

How will history judge the first turbo'd Carrera?





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Welcome



ew generations of 911 have had a history quite as colourful as the 996. Pilloried from inception in 1997, Porsche's first water-cooled 911 never found favour with enthusiasts who lambasted the 996's build quality, reliability and driving experience... until now. Values of the plucky 996 have risen steadily for the last two years (it's the only generation where values are still broadly on the up), yet last summer seemed to be an effective 'line in the sand' moment in terms of its public perception.

Coinciding nicely with its 20-year anniversary, for me the moment came after I posted a '20 years of the 996' video on YouTube (search 'That Nine Eleven Guy', if you're interested). Comparing my own C4S with an early, amber-lensed car, I expected the comments section to be crammed with the usual

"Time has most certainly been a healer for the 996, which at last is becoming widely accepted" vitriol we see thrown in the direction of these cars. I was most shocked when instead of reading about IMS bearings and fried-egg headlights, positive comment was instead passed on its proportions, involving drive, and a rewarding ownership experience. Time has most certainly been a healer for the 996, which at last is becoming widely accepted – and in the case of GT cars, even lauded – as a cracking 911. It is most deserved.

The merits of the 996 won't exactly be news to regular readers, so this isn't an issue revealing a big industry secret. Kudos to you, you already knew it. Instead it's a celebration, a celestial moment for the most controversial era of 911 production. More than two decades after first gracing Porsche showrooms, at last the 996 generation is allowed its day in the sun. The fun begins on page 20.



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Photograph by CarPix



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We visit the south coast to take a look behind the familiar name of a Porsche specialist











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"The GT3 badge signifies something very special indeed"







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

991 Speedster in final testing

Prototype special spotted in Spain ahead of imminent reveal

Total 911's spies have captured Porsche's forthcoming 991 Speedster in final testing in southern Spain. Ahead of its likely world debut at July's Goodwood Festival of Speed in Britain, our pictures show a mule being put through its paces on the public road in little to no disguise for the first time.

As you can see the new Speedster will adopt a 1,852mm-wide body and chassis from Porsche's current GT3, with the same 4.0-litre, naturally aspirated flat six engine housed aft of its rear axle too. The spec effectively creates a topless 911 GT3.

The all-black prototype features a new window design for its doors, while rear three-

quarter windows have been deleted, in keeping with the Speedster's timeless design. Equipped with lightweight centre-locking wheels and that hallowed six-speed manual gearbox utilised on other contemporary Porsche GT cars, the incoming car represents a step-change in design for Porsche's Speedster model. The 997 Speedster before it, released in 2011, was built by Porsche Exclusive and featured compulsory PDK transmission and a GTS-spec 408hp flat six engine with Powerkit.

As previously reported in the magazine, Porsche intends to build 1,948 examples of its new Speedster as part of the wider 70th anniversary celebrations of the company.





992 Turbo Cabriolet in testing

Our spies have also captured the incoming 992-generation 911 Turbo Cabriolet testing on roads around the Nordschleife. Set to be powered by a twin-turbocharged flat six producing north of 600hp, our pictures show for the first time the 992's revised active aerodynamic settings, its rear wing seen to pitch much higher in its ultimate or 'performance' position.



911-engined GT4 breaks cover

It might not be a 911, but Porsche's upcoming Cayman GT4 looks set to borrow the naturally aspirated 4.0-litre flat six from the 991.2 GT3, albeit in a detuned state. Seen here in testing on the Nürburgring Nordschleife, Porsche's 718-generation GT4 is expected to come with a manual gearbox and will be revealed later this year.





Two new Experience Centres unveiled

Germany and China expand worldwide portfolio of PECs

Porsche has opened the doors to its new Experience Centre in Shanghai, with plans also announced for another PEC to be built at the Hockenheimring in Germany. Following in the footsteps of similar Centres at Leipzig, Atlanta, Silverstone, Los Angeles and Le Mans, Porsche's expansion of its portfolio helps to further its global reach. The addition in Shanghai is of particular strategic importance as the largest individual market for Porsche, the company having sold more than 71,500 vehicles there alone in the past year. Some 300 million people are within a three-hour drive of the new Centre. "The Porsche Experience Centres allow our customers and fans to experience the performance of our vehicles as well as the fascination of the brand first hand", explained Detlev von Platen, head of sales and marketing at Porsche AG, upon opening the new site next to Shanghai International Circuit.



16-17 June The world's most famous 24-hour race takes place in France

Goodwood Festival of Speed

Porsche will headline the world' largest motoring garden party

Festival of Porsche 2 September Porsche Club GB's national event returns

Hours **19 August** The first post-Le Mans round of the WEC super-seasor

Rennsport Reunic 27-30 September The world's best Porsche show takes place at Laguna Seca



New Powerflex bushes for 996/997

19.5mm and 22mm-spec upper link arm bushes now catered for

Britain-based polybush specialist Powerflex has provided even more choice for studious owners wanting even more precision from their 911 chassis with the expansion of its 996 and 997 range.

Replenishing tired bushes on your 911 can restore handling precision, including turn-in and steering feel, and Powerflex's polyurethane bushes are crafted to withstand significant forces and temperatures exerted on them over a sustained period of time.

For more information and to select the right polybush kit for your 911 model year, visit the website **powerflex.co.uk**.



Wolfgang Porsche turns 75

Son of Ferry Porsche reiterates decision to continue in his role

Porsche has been celebrating the 75th birthday of Dr Wolfgang Porsche, chairman of the supervisory board of Porsche Automobil Holding SE and Porsche AG. Dr Wolfgang has overseen many key decisions at the company, including the expansion of the model line including the Boxster, Cayenne and Macan, as well as Porsche SE's significant investment in Volkswagen AG. Porsche AG says: "Wolfgang still regards his main role to be to continue the work of his father Ferry and his grandfather Ferdinand, and to balance and unite the interests of the family members."

