was rolled for the 'B' series cars, Porsche rationalised the range and renamed the middle car 911E for all markets worldwide. The E would remain in place until the impact bumper era in 1974.

ABOVE 911E delivers greater linearity through the rev range over carburettor-equipped cars, though it lacks the top-end punch of a period 911S

a different drive to a carb car. The linearity of the mechanical injection system removes any flat spots that Solex cars have, and there's something I simply love about the combination of the MFI system I've experienced in the larger 2.7 cars feeding the free revving oversquare pistons of the small-capacity car.

For anyone unaccustomed to the early 911 range, there would initially appear to be a rather haphazard period of rapid model changes and letters given to cars that may all seem outwardly quite similar. The letter designations A and B for body styles, then T, L, S and, of course, the E for the models, all conspire to sap the confidence of anyone hoping to understand this period of Porsche history.

In fact, it was quite simply a period of rapid advancement for Porsche. The 911's introduction was a huge step forward for the company – a potentially risky investment that quite simply had to work. And as a small, agile concern, Porsche engineers responded rapidly to feedback. Combine this flexibility with the desires of a marketing department needing to add options and price points to appeal to different drivers, and the range we look back on today is the result.

The biggest shift, of course, is that famous 57mm increase in wheelbase that moved us from A-series to B-series cars. That is simple to understand. Then it gets a little more opaque with the models within those body styles. It needs reference books for it to become a little more obvious. The T model was the 'entry-level' car with 110 bhp, cheaper trim and that rather felt-like 'Perlon' carpeting. The 911T, for Touring, was a useful introduction to 911 ownership and one that was carried over from A to B series. The engine was significantly lower in power and manufactured from steel rather than magnesium.

The 911S was, of course, the performance model. In A-series specification it ran with carburettors, giving a zippy 160 bhp before joining the 911E in the B series with mechanical injection to give another 10 bhp, bringing it up to 170.

So where does that leave the E and the L model cars? The L ran for just a single model year. The designation stood for Lux, or Luxury, and sat between the Touring and the performance S in terms of power. I admit to never having driven one and indeed, several Porsche experts whose opinions I value have very limited experience too. The L seems to have slipped between the cracks in the Porsche pavement.

Indeed, the E model introduced in 1969 may seem to be similarly adrift in the model range. It takes a drive like today to fully understand where exactly the car sits in the range. The obvious question is: 'Is it closer to the 911S or the 911T?' In fact, it's a model in its own right. Compared with a carburettor 911, the response from the engine feels stronger and more linear. Compared with a 911S, it doesn't seem ultimately to have the top-end punch, though such is the crispness of the throttle response from those small pistons and MFI system that you really don't miss it.

Climbing aboard for the return journey, I reflect on where the car sits in the family tree. In these early years of Porsche 911 production, the stage was set for what has become the model range we see today and also the ethos of continual development that is still the Porsche philosophy going forwards. The element of motorsport being brought into the road cars is there with the MFI system, and that model range begins to make sense after a little study. As I'm driving across the open moorland of North Yorkshire, it kind of clicks home in my head.

The soft, compliant ride of this car, with its linear delivery, is typical of a middle-of-the-range Porsche across the decades. Think G-series 3.2, 997 Carrera S or 991 Carrera S.

In today's market a good 911E appears to be selling for a similar amount to a 911S. Just a few years ago, the S model would sell for significantly more money. This would mean that if you're an owner undertaking a restoration project, you would have been better off putting the outlay into the S-model car. Today there's little to choose, and the individual car, its history and provenance seem to trump the letter of the model.

If I were a 911E owner, I certainly wouldn't feel short-changed at not owning an S. The delightful, crisp throttle response, added to the torque coming in at lower RPM, actually makes the car feel equal to the S in normal driving. On the drive back I am once again blessed with open bends, traffic that can be easily dispensed with and the sun shining through the screen, warming my face. As the tail dips slightly and the road's white centre line rolls across the edge of the bonnet, I indulge in my relaxation therapy as the wheel straightens on the exit of another open bend. It's pretty remarkable that even all these decades later, these early, small-capacity Porsche always make that smile appear.

In these days of driving 1,500kg of electronic assistance, I find it truly therapeutic to slide into the driver's seat of an early 911, relax the grip on that slim steering wheel, check the analogue gauges and simply enjoy the feeling of being connected to the genesis of the modern cars we have today. If you have the means, I suggest you get out there and meet the current 911's ancestors. 911

24 HOURS AT LE MANS

Written & photographed by
Glen Smale

As Ebimotors enters the toughest endurance race in the world, Total 911 is given behind-the-scenes access to the team and drivers

For the first time, the 2018/2019 WEC Super Season will feature two Le Mans 24 Hour races. Comprising eight meetings in total, the Super Season started in May with the Spa 6 Hours, followed by the 86th running of the Le Mans 24 Hours on 16/17 June, concluding in June 2019 with a second Le Mans.

Porsche re-entered the WEC series in 2013 with the 911 RSR in the GTE Pro class, followed a year later by the introduction of the 919 Hybrid LMP1 prototype race car. In the four years that the 919 raced at Le Mans, it won the LMP1 class no less than three times. However, the company has now thrown its full weight behind an increased 911 GT effort in 2018 following the withdrawal of the prototype team in 2017. This means for the 2018 rendition of Le Mans, no less than ten 911s will take to the track in GTE Pro and Am classes, a tally not seen since 2004.

One of the squads in the GTE Am class is the Italian outfit Ebimotors, a highly experienced team in Porsche motorsport circles. Owner Enrico Borghi is no stranger to competition, having served as a Formula 1 mechanic and establishing an off-shore power boating team before turning to racing Porsche GT cars in 1994. Four years later Ebimotors was established, making this their 20th year of racing Porsche GT cars.

The team's drivers include the vastly experienced Fabio Babini, this being his eighth Le Mans race, and the talented Christina Nielsen, who is Porsche's first female 'Selected Driver'. The third driver, Erik Maris, is a well-known LMP2 driver in the ELMS championship, and this race marks his fifth outing in the Le Mans event. For one weekend only, Ebimotors has kindly granted our cameras exclusive access to the team set-up as it seeks victory in the toughest and most famous endurance race on the planet...

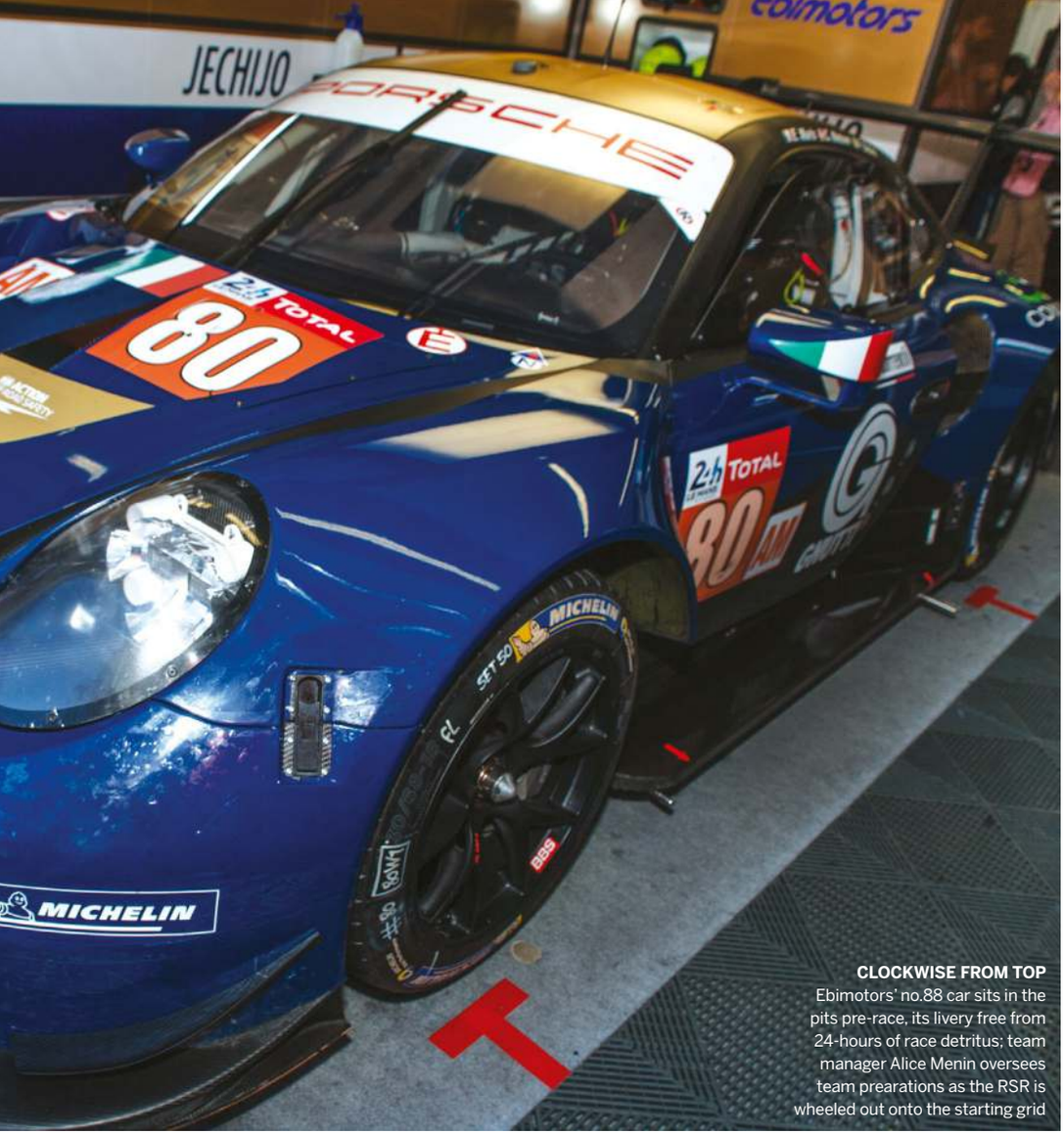
Race week: scrutineering, practice and qualifying

Scrutineering at Le Mans is a spectacle that takes place over two days in the Place de la République in the city centre. This process is quite demanding for the teams and drivers as the car needs to look good not only for publicity reasons, but must also be correct technically. Alice Menin is the team manager overseeing the process: "We've had to put some new body parts on for the photos and for scrutineering, but then we'll put the old ones back on later," she tells us. The drivers too must go through their administrative checks, and this presents the wider media with interview and photo opportunities.

"Between practice and qualifying, no changes are made to the car, but we need to check the brakes and basically everything else on the car before the race," Menin says as Babini, Neilsen and Maris get stuck in to interviews. However, as a result of the improved performance of all ten 911s, the ACO adds an extra 10kg of weight ballast to every Porsche.

Race day: pre-race

Menin called a meeting with the drivers and ➲



CLOCKWISE FROM TOP
Ebimotors' no.88 car sits in the pits pre-race, its livery free from 24-hours of race detritus; team manager Alice Menin oversees team prearations as the RSR is wheeled out onto the starting grid

engineers the day before to discuss the strategy for race day. In an upbeat mood, Menin announces, "I am pretty confident. The drivers said yesterday the car is good and Fabio was able to improve his lap time during qualifying. Erik got stuck behind some traffic in the last sector and we finished seventh, but that doesn't really matter. In the third qualifying session we had our fastest lap after we changed some settings like the wing and the height of the car, but really very small adjustments, nothing major."

Asked about the mood in the camp, Menin admits, "The mood is good, but we are also just a little stressed because we are tired; we finished late yesterday and the day before. Now we will just clean the car, prepare all the radios and have lunch. Then we are going to get everything ready for the grid. We will check the starting procedure because we have a minute-by-minute schedule, then we need to go to the grid and by then everything must be perfect for the race."

Between 13:00 and 13:15, all the cars are wheeled out on to the track by their crews along with the nitrogen bottle and tyres, and the pre-race razzmatazz begins.

The race

At around 14:50, a squadron of seven French Airforce jets performs a fly past, leaving a tricoloured trail of smoke in the national colours in its wake. The cars begin to peel away one-by-one from their positions against the pit wall. When they come around to the start/finish straight, it will be to start the race, and then there is no stopping the clock for 24 hours.

SATURDAY: 15:00 (RACE START)

Starting from seventh in class, the #80 Ebimotors Porsche RSR is driven into the history books by the Danish driver, Christina Nielsen. This is a deliberate move, as most of the GTE Am class starts with their Gold drivers, but Ebimotors decides to put Nielsen, a Silver class driver, behind the wheel and to deploy their Gold driver, Fabio Babini, when the rest of the field has their Silver drivers. Nielsen felt honoured at being given the opportunity to start the race, but by the time she climbs into the 991, discipline is etched on her face. The aim is to keep the car in the hunt and to stay clean from contact with other cars.

SATURDAY: 16:00

At the first driver change, Nielsen, having completed a single stint, hands over to Babini at 16:10, having dropped from P7 to P10 in class.

SATURDAY: 17:00

After two hours the team is lying in P5. The positions in class vary quite notably at this stage as cars come in for their first pit stop, so the positions can swing by one or two places either way in just minutes. Menin and her team have to stay alert to keep track.

SATURDAY: 18:00

With three hours on the clock, all teams across the whole field are beginning to establish their pit stop and driver change routine. The three-hour mark also sees the second driver change for Ebimotors, as Babini, having completed a double stint, makes way for the Frenchman Erik Maris. On the stroke of 18:00, the team is in P4, a minute-and-a-half behind the class leader. The team's routine, the car's performance and tyre management is all going to plan according to Menin. The aim is to do two stints on a set of tyres, and tyres are changed when the drivers change too.

SATURDAY: 19:00

The #80 Porsche is running in P10, and lap times are where the team manager had planned them at this stage of the race. On the 65th lap Erik Maris

ABOVE The Ebi RSR makes a clean start to the 24-hour race, rising as high as P4 in class in the opening stages

negotiates the Porsche Curves, and while exiting the second curve the #80 Porsche is overtaken by an LMP1 car, before the #4 ByKolles LMP1 car draws alongside in an attempt to overtake as well. There is contact. "He [Maris] was keeping his racing line and he let the first one overtake him, and the second one was quickly alongside him. Instead of dropping back or giving Maris more room, he closed in on Maris and there was contact between the two cars," Menin yells. She's not happy.

It seems that the #4 car cut in too early and the back end of the LMP1 car struck the front left of Maris' Porsche, causing the ByKolles car to become unbalanced. It spun off into the gravel where it struck the tyre barrier and retired. The two cars are placed under investigation, but no fault is levelled at the Ebimotors team and the action is dropped.

SATURDAY: 20:00

At the third driver change, Maris hands the wheel to Nielsen, her second time in the car, and the Ebimotors Porsche is up to P7 in class.

SATURDAY: 21:00 (QUARTER DISTANCE)

With six hours already run, the field is beginning to stabilise. The weather has remained warm and dry, with little prospect of rain. With a temperature of 19°C, this is good for both the drivers and crew. It is during the night that unexpected events can happen, as visibility is reduced. During Nielsen's second stint (this time a double stint), she picks up a puncture from some debris on the track and the car is brought into the pits for a tyre change. At this stage the team decide to change strategy, and so Nielsen is left in the car for an additional half stint. As a result of this unscheduled pit stop the car has dropped off the same lap as the class leader, but is still lying in seventh place.

SATURDAY: 22:00

The fourth driver change sees Nielsen handing over to Babini at 22:30, at which stage the car is refuelled and given a new set of tyres. With 102 laps on the board, the #80 Porsche is still lying in P7.

SATURDAY: 23:00

Fabio Babini is behind the wheel and has managed to pick up one place during his stint, now lying in P6.

SUNDAY: 00:00

At the stroke of midnight, the #80 Porsche has slipped to seventh place. This is partly due to pit stops taking slightly longer because the tyres are picking up greater than expected amounts of rubber from the track. These pieces of hot rubber are thrown up against the inside of the wheel arch, and this must be cleaned off at each pit stop. Menin reports that both Babini and Nielsen are posting times that are consistently on target for each driver.

SUNDAY: 01:00

The #80 Ebimotors Porsche has dropped to P9, but with the car running reliably this is down to the pit stop strategies of different teams. The weather has remained dry, and in the cool of the night the temperature has dropped to 15°C. At 01:30, the sixth driver change sees Maris take over from Babini.

SUNDAY: 02:00

At 02:30, the team carries out the seventh driver change, where Maris hands the car over to Nielsen in P8. The car is refuelled and new tyres fitted.

SUNDAY: 03:00 (HALF DISTANCE)

By all accounts, the #80 Ebimotors Porsche RSR is running hour-after-hour without any issues. "Christina did two-and-a-half stints and so we reduced Erik's stint because he only has to drive six hours. So we want him to drive the least [because he is not as fast as the other two]. We are still two laps

ABOVE As the hours tick by, concentration remains paramount. Babini watches on as fellow driver Nielsen gets stuck in to the rest of the field

ABOVE After a consistent performance through the night and a largely incident-free race, Babini brings the no.80 car home in P6

EBIMOTORS LM 24 STATS

LAPS COMPLETED
332
DISTANCE TRAVELLED
4,500KM
FUEL USED
2,170 LITRES
TYRES
15 SETS
DRIVER CHANGES
13
TOTAL PIT STOPS
25
BEST LAP
207
BEST LAP TIME
3:54.309

down," Menin reveals. At 03:30, the #80 Porsche is running in P8.

SUNDAY: 04:00

Nielsen is running clean and consistent laps as she pits to hand the car to Babini at 04:30. This is the eighth driver change, and the car is maintaining eighth place in class.

SUNDAY: 05:00

Fabio Babini hands the wheel to Erik Maris at 05:30 with the car still in P8. As the clock ticks towards 06:00 the team notches up 197 laps, still without any major incidents.

SUNDAY: 06:00

As the sun begins to re-emerge the Ebimotors RSR continues to reel off the laps. At 06:30 Maris hands the car to Nielsen in the tenth driver change of the race with the car sitting in P6. "We had a little issue with the fuel sensor inside the fuel hose that comes out from the fuel rig. It was just dirty, so we fixed that," Menin reports.

Although the lap charts show the #80 Porsche is holding a consistent mid-field position in class, this paints a slightly unclear picture. Menin explains, "Maris was a little bit slower than the other Bronze drivers so he lost some time, but it is all about Christina and Fabio now, as Erik just has to do a single stint, so we will try to do our best to make up as many positions as possible. At this stage all the drivers are happy with the car, but Erik was a little bit worried because he was in the car during the night. Although the Porsche has very good forward lights it does not have such good illumination to the side, and he didn't have a clear view of all the kerbs."

SUNDAY: 07:00

At around 07:30, the #88 Dempsey-Proton Racing Porsche spins off the track and strikes the barrier, badly damaging the car. It is unable to continue. This incident promotes the #80 Ebimotors Porsche to seventh in class at the end of the 17th hour.

SUNDAY: 08:00

At 08:18, with a total of 242 laps and 17 hours completed, Christina Nielsen pits for fuel only and remains in the car. The #80 Porsche is now up to P6 in class.

SUNDAY: 09:00 (THREE-QUARTER DISTANCE)

At this stage of the race the rate of attrition is usually much higher, and one photographer comments that the race seems quiet, such is the lack of incidents and retirements. However, the Ebimotors squad remain focused on the job at hand. There's no celebration of getting this far, just dedication to the final six hours of racing.

ABOVE EBImotors' Fabio Babini, Christina Nielson and Erik Maris may have driven the car but the 24-hours of Le Mans is a team race

Very few of the cars calling into the pits throughout the morning session have serious ailments to attend to. The #80 Ebimotors is an example of this, holding steady in P6.

SUNDAY: 10:00

"The guys have done well, they haven't made any mistakes. I can see a lot of penalties for a lot of little things that added together can make you lose minutes. Things such as speeding in the pit lane or maybe you did something wrong during the pit stop, it is very easy to make mistakes, but up until now we haven't made any mistakes," Menin reveals matter-of-factly. The #80 Porsche is still holding station in P6.

SUNDAY: 11:00

All of the team have had a period of rest during the night, and with just four hours remaining everyone is once again pit-side and focused on the final push. The drivers grab a couple of hours sleep where they can and try to relax. Massages help relieve muscles from the rigours of racing and the constant G-forces which their bodies are subjected to in the cars, and diet is important, too. Plenty of carbs are consumed, their slow-releasing energy enabling the whole team to work harder for longer in this gruelling event.

SUNDAY: 12:00

The race reaches a sufficiently advanced stage to ask Alice Menin how her boss, Enrico Borghi, is feeling about the race so far. "The boss is happy. He is very proud of what we are doing because it is our first time. His expectations have always been high, but until you are here at Le Mans, you don't really know what is going to happen," she says. With 21 hours and 289 laps completed, the #80 Porsche slips back one place to P7.

SUNDAY: 13:00

The grandstands, having emptied during the night and early morning, are full again in anticipation of the end of the race. With just two hours left, the crew is running on autopilot as the cars come into the pits for their regular fuel, driver and tyre change. With the cars having different pit stop schedules, the #80 Porsche finds itself up in P5 with Nielsen behind the wheel and just 90 minutes left to go.

SUNDAY: 14:00

As the race enters its final hour there is a buzz in the grandstands around the finish line, primarily in anticipation of Toyota winning its first Le Mans title in LMP1. However, for the privateer Porsche team from northern Italy, their #80 Porsche RSR is about to write a new chapter in the company's history. The 13th and final driver change sees Nielsen vacating the seat for Babini, and while the only female driver in the 86th Le Mans race has done more than her fair share of driving, the honour of bringing the car home falls to Babini.

SUNDAY: 15:00 (RACE END)

As the large Rolex clock marks the end of the race, there is much jubilation for all the cars that have completed the distance. Perhaps just as elated as the overall winners are the drivers and crew at Ebimotors who can celebrate their first finish at Le Mans. Babini brings the #80 Ebimotors Porsche RSR across the line in sixth place in the GTE Am class. An exhausted Menin tells us: "We woke up on Saturday morning at 06:30 and I didn't close my eyes for one second, but this is Le Mans. It's physically demanding and also mentally heavy. You need to anticipate what is going to happen next, before it even happens." The last word goes to owner Borghi: "I'm very happy about the result we've achieved. There is always something we could do better, but it was our first participation in the 24 Hours of Le Mans, and finishing in sixth position is for sure a great result. I'm very proud of all my guys because they've worked really hard for this race. We did not make any mistakes during pit stops, we had a well-prepared car and a stable driver line-up. I just want to say thank you to everybody. Hopefully we will be here in 2019." 911

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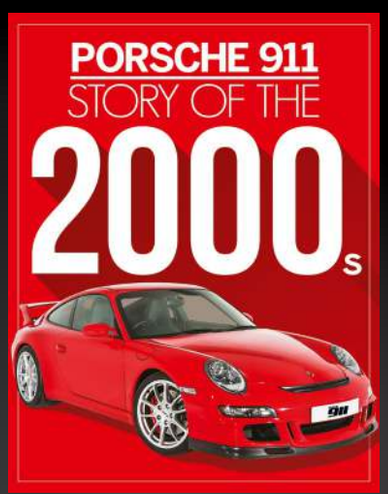

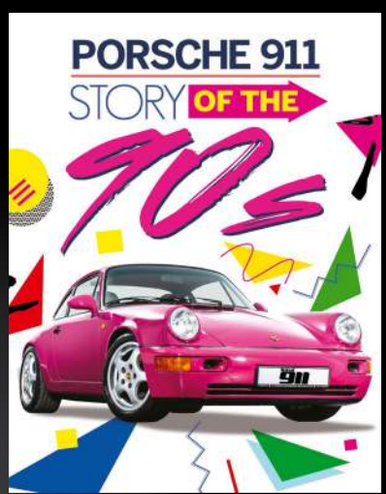

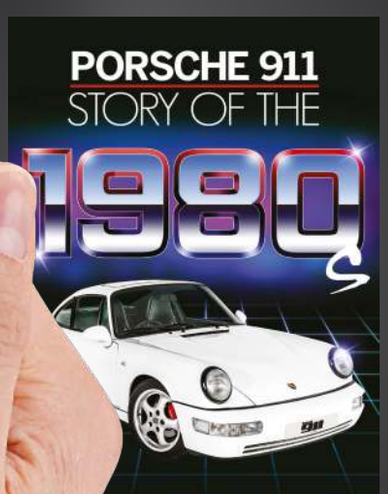

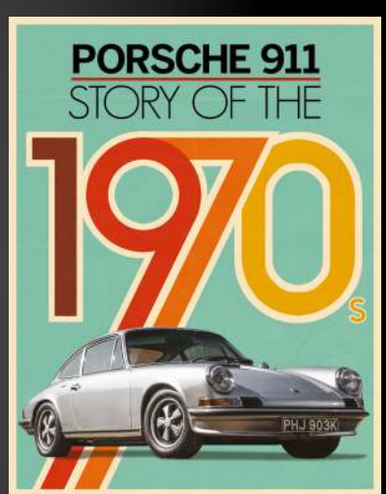

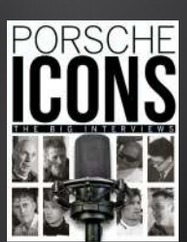

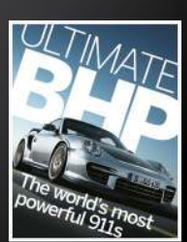

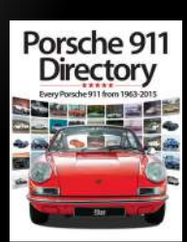

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Living the Legend

Our contributing enthusiasts from around the world share their real-life experiences with their Porsche 911s

David Grover
London, UK

@propertypetrolheads

Model 997 Cup
Year 2014
Acquired December 2016

Model 991.2 GT3 RS
Year 2018
Acquired May 2018

I always find the moment of selecting specification is a real high in car buying. Sometimes that whole journey of just thinking about it, selecting the spec and waiting can take many months, even years. Unusually, this time the need was to decide everything in detail overnight after an early evening surprise call. So you may have guessed, I am back in the 911 camp firmly and squarely, and I hope you like it.

A couple of years back I was on a wait list to be offered the chance to get a 991.1 GT3 RS, only to be told that they had all been sold to other select customers at my local OPC. They were very sorry, but that was all they could say. I put that disappointment to bed and moved on. I decided to get to know my dealer more and to work hard helping them with their business.

Over the past two years I have successfully sent to them half a dozen friends and business connections who have walked in on personal recommendation from me. My reward has subsequently come through in the form of a Gen2 car.

The call was to advise me that they are likely to get only three, maybe four cars this year and that I was lucky to be asked if I wanted to take up the opportunity. The only downside was that I had to finalise spec by the following morning. The news was very well received, and I went straight to the configurator to start thinking.

The obvious starting point is the colour, and I quickly decided that some just weren't for me. I love the gold satin Aurum wheels, so they needed to work with the colour choice, along with PCCB. PCCB was a natural choice; it won't be a tracked car because of the Cup, which is ultimately an even better experience on a circuit. However, it left me stuck on three colours, all equally appealing: GT silver, Miami blue or Chalk. With a bit of soul searching in terms of what I wanted I plumped for Chalk, and while it's a Marmite colour for some, I am very happy with the choice.

Early launch cars in the UK do not come with the Weissach pack, so that was another consideration. There was a moment when I suggested that I would be happy to wait for one of those until I was told that if I give up the first batch slot, a second one is even more tenuous, as Weissach cars have a longer wait list, and delivery is also uncertain.

So what about other options? A full carbon seat selection was a must, but perhaps I should have gone folding as I went for the cage, belts and extinguisher, so luggage will be postage-size only to thread through the bars. Some obvious technology options were added, including CarPlay, Bose and so on to enhance the music aspects of any journey. A front lifter for the ramps and speed humps, a dash of carbon with the mirrors, maybe a retrofit of carbon air scoops and NACA ducts would compliment the look longer term, but let's see.

Other items included the LED headlights, reversing camera and Chrono package. It's off to get PPF wrapped to keep it protected from paint chips very soon, and meanwhile it is tucked up under a blanket with just 60 miles on the clock, awaiting its first proper day out. I can't really explain what it's like after just 60 miles of run-in mileage, however, over the coming months I can feed back day-to-day reality from a 911 diehard.

What I can say is that the Apple CarPlay works well, and the sound is pretty good all round. More widely the latest touchscreen is intuitive, helpful

James Samuel
Poole, UK

@Jamessamuel4

Model 997.1 Turbo
Year 2008
Acquired April 2015

Model 996.1 GT3
Year 2000
Acquired January 2018

Well what a difference in the weather and what a difference a month makes. The Turbo is long overdue a bit of love to sort out small oil and coolant leaks which have been bugging me for a while. Finally I managed to pin my brother down and get some ramp space at ZRS Engineering in Poole.

I'll start the story by pointing out I have a massive European road trip booked with some friends departing very soon. The obvious idea is *not* to wait until just a few weeks prior to the trip to remove an engine you've never worked on before, but I don't like to do things by the book. We best get cracking...

After a couple cups of coffee the Turbo was on the ramp and the strip down began! After a fairly painless few hours we had drained all the fluids, removed all braces and under trays, electrical, coolant and hydraulic connections and mounts and at last the beautiful (to me at least) Mezger lump appeared.

Now to some it may seem a daunting task removing an engine and gearbox from such a car, but due to the excellent engineering by Porsche, not to mention taking our time, it was relatively simple.

Over the next week the strip down of all the ancillaries began just to get at the coolant elbows under the heat exchanger, which were leaking. While

in there we replaced all the coolant lines and any oil lines with even slight signs of corrosion.

New exhaust gaskets went in, a new oil filter, drive belt and so on and all brackets cleaned and replaced if required too. Also we noted that the rubber flex disc that sends drive to the front wheels was well past its best, and Porsche Centre Bournemouth were a massive help here in sourcing just the rubber disc rather than having to purchase a whole new shaft assembly.

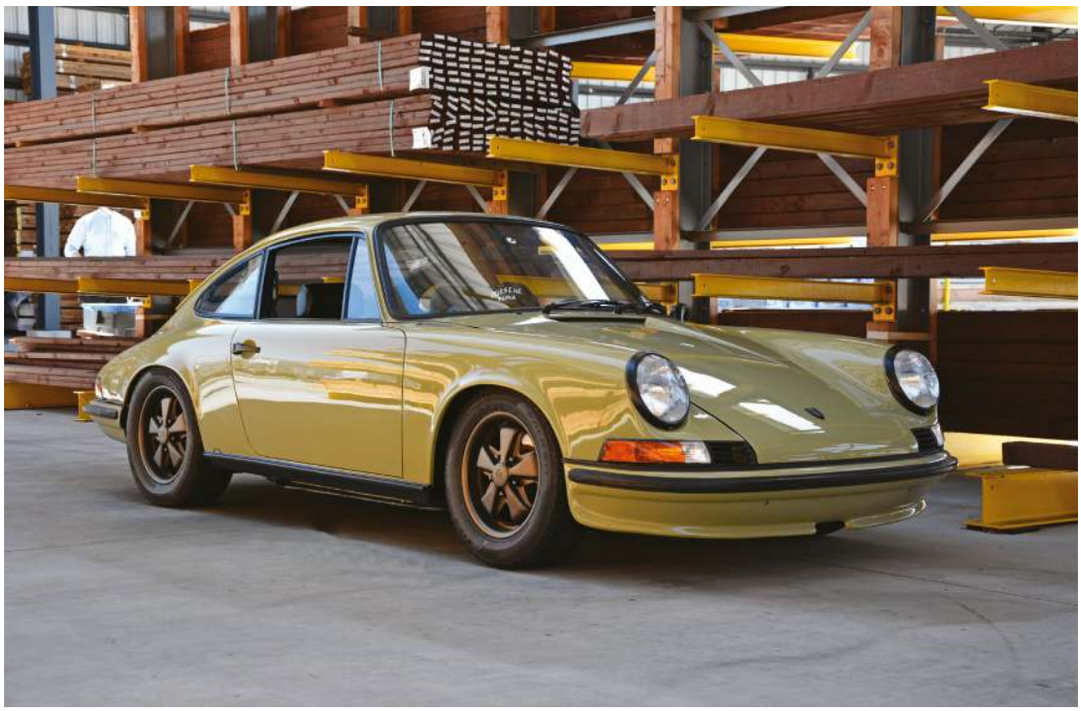
That's where we're at currently. Once all this work is done the car should be good for another few years of happy motoring. Matt at ZRS has done a fantastic job so far and the engine is looking tip-top and ready for reinstallation in no time. We have a couple of days until departure, and time will tell if the Turbo will be making the trip or whether the GT3 will have to step in. Tune in next month for the result...

as the car doesn't have any operational manuals or paperwork yet – these are due from the factory shortly apparently, and me being old school would be helpful. I often find a year or two into car ownership I find a feature I didn't realise I had on a car, which is always positively exciting.

It looks awesome in my opinion, which is what initially counts most. I love the colour contrasts and the way the colour varies in the light. It looks so perfect with the Aurum wheels and yellow calipers and sits so low on the springs to fill the wheel arches properly.

The ride is compliant on fast A roads and doesn't jolt as much as I was expecting, so that is good, and the seats once you are snug in them are perfect, very upright and race car-like, but also supportive and well upholstered.

It sounds great, but you really need to get the revs up to get a proper sound, so best saved for those rare moments when you can redline it once the car has settled in and probably had its first oil change. On that point, the dealer suggestion is to get the oil changed after about 1,200 miles, although they say it's not essential. I will follow that advice, just in case there are any micro specs of metal circulating around as the engine beds in. The way I am going at the moment this might mean this is a while away though!



Michael Meldrum
Houston, Texas

@p911r

Model 911T Targa
Year 1972 Acquired **2013**

Model 911E
Year 1972 Acquired **2014**

Model 930 Turbo 3.0
Year 1977 Acquired **2014**

Model 930 Turbo 3.0
Year 1977 Acquired **2015**

Model Carrera 3.0
Year 1977 Acquired **2016**

Model 911 SC
Year 1981 Acquired **2015**

Model 3.2 Carrera
Year 1986 Acquired **2015**

Model 993 C4S
Year 1996 Acquired **2016**

Model 964 Carrera 4
Year 1994 Acquired **2016**

Model 997.1 GT3
Year 2007 Acquired **2017**

Model 991.1 GT3 RS
Year 2016 Acquired **2018**

Unless you've been living under a rock, you have probably heard of Luftgekühlt. As a quick reminder, it's an annual event celebrating Porsche's air-cooled models in the Los Angeles area. Side note... it's also German for air-cooled, but you knew that right?

This year they hit another home run with their location, an industrial lumber yard. They seem to have a knack for finding unconventional locations that create a wonderful backdrop to show off vintage Porsche at their very best. The space was huge. I overheard one of the event staff say they were expecting over 800 cars. While the sheer number of cars was amazing, the variety was truly breathtaking.

They had some of the rarest of the rare on display, including a 1949 Porsche 356 Gmünd, the 1972 917-10 Spyder, Porsche 908K, Porsche 904 Carrera GTS, 1967 Porsche 911R Prototype and the Le Mans-winning Porsche 356 Gmünd, but it's really not that type of event.