Motorsport The latest news and results from racing series around the globe



New 991.2 GT3 R breaks cover

2019 customer car boasts 550hp and naturally aspirated rear engine

Weissach's new customer racer has been unveiled with the 991 GT3 R heavily based on its 991.2 GT3 RS production road car sister. The new GT3 R boasts 550hp from a 4.0-litre, naturally aspirated flat six engine which, crucially, remains mounted aft of the 911's rear axle. Porsche says the engine is 'largely identical' to that found in the 991.2 GT3 RS, it mated to a sequential six-speed gearbox with electronic shift actuator.

Porsche has said particular attention was paid to aerodynamics on the GT3 R, most notable of which are wheel arch vents above the front tyres reminiscent of those found on the road-going GT3 RS, to improve downforce at the front axle. The front axle itself now benefits from Porsche's new double wishbone suspension design.

Particular attention has also been dedicated to driver safety. The 120-litre FT3 fuel cell can now be refilled from the left or the right, depending on circuit layout, and Porsche's new racing bucket seat is said to offer better protection in the event of a collision and is bolted down in six places.

Available from December 2018, Porsche's new race car for worldwide customer GT3 racing is priced at €459,000 plus country-specific VAT. Porsche is taking orders immediately.







Porsche dominates at the Nürburgring

Victory for works team as 43 Porsche compete at 2018 N24

Manthey Racing's #912 991.1 GT3 R took the title of King of the Nürburgring after an enthralling twice-round-the-clock race on the Nordschleife. With backing from the factory, this is the first victory for Porsche at the Nürburgring 24 Hours since 2011 and marks a 12th overall victory for Weissach on Porsche's favourite stomping ground for both road and race cars.

Manthey's victorious #912 car, driven by works drivers Richard Lietz, Patrick Pilet, Frédéric Makowiecki and Nick Tandy, assumed the lead with just 70 minutes of racing remaining after final driver Mackowiecki snatched the lead with a daring manoeuvre before powering on to take the chequered flag after 135 laps of racing. Falken Motorsports finished in 9th position in their GT3 R after battling for the top five for most of the race. The 43 vehicles contested by Porsche means it was the most strongly represented marque for the 2018 Nordschelife spectacular.



Inaugural Porsche 2.0L Cup race takes place at Spa Classic

Nearly 40 pre-1966 911s tackle 90-minute sprint

provided one of the showpiece races at the 2018 Spa Classic. Some 36 Porsche turned up in Belguim, with the Historika-

race. The ex-Brumos no.59 car of Nigel Greensall and David Huxley then took the lead early on, the no.64 regaining P1 shortly after the race was stopped due to a large thunderstorm.





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14 | Racing columnist: Ben Barker



• 2012: Porsche Carrera Cup GB Runner Up

The FIA WEC driver shares all about his world championship campaign



Gearing up for Le Mans 2018

The first of two races at La Sarthe are upon us, and Ben reveals how the top teams prepare

aving waited for what felt like an eternity for the first round of the 2018-19 FIA World Endurance Championship, they're now coming thick and fast, with the daddy of them all - the Le Mans 24 Hours - now just around the corner.

Of course, this is the 'big one' for any selfrespecting sports car racer, the one we all want to have on our CV, but more than anything with the word 'winner' written large alongside it. The 24 Hours isn't just the longest race on the schedule, or even the longest race 'weekend' - with scrutineering taking place the previous Sunday - but it also has the biggest build-up, with a prerace test due to take place fully two weeks before we turn a wheel in pursuit of a grid slot.

By the time you read this, the Gulf Racing team will have completed its pre-race preparations and be right in the middle of qualifying, with the important part of setting the car up for race week hopefully behind us. The ideal situation for any team racing in the 24 Hours is to use the test day to fine-tune the handling and balance of their car so that they can go into practice, qualifying and the race needing as little adjustment as possible. This wasn't the case with the #86 Porsche 911 RSR last year, as we were still chasing pace through practice and qualifying, but hopefully,

with the latest-spec RSR for this season, we'll have gotten an early handle on the setup and be well-placed to position ourselves among the contenders for LM GTE-Am class honours.

Although the opening round of the WEC didn't exactly go to plan at Spa-Francorchamps at the start of May, there were plenty of positives to take from the event: I topped the second free practice session after working through a series of set-up adjustments and then set the third fastest time among the 'Pro'-rated drivers in the timed session. With owner-driver Mike Wainwright performing better than ever, and new boy Alex Davison living up to expectation, the #86 looked to be a competitive proposition - until a pit-lane speeding penalty negated our qualifying result and dropped us to the back of the field. To make matters worse, Mike was then forced to take avoiding action at the end of the flat-out Kemmel Straight on lap one, resulting in tweaked handling and a six-lap delay while the car was repaired...

If we can carry the better parts of Spa into the 24 Hours, however, I think we can be optimistic of a good result. The latest RSR is a definite step up over the car we ran in both 2016 and 2017, and the Balance of Performance should be a little more friendly to Porsche than it was last year! Gulf Racing finished fifth in class a couple of seasons ago, so it knows how to get a car through all 24

hours. If we can marry that sort of reliability to our improved performance on track - from both the car and its drivers - there's absolutely no reason why we can't push for the podium.

The #86 will be a little different at Le Mans, with changes to the aero package specifically for the 24 Hours. We'll be taking some of the front aero off the car to reduce drag, especially on the Mulsanne Straight, and Michelin will be bringing a different tyre for us to use. The Circuit de la Sarthe is notably less abrasive than some other tracks we visit, so the rubber will be softer to increase performance without fear of excessive degradation. The dreaded Balance of Performance also looks locked in for Le Mans and, based on comparisons from Spa, that ought to mean we are competitive with the other margues in LM GTE.