The star of the show is California car culture, the unique and multi-faceted approach to vintage Porsche ownership. First, you must understand that through the years the US has been Porsche's biggest market and California has the largest population by state, ergo there are a lot of Porsche in California. I'd suggest the percentage far exceeds the population correlation due to the idyllic conditions California offers for vintage car lovers, possibly the perfect combination of dry weather and great driving roads (once you leave the awful traffic of the cities).

While there are many sides to Californian 911 culture the event went out of its way to celebrate the vintage cars that are driven hard and have all the paint chips and dirt to prove it. One of the main displays celebrated the loosely affiliated guys known as the R Gruppe, a collection of enthusiasts who love to create sports-purpose vintage 911s in all shapes and sizes and drive them hard. Throughout the event, the survivors and well-used Porsche enjoyed prominent placements alongside the elite cars of the air-cooled Porsche world, which is just fine by my sensibilities.

Though there is a strong focus on the aesthetic enjoyment of Porsche, the organisers took the opportunity to celebrate and educate the attendees with one of the greats of racing... Vic Elford or "quick Vic". Many Porsche enthusiasts are well aware of his achievements, but there is a whole new generation who are not, so well done the organisers for using the event to celebrate the history and recognise one of the greats of Porsche motorsport.

The event has been expanding over the years and now features a whole weekend of activities to entertain the most hardcore of Porsche addicts, including a wonderful gathering at the Petersen museum, a must-visit location when in Los Angeles. I'm already looking forward to the next Luftgekühlt.

Joe Croser
Northamptonshire, UK

@jcx911

Model 997.2 Turbo
Year 2010
Acquired December 2015

My OPC Extended Warranty ran out in May and I didn't renew. It wasn't an easy decision – the OPC warranty is widely regarded as the best – but it was the right decision for me. After over two years and more than 8,000 miles I think I know my car well; I've seen it from all angles in various stages of undress and it's never skipped a beat. Indeed, if ever there was a car I should worry less about it is (fingers crossed) probably this one, especially after filling the gearbox and engine with Millers Oils finest NT+ lubricants to reduce friction and improve longevity.

But it wasn't risk which tipped the scales in favour of dropping the warranty, it was reward.

You see, to truly enjoy my car I have made some essential mods. In late-summer 2017 I added the SharkWerks exhaust to transform the sound of the 3.8 flat six (issue 159). In the autumn I added the revolutionary DSC V1 PASM upgrade from TPC Racing to make my suspension truly adaptive (issue 160), and then as winter turned to spring I added Rennline radiator grills to protect and preserve my radiators and condensers from damage and debris (issue 165). Finally, as my old tyres were ready for a change, I had a new set of Michelin Pilot Sport 4Ss installed (issue 166). While the 4Ss in my size are without a doubt the best wet and dry tyre on the market, the tyres in my size remain without an N-Rating from Porsche, which means that my car will not pass the 111-point check with them wrapped around my alloys.

My mate Ben calls this the 'opportunity cost': to renew the warranty I would have to forego other opportunities to improve my car or incur additional costs to take off and refit these aftermarket improvements before and after an inspection. Even then I'd run the risk that a claim would be declined if the

cause pointed to a third-party product as the issue or contributor.

My car is better to drive with the PASM upgrade, the grippy Michelin tyres and the PSE-like exhaust sound. And with the reassurance of the Rennline grills I no longer fear for the integrity of the fragile rads and condensers hidden behind the front bumper. It's a liberating thing and it's the way it should be.

I have now owned this car for longer than any of its previous keepers, completing more miles in it than anyone else. It really is 'my car' for me to use as I see fit. I am not merely preserving it for its next owner; I am configuring it for my enjoyment, and I am now beyond being told by the Porsche Warranty company what I can and cannot do to it. I bought my car to drive. And drive it I shall, with a big grin from ear to ear.

Joel Newman
London, UK

Model 996 Turbo
Year 2003
Acquired April 2014

Last month I told you all that my car was going in for paint, and rather a lot of it. Those that read my column will know I like a good deal. The last time I visited my local specialist, I overheard one of the drivers giving directions to where 'their' paint shop was.

On a back street in Mill Hill, London, in fact, on a street you just would never find by chance, I spotted a number of 911s, as well as some interesting early Jags, BMWs and everything in between. It is called MJS Engineering (and they have a mobile number only: 07889 807 864).

I was clearly in the right place, and spoke to Mark, the owner, who explained that most of their paint work was on behalf of specialists. Because of this they simply don't need a shiny, customer-friendly work space, parking or waiting rooms, but they are willing to take on private work, and price that out at extremely competitive rates.

I can now admit the paintwork on my Turbo was really rather bad, much worse than I had cared to admit. The front end and bonnet were peppered with chips, as well as a few scuffs in random improbable places like the roof pillar and on top of the front arches. I had also creased and cracked the paint on my front bumper when pulling into a space and tapping the wall in front.

It turns out my paint is Jet black, not Basalt black, which means it has no metallic whatsoever. Both Mark and my local specialist were amazed at this, and said it is extremely rare. It is called Schwarz Schwarz or Jet black, which luckily makes it easier to paint match – important when repainting an older car.

I had the front bumper, both front wings, the bonnet, one of the doors, both sills and one rear quarter panel flattened and repainted. I paid £600 in total all in. Exactly what the specialist pays and then marks up, by a factor of 400 per cent!

The quality of the work is excellent. The car looks brand new, but I will let the pictures do the talking. I can only guess Mark and MJS Engineering are going to get a little busier after today, and as well they might.

Tony McGuiness
San Diego, USA

@tonygt3rs

@tonymcguinessgt3rs

Model 997.2 GT3 RS
Year 2011
Acquired February 2011

Model 991.1 GT3
Year 2015
Acquired December 2014

Of the social media platforms I've used, I have found Instagram to be a positive feel-good experience for sharing the Porsche passion. It has allowed me to connect with and meet some terrific Porsche owners.

I have become friends with a great guy in Alabama named Scott. Through Instagram, Scott shared with followers his experience of ordering and delivery of his very first 911. For me this was fascinating, as I felt I was along for the entire journey of his 911 purchase.

Scott is a car guy and owns an amazing Cobra. The Cobra is a fantastic and fun car, but he had always dreamed about owning a 911. Yet, like many of us, he never really thought it would happen.

Fate intervened last year when for his birthday, Scott attended the Porsche Experience Centre Atlanta driving experience. At the PEC event he was able to drive quite the range of Porsche, including being a passenger on a hot lap in a GT3 RS. That day of driving Porsche sealed it for Scott. He had to have a 911! Two weeks later he was at Hennessy Porsche in Atlanta working with them on ordering his first 911.

What better way to tell the world you are going to own a 911 C2S than through Instagram! Scott shared with me and others on Instagram the entire process, which included consulting with experts on exclusive options at the PEC in Atlanta. Scott was able to share the configuration he chose, including the Sapphire blue colour. The Chalk interior he selected is definitely striking. After ordering all his options, the hardest part began... waiting for delivery.

It was enjoyable following along as he tracked the ship as it made its way from Germany to the United States and eventually to the dealer. Anyone who has ever taken delivery of a 911 in that manner knows how agonising and fun the wait can feel!

I have definitely found Instagram to be a great place to share my passion for our beloved 911s, meet other enthusiasts and learn even more about our cars.

I felt as if I was almost there as Scott ordered his beautiful new 911. It certainly allowed me and others to share in his excitement as he became a 911 owner.

Congratulations on your amazing 911, Scott, and keep us posted on all your Porsche adventures. **Total 911** readers can follow Scott @Scottscobra.

Rob Clarke
Bristol, UK

@rob911_ltl

@Rob996LTL

Model 996.1 Carrera 4
Year 1999
Acquired February 2014

Frustration levels with my 996 have hit maximum this month. After thinking the coolant issue was resolved (due to an airlock problem) I have found I am still losing coolant!

I am losing about 500ml per 300 miles; I have no idea if this is within acceptable limits or not, but in the previous three-and-a-half years the car has not done this. Ever since the water pump failure I have had issues!

I decided that the best policy was to contact Bristol OPC. I fired up a conversation with their customer service manager, John Piper, and after I went through the recent history and what I had already had tested, he said they would have a look (at least the car qualifies for Classic rates now).

I dropped the car off, and then the waiting started. I knew it wouldn't be seen for a few days, but I was also aware that they would run a number of tests, including an overnight pressure test with bore inspection. A few days later I had a call from John: good and bad news.

The bad news was that they had not completed the tests. The frustrated pessimist in me was thinking it's a big issue as they have found a significant issue before completing the test. And then the good news: they found a hairline crack in the expansion tank!

Any 996 owner will know this is one of the common weaknesses of the M96 engine. I'm a bit frustrated that we had not spotted this already, but this ties in with the airlock theory, as a crack will not only let coolant out but also pull air in. Also, as it was small the loss of coolant probably wouldn't have been noticed while the engine ran hot at high speeds.

I have agreed for Bristol OPC to fit a new tank and then repeat the tests, so I am waiting hopefully for good news. For those of you who have been following my world for roughly four years now in **Total 911,** I will be selling the car at some point in the next few months. Once the issue is all confirmed to be sorted by the main dealer, I think it is time for an upgrade.

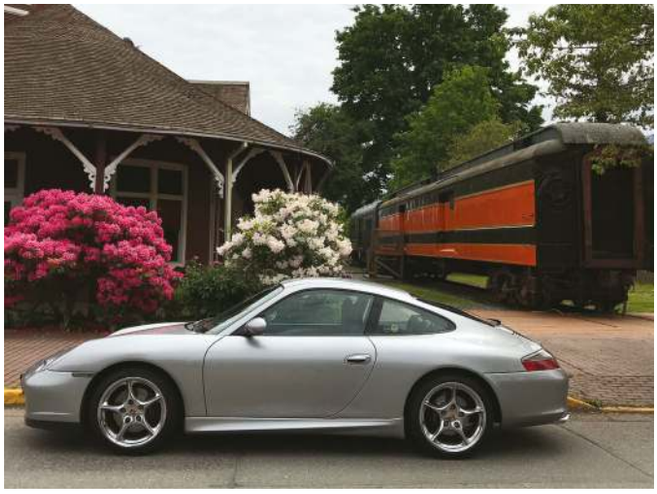
I'm still working out what I want to move on to next, but the fun part is working out what I should get! Hopefully next time I will be happier and have a car fully fit!

Ben Przekop
Mercer Island, WA

Model 996 40th Anniversary
Year 2004
Acquired 2018

Last month I talked about the essential maintenance issues that I needed to address shortly after getting my 40th Anniversary Edition 911: the IMS Bearing, a new clutch, flywheel, RMS seal and AOS, all of which were expertly done at Chris' German Auto Service in Redmond, WA.

Now that things are mechanically sound, it is the perfect time for driving adventures around the beautiful Pacific Northwest. Seattle enjoys simply spectacular spring and summer weather lasting from April to October. Despite our reputation for an area that gets more than its fair share of rain, summers are quite dry. For example, last year we had 90 straight days with no measurable rainfall at all!



Days typically start with cool mornings that soon turn into pleasantly warm days, and thanks to the far northern latitude the abundant sunlight lasts from 5:30pm to 9pm. There are countless opportunities to enjoy a 911, from spirited drives along twisty mountain roads in the Cascade Mountains just 45 minutes away to carefree tours on one of the many islands in Puget Sound.

The Pacific Northwest region of PCA is one of the top five regions in the US with well over 2,000 members, and our passionate volunteers ensure that the calendar is jam-packed with tours, social gatherings, concours, autocross, tech sessions, car control clinics and HPDE's. I have already booked quite a few events over the course of the summer and am particularly looking forward to driving and instructing at the track days and clinics.

The crowning jewel of Porsche-related activity will come in September when I drive my 996 down the majestic Pacific Coast Highway with my son Geoffrey to Rennsport Reunion VI at Laguna Seca near Monterey, California. This will be our fourth RR together, but the first time we will be arriving in our very own Porsche!

When I went to Google Maps to look at driving routes and see just how far Laguna Seca is from my home on Mercer Island, I couldn't believe my eyes: 1963 miles! Now that is a sign that a true 911 enthusiast, especially one who owns a 40th AE, just can't ignore!

Gina Purcell
Oxford, UK

Model 911 SC
Year 1982
Acquired April 2014
Model 964 Carrera 4
Year 1989
Acquired September 2004

With our trip to Italy to drive the Mille Miglia looming large, we booked Sabine the 3.2 Carrera into BS Motorsport for fitment of the air-conditioning. This was another investment in Classic Retrofit's range of products, namely the Electrocooler system, developed around Jonny Hart's own 911 SC, that I'd been privileged to experience during development.

Only one other 3.2 Carrera had been kitted out prior to Alan's car, and this was the first Electrocooler that BS Motorsport had installed. The process was more-or-less straightforward, but due to slight differences in the frontal structure between an SC and a 3.2 there were some obstacles to overcome.

With ten days to go, it was found that the condenser was fouling against the nearside front fog light housing; we had a choice to either remove both front fog lights (for legal reasons) or replace the front valance for an earlier one without the recesses. Jonny may be working on an LED fog light replacement to alleviate this.

Anyway, BSM had a spare valance in Guards red ready to go, so Alan was more than happy to have his car wearing what we've dubbed the 'Carrera Clubsport' look. BSM had the valance painted Grand Prix white and fitted, together with the Electrocooler system installed and gassed up the evening before we left.

The cabin control for the Electrocooler is one on/off, LED-lit button that on the SC is installed next to the radio near the steering column, or on the panel in the centre console for the Carrera. The whole system sits neatly and unobtrusively within the car, and blowing through the Carrera's larger air vents provides plenty of cooling air. It also prevents that air-cooled affliction of misted-up interiors! In extremely warm and damp conditions there's a little condensate in the passenger footwell, but it's not a problem. The system also has an uplink to Classic Retrofit HQ, where it can be accessed and updated. Truly, it's a thoroughly modern system shoehorned into a very tight space!

So, how did it fare in 30°C heat? In a word – brilliantly! Put simply, it transformed the journey and has made touring in an air-cooled 911 100 per cent pleasure! Steffi the SC will be next in line for some Electrcooler magic, hopefully early next year. I'll cover the Mille Miglia trip next month.

Chris Wallbank
Leeds, UK

chris_wallbank

@chrisjwallbank

Model 997.1 Carrera S
Year 2005
Acquired November 2012

So the good news this month is I'm typing this piece with two hands! The cast finally came off just a few days ago and I'm back in action. It's been an interesting month to say the least living with the use of only one arm, for example I've learnt that I can still shoot Porsche professionally with just one hand!

Total 911 magazine journalist Neill Watson called me one Monday morning to ask if I could come and shoot a lovely orange 911E up at Malton Specialist Cars on the Thursday of that same week, and I didn't want to miss out on shooting such a lovely car in the stunning green North Yorkshire Moors backdrop. So I cautiously accepted the challenge, knowing that most of the shoot would have to be done on a tripod with a little assistance from Neill instead of my usual preferred freehand style of shooting. The only real tricky part would be capturing the action shots of Neill driving spiritedly up and down the twisty B roads.

Thankfully, the shoot went surprisingly well, and I somehow even managed to use my cast as a rest to capture the action panning shots. You can see the full feature in this very issue of **Total 911** magazine. Big thanks to Neill Watson for his much-needed assistance on this shoot.

Unfortunately, although my cast is now off my 997 Carrera 2S Cabriolet hasn't come out of hiding just yet, as my hand still has nowhere near enough strength to change gear (it's a manual model), although I'm assured by the doctors that it will be strong enough in time for the planned run around North Yorkshire with my fellow Living The Legend chaps (more on this in an upcoming issue). Luckily, my daily photography wagon is an auto!

Kyle Fortune
Warwickshire, UK

@kylefortune205

@Kyle_Fortune

Model 993 Carrera 2
Year 1994
Acquired December 2014

After a lot of procrastination, the 993's been out and about. Quite a lot, too, as it's been back to Scotland on a road trip, taking in the best scenery of the highlands and beyond, giving me an excuse for a proper drive, and to dust off my kilt...

If you've never been up to the very north of Scotland, do it. I'll admit bias, but hand-on-heart, I've travelled extensively with my job, and Scotland's got scenery and, crucially, roads that are right up with the best of what the rest of the world has to offer.

I was in a convoy of other 911s, as well as a 356 and Cayman GT4, as part of a UK Porsche media event, it telling that so many of the UK's motoring press is so prepared to spend their often meagre earnings on a Porsche.

The GT2 RS and GT3 RS press cars were also along for the ride, and jumping out of both into my Carrera didn't leave me feeling in any way short-changed. Indeed, much as I love both cars, after a while driving them on the brilliant roads in Scotland I was desperate to drive my own car. That and the 356, which I know isn't on message for our title here, but was so damned lovely it's been added to the theoretical car wish list that I seemingly construct on a daily basis. One day, perhaps...

My son's birthday the following day did mean that I had to leave the event early, so I parted company with the convoy at Kylesku Bridge – where the pics were taken by Justin Leighton. The circa-90-mile drive back to Inverness down through the middle taking in Stronechurbie, Loch Borralan, Oykel Bridge and Linsidemore on the A837 will be one I'll never forget. Mostly single-track roads, though very well sighted with passing places. They're rarely needed; indeed, I think I passed all of two cars, and if you do catch up the locals are happy to pull over. I'd have stopped and taken some photos, but if I'm honest I'd still be up there now if I paused every time I saw a beautiful view. Instead I just enjoyed the 993 as it should be, and wished every drive could be like this one. Perfect, and in the perfect car.