As if anyone at Gulf Racing needed any motivation for the event, there are two important anniversaries being celebrated this season that we'd like to mark with some silverware. Not only is it the 70th birthday of Porsche's first sports car, the 356, but 2018 also marks 50 years since Gulf colours first appeared on a Le Mans winner, after the JW Automotive Ford GT of Pedro Rodríguez and Lucien Bianchi took the chequered flag back in 1968. Both Porsche and Gulf have since established great legacies at Le Mans, so let's add to that this year.

Guest columnist: Hurley Haywood | 15

GUEST COLUMN Hurley Haywood





Hurley Haywood is an endurance racing legend. Here the man himself sits down with Tony McGuiness to discuss memoirs from his illustrious career

was born in Chicago and had a very fortunate upbringing – I had travel experiences many kids could only dream about. Travelling to Europe was a teachable experience and helped me culturally when I joined Porsche.

My grandfather Hurley passed away a few months before I was born. My grandmother "Nonny" was able to help heal her grief by doting after me. She was a grand lady and was incredibly supportive of me. I spent many summers with Nonny and always kept in touch as I grew up.

As my racing career was in full swing, I always remember her coming out to ask me about the 917 we had been working on in the garage. She could hear the loud engine and thought it was so cool. I asked her if she would like to come for a ride and she said yes! She was in her early 70s. There was no passenger seat in the 917 so we put her on some blankets and went for a run and she loved it! She was amazed by how powerful and how loud it was. When Nonny became ill it was painful to watch. One of the most important people in my life passed away at age 78.

One of my earliest memories is of a Porsche. I was probably only four or five but I remember my uncle parking the car in the driveway. It was so much smaller than the American cars and had a sound like a motorcycle. I remember running my fingers over the smoothness of the car.

My first time driving was on the family farm in a 1948 Studebaker pickup with a stick shift. The foreman made a special seat and blocks for me to reach the pedals, so I got to experience from an early age driving on different surfaces. At the time I didn't know what oversteer and understeer meant technically, but I knew if I was going too fast I wasn't going to be able to turn, so by the time I was 16 I was a proficient driver.

I graduated from that truck to one of Nonny's Cadillacs. She didn't feel the truck was that safe. The Cadillac felt like a tank! At 16 I had raised enough money by working on the farm to buy my own car, a Buick Century – which was also a tank!

My graduation present from my parents was a 650 Triumph Bonneville motorcycle, which I loved. Shortly after I got it there were numerous articles on how dangerous motorcycles were - my mother read them and said the bike had to go. I told mum I needed something of similar performance, and after doing my research I found a Corvette at a local Chevrolet dealer. While my dad was out of town I took my mother to look at the Corvette, which she thought was cute. As it was so loud, I told the salesman: "Under no circumstance are you to start the Corvette in front of my mother!" It was the purchase of the Corvette that started my competitive automotive career, and it's the car I used to beat Peter Gregg at the autocross. The Corvette didn't last long, as Peter got me out of that thing and into a 911.

When I was in prep school in Vermont my roommate and I went down to Florida in the summer and decided to go and watch the 12 Hours of Sebring. We snuck in the back gate and walked around cars which were grouped on the back straight. I was intoxicated by the whole atmosphere: the smell, and seeing people I had read about right there, including Mario Andretti, Dan Gurney, AJ Foyt and Phil Hill. I thought it was cool, but I never envisioned myself making a living out of racing. I thought it would be something I could do one day if I became a lawyer or a doctor. I never thought I would be a race driver.

After playing around with the cars I started thinking maybe I could make something out of this. My dad told me to come up with a business plan, which I did. It was very well thought-out. My dad gave me two years and said if I wasn't successful and making money, I had to stop and do something more reasonable for a career.

I turned up at a PCA event in Jacksonville and by chance Peter Gregg of Brumos Porsche had brought his entire team to check out something they had done to his 911 before he went to race in a TransAm race in Lime Rock to make sure it was working properly. I was just a kid, yet Peter and I ended up competing against each other for the fastest time of the day and I beat him! He came over and introduced himself and invited me to his house for a BBQ. It formed up to be a close relationship with his entire family.

Peter taught me how to drive the 911. My first professional race was at the 6 hours of Watkins Glen in July 1969 in the Porsche 911S Brumos #58 car. I didn't want to let Peter down after all he had done for me, and I didn't! We won our class and came eighth overall, which put us in the spotlight with Porsche. It was truly an incredibly feeling and supported the business agreement with my dad. Then a few weeks later I received my draft notice into the US Army. I was shipped over to Vietnam not knowing if I would ever race again...

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



A different kind of Porsche investment

Dear Sir,

I wanted to write a letter first to say what a great magazine **Total 911** is, but secondly to encourage readers to undertake some training to enjoy these fantastic cars even more.

I, like a number of other readers, have been lucky enough to have a number of Porsche over the years, and again like a few others have been frustrated with the allocation of GT cars by Porsche, being unsuccessful in securing a GT3 Touring myself.

Anyway, instead I booked myself on a day of driver training in my Golf R with CAT Driver Training at Millbrook, followed by half a day in my 991 GTS.

While I have had training over the years at Porsche Experience Centre and a few others, the training by Colin at CAT provides an engineering perspective as to why the car does what it does, which I think appeals to the Porsche owner, who in my experience likes to understand the way these fantastic cars work. Alongside the passion by CAT in showing you how to safely enjoy your car more, the great Millbrook facilities and the 911-focused content of trail braking, single-input steering and high-speed stability is all truly practical, useful and, more importantly, fun.

Anyway, it's very easy to get caught up in firstworld problems of not getting various allocations and spending hard-earned money speccing the latest options and performance upgrades, when perhaps we should appreciate what great cars we already have and invest in some training to help us enjoy them even more. I also have a trip booked to take the car to the Stevio and Black Forest to practice and do the course homework... Gareth Howells

It's great to see a Porsche driver being diligent enough to undertake advanced driver tuition. As cars become ever-more capable, the art of being a good driver is often lost on the human being at the wheel. However, with the speeds and power at stake in modern Porsche machinery, it's arguably more important than ever to fully understand how the car works and how to handle it in all conditions. It is an investment in your Porsche story that many people often neglect and is something we'll be taking a closer look at in an upcoming issue. Very dedicated of you regarding doing the homework too, by the way! 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!