Lee Sibley
Bournemouth, UK

@lee_sibs

Model 996 Carrera 4S
Year 2002
Acquired April 2017

This month was all about continued development of the C4S's handling, as well as fixing a frankly comical problem that had developed as a result of my own daftness. First, the handling: after having KW V3s fitted by Matt at ZRS Engineering in Poole, on his advice I burned through a tank of fuel over a week or so before returning for final adjustments. The suspension had settled by a further 10mm all round, and was simply too low. Matt duly raised the car by a centimetre at each corner, and we adjusted bump and rebound settings after my initial feedback too. On KW's setting straight out of the box, the front was not far off for everyday street use: fairly palatable around town and focused at higher speeds. The back, though, was just too harsh, so we adjusted both bump and rebound settings by a couple of clicks to soften the car off for daily driving.

You're always going to get a play-off between comfort and focus with suspension, and a high-speed set-up will provide caveats at low speed – and vice versa. Of course, the beauty of having adjustable suspension is I can tune the ride according to the desired task, and so I'm busy finding my default settings for everyday, fast road and track use. To that end I've a track day booked with Porsche Club GB in a couple of weeks time, so I'll report next issue on how that goes.

With that in mind, I took my car to Porsche Centre Portsmouth for a good geo set-up. I worked with the technician in charge of my car, Dan Blackman, to achieve a set-up that provides a crisp, direct turn-in without running silly camber which will chew through my tyres in no time. First impressions are great, and I absolutely love how the C4S rides right now – I'm learning more and more about the car with each drive and am excited to put some more miles on the car in the coming weeks. All it needs is a good road trip...

Now, the comical part: do you know anyone who's put their prized Porsche car keys through the wash? Well, you do now! After a manic episode trying to find my missing keys one evening, my wife eventually found them in the pocket of a hoodie set out to dry on a clothes horse. Damn. I went out to the car with my soggy keys and clicked remote unlock – unbelievably, it still worked! I dried them out and promised I'd learned my lesson.

But it gets better. Later in the week I popped down to Porsche Centre Bournemouth in my daily driver to purchase a new Porsche leather keyring, as despite mine being the cleanest in the UK at that point, that little washing episode had dishevelled its appearance somewhat. While revealing my Persil-based exploits to the team (oh, how we laughed), little did I realise that at that precise moment, my lovely, clean Porsche keys were midway through a second 40°C wash, this time tucked inside a back pocket of a pair of my jeans. Bugger!

Needless to say, I wasn't so lucky second time around – rather amusingly the key's battery still worked, but the remote had ascended to the cleaning gods. I could only enter the car by manually unlocking it, each time giving me just ten seconds to start the engine to avoid setting the alarm off... an alarm I couldn't disable with my key!

Luckily, my neighbours never heard what would have been my C4S's never-ending alarm, as while the 996 was in at Porsche Centre Portsmouth for a geo, Dan supplied two new remotes and coded them to my car. It turned out to be an expensive faux pas, though I'm hoping the lesson has been hammered home second time around – though is that the washing machine I can hear?

PREMIER PORSCHE

Everything you need for your 911

Data File

Full specs, ratings and market values of every 911 1963-2018 can be found beginning on page 86

Plus

Showroom

Looking for a new 911? The classifieds from our independent specialist partners are the first place you should start your search

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Data file

Definitive facts and figures for every 911 model from 1964 to the present day

911s in the data file are organised in rows according to release date, beginning with the very first model in 1964. Many models were available in Coupe, Targa and Cabriolet forms, with the option of automatic transmission. Here, data has been provided from the Coupe variants unless stated. All data here has been compiled, where possible, from Porsche's own figures.

General valuations

This reflects the general market trend for a model's used value compared to the previous financial quarter. The review for 2018 Q4 will be October. The review for 2018 Q3 was July.

Ratings

Each model is rated out of five in our half-star system according to their performance, handling, appearance and desirability.

(0 series) ★★½☆☆

911 2.0-litre 1964-67

The 911 that started it all when the prototype appeared in 1963, this car set the style for all 911s to follow. Developed to replace the 356, a four-pot 912 was also made.

Production numbers	9,250
Issue featured	123
Engine capacity	1,991cc
Compression ratio	9.0:1
Maximum power	130hp @ 6,100rpm
Maximum torque	149Nm @ 5,200rpm
0-62mph	8.3sec
Top speed	131mph
Length	4,163mm
Width	1,610mm
Weight	1,075kg
Wheels & tyres	
F	4.5x15-inch; 165/80/R15
R	4.5x15-inch; 165/80/R15

(0 & A series) ★★★½☆

911S 1967-68

Porsche soon produced more powerful variants. The first of these was the 911S – for Super – which had a higher compression engine and twin Weber 40IDS carburettors.

Production numbers	4,015
Issue featured	148
Engine capacity	1,991cc
Compression ratio	9.8:1
Maximum power	160hp @ 6,600rpm
Maximum torque	179Nm @ 5,200rpm
0-62mph	8.0sec
Top speed	137mph
Length	4,163mm
Width	1,610mm
Weight	1,030kg
Wheels & tyres	
F	4.5x15-inch; 165/80/R15
R	4.5x15-inch; 165/80/R15

(C & D series) ★★★★☆

911S 1969-71

An upgrade in engine size gave the 911S 180bhp. Unlike the 911E, the S didn't gain improved low-down power and torque, so you had to keep the revs up for good power.

Production numbers	4,691
Issue featured	120
Engine capacity	2,195cc
Compression ratio	9.8:1
Maximum power	180hp @ 6,500rpm
Maximum torque	199Nm @ 5,200rpm
0-62mph	6.6sec
Top speed	145mph
Length	4,163mm
Width	1,610mm
Weight	1,020kg
Wheels & tyres	
F	6x15-inch; 185HR
R	6x15-inch; 185HR

(C & D series) ★★☆☆☆

911T 1969-71

Like the E, the 911T's torque curve was flatter, making the car more drivable. Ventilated discs from the S were fitted, and a five-speed gearbox became standard.

Production numbers	15,082
Issue featured	107
Engine capacity	2,195cc
Compression ratio	8.6:1
Maximum power	125hp @ 5,800rpm
Maximum torque	169Nm @ 4,200rpm
0-62mph	7.0sec (est)
Top speed	127mph
Length	4,163mm
Width	1,610mm
Weight	1,020kg
Wheels & tyres	
F	5.5x15-inch; 165HR
R	5.5x15-inch; 165HR

(C & D series) ★½☆☆☆

911T 1973

US-bound F series 911Ts were the first 911s to have Bosch K-Jetronic fuel injection, improving emissions. This was mainly mechanical, with some electronic sensors.

Production numbers	16,933
Issue featured	127
Engine capacity	2,341cc
Compression ratio	7.5:1
Maximum power	130hp @ 5,600rpm
Maximum torque	197Nm @ 4,000rpm
0-62mph	7.6sec
Top speed	128mph
Length	4,163mm
Width	1,610mm
Weight	1,077kg
Wheels & tyres	
F	5.5x15-inch; 165HR
R	5.5x15-inch; 165HR

(G, H, I, J series) ★★★★★

Carrera 3.0 RS 1974

Updated version of the 1973 2.7 RS, complete with impact bumpers and Turbo-spec whaletail rear wing. Steel arches added by hand at the factory, with 917 brakes.

Production numbers	109
Issue featured	145
Engine capacity	2,994cc
Compression ratio	8.5:1
Maximum power	230hp @ 6,200rpm
Maximum torque	275Nm @ 5,000rpm
0-62mph	5.3sec
Top speed	152mph
Length	4,135mm
Width	1,680mm
Weight	900kg
Wheels & tyres	
F	8x15-inch; 215/60/VR15
R	9x15-inch; 235/60/VR15

★★★☆☆

930 3.3 1978-83

Larger engine resulted in extra 40bhp, and an intercooler on top of the engine led to the adoption of a 'teatray'. Brakes were upgraded from 917 racer.

Production numbers	5,807 (plus '78-'79 Cali cars)
Issue featured	116
Engine capacity	3,299cc
Compression ratio	7.0:1
Maximum power	300hp @ 5,500rpm
Maximum torque	412Nm @ 4,000rpm
0-62mph	5.4sec
Top speed	160mph
Length	4,291mm
Width	1,775mm
Weight	1,300kg
Wheels & tyres	
F	7x16-inch; 205/55/VR16
R	8x16-inch; 225/50/VR16

★★½☆☆

911 SC 1978-83

From 1978, the SC was the only normally aspirated 911. Developed from the Carrera 3.0, but produced less power. Upgraded Sport options.

Production numbers	60,740
Issue featured	156
Engine capacity	2,994cc
Compression ratio	8.5:1/8.6:1/9.8:1
Maximum power	180/188/204hp @ 5,500rpm
Maximum torque	265/265/267Nm
0-62mph	6.5sec
Top speed	141/146mph
Length	4,291mm
Width	1,626mm
Weight	1,160kg (1978)
Wheels & tyres	
F	6x15-inch; 185/70/VR15
R	7x15-inch; 215/60/VR15

★★★★★

SC RS 1984

True homologation special built so that Porsche could go Group B rallying. Six Rothmans cars used fibre glass front wings and lid. Tuned 3.0-litre engine had its basis in 930's crankcase.

Production numbers	21
Issue featured	158
Engine capacity	2,994cc
Compression ratio	10.3:1
Maximum power	255hp @ 7,000rpm
Maximum torque	250Nm @ 6,500rpm
0-62mph	4.9sec
Top speed	153mph
Length	4,235mm
Width	1,775mm
Weight	940kg
Wheels & tyres	
F	7x16-inch; 205/55/VR16
R	8x16-inch; 225/50/VR16

(A series) ★★☆☆☆
911L 1967-68

In 1967, the 911 was updated and the range expanded: the 911L (Lux) was standard and sat alongside the high-performance 911S and entry-level 911T.

Production numbers	1,603
Issue featured	138
Engine capacity	1,991cc
Compression ratio	9.0:1
Maximum power	130hp @ 6,100rpm
Maximum torque	173Nm @ 4,600rpm
0-62mph	8.4sec
Top speed	132mph
Length	4,163mm
Width	1,610mm
Weight	1,080kg
Wheels & tyres	
F	5.5x15-inch; 185HR
R	5.5x15-inch; 185HR

(A & B series) ★★☆☆☆
911T 1967-69

To save money, the 911T's engine used cast-iron cylinder heads, unlike the Biral aluminium/iron items, which gave more efficient cooling, and carbs instead of fuel injection.

Production numbers	6,318
Issue featured	127
Engine capacity	1,991cc
Compression ratio	8.6:1
Maximum power	110hp @ 5,800rpm
Maximum torque	156Nm @ 4,200rpm
0-62mph	8.8sec (est
Top speed	124mph
Length	4,163mm
Width	1,610mm
Weight	1,020kg
Wheels & tyres	
F	5.5x15-inch; 185HR
R	5.5x15-inch; 185HR

(B series) ★★☆☆☆
911E 1968-69

The 911 received its first major update, evolving into what is known as the B series. The 911E replaced the 911L as the 'standard' car. The 'E' stood for 'Einspritz' (injection).

Production numbers	2,826
Issue featured	n/a
Engine capacity	1,991cc
Compression ratio	9.1:1
Maximum power	140hp @ 6,500rpm
Maximum torque	175Nm @ 4,500rpm
0-62mph	7.6sec
Top speed	130mph
Length	4,163mm
Width	1,610mm
Weight	1,020kg
Wheels & tyres	
F	5.5x15-inch; 185HR
R	5.5x15-inch; 185HR

(B series) ★★★☆☆
911S 1968-69

Like the E, the S gained a fuel injection, boosting power to 170bhp. To help cope with the extra demands on the engine, an additional oil cooler was fitted in the front right wing.

Production numbers	2,106
Issue featured	n/a
Engine capacity	1,991cc
Compression ratio	9.1:1
Maximum power	170hp @ 6,800rpm
Maximum torque	183Nm @ 5,500rpm
0-62mph	7.0sec (est)
Top speed	140mph
Length	4,163mm
Width	1,610mm
Weight	995kg
Wheels & tyres	
F	6x15-inch; 185/70/R15
R	6x15-inch; 185/70/R15

(C & D series) ★★☆☆☆
911E 1969-71

Engine improvements included revised cylinder heads, larger valves and stronger con rods. The 1970 'D' series cars had hot-zinc coated undersides.

Production numbers	4,927
Issue featured	107
Engine capacity	2,195cc
Compression ratio	9.1:1
Maximum power	155hp @ 6,200rpm
Maximum torque	196Nm @ 4,500rpm
0-62mph	7.0sec
Top speed	137mph
Length	4,163mm
Width	1,610mm
Weight	1,020kg
Wheels & tyres	
F	6x15-inch; 185HR
R	6x15-inch; 185HR

(E series) ★★☆☆☆
911E 1972

2,341cc was achieved by increasing the stroke from 66mm to 70.4mm while at the same time leaving the bore unchanged. The new 915 transmission was stronger.

Production numbers	4,406
Issue featured	117
Engine capacity	2,341cc
Compression ratio	8.0:1
Maximum power	165hp @ 6,200rpm
Maximum torque	206Nm @ 4,500rpm
0-62mph	7.5sec
Top speed	137mph
Length	4,163mm
Width	1,610mm
Weight	1,077kg
Wheels & tyres	
F	6x15-inch; 185HR
R	6x15-inch; 185HR

(E series) ★☆☆☆☆
911T 1972

A lower compression ratio and the inclusion of Zenith 40 TIN triple-choke carburettors led to the relatively lower power output of 130bhp despite the new 2,341cc engine size.

Production numbers	16,933
Issue featured	107
Engine capacity	2,341cc
Compression ratio	7.5:1
Maximum power	130hp @ 5,600rpm
Maximum torque	197Nm @ 4,000rpm
0-62mph	7.6sec
Top speed	128mph
Length	4,163mm
Width	1,610mm
Weight	1,077kg
Wheels & tyres	
F	5.5x15-inch; 165HR
R	5.5x15-inch; 165HR

(E series) ★★★★☆
911S 1972

A 2.4-litre engine increased torque. The mostly chrome brightwork had a black decklid grille with a '2.4' badge. External oil filler on right rear wing confused some.

Production numbers	5,054
Issue featured	120
Engine capacity	2,341cc
Compression ratio	8.5:1
Maximum power	190hp @ 6,500rpm
Maximum torque	211Nm @ 5,200rpm
0-62mph	6.6sec
Top speed	140mph
Length	4,163mm
Width	1,610mm
Weight	1,077kg
Wheels & tyres	
F	6x15-inch; 185/70/R15
R	6x15-inch; 185/70/R15

(F series) ★★★★★
Carrera 2.7 RS 1973

The RS had a 2,687cc engine that developed 210bhp. The body was lightened and fitted with flared rear arches and an optional ducktail. Sport and Touring available.

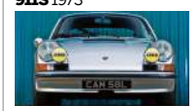
Production numbers	1,590
Issue featured	145
Engine capacity	2,687cc
Compression ratio	8.5:1
Maximum power	210hp @ 6,300rpm
Maximum torque	255Nm @ 5,100rpm
0-62mph	5.8sec
Top speed	152mph
Length	4,163mm
Width	1,610mm
Weight	975kg (Sport)
Wheels & tyres	
F	6x15-inch; 185/70/R15
R	7x15-inch; 215/60/R15

(F series) ★★★★☆
911E 1973

After incidents of people filling E series 911s with petrol via the external oil-filler, the filler returned to under the engine decklid. Fitted with the front spoiler of the 911S.

Production numbers	4,406
Issue featured	144
Engine capacity	2,341cc
Compression ratio	8.0:1
Maximum power	165hp @ 6,200rpm
Maximum torque	206Nm @ 4,500rpm
0-62mph	7.5sec
Top speed	137mph
Length	4,163mm
Width	1,610mm
Weight	1,077kg
Wheels & tyres	
F	6x15-inch ATS; 185HR
R	6x15-inch ATS; 185HR

(F series) ★★★★½
911S 1973



The 911S had the same upgrades as the 911E, including deletion of the external oil filler. It also adopted black trim around the front and rear lights and black front quarter grilles.

Production numbers	5,054
Issue featured	120
Engine capacity	2,341cc
Compression ratio	8.5:1
Maximum power	193hp @ 6,500rpm
Maximum torque	211Nm @ 5,200rpm
0-62mph	6.6sec
Top speed	140mph
Length	4,163mm
Width	1,610mm
Weight	1,075kg
Wheels & tyres	
F	6x15-inch; 185/70/R15
R	6x15-inch; 185/70/R15

(G, H, I, J series)★★☆☆☆
911 1974-77

'911' was now the entry level. Bumpers were added to conform to US regs. From 1976, all 911s were hot-dip coated and fitted with 'elephant ear' mirrors.

Production numbers	9,320
Issue featured	121
Engine capacity	2,687cc
Compression ratio	8.0:1
Maximum power	150hp @ 5,700rpm (165bhp from '76)
Maximum torque	235Nm @ 3,800rpm (4,000 from '76)
0-62mph	8.5sec
Top speed	130mph
Length	4,291mm
Width	1,610mm
Weight	1,075kg
Wheels & tyres F&R	6x15-inch; 185VR

(G, H, I, J series)★☆☆☆☆
911S 1974-77

911S was now a mid-range model comparable to the previous 911E. It had the same body changes as the base model, and came as standard with 'Cookie Cutter' rims.