Secret RS owner vs distraught owner



Dear Sir,

I noticed in issue 165 you ran a guest column from an unidentified person getting a 991.2 GT3 RS allocation, while in the 'Views' section you ran a piece from a chap who didn't get the car he wanted. I wonder if these are in fact the same person?

Adebanji Alabi

Thanks for the email in, Adebanji. Speculation has been rife as to the identity of the Secret RS Owner, though it was a condition of the article that his or her name was kept secret. I'm happy to say however the authors of the two GT3 RS-derived articles you refer to are two very different customers with very different car histories and practices. It goes to show the gulf in customer experiences with Porsche at present.

2.7 Carrera: the secret RS

Dear Sir,

I've just read the article written by Kieron Fennelly on the 2.7 Carrera, and the fascinating backdrop to how Porsche evolved its early flat six engine from a capacity of 2.0-litres up to the 2.7-litre unit which spawned the RS. As for the G-series 2.7 Carrera which followed in 1974, which you could undoubtedly say has a specification highly influenced by the RS, have you not forgotten the genuine 1974 RS, which had a 3.0-litre engine? The car is rare, of course, but its specification is much improved over the 2.7 Carrera RS of 1973, boasting 917 brakes and more power.

Ryan McTominay

Thanks for your insight into the 3.0-litre RS, Ryan – you'll recall we featured the model as recently as issue 148 where we put it head-to-head against its 2.7 RS predecessor ('Rennsport icons'). Of course we are very aware of the rarity of the 3.0-litre – there are only six in right-hand drive worldwide – but regardless, the unique specification of the G-series 2.7 Carrera does indeed make it a secret RS. In sharing the same engine, gearbox and chassis as that Carrera RS of 1973, while being as rare and comparable in weight, few could surely argue with the claim – though in the aftermath of our article, one could counter as to the validity of its 'secrecy'.



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

Touching on engine oil last month, I would love to dive into an engine expert's knowledge: is it only the recommended oil by Porsche that is the one and true oil for my car? If using top-quality oil from top brands (Castrol, Mobil 1 and so on) with the right viscosity for the use of the car, would a technician hold it against anyone to stray from the 'Porsche brand'?

I'm driving a 997.2 GT3 and doing a bunch of track days a year. I'm using Mobil 1 5w-50, as I see it as a good mix between daily and track, though surely the thought applies to all Porsche: get top quality oil and match the weight to your use. If following this will all be well, or am I digging an early grave for my engine? Stefan Bovien Nielsen

Scott's answer: "I would always advise using the oil recommended for your car by Porsche, which is typically Mobil 1 Ow-40 for the GT3. I would certainly not advise mixing oils in any way. Regarding us technicians here at a Porsche Centre, we have no available means of testing the oil other than a visual inspection. However, should a problem arise with an engine, Porsche AG may investigate further should there be an issue covered under warranty, and use of incorrect oil will of course invalidate any warranty. Lots of people have preferences when it comes to the oil they use in their car, but I'll always advise to stick with the manufacturer's recommendations to be on the safe side."





Special edition RSR?

Dear Sir.

In your welcome note for issue 166 you doused more fuel on the fire of a proposed special-edition Rennsport to sign off the 991 generation. However, just days after issue 166 had landed in my reading room, a friend forwarded me a YouTube video of what looked like a heavily modified 991 GT2 RS undertaking a private track test. Can you please shed some light as to whether this is the car you speak of? Have you heard any other information? **Chris Haher**

I saw the same video you've mentioned posted on the internet, which showed a disguised Porsche GT car undertaking some flying laps

around Nardo, the company's test track facility in Italy. The car in the footage did look like a 991 GT2 RS with a much bigger rear wing, though the audio from the video suggests this was a race car as you can hear the highpitched wailing of the racing transmission. We still stand by our sentiments that we should expect a special-edition Rennsport, though spy pictures garnered by our contacts are only revealing an incoming Speedster. Watch this space, though you should recall the 997 GT3 RS 4.0 was released only weeks before the start of the new 991-generation, so we could see a repeat whereby a special car could arrive in August or September.

Best scratch repair?

Dear Sir.

First I want to thank you for a great magazine, I will enjoy reading all the articles as usual. I was wondering what was the best product that helped take out scratches? Thank You.

Mark Goldner

Thanks for the kind words, Mark. There are plenty of products on the market which can help you eliminate scratches on your Porsche, all at wildly different price points. However, we recommend Chipex, which is Europe's bestselling touch-up kit - several of our 'Living the Legend' columnists have trialled it (you may recall articles by both Joel and Joe in the last year), with very positive feedback received each time. You can purchase with worldwide shipping from chipex.co.uk.





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The 996 not only introduced the idea of the GT3 and its RS spin-offs, but also defined them. **Total 911** drives all three derivatives back-to-back...

Written by Kyle Fortune Photography by Rich Pearce



T3: the most evocative, desirable collection of letters and numbers as you can ask for to be tacked to the rump of a 911. Add RS into the mix and that's even more so. The GT3, as its name and subsequent RS spin-off highlights, has its tyres firmly rooted in Porsche's racing activities. It's enough to elevate all the cars here above the usual rhetoric spewed about the once 'undesirable' 996, the GT3 badge signifying something very special indeed.

GT3 badge signifying something very special indeed. There are three GT3s in the 996 generation, the Genl available from 1998-2001, the Gen2 coming in 2003 until 2005, with the RS spun off that between 2004 and 2005. That Genl car is unique among GT3s, largely because it's the only GT3 not to have a same-generation RS model based on it, the Genl being Porsche's GT3 genesis.

It's inconceivable that you're reading this and don't know at least the basics surrounding the GT3. Lighter, more engaging, its creation allowing homologation of parts to allow Porsche to race the 911 to great success around the world. Actually, with the original GT3 that lighter element is a misnomer, as put the Genl car on the scales and it's carrying around 30kg more mass than its base 996 Carrera relation. Blame that on the marginally heavier G96/90 gearbox and M96/76 engine, as well as an additional engine radiator. Porsche didn't elect to go down the lightweight panels, thinner glass route with its first GT3 model, though it did bin the rear seats in a small – 8kg – concession to mass reduction, while Sport bucket seats removed around 20kg over the standard Carrera's pews. As a means of recompense for the weight gain, the M96/76 engine, more commonly referred to in reverential tones as 'the Mezger', was fitted, its specification being pure motorsport, with lightened, stronger internals to cope with the stresses of winning competition. ⊃



And what compensation, the Le Mans-winning GT1-derived, naturally aspirated 3.6-litre flat six unit was rated at 360bhp at 7,200rpm – redlining at 7,800rpm – with peak torque of 370Nm. It's a glorious engine with enough power to allow the GT3 to reach 62mph in 4.8 seconds, 100mph in 10.2 seconds and a quoted top speed of 187mph. But it isn't the numbers that matter, really, rather how it delivers its performance. In Walter Röhrl's hands the first GT3 lapped the Nürburgring in 7 minutes 56 seconds – isn't it ridiculous to think how far things have come in under 20 years? Stopping all that are 330mm cross-drilled, inner-vented discs of 330mm in diameter, grabbed by four-piston monoblock callipers.

Getting into James Samuel's yellow Genl car today demonstrates exactly what Porsche intended its customers to do with their GT3s: track them. Why else would Porsche include adjustable suspension with extended-axle geometry sitting 30mm lower than standard, an adjustable rear wing and the possibility to quickly (relatively speaking here, and if you're a race mechanic) swap out gear ratios to suit differing tracks, as well as the synchro rings? To that Porsche added differing hubs, with 10mm larger bearings over the Carrera's 70mm ones for the greater forces racing tyres would exert. Spherical top joints more rigidly position the front suspension, the same possible at the rear if you're off racing, the GT department adding five alternative mountings at the back for the adjustable tubular anti-roll bars.

Clubsport-equipped cars came with a half cage in the rear, and a single-mass flywheel was added for even greater immediacy, while inside there were provisions for a six-point racing harness, a cut-off switch for the battery and a fire extinguisher. Read the specifications and, the lack of weight loss aside, it's every bit the outright Porsche racer.

Every engineer in Wiessach would no doubt approve of Samuel's additions to his 2000 Speed yellow Genl. Sitting in the Sparco Grid II Seat, if I wanted to be any lower I'd have to sit on the floor. There's a Momo steering wheel in front of me, and a Tequipment cage in the back. The engine is standard and, praise be, it's covered over 100,000 miles, this clearly no pampered, mileage-mired garage queen. The 3.6-litre unit is now mounted on Rennline engine mounts, while there's a 964 RS flywheel and clutch, 997 GT3 RS shifter assembly, a Cantrell Motorsport transmission mount, Numeric Racing shifter cables and larger Alcon brakes. Standard it certainly is not, but then if you read the 996 GT3's original specification it's a car that Porsche itself was crying out for owners to modify.

We've got the space at Longcross test track to run out in it, this, unsurprisingly, feeling unlike any standard 996 GT3 I've ever driven. The steering is more eager to turn in, thanks to Samuel's tweaking of the geometry and the addition of Michelin Cup 2 tyres, and the engine's more ferocious appetite for revs - that flywheel - is obvious, too. The gearshift is quicker, more precise, which allows the sensational engine to be better exploited, this being a hugely fun car to drive. Beautifully judged, too, without the sort of extreme compromises that would mean you'd be better trailering it to the track. Scratch beneath the surface of Samuel's enhancements and the GT3 is clearly a sensational basis for his ambition for it, previous experience with them underlining that for all Porsche's motorsport goals the GT3 was, and remains, an exceptional road car which even in its very first iteration delivered something very special indeed. \bigcirc

"No engineer is ever truly satisfied, and apparently those at Weissach are particularly hard on themselves"

NEUPY

I figure there has to be a cheeky sign up somewhere in Weissach saying something like: 'there's always room for improvement.' The obsessive attention to detail to create the Genl car underlines that, it such a departure from the standard Carrera that it's rightfully so highly regarded. Yet no engineer is ever truly satisfied, and apparently those at Weissach are particularly hard on themselves.

With the standard Carrera being overhauled in

2002, the opportunity for a new GT3 was created, and it's one that the engineers took. The Gen2 is the result. Obvious here thanks to its headlights, despite the differing rear wing it retained the same 0.30 drag figure, air management improved thanks to redesigned frontal intakes helping to reduce lift on the front and rear axle. Air flow under the car is significantly reduced, the new rear spoiler helping with high-speed stability.

Introduced in 2003, the Gen2 exemplified exactly what we've come to expect from the GT department since. That being a series of small, but not insignificant changes which add up to a greater whole. The engine, now the revised M96/79 Mezger with infinitely controlled camshaft management (VarioCam), develops 38lhp, up 2lhp, for a specific output of 105.8hp per litre. It revs to an 8,200rpm maximum and develops its greater output at 7,400rpm, some 200rpm up on the Genl car. More significantly, there's more torque, it available earlier in the rev range, with some 80 per cent of its peak 385Nm developed from just 2,000rpm. All that improves the car's driveability without detracting from its hardcore, high-revving appeal when you've the space to enjoy it.

"Unlike most of us who aspire to own whatever picture pleased us enough to break out the Blu Tack, Preuninger had the means to make his dream, albeit a modern interpretation.""