Production numbers	17,124
Issue featured	n/a
Engine capacity	2,687cc
Compression ratio	8.5:1
Maximum power	173hp @ 5,800rpm
Maximum torque	235Nm @ 4,000rpm
0-62mph	7.0sec
Top speed	142mph
Length	4,291mm
Width	1,610mm
Weight	1,080kg
Wheels & tyres	
F	6x15-inch; 185VR
R	6x15-inch; 185VR

(G & H series) ★★★★☆
911 Carrera 2.7 1974-76

From 1974, Carrera name was given to range-topping 911. Essentially the same engine as previous year's RS for all markets except USA. Whaletail available from 1975.

Production numbers	1,667
Issue featured	134
Engine capacity	2,687cc
Compression ratio	8.5:1
Maximum power	210hp @ 6,300rpm
Maximum torque	255Nm @ 5,100rpm
0-62mph	6.3sec
Top speed	148mph
Length	4,291mm
Width	1,610mm
Weight	1,075kg
Wheels & tyres	
F	6x15-inch; 185VR
R	7x15-inch; 205VR

(J & J series) ★★☆☆☆
911 Carrera 3.0 1976-77

Not sold in the US, the Carrera 3.0 was basically the same model as the previous Carrera, only fitted with a new 2,994cc engine, essentially from the 911 Turbo.

Production numbers	3,687
Issue featured	148
Engine capacity	2,994cc
Compression ratio	8.5:1
Maximum power	197hp @ 6,000rpm
Maximum torque	255Nm @ 4,200rpm
0-62mph	6.3sec
Top speed	145mph
Length	4,291mm
Width	1,610mm
Weight	1,093kg
Wheels & tyres	
F	6x15-inch; 185/70/VR15
R	7x15-inch; 215/60/VR15

★★☆☆☆
930 3.0 1975-77

Fitted with a KKK turbo, this was the world's first production Porsche to be turbocharged. Flared arches, whaletail rear wing and four-speed gearbox were standard.

Production numbers	2,850
Issue featured	157
Engine capacity	2,994cc
Compression ratio	6.5:1
Maximum power	260hp @ 5,500rpm
Maximum torque	343Nm @ 4,000rpm
0-62mph	5.5sec
Top speed	155mph
Length	4,291mm
Width	1,775mm
Weight	1,140kg
Wheels & tyres	
F	7x15-inch; 185/70/VR15
R	8x15-inch; 215/60/VR15

★★★★☆
930 3.3 1984-89

Revised engine added power and torque in 1984, while in 1987 Motronic engine management improved efficiency and emissions upon its return to the US market.

Production numbers	11,135
Issue featured	144
Engine capacity	3,299cc
Compression ratio	7.0:1
Maximum power	300hp @ 5,500rpm
Maximum torque	432Nm @ 4,000rpm
0-62mph	5.4sec
Top speed	161mph
Length	4,291mm
Width	1,775mm
Weight	1,300kg (1,335kg from '86)
Wheels & tyres	
F	7x16-inch; 205/55/VR16
R	8x16-inch; 225/50/VR16

★★★☆☆
Carrera 3.2 1984-89

Almost the same galvanised body as the SC. Engine was claimed to be 80 per cent new, and the first production 911 to feature an ECU to control ignition and fuel systems.

Production numbers	70,044
Issue featured	148
Engine capacity	3,164cc
Compression ratio	10.3:1
Maximum power	231hp @ 5,900rpm
Maximum torque	284Nm @ 4,800rpm
0-62mph	5.6sec
Top speed	152mph
Length	4,291mm
Width	1,652mm
Weight	1,210kg
Wheels & tyres	
F	7x15-inch; 195/65/VR15
R	8x15-inch, 215/60/VR15 (16" for '89)

★★★★★
930 SE 1986-89

Slantnosed and based on 935 race cars, with pop-up headlamps. Front spoiler made deeper to accommodate extra oil cooler, rear intakes fed air to brakes.

Production numbers	50 (UK only)
Issue featured	146
Engine capacity	3,299cc
Compression ratio	7.0:1
Maximum power	330hp @ 5,500rpm
Maximum torque	432Nm @ 4,000rpm
0-62mph	4.6sec
Top speed	173mph
Length	4,291mm
Width	1,775mm
Weight	1,335kg
Wheels & tyres	
F	7x16-inch; 205/55/VR16
R	9x16-inch; 245/45/VR16

★★★★★
959 1986-1988

Had tech later used on 911s including 4WD, ABS and twin turbos. A 959S was also available, featuring lighter cloth Sport seats, five-point harnesses and a roll cage.

Production numbers	337
Issue featured	142
Engine capacity	2,850cc
Compression ratio	8.3:1
Maximum power	450hp @ 6,500rpm
Maximum torque	500Nm @ 5,000rpm
0-60mph	3.9sec
Top speed	196mph
Length	4,260mm
Width	1,840mm
Weight	1,450kg
Wheels & tyres	
F	8x17-inch; 235/45/ZR17
R	9x17-inch; 255/40/ZR17

▲ ★★★★½
Speedster 1989

Carrera 3.2 with a steeply raked windscreen and hood and stripped interior. Porsche claim the hood was not designed to be 100 per cent watertight.

Production numbers	2,274 (for both wide and narrow-bodied)
Issue featured	128
Engine capacity	3,164cc
Compression ratio	10.3:1
Maximum power	235hp @ 5,900rpm
Maximum torque	284Nm @ 4,800rpm
0-60mph	6.0sec
Top speed	148mph
Length	4,291mm
Width	1,775mm
Weight	1,220kg
Wheels & tyres	
F	6x16-inch; 205/45/VR16
R	8x16-inch; 245/60/VR16

930 LE 1989

Essentially an SE but without a slantnose front, the LE had the same engine, front spoiler, sill extensions and rear air intakes. One made for every OPC of the time.

Production numbers	50
Issue featured	110
Engine capacity	3,299cc
Compression ratio	7.0:1
Maximum power	330hp @ 5,500rpm
Maximum torque	432Nm @ 4,000rpm
0-62mph	4.6sec
Top speed	173mph
Length	4,291mm
Width	1,775mm
Weight	1,335kg
Wheels & tyres	
F	7x16-inch; 205/55/VR16
R	9x16-inch; 245/45/VR16

3.2 Clubsport 1987-89

Removing 'luxuries' sliced off around 40kg of weight. Revised engine management gave a higher rev limit of 6,840rpm. Suspension uprated and LSD standard.

Production numbers	340
Issue featured	126
Engine capacity	3,164cc
Compression ratio	10.3:1
Maximum power	231hp @ 5,900rpm
Maximum torque	284Nm @ 4,800rpm
0-60mph	5.1sec
Top speed	152mph
Length	4,291mm
Width	1,650mm
Weight	1,160kg
Wheels & tyres	
F	6x16-inch, 205/55/VR16
R	7x16-inch, 225/55/VR16

964 Turbo S 1992-93

180kg lighter than Turbo. Intakes in the rear arches funnelled air to the brakes, while the engine power was boosted by 61bhp. RS-spec uprated suspension.

Production numbers	81
Issue featured	108
Engine capacity	3,299cc
Compression ratio	7.0:1
Maximum power	381hp @ 6,000rpm
Maximum torque	490Nm @ 4,800rpm
0-62mph	4.6sec
Top speed	180mph
Length	4,250mm
Width	1,775mm
Weight	1,290kg
Wheels & tyres	
F	8x18-inch; 225/40/ZR18
R	10x18-inch; 265/35/ZR18

964 3.8 RS 1993

Identifiable by lightweight Turbo bodyshell, large rear wing and 18-inch Speedline wheels. Power came from a new 3.8-litre unit with hot-film air sensor and twin exhaust.

Production numbers	55
Issue featured	12
Engine capacity	3,746cc
Compression ratio	11.6:1
Maximum power	300hp @ 6,500rpm
Maximum torque	359Nm @ 5,250rpm
0-62mph	4.9sec
Top speed	169mph
Length	4,250mm
Width	1,775mm
Weight	1,210kg
Wheels & tyres	
F	9x18-inch; 235/40/ZR18
R	11x18-inch; 285/35/ZR18

993 Carrera 4S 1995-96

The 4S was effectively a Carrera 4 with a Turbo wide bodyshell, albeit lacking a fixed rear wing. Also boasted Turbo suspension, brakes and Turbo-look wheels.

Production numbers	6,948
Issue featured	109
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	285hp @ 6,100rpm
Maximum torque	340Nm @ 5,250rpm
0-62mph	5.3sec
Top speed	168mph
Length	4,245mm
Width	1,795mm
Weight	1,520kg
Wheels & tyres	
F	8x18-inch; 225/40/ZR18
R	10x18-inch; 285/30/ZR18

993 Carrera RS 1995-96

Lightweight body as per RS tradition, teamed with a 3.8-litre engine, VarioRam intake system and remapped ECU to create 300bhp, fed to the rear wheels only.

Production numbers	1,014
Issue featured	119
Engine capacity	3,746cc
Compression ratio	11.5:1
Maximum power	300hp @ 6,000rpm
Maximum torque	355Nm @ 5,400rpm
0-62mph	5.0sec
Top speed	172mph
Length	4,245mm
Width	1,735mm
Weight	1,279kg
Wheels & tyres	
F	8x18-inch, 225/40ZR18
R	10x18-inch, 265/35ZR18

996 Carrera 4 1998-2001

Four-wheel drive transmission fed five per cent of power in normal driving, increasing to 40 per cent when required. PSM used for first time, rolled out across the range in 2001.

Production numbers	22,054
Issue featured	111
Engine capacity	3,387cc
Compression ratio	11.3:1
Maximum power	300hp @ 6,800rpm
Maximum torque	350Nm @ 4,600rpm
0-62mph	5.2sec
Top speed	174mph
Length	4,430mm
Width	1,765mm
Weight	1,375kg
Wheels & tyres	
F	7x17-inch; 205/50/R17
R	9x17-inch; 255/40/R17

996 GT3 1998-2000

Commonly called the Gen1 GT3, this was a lightweight 996 with power driving the rear wheels. Suspension was lowered by 30mm and brakes were uprated.

Production numbers	1,858
Issue featured	117
Engine capacity	3,600cc
Compression ratio	11.7:1
Maximum power	360hp @ 7,200rpm
Maximum torque	370Nm @ 5,000rpm
0-62mph	4.8sec
Top speed	188mph
Length	4,430mm
Width	1,765mm
Weight	1,350kg
Wheels & tyres	
F	8x18-inch; 225/40/R18
R	10x18-inch; 285/30/R18

996 Turbo 2001-05

Distinguished by wide rear arches, air intakes and deep front wing, plus part-fixed, part-retractable rear wing. Different engine to 3.6-litre 996 unit.

Production numbers	20,499
Issue featured	152
Engine capacity	3,600cc
Compression ratio	9.4:1
Maximum power	420hp @ 6,000rpm
Maximum torque	560Nm @ 2,700-4,600rpm
0-62mph	4.2sec
Top speed	189mph
Length	4,435mm
Width	1,830mm
Weight	1,540kg
Wheels & tyres	
F	8x18-inch; 225/40/R18
R	11x18-inch; 295/30/R18

964 Carrera 4 1989-93

Heavily revised bodywork, deformable bumpers over coil-spring suspension and four-wheel-drive marked this radical overhaul of the "87 per cent new" 911.

Production numbers	13,353 (Coupe)
Issue featured	111
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	250hp @ 6,100rpm
Maximum torque	310Nm @ 4,800rpm
0-62mph	5.7sec
Top speed	162mph
Length	4,250mm
Width	1,652mm
Weight	1,450kg
Wheels & tyres	
F	6x16-inch; 205/55/ZR16
R	8x16-inch; 225/50/ZR16

964 Carrera 2 1990-93

Rear-drive Carrera 2 offered an emphatically more traditional 911 experience, and was 100kg lighter, but looked identical to the Carrera 4. Tiptronic was a new option.

Production numbers	19,484
Issue featured	119
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	250hp @ 6,100rpm
Maximum torque	310Nm @ 4,800rpm
0-62mph	5.6sec
Top speed	162mph
Length	4,250mm
Width	1,652mm
Weight	1,350kg
Wheels & tyres	
F	6x16-inch; 205/55/ZR16
R	8x16-inch; 225/50/ZR16

964 Turbo 1991-92

This used the revised 964 bodyshell, extended arches and 'teatray' wing. The engine was essentially the 3.3-litre unit from the previous model, but updated.

Production numbers	3,660
Issue featured	160
Engine capacity	3,299cc
Compression ratio	7.0:1
Maximum power	320hp @ 5,750rpm
Maximum torque	450Nm @ 4,500rpm
0-62mph	5.4sec
Top speed	168mph
Length	4,250mm
Width	1,775mm
Weight	1,470kg
Wheels & tyres	
F	7x17-inch; 205/50/ZR17
R	9x17-inch; 255/40/ZR17

964 C4 Lightweight 1991

964 Leichtbau made use of surplus parts from 953 Paris-Dakar project. Highlights include four-way adjustable differential, short-ratio gearbox and stripped interior.

Production numbers	22
Issue featured	131
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	265hp @ 6,720rpm
Maximum torque	304Nm @ 6,720rpm
0-62mph	4.5sec
Top speed	125mph
Length	4,275mm
Width	1,652mm
Weight	1,100kg
Wheels & tyres	
F	7x16-inch; 205/55/ZR16
R	9x16-inch; 245/55/ZR16

964 RS 1991-92

120kg saved by deleting 'luxuries' and fitting magnesium Cup wheels. Power was boosted by 10bhp, suspension lowered by 40mm and uprated, as were brakes.

Production numbers	2,405
Issue featured	131
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	260hp @ 6,100rpm
Maximum torque	310Nm @ 4,800rpm
0-62mph	5.4sec
Top speed	162mph
Length	4,250mm
Width	1,650mm
Weight	1,230kg (Sport)
Wheels & tyres	
F	7.5x17-inch; 205/50/ZR17
R	9x17-inch; 255/40/ZR17

964 C2 Speedster 93-94

Combined the 964 bodyshell with the hood and windscreen of the Carrera 3.2 Speedster, plus RS interior. It is thought Porsche planned to build 3,000, but demand fell.

Production numbers	936
Issue featured	128
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	250hp @ 6,100rpm
Maximum torque	310Nm @ 4,800rpm
0-62mph	5.5sec
Top speed	161mph
Length	4,250mm
Width	1,652mm
Weight	1,340kg
Wheels & tyres	
F	7x17-inch; 205/50/ZR17
R	9x17-inch; 255/40/ZR17

964 Turbo 3.6 1993-94

Engine based on modified 3.6-litre 964 unit. Distinctive 18-inch split-rim Speedline wheels covered the Big Red brake calipers. Suspension lowered by 20mm.

Production numbers	1,437
Issue featured	120
Engine capacity	3,600cc
Compression ratio	7.5:1
Maximum power	360hp @ 5,500rpm
Maximum torque	520Nm @ 4,200rpm
0-62mph	4.8sec
Top speed	174mph
Length	4,250mm
Width	1,775mm
Weight	1,470kg
Wheels & tyres	
F	8x18-inch; 225/40/ZR18
R	10x18-inch; 265/35/ZR18

964 Anniversary 1993-94

'30 Jahre' anniversary 964 utilised a 'Turbo' wide body melded to the four-wheel-drive Carrera running gear. Available in Viola metallic, Polar silver or Amethyst.

Production numbers	911
Issue featured	112
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	250hp @ 6,100rpm
Maximum torque	310Nm @ 4,800rpm
0-62mph	5.7sec
Top speed	162mph
Length	4,250mm
Width	1,775mm
Weight	1,470kg
Wheels & tyres	
F	7x17-inch; 205/50/17
R	9x17-inch; 255/40/17

964 RS America 1973

Offered in five colours, fixed whaletail wing and two cloth sports seats, with just four options: air-con, sunroof, 90 per cent locking rear differential and stereo.

Production numbers	701
Issue featured	157
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	250hp @ 6,100rpm
Maximum torque	310Nm @ 4,800rpm
0-62mph	5.5sec
Top speed	164mph
Length	4,250mm
Width	1,650mm
Weight	1,340kg
Wheels & tyres	
F	7x17-inch; 205/50/ZR17
R	8x17-inch; 255/40/ZR17

993 Carrera 1993-97

Restyled bodywork had swept-back headlamps, curvaceous wings and blended-in bumpers. The 3,600cc engine was revised, with VarioRam available from 1996.

Production numbers	38,626
Issue featured	160
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	272hp @ 6,000rpm
Maximum torque	330Nm @ 5,000rpm
0-62mph	5.6sec
Top speed	168mph
Length	4,245mm
Width	1,735mm
Weight	1,370kg
Wheels & tyres	
F	7x16-inch; 205/55/ZR16
R	9x16-inch; 245/45/ZR16

993 Carrera 4 1994-97

As per the 993-model Carrera, but with four-wheel-drive. Transmission was half the weight of the previous Carrera 4, and was designed to give a more rear-drive feel.

Production numbers	2,884 (Coupe)
Issue featured	111
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	272hp @ 6,000rpm
Maximum torque	330Nm @ 5,000rpm
0-62mph	5.8sec
Top speed	166mph
Length	4,245mm
Width	1,735mm
Weight	1,420kg
Wheels & tyres	
F	7x16-inch; 205/55/ZR16
R	9x16-inch; 245/45/ZR16

993 GT2 1995-96

911 Turbo, but with reduced equipment. Also included rear-wheel-drive, making it a better track car. Fitted with huge front and rear wings and bolt-on arch extensions.