Slightly shorter ratios in the transmission and a splash-oil lubrication system with a separate fluid cooling system were the significant revisions to the transmission, the brakes gaining 20mm at the front and another pair of pistons for a count of six. As a result the pad area up front covers some 40 per cent more than the Genl car. The rears remain 330mm, though Gen2 GT3 customers could option Porsche's

PCCB brakes all-round for an unsprung mass weight saving of 18kg and stronger track-braking performance. The wheel design was changed, as was the width of the front and rear wheels: a 0.5-inch increase at the front, and an inch at the back, for 8.5 and 11 inches respectively.

Weight went up marginally, with a quoted kerb weight of 1,380kg, though the figures improved, the new GT3 able to better the Genl's 4.8 0-62mph

time by 0.3 seconds for a quoted 4.5 second dash, while top speed crept up to 190mph. After driving the Genl car here this Gen2 car feels a bit remote if I'm honest, that more a reflection of the modifications made to the earlier car than it.

The steering is light but full of feel, the Gen2 like its relations having a slight pause in turn-in that's initially unnerving, and eventually something

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you adapt to, using a judicious lift to turn the nose in before getting back on the power once it's settled into its trajectory. The engine's a screamer, the Mezger deserving of all the praise heaped upon it. The gearshift is equally joyous, and the brakes unerring in their stopping power. There are around 50,000 miles on its odometer, highlighting that early GT3s existed in a period where people bought them to









Model 996.1 GT3

Year 1998-2000

Engine Capacity 3,600cc Compression 11.7:1 ratio

Maximum power 360hp @ 7,200rpm

Maximum torque 370Nm @ 5,000rpm

Transmission Six-speed manual, rear-wheel drive

Suspension

- Front Front axle in McPherson design (optimised by Porsche); spring-strut axle with independent suspension on track control arms; longitudinal arms and spring struts; cylindrical springs with shock absorber fitted inside; single-sleeve gaspressure dampers
- Rear Rear axle in multi-link design; independent suspension on five track control arms; cylindrical coil springs on each wheel with coaxial shock absorbers fitted inside; single-sleeve gaspressure dampers

Wheels & tyres

Front 8x18-inch; 225/40/ZR18 Rear 10x18-inch; 285/30/ZR18

Dimensions

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

Performance

0-62mph 4.8 seconds Top speed 188mph

996.2 GT3

2003-05 Engine 3,600cc

11.7:1

381hp @ 7,400rpm 385Nm @ 5,000rpm Six-speed manual, rear-wheel drive

Suspension

Front axle in McPherson design (optimised by Porsche); spring-strut axle with independent suspension on track control arms; longitudinal arms and spring struts; cylindrical springs with shock absorber fitted inside; single-sleeve gaspressure dampers

Rear axle in multi-link design; independent suspension on five track control arms; cylindrical coil springs on each wheel with coaxial shock absorbers fitted inside; single-sleeve gaspressure dampers

Wheels & tyres

8.5x18-inch; 235/40/ZR18 11x18-inch; 295/30/ZR18

Dimensions

4,435mm 1,770mm 1,380kg

Performance 4.5 seconds 190mph

996 GT3 RS

2004-05 Engine

3,600cc 11.7:1

381hp @ 7,400rpm (claimed more like 400hp) 385Nm @ 5,000rpm Six-speed manual, rear-wheel drive

Suspension

Front axle in McPherson design (optimised by Porsche); spring-strut axle with independent suspension on track control arms; longitudinal arms and spring struts; cylindrical springs with shock absorber fitted inside; single-sleeve gaspressure dampers

Rear axle in multi-link design; independent suspension on five track control arms; cylindrical coil springs on each wheel with coaxial shock absorbers fitted inside; single-sleeve gaspressure dampers

Wheels & tyres

8.5x18-inch; 235/40/ZR18 11x18-inch; 295/30/ZR18

Dimensions

4,435mm 1,770mm 1,360kg

Performance 4.4 seconds 190mph



| 25

GT2

The world remembers the 996 as introducing the GT3, but it also brought us the GT2... and we all know that car's reputation. A mutant hybrid mix of GT department motorsport know-how with the 3.6-litre Turbo's engine driving the rear-wheels only – with no electronic aids – it's the best kind of hybrid. Power is 462hp, so it's pushing out significantly more and mightier ponies, particularly at lower revs. All of this makes it a bit more of a handful, despite the plentiful rubber on the driven axle. For all its fearsome legend, the GT2 isn't quite the raw, uncouth machine you might think it is. It needs some respect, but then so does any high-performance car of this pre-electronic nannying safety-aid era.

Like its GT3 relations it's unremittingly pure: there's a manual transmission, hydraulic powerassisted steering and a sophistication to the ride that's as much a credit to Weissach's chassis people as it is the engineers' obsessive weight reduction. It'll always be an interesting, diverting niche within an already narrow band of enthusiasm for hardcore cars, but with the 991 GT2 RS gathering praise in its latest form, the market has cottoned on to not just the desirability and rarity of the GT2 in its earliest form, but how accomplished it actually is.

















drive them. As they should, too, the GT3 996 Gen2's factory enhancements clear, the engine's greater low-rev urgency apparent, yet not denying the 3.6-litre's appetite for its glorious redline.

What is again abundantly clear is that despite the greater engagement the GT3 delivers, it's not at the expense of usability and comfort. Yes, you need a Carrera if you want rear seats, but the GT3 isn't a raw, compromised machine. Indeed, its focus is actually complimentary to the seemingly conflicting Gran Turismo promise of its badge. Visually the Gen2 is the more appealing car to my eyes, but perhaps because of the car that followed it. This car, unlike the Gen1 here and many others, remains stock, as rather than customers tweaking their cars to suit, Porsche itself couldn't resist the temptation.

I've driven a few 996 GT3 RSs, and yet my first ever drive in one still remains so vivid. A recent steer in the previous issue against its newest relation did nothing to dampen my enthusiasm for it, and seeing Richard Higgins' car tear by on the main straight at Longcross only heightens that. The simplicity of its lines, the relative lack of aero addenda – which when new looked so outrageous – and, of course, those 2.7 Carrera RS aping graphics and colour-coded wheels only increase the effect. The RS is a genuine product of the oft-repeated car enthusiast's cliché, GT director Andreas Preuninger having had a 2.7 RS poster on his wall as a young boy. Unlike most of us who aspire to own whatever picture pleased us enough to break out the Blu Tack, Preuninger had the means to make his dream, albeit a modern interpretation.

That's exactly how the RS came about, it something of a skunkworks car, built without the Board's knowledge before being presented it. A business case was made for it, even if Preuninger and his team had to fight hard for those fiendishly complicated-to-paint alloy wheels, this car being the RS reborn in the water-cooled era.

Richard bought it new to drive it, the 30,000 miles on the odometer largely accumulated around tracks. I don't blame him, as it's such a sweet car. The RS changes are transformative, adding a depth and intensity to the standard car's ability while not denying it its broader 911 remit. The steering is immediately more alert, the detail changes to the suspension accounting for that, but there's still the need to use the engine's weight to tuck that nose in. Everything is heightened: the feel, the sound, there being a real authenticity of that motorsport DNA and the RS badge that signifies it. The engine is even crisper, Preuniger admitting to me previously that none left Porsche with less than 400hp, rather than the same 381hp of the GT3 that Porsche quoted for it. Being an RS it was lighter overall, but not hugely, with 20kg shifted through things like a carbon bonnet upon which, famously, the badge is replaced by a sticker.

So which one? Really, they're all winners. The RS is the car I covet, though I fear that I'd fall into the trap of so many and not use it as intended, fearful of its future value (only 682 were produced worldwide). The Gen2 car represents opportunity in this company, a car that's good, but with a bit of work could be as good as, and better even than the RS that it spawned. I prefer how it looks to the Genl, too. Here today, though, the Genl car is the one I'm most drawn to. Its significance can't be underestimated yet, because it was born into an era of pre-investment, people bought them to drive, and enhanced them to suit accordingly. Unburdened by originality, Samuel's car here represents opportunity, unlike the other two cars, in the way he has made the car his own. It is the one that arguably represents the ultimate iteration of the GT3 in 996 form in this company at least, though the history books, and no doubt a good few of you, will disagree.



THE STORY

Porsche's most controversial 911 model is at last finding favour among enthusiasts. We take an in-depth look at the first watercooled generation, including the best models to buy

Written by Tim Pitt Photography by Daniel Puller

K80





he 996 was a revamp in the evolution of the 911 as suddenly, by 1997, Porsche's icon was thrust headlong into the 21st century. Improvements were introduced, while much-loved quirks were expunged. Enthusiasts found it instantly familiar yet disconcertingly different. It still divides opinion today.

This guide details the evolution of the 996, from replacing the 993 in 1997 to being phased out by the 997 in 2004/2005. It includes the Cabriolet, Targa and Turbo, with the preceding feature having documented the GT cars. We'll cover updates, specification changes and options added during the model's lifetime, along with what to look for when buving one.

Our story starts in the mid-1990s. Porsche was in dire straits, haemorrhaging money with the threat of takeover looming (GM, Mercedes-Benz and Toyota were all interested, according to rumour). Times were tough, as 996 designer Pinky Lai told us in 2015: "The pressure and burden on my shoulders was bigger than the fate of the company: I had to deal with the fate of the 911!" A radical rethink was needed – and delivered.



Porsche flew in consultants from Japan to streamline its Zuffenhausen factory. The 911 would no longer be hand-built, but mass produced – it also merged design and development of the 996 with the new entry-level 986 Boxster, allowing both cars to share components. Cost savings of 30 per cent versus the outgoing 993 were quoted, a figure almost unheard of in the industry.

"Porsche flew in consultants from Japan to streamline its Zuffenhausen factory. The 911 would no longer be hand-built, but mass produced"

The 996 Carrera Coupe made its world debut at the 1997 Frankfurt Motor Show. Controversially, it bore more than a passing resemblance to the cheaper Boxster, being almost identical ahead of the A-pillar. Lai had spent many hours in a wind tunnel refining the car's slippery shape and a Cd of just 0.30 was the result, down from 0.33 for the 993. An electric rear spoiler extends at 75mph, then retracts again at 37mph – Mr Lai recalls how he had to fight for the



inclusion of the electrically operated rear spoiler to better manage downforce at high speeds, despite the company arguing there wasn't enough money in the pot for this to be included. Thankfully Lai won through, and the active spoiler was included as standard in the final producton specification.

More controversy lurked beneath the engine lid, though. Despite the protestations of purists, Porsche

claimed the introduction of water cooling was vital to meet emissions and noise regulations. However, as 996 development chief Horst Marchart later acknowledged, cost was also a factor: "Nobody in the world had air-cooled engines except us... it took a lot of money to make special systems since we could not share technology with anyone else."

At least the M96 motor was still a rear-mounted flat six. It displaced 3,387cc and produced 304hp at 6,800rpm, with 350Nm of torque at 4,600rpm. Four valves per cylinder featured for the first time in a mainstream 911, along with Porsche's new Variocam adjustable camshaft timing to boost response. Headline stats were 0-62mph in 5.2 seconds and 174mph flat out. Buyers could choose a six-speed manual gearbox from Getrag or a five-speed





Tiptronic auto from ZF, the latter offering clutchless manual shifts.

The 996 was 185mm longer and 30mm wider than its predecessor, with a 45 per cent stiffer chassis formed of high-strength steel. Impressively, it was 50kg lighter than a 993, too, despite the additional radiators, pumps and 20 litres of cooling water. A basic 996.1 Carrera tips the scales at 1,320kg. Front suspension was by MacPherson struts, with cast aluminium links at the rear. Vented disc brakes – 318mm front and 299mm rear – were tucked inside 17-inch alloys, although most cars wore optional 18s.