Production numbers	173
Issue featured	131
Engine capacity	3,600cc
Compression ratio	8.0:1
Maximum power	430hp @ 5,750rpm
Maximum torque	540Nm @ 4,500rpm
0-62mph	3.9sec
Top speed	189mph
Length	4,245mm
Width	1,855mm
Weight	1,290kg
Wheels & tyres	
F	9x18-inch; 235/40/ZR18
R	11x18-inch; 285/35/ZR18

993 Turbo 1996-98

Fitted with two KKK turbochargers in order to reduce lag. Power went to all four wheels using the Carrera 4's transmission system. Brakes were 'Big Reds'.

Production numbers	5,937
Issue featured	147
Engine capacity	3,600cc
Compression ratio	8.0:1
Maximum power	408hp @ 5,750rpm
Maximum torque	540Nm @ 4,500rpm
0-62mph	4.3sec
Top speed	180mph
Length	4,245mm
Width	1,795mm
Weight	1,500kg
Wheels & tyres	
F	8x18-inch; 225/40/ZR18
R	10x18-inch; 285/30/ZR18

993 Carrera S 1997-98

The features that come with the Carrera S are similar to the Carrera 4S's, only this time in rear-wheel drive. Sought after for its superb handling and wide-body looks.

Production numbers	3,714
Issue featured	118
Engine capacity	3,600cc
Compression ratio	11.3:1
Maximum power	285hp @ 6,100rpm
Maximum torque	340Nm @ 5,250rpm
0-62mph	5.4sec
Top speed	168mph
Length	4,245mm
Width	1,795mm
Weight	1,450kg
Wheels & tyres	
F	8x18-inch; 225/40/ZR18
R	10x18-inch; 285/30/ZR18

993 Turbo S 1998

The final hurrah for the last air-cooled 911. With 450bhp for UK models, it was the fastest and most luxurious road-going model Stuttgart had ever produced. Manual only.

Production numbers	345
Issue featured	115
Engine capacity	3,600cc
Compression ratio	8.0:1
Maximum power	450hp @ 5,750rpm
Maximum torque	585Nm @ 4,500rpm
0-62mph	4.1sec
Top speed	186mph
Length	4,245mm
Width	1,795mm
Weight	1,583kg
Wheels & tyres	
F	8x18-inch; 225/40/18
R	10x18-inch; 285/30/18

996 Carrera 1998-2001

An all-new 911 with larger, restyled bodywork and a water-cooled engine. Interior was redesigned in order to enable better ergonomic efficiency and more room.

Production numbers	56,733
Issue featured	160
Engine capacity	3,387cc
Compression ratio	11.3:1
Maximum power	300hp @ 6,800rpm
Maximum torque	350Nm @ 4,600rpm
0-62mph	5.2sec
Top speed	174mph
Length	4,430mm
Width	1,765mm
Weight	1,320kg
Wheels & tyres	
F	7x17-inch; 205/50/R17
R	9x17-inch; 255/40/R17

996 Carrera 4S 2001-05

Basically a C4 featuring a Turbo bodyshell, without rear air intakes, but with a full-width rear reflector panel. Suspension and brakes were similar to the Turbo spec.

Production numbers	23,055
Issue featured	155
Engine capacity	3,596cc
Compression ratio	11.3:1
Maximum power	320hp @ 6,800rpm
Maximum torque	370Nm @ 4,250rpm
0-62mph	5.1sec
Top speed	174mph
Length	4,435mm
Width	1,830mm
Weight	1,495kg
Wheels & tyres	
F	8x18-inch; 225/40/R18
R	11x18-inch; 295/30/R18

996 GT2 2001-03

A lightweight, Turbo-bodied 996 with uprated turbocharged engine and suspension. PCCB was standard. Revised ECU later gave an extra 21bhp.

Production numbers	1,287
Issue featured	127
Engine capacity	3,600cc
Compression ratio	9.4:1
Maximum power	462hp @ 5,700rpm
Maximum torque	620Nm @ 3,500-4,500rpm
0-62mph	4.1sec
Top speed	196mph
Length	4,450mm
Width	1,830mm
Weight	1,440kg
Wheels & tyres	
F	8x18-inch; 235/40/R18
R	12x18-inch; 315/30/R18

Gen2 996 C2 2002-04

Facelifted with Turbo-style headlamps and revised front and rear bumpers, fitted with more powerful 3.6-litre engine and VarioCam Plus. Manual and Tiptronic 'boxes updated.

Production numbers	29,389
Issue featured	136
Engine capacity	3,596cc
Compression ratio	11.3:1
Maximum power	320hp @ 6,800rpm
Maximum torque	370Nm @ 4,250rpm
0-62mph	5.0sec
Top speed	177mph
Length	4,430mm
Width	1,770mm
Weight	1,370kg
Wheels & tyres	
F	7x17-inch; 205/50/R17
R	9x17-inch; 255/40/R17

Gen2 996 C4 2002-04

Facelifted in line with rear-drive Carrera, though the all-wheel-drive version drives very much like its rear-driven brethren. Cabin received minor updates over Gen1.

Production numbers	10,386
Issue featured	107
Engine capacity	3,596cc
Compression ratio	11.3:1
Maximum power	320hp @ 6,800rpm
Maximum torque	370Nm @ 4,250rpm
0-62mph	5.0sec
Top speed	177mph
Length	4,430mm
Width	1,770mm
Weight	1,430kg
Wheels & tyres	
F	7x17-inch; 205/50/R17
R	9x17-inch; 255/40/R17

996 Anniversary 03-04

Available in GT silver, and included a Turbo front bumper and chrome Carrera wheels. Powerkit, -10mm sports suspension and mechanical LSD standard.

Production numbers	1,963
Issue featured	112
Engine capacity	3,596cc
Compression ratio	11.3:1
Maximum power	345hp @ 6,800rpm
Maximum torque	370Nm @ 4,800rpm
0-62mph	4.9sec
Top speed	175mph
Length	4,430mm
Width	1,770mm
Weight	1,370kg
Wheels & tyres	
F	8x18-inch; 225/40/R18
R	10x18-inch; 285/30/R18

Sales debate

What does the future hold for values of the 964 generation?

As we've allured to in this issue, Porsche's first 'modern' 911 will this year turn 30. It was a generation of 911 which divided opinion from the get-go, with die-hard enthusiasts unhappy with nannying technology such as AWD, power steering and ABS. As we know, fortunes of the 964 have changed drastically – more than any other generation to date – and, with the benefit of hindsight, not to mention a cult audience growing up with the car on their bedroom walls who can now afford the real thing, the 964 is revered. Those so-called nannying technologies quickly pale into insignificance compared with the powerful ECU-dominated cars of today, and enthusiasts have found favour with its comparatively classic drive and largely unfiltered 911 driving experience.

Values of the 964 first ballooned in 2014, with a good C2, once available for as little as £12,000, now selling for £40,000, while a 964 RS will set you back the best part of £200,000. Prices of 964s on the used marked have plateaued over the last year or so, sitting just under the newer 993 generation. Now the car is 30, and given its widespread popularity, what can we expect of 964 values in the future?

"I think over the next year they will remain strong, but in the long term they will appreciate again," says Jonathan Franklin of London-based Hexagon Classics. "People now realise the 964 is a fantastic 911 and it's a model that's been sought after for some time. The fact that prices have slowed isn't necessarily to do with the car, but more a reflection of the current market. Good cars will always sell in the interim, but going forward the car will only become more popular as new cars get more digitised," he says. So which 964 is the car to buy? "It has to be the 964 RS. It's the last narrow-bodied Porsche Rennsport and the closest you're going to get to the iconic 2.7RS."

Those sentiments are largely backed up by Jamie Tyler at independent specialists Paragon Porsche, though he does say the 964's problem will always be the 993 ahead of it. "The 993 was the last air-cooled 911, so it holds greater appeal – that's whether you're a collector looking at something like an RS, or a devout enthusiast who wants a good, honest C2. The 964 won't go down in value, but it'll never leapfrog the 993, which is a superior car," he says.

It seems the 964's popularity will peddle the car on to further greatness going forward, with a good 964 proving a shrewd buy both in the short and medium term, both for investors and drivers. Happy birthday to the 964.

★★★★☆

Gen2 996 GT3 2003-05

Based on facelifted 996 Carrera, but with new wings. Suspension lowered and uprated, PCCB optional. Full-spec interior unless Clubsport option was ordered.

Production numbers	2,313
Issue featured	142
Engine capacity	3,600cc
Compression ratio	11.7:1
Maximum power	381hp @ 7,400rpm
Maximum torque	385Nm @ 5,000rpm
0-62mph	4.5sec
Top speed	190mph
Length	4,435mm
Width	1,770mm
Weight	1,380kg
Wheels & tyres	
F 8.5x18-inch; 235/40/R18	
R 11x18-inch; 295/30/R18	

★★★★★

996 GT3 RS 2004-05

Same 3,600cc engine as in GT3, but with weight saving, offering 280bhp per ton – an improvement of four per cent over the 996 GT3 Clubsport. PCCB optional.

Production numbers	682
Issue featured	161
Engine capacity	3,600cc
Compression ratio	11.7:1
Maximum power	381hp @ 7,400rpm
Maximum torque	385Nm @ 5,000rpm
0-62mph	4.4sec
Top speed	190mph
Length	4,435mm
Width	1,770mm
Weight	1,360kg
Wheels & tyres	
F 8.5x18-inch; 235/40/R18	
R 11x18-inch; 295/30/R18	

★★★★☆

996 Turbo S 2004-2005

A 911 Turbo with the previously optional 30bhp power upgrade, with larger turbochargers, uprated intercoolers and a revised ECU. PCCB standard.

Production numbers	1,563
Issue featured	132
Engine capacity	3,600cc
Compression ratio	9.4:1
Maximum power	450hp @ 5,700rpm
Maximum torque	620Nm @ 3,500-4,500rpm
0-60mph	4.2sec
Top speed	191mph
Length	4,291mm
Width	1,830mm
Weight	1,590kg
Wheels & tyres	
F 8x18-inch; 225/40/R18	
R 11x18-inch; 295/30/R18	

★★★☆☆

997 Carrera 4 2005-08

Like the 997 Carrera, but with drive to all four wheels via a multi-disc viscous coupling, transferring between five and 40 per cent of traction to the front. 44mm wider at rear.

Production numbers	8,533
Issue featured	3
Engine capacity	3,596cc
Compression ratio	11.3:1
Maximum power	325hp @ 6,800rpm
Maximum torque	370Nm @ 4,250rpm
0-62mph	5.1sec
Top speed	174mph
Length	4,427mm
Width	1,852mm
Weight	1,450kg
Wheels & tyres	
F 8x18-inch; 235/40/R18	
R 11x18-inch; 295/35/R18	

★★★½☆

997 Carrera 4S 2005-08

The same 3.8-litre, 355bhp engine as the Carrera S, with four-wheel-drive system on C4. 44mm wider than Carrera S to accommodate for wider rear wheels and tyres.

Production numbers	30,973
Issue featured	111
Engine capacity	3,824cc
Compression ratio	11.8:1
Maximum power	355hp @ 6,600rpm
Maximum torque	400Nm @ 4,600rpm
0-62mph	4.8sec
Top speed	179mph
Length	4,427mm
Width	1,852mm
Weight	1,475kg
Wheels & tyres	
F 8x19-inch; 235/35/R19	
R 11x19-inch; 305/30/R19	

★★★★☆

997 Turbo 2005-08

Similar to 997 C4S body, but with extra intakes at the front and sides. Essentially the 996 Turbo engine, but with all-new twin turbos. VTG gave best of small/large turbos.

Production numbers	19,201
Issue featured	159
Engine capacity	3,600cc
Compression ratio	9.8:1
Maximum power	480hp @ 6,000rpm
Maximum torque	620Nm @ 1,950-5,000rpm
0-62mph	3.9sec
Top speed	193mph
Length	4,450mm
Width	1,852mm
Weight	1,585kg
Wheels & tyres F 8.5x19-inch; 235/35/R19	
R 11x19-inch; 305/30/R19	

★★★★★½

997 GT2 2007-09

Essentially a 997 Turbo but with rear-wheel drive only. Had a more track-orientated suspension and brake setup, with GT3-style interior and extra power.

Production numbers	1,242
Issue featured	127
Engine capacity	3,600cc
Compression ratio	9.0:1
Maximum power	530hp @ 6,500rpm
Maximum torque	680Nm @ 2,200-4,500rpm
0-62mph	3.7sec
Top speed	204mph
Length	4,469mm
Width	1,852mm
Weight	1,440kg
Wheels & tyres	
F 8.5x19-inch; 235/35/ZR19	
R 12x19-inch; 325/30/ZR19	

★★★★☆

Gen2 997 C2 2008-12

Revised with restyled LED rear lights and front driving lights. M97 engine replaced with a 91 DFI unit, using fewer parts – with no problematic Intermediate Shaft.

Production numbers	10,500
Issue featured	144
Engine capacity	3,614cc
Compression ratio	12.5:1
Maximum power	345hp @ 6,500rpm
Maximum torque	390Nm @ 4,400rpm
0-62mph	4.9sec
Top speed	179mph
Length	4,435mm
Width	1,808mm
Weight	1,415kg
Wheels & tyres	
F 8x18-inch; 235/40/ZR18	
R 10.5x18-inch; 265/40/ZR18	

★★★★☆

Gen2 997 C2 S 2008-12

Altered as per the Carrera, but with larger 3.8-litre engine – again using fewer components and Direct Fuel Injection. Had seven-speed PDK optional, like the Carrera.

Production numbers	15,000
Issue featured	61
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	385hp @ 6,500rpm
Maximum torque	420Nm @ 4,400rpm
0-62mph	4.7sec
Top speed	187mph
Length	4,435mm
Width	1,808mm
Weight	1,425kg
Wheels & tyres	
F 8x19-inch; 235/35/ZR19	
R 11x19-inch; 295/30/ZR19	

▲ ★★★★☆

Gen2 997 Turbo 2009-13

Same as the original 997 Turbo but with new LED tail-lights and driver lights up front. Larger tailpipes and DFI engine, with fuel consumption cut by 16%.

Production numbers	3,800
Issue featured	152
Engine capacity	3,800cc
Compression ratio	9.8:1
Maximum power	500hp @ 6,000rpm
Maximum torque	650Nm @ 1,950-5,000rpm
0-62mph	3.4sec
Top speed	194mph
Length	4,450mm
Width	1,852mm
Weight	1,570kg
Wheels & tyres	
F 8.5x19-inch; 235/35/ZR19	
R 11x19-inch; 305/30/ZR19	

★★★★★

Gen2 997 GT3 RS 09-12

Wider front arches and a larger wing. Dynamic engine mounts and PASM are standard. Air-con is optional, with no door handles, wheel brace or sound proofing.

Production numbers	1,500
Issue featured	125
Engine capacity	3,800cc
Compression ratio	12.2:1
Maximum power	450hp @ 7,900rpm
Maximum torque	430Nm @ 6,750rpm
0-62mph	4.0sec
Top speed	192mph
Length	4,460mm
Width	1,852mm
Weight	1,370kg
Wheels & tyres	
F 9x19-inch; 245/35/ZR19	
R 12x19-inch; 325/30/ZR19	

▲ ★★★★½

997 Speedster 2010

Built to mark Porsche Exclusive's 25th year. Shorter windscreen, but rake angle same as 997 Carrera. Wide body with 19-inch Fuchs wheels. Rear-wheel drive.

Production numbers	356
Issue featured	128
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	408hp @ 7,300rpm
Maximum torque	420Nm @ 4,400-5,600rpm
0-62mph	4.4sec
Top speed	190mph
Length	4,440mm
Width	1,852mm
Weight	1,540kg
Wheels & tyres F 8.5x19-inch; 235/35/ZR19 **R** 11x19-inch; 305/30/ZR19	

★★★★★

997 Carrera 2004-08

Fully revised Porsche 911 with 993-influenced bodywork and a new interior. Engine was like 996, but refined for more power. Six-speed Tiptronic option available.

Production numbers	25,788
Issue featured	112
Engine capacity	3,596cc
Compression ratio	11.3:1
Maximum power	325hp @ 6,800rpm
Maximum torque	370Nm @ 4,250rpm
0-62mph	5.0sec
Top speed	177mph
Length	4,427mm
Width	1,808mm
Weight	1,395kg
Wheels & tyres	
F 8x18-inch; 235/40/R18	
R 10x18-inch; 265/40/R18	

★★★★★

997 Carrera S 2004-08

As per the 997 Carrera, but with more powerful 3.8-litre engine and PASM. 19-inch wheels as standard, with bigger ventilated brakes. Featured quad exhaust tailpipes.

Production numbers	41,059
Issue featured	107
Engine capacity	3,824cc
Compression ratio	11.8:1
Maximum power	355hp @ 6,600rpm
Maximum torque	400Nm @ 4,600rpm
0-62mph	4.8sec
Top speed	182mph
Length	4,427mm
Width	1,808mm
Weight	1,420kg
Wheels & tyres	
F 8x19-inch; 235/35/R19	
R 11x19-inch; 295/30/R19	

★★★★★

997 GT3 2006-07

Track focused, but based on narrow-bodied Carrera with reworked 996 GT3 engine. PASM standard, revs to 8,400rpm, 200 higher than the Gen2 996 GT3.

Production numbers	2,378
Issue featured	117
Engine capacity	3,600cc
Compression ratio	12.0:1
Maximum power	415hp @ 7,600rpm
Maximum torque	405Nm @ 5,500rpm
0-62mph	4.3sec
Top speed	192mph
Length	4,445mm
Width	1,808mm
Weight	1,395kg
Wheels & tyres	
F 8.5x19-inch; 235/35/R19	
R 12x19-inch; 305/30/R19	

★★★★★

997 GT3 RS 2006-07

Similar to GT3, with wider rear bodyshell of the Carrera S. 20kg of weight saved from GT3 thanks to carbon engine cover and rear wing, and plastic rear window.

Production numbers	1,106
Issue featured	156
Engine capacity	3,600cc
Compression ratio	12.0:1
Maximum power	415hp @ 7,600rpm
Maximum torque	405Nm @ 5,500rpm
0-62mph	4.2sec
Top speed	194mph
Length	4,460mm
Width	1,808mm
Weight	1,375kg
Wheels & tyres	
F 8.5x19-inch; 235/35/R19	
R 12x19-inch; 305/30/R19	

★★★★★

Gen2 997 C4S 2008-12

Body as per C4 but with larger engine. Utilised 997 Turbo's 4WD and PTM. Viscous coupling gives way to electromagnetically controlled multi-plate clutch.

Production numbers	7,910 (Coupe)
Issue featured	111
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	385hp @ 6,500rpm
Maximum torque	420Nm @ 4,400rpm
0-62mph	4.7sec
Top speed	185mph
Length	4,435mm
Width	1,852mm
Weight	1,480kg
Wheels & tyres	
F 8x19-inch; 235/35/ZR19	
R 11x19-inch; 305/30/ZR19	

★★★★★

Gen2 997 GT3 2009-12

Updated as per the Carrera, but with a unique front and rear wing, revised PASM, centre-lock wheels and better brakes. 2010 MY GT3s recalled to fix rear hubs.

Production numbers	2,200
Issue featured	117
Engine capacity	3,797cc
Compression ratio	12.2::1
Maximum power	435hp @ 7,900rpm
Maximum torque	430Nm @6, 250rpm
0-62mph	4.1sec
Top speed	194mph
Length	4,460mm
Width	1,808mm
Weight	1,395kg
Wheels & tyres	
F 8.5x19-inch; 235/35/ZR19	
R 12x19-inch;305/30/ZR19	

▲ ★★★★★

997 Sport Classic 2010

Based on 3.8-litre Powerkit, rear-wheel-drive Carrera S, but with 44mm wider rear arches. Retro styling including iconic ducktail and large Fuchs wheels.

Production numbers	250
Issue featured	146
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	408hp @ 7,300rpm
Maximum torque	420Nm @ 4,200-5,600rpm
0-62mph:	4.6sec
Top speed:	187mph
Length:	4,435mm
Width:	1,852mm
Weight:	1,425kg
Wheels & tyres	
F 8.5x19-inch; 235/35/ZR19	
R 11x19-inch; 305/30/ZR19	

★★★★★

997 GT3 RS 4.0 2010

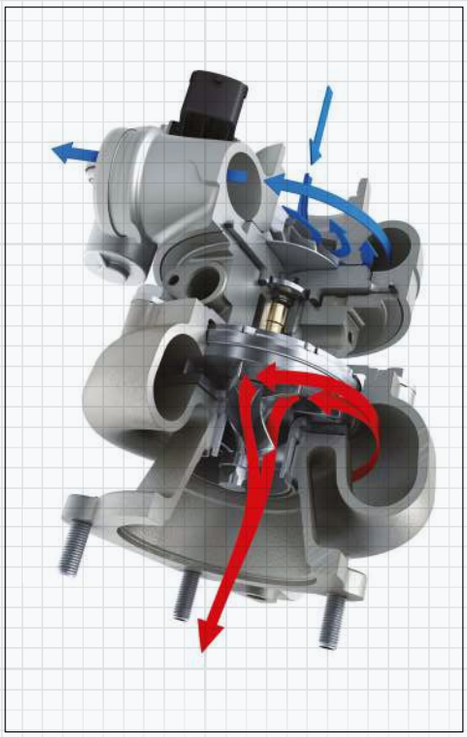
Engine was upgraded and aerodynamically tweaked, with the angle of the rear wing increased and dive planes on either side of the front nose. A future collectors' gem.

Production numbers	600
Issue featured	125
Engine capacity	3,996cc
Compression ratio	12.6:1
Maximum power	500hp @ 8,250rpm
Maximum torque	460Nm @ 5,750rpm
0-62mph	3.9sec
Top speed	193mph
Length	4,460mm
Width	1,852mm
Weight	1,360kg
Wheels & tyres	
F 9x19-inch; 245/35/ZR19	
R 12x19-inch; 325/30/ZR19	

Technology explained

012 VARIABLE TURBINE GEOMETRY

First introduced on the 997 Turbo, Variable Turbine Geometry has been reducing turbo lag for nearly a decade, as **Total 911** explains...



Turbochargers use exhaust gas to power a turbine-driven pump that forces air into the intake manifold at a greater-than-atmospheric pressure, hence the term 'forced induction'. The bigger the turbocharger, the greater the pressure entering the engine, resulting in a greater air/fuel mixture and more power. However, continually bolting on larger turbos in order to seek power gains leads to the turbocharger's inherent fault: lag.

In order to counter this, smaller turbochargers (with their inherently lighter turbines) take less force to spool up, resulting in increased response. Yet, due to their smaller size, they are unable to keep up with the engine's demand for more air at greater speeds. In order to provide the best of both worlds, Porsche has been using Variable Turbine Geometry technology on its turbocharged engines since 2005.

While this solution found its way into turbo diesel engines over 20 years ago, the higher exhaust gas temperatures found in Porsche's forced-induction petrol motors (around 1,000 degrees Celsius) made implementing this solution difficult. However, 21st-century material technology and Porsche's use of an additional water-cooling system (with an after-run pump) made VTG possible on the first generation of 997 Turbo.

Inside the body of a Porsche VTG turbocharger, sitting around the outside of the turbine, are a collection of guide vanes. The position of these electronically controlled blades can be adjusted depending on the engine speed. At low rpm, the Motronic ECU system causes the guide vanes to be tilted until they are almost flat, creating a small gap through which the exhaust gas passes. By being forced through a small gap, the gas is accelerating, spinning the turbine with greater force than a non-VTG turbo. This enables the turbocharger to 'spool up' faster, resulting in improved low-end response. Once the boost level has reached 1 bar (in the 997 Turbo), the guide vanes are opened via the electrically driven adjuster within 100 milliseconds. This creates a large area through which the exhaust gas is driven, improving the turbocharger's breathing at high engine speeds and negating the need for a bypass valve. This allows the turbocharger to keep operating efficiently, resulting in the Turbo's famous flat torque curve.

997 918 Edition 2010

★★★★★

These exclusive 997 Turbo S-spec 911s were only available to those who had paid a deposit for a 918 Spyder. Acid green badging and brake calipers.

Production numbers	121
Issue featured	74
Engine capacity	3,800cc
Compression ratio	9.8:1
Maximum power	530hp @ 6,250-6,750rpm
Maximum torque	700Nm @ 2,100-4,250rpm
0-62mph	3.3sec
Top speed	195mph
Length	4,435mm
Width	1,852mm
Weight	1,585kg
Wheels & tyres	F 8.5x19-inch; 235/35/ZR19 R 11x19-inch; 305/30/ZR19

997 GT2 RS 2010-11

★★★★★

GT2 went back to its roots with lightweight body and interior, plus extra power. Recognisable thanks to carbon fibre bonnet, air intake and mirrors.

Production numbers	500
Issue featured	155
Engine capacity	3,600cc
Compression ratio	9.0:1
Maximum power	620hp @ 6,500rpm
Maximum torque	700Nm @ 2,500-5,500rpm
0-62mph	3.5sec
Top speed	205mph
Length	4,460mm
Width	1,852mm
Weight	1,370kg
Wheels & tyres	F 9x19-inch; 245/35/ZR19 R 12x19-inch; 325/30/ZR19

991.1 Carrera 4 2012-15

★★★★☆

22mm wider body than C2, with 10mm wider tyres and connecting rear tail light as standard. Also features a torque distribution indicator on the digital dash clock.

Production numbers	Unknown
Issue featured	98
Engine capacity	3,436cc
Compression ratio	12.5:1
Maximum power	350hp @ 7,400rpm
Maximum torque	390Nm @ 5,600rpm
0-62mph	4.9sec
Top speed	177mph
Length	4,491mm
Width	1,852mm
Weight	1,430kg
Wheels & tyres	F 8.5x19-inch; 235/40/ZR19 R 11x19-inch;305/35/ZR19

991.1 Carrera 4S 2012-15

★★★★½

Same wider body styling as C4, coupled to 3.8-litre 400bhp engine. Also features six-piston brake calipers at front. PTV spread torque more evenly.

Production numbers	Unknown
Issue featured	118
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	400hp @ 7,400rpm
Maximum torque	440Nm @ 5,600rpm
0-62mph	4.5sec
Top speed	185mph
Length	4,491mm
Width	1,852mm
Weight	1,445kg
Wheels & tyres	F 8.5x20-inch; 245/35/ZR20 R 11x20-inch; 305/30/ZR20

991 GT3 RS 2015-

★★★★★

Unprecedented aero package now delivers 997 RS 4.0's max downforce at just 93mph. Features modified 4.0-litre DFI version of 991.1 GT3 engine; PDK-only.

Production numbers	5,000
Issue featured	136
Engine capacity	3,996cc
Compression ratio	12.9:1
Maximum power	500hp @ 8,250rpm
Maximum torque	460Nm @ 6,250rpm
0-62mph	3.3sec
Top speed	193mph
Length	4,545mm
Width	1,880mm
Weight	1,420kg
Wheels & tyres	F 9.5x20-inch; 265/35/ZR20 R 12.5x21-inch; 325/30/ZR21

991.2 Carrera 2015-

★★★★½

Facelift model substantially changed underneath with power coming from completely new 3.0-litre 9A2 turbocharged engine. PASM now standard.

Production numbers	In production
Issue featured	137
Engine capacity	2,981cc
Compression ratio	10.0:1
Maximum power	370hp @ 6,500rpm
Maximum torque	450Nm @ 1,700-5,000rpm
0-62mph	4.2sec
Top speed	183mph
Length	4,499mm
Width	1,808mm
Weight	1,430kg
Wheels & tyres	F 8.5x19-inch; 235/40/ZR19 R 11.5x19-inch; 295/35/ZR19

991 R 2016

★★★★★

991 GT3 RS engine mated to revised 6-speed manual gearbox. Features Carrera Cabriolet active rear wing with diffuser aiding downforce. Lightweight flywheel optional.

Production numbers	991
Issue featured	153
Engine capacity	3,996cc
Compression ratio	13.2:1
Maximum power	500hp @ 8,250rpm
Maximum torque	460Nm @ 6,250rpm
0-62mph	3.8sec
Top speed	201mph
Length	4,532mm
Width	1,852mm
Weight	1,370kg
Wheels & tyres	F 9x20-inch; 245/35/ZR20 R 12x20-inch; 305/30/ZR20

991.2 Carrera GTS 2017-

★★★★★

Similar specification and 'black accent' styling as per 991.1, available in both rear-wheel and all-wheel drive form. C4 GTS quicker than C2 GTS.

Production numbers	In production
Issue featured	150
Engine capacity	2,981cc
Compression ratio	10.0:1
Maximum power	450hp @ 6,500rpm
Maximum torque	550Nm @ 2,150-5,000rpm
0-62mph	4.1sec
Top speed	194mph
Length	4,528mm
Width	1,852mm
Weight	1,450kg
Wheels & tyres	F 9x20-inch; 245/35/ZR20 R 12x20-inch; 305/30/ZR20

991.2 Carrera 4 GTS 2017-

★★★★½

As 991.2 Carrera GTS but with PTM four-wheel drive electrically controlling drive between both axles (rear always driven). Red connecting strip on rear.

Production numbers	In production
Issue featured	151
Engine capacity	2,981cc
Compression ratio	10.0:1
Maximum power	450hp @ 6,500rpm
Maximum torque	550Nm @ 2,150-5,000rpm
0-62mph	3.8sec
Top speed	193mph
Length	4,528mm
Width	1,852mm
Weight	1,515kg
Wheels & tyres	F 9x20-inch; 245/35/ZR20 R 12x20-inch; 305/30/ZR20

997 C2 GTS 2010-12

C4's wider rear body, and powered by the 3.8-litre Carrera S engine, with a Powerkit producing extra 25bhp. GTS is laden with Porsche options.

Production numbers	Unknown
Issue featured	157
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	408hp @ 7,300rpm
Maximum torque	420Nm @ 4,200-5,600rpm
0-60mph	4.6sec
Top speed	190mph
Length	4,435mm
Width	1,852mm
Weight	1,420kg
Wheels & tyres	
F 8.5x19-inch; 235/35/19	
R 11x19-inch; 305/30/19	

997 C4 GTS 2011-12

Like C2 997 GTS but slightly heavier and with 4WD. In either C2 or C4 form, it represented a great saving over optioning up a 997 Carrera counterpart.

Production numbers	Unknown
Issue featured	125
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	408hp @7,300rpm
Maximum torque	420Nm @ 4,200-5,600rpm
0-62mph	4.6sec
Top speed	188mph
Length	4,435mm
Width	1,852mm
Weight	1,480kg
Wheels & tyres	
F 8.5x19-inch; 235/35/ZR19	
R 11x19-inch; 305/30/ZR19	

997 Turbo S 2011-13

A standard 997 Turbo but more power and higher level of standard equipment including PCCB, centre-lock wheels, crested sports seats and Sport Chrono Plus.

Production numbers	2,000
Issue featured	123
Engine capacity	3,800cc
Compression ratio	9.8:1
Maximum power	530hp @ 6,250-6,750rpm
Maximum torque	700Nm @ 2,100-4,250rpm
0-62mp	3.3sec
Top speed	195mph
Length	4,435mm
Width	1,852mm
Weight	1,585kg
Wheels & tyres	**F** 8.5x19-inch; 235/35/ZR19 **R** 11x19-inch; 305/30/ZR19

991.1 Carrera 2011-15

The first of the newest and latest Gen7 911, it takes styling hues from the 993. A redesigned chassis with lengthened wheelbase reduces overhang of the engine.

Production numbers	Unknown
Issue featured	137
Engine capacity	3,436cc
Compression ratio	12.5:1
Maximum power	350hp @ 7,400rpm
Maximum torque	390Nm @ 5,600rpm
0-62mph	4.8sec
Top speed	179.6mph
Length	4,491mm
Width	1,808mm
Weight	1,380kg
Wheels & tyres	
F 8.5x19-inch; 235/40/ZR19	
R 11x19-inch; 285/35/ZR19	

991.1 Carrera S 2011-15

Same as Carrera, with seven-speed manual 'box but utilising bigger engine. Slightly larger front brakes than the standard Carrera, PASM as standard equipment.

Production numbers	Unknown
Issue featured	114
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	400hp @ 7,400rpm
Maximum torque	440Nm @ 5,600rpm
0-62mph	4.5sec
Top speed	188.9mph
Length	4,491mm
Width	1,808mm
Weight	1,395kg
Wheels & tyres	
F 8.5x20-inch; 245/35/ZR20	
R 11x20-inch; 295/30/ZR20	

991.1 GT3 2013-2015

Wide body from 991 Carrera 4 was used for the first time. Mezger engine from previous GT3s replaced with revamped DFI version of Carrera S engine. PDK only.

Production numbers	3,000 (estimate)
Issue featured	143
Engine capacity	3,800cc
Compression ratio	12.9:1
Maximum power	475hp @ 8,250rpm
Maximum torque	440Nm @ 6,250rpm
0-62mph	3.5sec
Top speed	196mph
Length	4,545mm
Width	1,852mm
Weight	1,430kg
Wheels & tyres	
F 9x20-inch; 245/35/ZR20	
R 12x20-inch; 305/30/ZR20	

991.1 Turbo 2013-15

New Turbo marks introduction of rear axle steering, plus PDK-only transmission to forced induction 991 models.

Production numbers	Unknown
Issue featured	109
Engine capacity	3,800cc
Compression ratio	9.8:1
Maximum power	520hp@6,000-6,500rpm
Maximum torque	660Nm@1,950-5,000rpm
0-62mph	3.4sec
Top speed	195mph
Length	4,506mm
Width	1,880mm
Weight	1,595kg
Wheels & tyres	
F 8.5x20-inch; 245/35/ZR20	
R 11x20-inch; 305/30/ZR20	

991.1 Turbo S 2013-15

Same dimensions as 991 Turbo, but with a tweaked map to provide extra 40bhp. Turbo options standard, including centre-lock wheels and PCCB.

Production numbers	Unknown
Issue featured	115
Engine capacity	3,800cc
Compression ratio	9.8:1
Maximum power	560hp@6,500-6,750rpm
Maximum torque	700Nm @ 2,100-4,250
0-62mph	3.1sec
Top speed	197mph
Length	4,506mm
Width	1,880mm
Weight	1,605kg
Wheels & tyres	
F 9x20-inch; 245/35/ZR20	
R 11x20-inch, 305/30/ZR20	

991 Anniversary 2013-14

Exuberantly styled Carrera S with wide body and generous spec. Many styling cues inside and out taken from original 901. Powerkit only came as standard spec in US.

Production numbers	1,963
Issue featured	112
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	400hp @ 7,400rpm
Maximum torque	440Nm @ 5,600rpm
0-62mph	4.5sec
Top speed	188mph
Length	4,491mm
Width	1,852mm
Weight	1,420kg
Wheels & tyres	
F 9x20-inch; 245/35/ZR20	
R 11.5x20-inch; 305/30/ZR20	

991.1 Carrera GTS 14-16

Big-spec GTS utilises wide body and a host of good options including Powerkit, PASM, Sport chrono, Sport exhaust to name a few, all for £7,000 more than Carrera S.

Production numbers	Unknown
Issue featured	157
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	430hp @ 7,500rpm
Maximum torque	440Nm @ 5,750rpm
0-62mph	4.0sec
Top speed	190mph
Length	4,491mm
Width	1,852mm
Weight	1,425kg
Wheels & tyres	
F 9x20-inch; 245/35/ZR20	
R 11.5x20-inch; 305/30/ZR20	

991.1 C4 GTS 2014-2016

Almost the same as the C2 GTS, but with additional traction offered by four-wheel drive. As a result, performance times are altered slightly over its rear-driven variant.

Production numbers	Unknown
Issue featured	125
Engine capacity	3,800cc
Compression ratio	12.5:1
Maximum power	430hp @ 7,500rpm
Maximum torque	440Nm @ 5,750rpm
0-62mph	4.4sec
Top speed	188mph
Length	4,491mm
Width	1,852mm
Weight	1,470kg
Wheels & tyres	
F 9x20-inch; 245/35/ZR20	
R 11.5x20-inch; 305/30/ZR20	

991.2 Carrera S 2015-

Shares Carrera's 3.0-litre turbocharged 9A2 engine, with revised turbos, exhaust and engine management to produce extra 50hp.

Production numbers	In production
Issue featured	132
Engine capacity	2,981cc
Compression ratio	10.0:1
Maximum power	420hp @ 6,500rpm
Maximum torque	500Nm@1,700-5,000rpm
0-62mph	3.9sec
Top speed	191mph
Length	4,499mm
Width	1,808mm
Weight	1,440kg
Wheels & tyres	
F 8.5x20-inch; 245/35/ZR20	
R 11.5x20-inch; 305/30/ZR20	

991.2 Carrera 4 2016-

New 9A2 turbocharged engine fused with all-wheel-drive running gear, now electro-hydraulically controlled. Distinguishable by wider body and full-width rear brake light.

Production numbers	In production
Issue featured	133
Engine capacity	2,981cc
Compression ratio	10.0:1
Maximum power	370hp @ 6,500rpm
Maximum torque	450Nm @ 1,700-5,000rpm
0-62mph	4.1sec
Top speed	181mph
Length	4,499mm
Width	1,852mm
Weight	1,480kg
Wheels & tyres	**F** 8.5x19-inch; 235/40/ZR19 **R** 11.5x19-inch; 295/35/ZR19

991.2 Carrera 4S 2016-

As per C4 but using revised turbos, exhaust and engine management from C2S to produce extra 50hp. Faster 0-62mph than C2S for first time.

Production numbers	In production
Issue featured	154
Engine capacity	2,981cc
Compression ratio	10.0:1
Maximum power	420hp @ 6,500rpm
Maximum torque	500Nm @ 1,700-5,000rpm
0-62mph	3.8sec
Top speed	189mph
Length	4,499mm
Width	1,852mm
Weight	1,490kg
Wheels & tyres	
F 8.5x20-inch; 245/35/ZR20	
R 11.5x20-inch; 305/30/ZR20	

991.2 Turbo 2016-

Revised 9A1 engine from 991.1, producing 540hp thanks to modified inlet ports in cylinder head, new injection nozzles and higher fuel pressure.

Production numbers	In production
Issue featured	135
Engine capacity	3,800cc
Compression ratio	9.8:1
Maximum power	540hp @ 6,400rpm
Maximum torque	710Nm @ 2,250-4,000rpm
0-62mph	3.1sec
Top speed	199mph
Length	4,507mm
Width	1,880mm
Weight	1,595kg
Wheels & tyres	
F 9x20-inch; 245/35/ZR20	
R 11.5x20-inch; 305/30/ZR20	

991.2 Turbo S 2016-

As per 991.2 Turbo but with power boosted to 580hp thanks to new turbochargers with larger compressors. Fastest ever Porsche 911 from 0-62mph.

Production numbers	In production
Issue featured	145
Engine capacity	3,800cc
Compression ratio	9.8:1
Maximum power	580hp @ 6,750rpm
Maximum torque	750Nm @ 2,250-4,000rpm
0-62mph	2.9sec
Top speed	205mph
Length	4,507mm
Width	1,880mm
Weight	1,600kg
Wheels & tyres	**F** 9x20-inch; 245/35/ZR20 **R** 11.5x20-inch; 305/30/ZR20

991.2 GT3 2017-

New 4.0-litre engine from 991.2 Cup car. Retains 9,000rpm redline; six-speed manual Sport transmission now a no-cost option. Revised airflow to front and rear.

Production numbers	222 (UK, est)
Issue featured	153
Engine capacity	3,996cc
Compression ratio	13.3:1
Maximum power	500hp @ 8,250rpm
Maximum torque	460Nm @ 6,000rpm
0-62mph	3.9sec (manual)
Top speed	199mph
Length	4,562mm
Width	1,852mm
Weight	1,413kg (manual)
Wheels & tyres	
F 9x20-inch; 245/35/ZR20	
R 12x20-inch; 305/30/ZR20	

991 GT2 RS 2017-

Fastest factory 911 of all time. Highly modified Turbo S engine with sprayed intercoolers. Rear wheel drive, PDK only. New inlets on bonnet feeds air to brakes.

Production numbers	1,800 (estimate)
Issue featured	161
Engine capacity	3,800cc
Compression ratio	9.0:1
Maximum power	700hp @ 7,000rpm
Maximum torque	750Nm @ 2,500-4,500rpm
0-62mph	2.8sec
Top speed	211mph
Length	4,549
Width	1,880mm
Weight	1,470kg
Wheels & tyres	
F 9.5x20-inch; 265/35/ZR20	
R 12.5x21-inch; 325/30/ZR21	

991 Turbo S Exclusive Ed.

The work of Porsche's Exclusive department, with extensive use of carbon on the bonnet, roof and side skirts. Power is hiked to 607hp, Turbo Aerokit standard.

Production numbers	500
Issue featured	155
Engine capacity	3,800cc
Compression ratio	9.8:1
Maximum power	607hp
Maximum torque	750Nm @ 2,250-4,000rpm
0-62mph	2.9sec
Top speed	205mph
Length	4,507mm
Width	1,880mm
Weight	Not specified
Wheels & tyres	
F 9x20-inch; 245/35/ZR20	
R 11.5x20-inch; 305/30/ZR20	

991 Carrera T

Purist take on the 991.2 Carrera with 20kg of weight saved and regearing of 7-speed manual gearbox. Same 370hp engine as Carrera, PDK gearbox optional.

Production numbers	2,000 (estimate)
Issue featured	162
Engine capacity	2,981cc
Compression ratio	10.0:1
Maximum power	370hp @ 6,500rpm
Maximum torque	450Nm @ 1,700-5,000rpm
0-62mph	4.1sec
Top speed	183mph
Length	4,499mm
Width	1,808mm
Weight	1,410kg
Wheels & tyres	**F** 8.5x19-inch; 245/40/ZR19 **R** 11.5x19-inch; 295/35/ZR19

991.2 GT3 RS

Latest GT3 RS gets GT3 facelift but with NACA ducts and suspension from GT2 RS. 20hp increase over Gen1 with mainly aerodynamic and chassis revisions.

Production numbers	60 UK cars (estimate)
Issue featured	164
Engine capacity	4,000cc
Compression ratio	unknown
Maximum power	520hp
Maximum torque	480Nm
0-62mph	3.2sec
Top speed	193mph
Length	4,549mm
Width	1,880mm
Weight	1,420kg
Wheels & tyres	
F 9.5x20-inch; 265/35/ZR20	
R 12.5x21-inch; 325/30/ZR21	

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2011 997 GTS PDK Coupe	Carrara White/ Black Leather/Alcantara	25,500	£64,995.00
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2011 997 GTS PDK Cabriolet	Carrara White/ Black Leather/Alcantara	14,550	£69,995.00
2011 997 GTS PDK Coupe	Guards Red/Black Leather	17,100	£69,995.00
2011 997 GTS Coupe Manual	Carrara White/ Black Leather/Alcantara	26,400	£69,995.00
2011 997 GTS Manual Cabriolet	Carrara White/ Black Leather/Alcantara	15,500	£72,995.00
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2011 997 GTS Coupe Manual	Basalt Black / Black Leather & Alcantara	11,100	£79,995.00
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2011 997 Turbo S Cabrio PDK	Carrara White/Black Leather	19,800	£94,995.00
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2012 997 Turbo S PDK	Basalt Black/Black Leather	20,400	£99,995.00
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2011 997 Turbo S PDK	Ruby Red Metallic/ Black/Stone Grey Leather	9,600	£109,995.00
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1996 (N)

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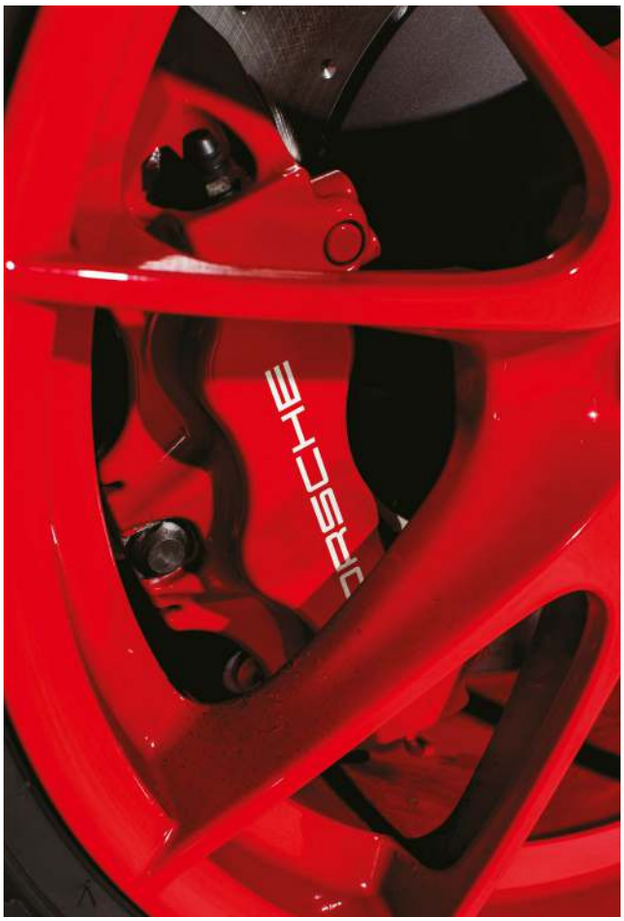
012

911 DESIGN ICONS
‘BIG RED’ BRAKE CALIPERS

When bigger brakes were needed, Porsche fitted items that became an integral part of the 911’s aesthetic appeal



Photographs by Porsche Archive

Since its earliest days the 911 has always boasted ample stopping power, with lightweight aluminium calipers specified since the B-Series ‘S’. However, the 1992 introduction of the 360bhp 964 Turbo 3.6 demanded something a bit more special, with Italian brake specialists, Brembo, chosen to step in.

Founded in 1961, the company honed its performance credentials in Formula 1 and has spent decades since stopping the world’s fastest cars. For Porsche that expertise resulted in the development of the ‘Big Red’ caliper. The blown 964 utilised a single-piece monobloc design cast in aluminium alloy, each caliper featuring four pistons of 36mm and 44mm diameters for the leading and trailing pistons respectively. Aside from the additional pressure they could exert, this new design also allowed for the fitment of pads with a notably greater surface area. Added to that was the painstaking quality control throughout the process, as each caliper is cast, machined, heat-treated, painted and assembled.

Painted in a striking red to mark their prominance – and significance – from behind a Porsche alloy wheel, it’s no surprise that the company would retain ‘Big Reds’ for future iterations of range-topping 911s, and by the 997 Turbo they had been further developed to feature six rather than four pistons. Rather unusually for such an outstanding feature they have also become linked to an oft-mentioned issue that can affect a 911’s brakes – that of ‘plate lift’. It’s where a steel plate inserted into the aluminium caliper causes corrosion and sticking of the brake pads, but that hasn’t stopped them being revered for providing the ultimate in stopping power. But it’s not just their outright performance we’re interested in here – important as that is – because their very distinct appearance behind the spokes of each wheel is a keen reminder of the link between form and function that’s been at the heart of the 911 since the very beginning. Just seeing them wrapped around hefty discs certainly inspires confidence, but there’s no ignoring the fact that their beautiful finish adds immeasurably to the aesthetic appeal. Eventually knocked off the top of the braking tree by PCCBs with yellow calipers, as an instantly recognisable element of the 911’s timeless design and engineering ethos, their place on this page is well deserved. 911

> “Brembo has spent decades stopping the world’s fastest cars”

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1997 Porsche 993-stock-09650

This very clean 1997 Porsche 993 shown here with a very low 34,566 on the odometer is available in its original highly sought after color code#741 black with tan interior. It is available with a clean CarFax and is equipped with a 6-speed manual transmission, air conditioning, power windows, power steering, power seats, OEM stereo, drilled rotors, solid wheels, original owner's manual, sunroof and includes the tool kit, spare tire, jack and air compressor. A very clean and presentable low mileage 993 which is mechanically sound.

For $69,500

1970 Porsche 911E Right Hand Drive-stock-09145

This rare right-hand-drive 1970 Porsche 911E Coupe comes in its original color code#2323 Tangerine with black interior. It was built in Great Britain and still retains its U.K license plates. It comes equipped with a model and period correct engine and transmission, driver's side sport seat and Fuchs wheels. A very rare opportunity as early right-hand-drive long hoods for restoration are nearly impossible to find. An excellent example for light restoration.

For $59,500

1971 Porsche 911T Coupe-stock-09488

The excellent original 1971 Porsche 911T Coupe shown here with matching numbers comes in its original color code#1111 light ivory with tan interior. It is equipped with a 5-speed manual transmission, air conditioning, cookie cutter wheels and includes the spare tire. The 911T was previously owned by a Porsche Club of America (PCA) owner and is mechanically sound.

For $49,500

1972 Porsche 911T Targa-stock-09493

The 1972 Porsche 911T Targa being offered for sale is available with matching numbers and comes in silver with a black interior. It is equipped with an upgraded 5-speed manual transmission, one year only external oil filler door, Fuchs wheels and includes the spare tire, owner's manual and service records. The Targa was previously owned by a Porsche Club of America owner. It's very presentable and is an excellent on-year only example.

For $46,500

1972 Porsche 911E Targa-stock-09574

This very presentable 1972 Porsche 911E Targa is available in red with black interior and comes with very desirable black sport seats. It is equipped with a 2.4 liter E engine with a manual transmission, Fuchs wheels and includes the spare tire. A very clean and presentable vehicle which has had the same owner for many years and is mechanically sound.

For $59,500

1973 Porsche 911 RS Clone-stock-09614

This stunning 1973 Porsche 911 RS Clone comes in a gorgeous viper green with black Carrera script and black Recaro racing seats. It is equipped with a 2.4 liter with a manual transmission, MOMO steering wheel, MSD ignition, roll cage and Fuchs wheels. A very presentable and great car for vintage racing which is mechanically sound.

For $49,500

1975 Porsche Carrera Targa-stock-09769

The 1975 Porsche Carrera Targa shown here with matching numbers is available in its original stunning color combination code#336 Mexico Blue with a black interior. It is equipped with a manual transmission, Fuchs wheels and includes some miscellaneous parts. A highly collectible example which is mechanically sound.

For $44,500

1982 Porsche 911SC Targa-stock-09767

This very presentable 1982 Porsche 911SC Targa featured here with matching numbers comes in a beautiful cashmere beige with a chocolate interior. It is available with a clean CarFax and is equipped with a manual transmission, power windows, Fuchs wheels and includes the spare tire and jack. An excellent weekend driver which is mechanically sound.

For $33,500

1984 Porsche Carrera Targa-stock-09745

The featured 1984 Porsche Carrera Targa with matching numbers is available in its original color code#811 kiln red metallic with tan interior. It comes equipped with a 5-speed manual transmission, air conditioning, power windows, Fuchs wheels and includes the jack, spare tire and tool kit. An excellent weekend driver which could use some light cosmetics and is mechanically sound.

For $30,750

1973 Porsche 911 RS Clone-stock-09614

The 1985 Porsche Carrera is available in its original color code#33P Iris Blue Metallic combined with a navy blue interior. It comes with a clean CarFax and is equipped with a 5-speed manual transmission, air conditioning, power windows, sunroof, Fuchs wheels, drilled rotors and includes the jack. An excellent original car which could use some light cosmetics.

For $33,500

1991 Porsche 964 Cabriolet-stock-0963

The 1991 Porsche 964 Cabriolet shown here is available in its original color code#80K Guards Red with a tan interior. It comes equipped with a Tiptronic transmission, air conditioning, power windows, power steering, power seats, solid wheels, soft top with boot and includes the jack, spare tire and air compressor. A very presentable 964 which mechanically sound.

For $29,500

1996 Porsche 993-stock-08895

This 1996 Porsche 993 with 62,457 on the odometer is shown here in arena red with tan interior. It comes equipped with a Tiptronic transmission, air conditioning, power windows, power steering, power seats, solid wheels, sunroof and in includes the spare tire. An extremely clean and presentable Porsche, which is one of last of the air cooled examples. It's also mechanically sound.

For $36,500

1996 Porsche 993 Coupe-stock-09741

This stunning one-owner 1996 Porsche 993 Targa with a very low 38,370 miles on the odometer comes in its original color code#92M polar silver with grey interior. It has a clean CarFax and is equipped with a manual transmission, retractable glass roof, power windows, air conditioning and includes the spare tire. An extremely clean and presentable and highly collectible Targa which is mechanically sound.

For $67,500

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