Inside, the 996 was little short of an ergonomic revolution. It had a conventional dashboard with a centre console and optional PCM navigation. Dials were now housed within the circumference of the steering wheel and the pedals were no longer skewed towards the centre of the car. Taller drivers and passengers delighted in more interior space, while water cooling meant a much improved heating system. Less positively, there was also an abundance of hard plastics – an unwelcome reminder of Porsche's cost-cutting of the time.

Prices started at £55,950 when the 996 reached UK showrooms. By the time production ended, more than 175,000 had been sold, helping balance the books and bring Porsche back from the brink. It was the \bigcirc







ABOVE FROM LEFT M96 motor was lighter than outgoing M64 despite additional water and plumbing; POSIP introduced for 996; Targa featured opening hatchback for first time

PORSCHE'S FIRST PSM SETUP 1. Wheel-speed sensor

- 2. Integrated yaw-velocity and transversalacceleration sensor
 - 3. Steer-angle sensor 4. Pre-load pump
- 5. Hydraulic aggregate PSM 5.7 with pressure sensor and control unit
- 6. PSM switch
- 7. Motronic control unit





ABOVE AND RIGHT Turbo model mated 4WD system from Carrera 4 to turbocharged Mezger flat six



FAR RIGHT Special edition Anniversary model was a true driver's car with X51 Powerkit and limited slip diff. Just 1,963 units produced





first 'modern' 911, and set the template for the car we still love today. But like any 911, it never stood still...

The 996 evolved throughout its eight-year production span, spawning new variants and getting steadily better. The first big news arrived a year after launch, with debuts for the 996 Cabriolet and Carrera 4 at the 1998 Paris Motor Show. The Cabriolet's hood retracted electrically in 20 seconds and stowed neatly beneath the rear deck, making it the first drop-top 911 without a bustle-back. A detachable hard-top – painted in body colour – was also supplied, and often stored free-of-charge by dealers.

The Carrera 4 came in both body styles and had variable four-wheel drive, directing anything from five per cent to 40 per cent of torque to the front wheels. A 55kg weight penalty was offset by enhanced traction, meaning identical performance figures to the C2. This was the first C4 to be offered with a Tiptronic gearbox and also introduced Porsche Stability Management (PSM) as standard. The system tied together electronic traction, stability and braking aids to create potentially the safest 911 to date.

Porsche made general updates for the 1999 model year, too, including POSIP side-impact protection and smoked indicator lenses (to counter criticism of the 996's 'fried egg' headlights). Most significant, though, was new Bosch Motronic 7.2 engine management,

Where does the 996 stand today?

The 996 remains the 'bargain' 911, but prices have risen in line with its growing desirability and status. Greig Daly, sales director at RPM Technik, says: "It's a great 911: new enough to avoid the savage corrosion issues of air-cooled cars, yet old enough to be small, nimble and relatively simple mechanically. It also punches well above its weight in terms of dynamics." Jason Shepherd of Paragon Porsche agrees: "A correctly prepared and set-up 996 is a great car to drive. The relative smallness, simplicity and

> analogue feel has become far more beguiling to some." Both also note the upward trend in prices. "They've been increasing steadily since 2015 as buyers wake up to their great value," explains Greig. "Manual C2 Coupes especially. Expect to pay

from £12,000 for a 3.4 C2 Coupe with high miles, rising to £70,000 for a manual Turbo S Coupe."

Which models would the specialists recommend? "The Turbo, C4S, manual C2 coupe, nice Cabriolets and the Carrera Anniversary special edition," says Jason. Greig singles out the manual C2 and C4S. However, there's a word of caution from Jason: "Avoid anything that's not as close to 100 per cent as possible in all areas. Remember, 996s are still 911 prices to put right, even if they are older Boxster prices to buy."

which necessitated swapping the 996's cable-operated throttle for 'E-Gas' drive-by-wire. It's worth noting that some drivers prefer the original cable set-up, citing improved linearity and response. Early 996s from the first year of production are thus relatively sought after today.

The first 911 GT3 took a bow in 1998, followed by the 996 Turbo in 2001 – both employing the tried-and-tested Mezger engine in lieu of the problem-prone M96 (more on this later). The Turbo had four-wheel drive and a not-inconsiderable 426hp, endowing it with true supercar performance: 0-62mph in 4.2 seconds and a 189mph top speed. Thankfully, it had stopping power to match, with 330mm discs and 'Big Red' monoblock calipers derived from the 911 GT1. PCCB carbon-ceramic brakes also debuted as an option, reducing unsprung weight by 50 per cent.

Styling modifications for the Turbo included gaping side air intakes, new 'teardrop' headlights, a two-piece wing and hollow-spoke alloys within swollen rear haunches. Yet despite its aggressive appearance, the top-dog 996 was no stripped-out road racer. All cars had PSM, power-adjustable seats and a ten-speaker audio system (12 speakers from 2002). Many owners also opted for the Tiptronic S gearbox – now with rocker switches on the steering wheel spokes. PSM became available for the Carrera 2 in 2000, too.

LED interior lights and electric opening for the boot and engine lid were the only notable updates for 2001, as Porsche busied itself with a mid-life facelift. The 996.2 duly took a bow at Frankfurt in 2001, exactly four years after the car was first introduced. The most obvious differences were new front wings with Turbo-look headlights, plus reprofiled bumpers and oval exhaust tailpipes. Crucially, the 996 no longer resembled a bigger Boxster.

Porsche reworked the Carrera engine as well, fitting larger valves and using a longer stroke – 82.8mm instead of 78mm – to enlarge capacity to 3,596cc. Peak power leapt to 324hp at 6,800rpm and torque to 370Nm at 4,250rpm, with manual and Tiptronic gearboxes both beefed up to cope. A five second 0-62mph time and 177mph maximum was quoted for the C2 and C4. Engine management was now Bosch Motronic 7.8, while the Turbo's Variocam Plus system spread to the rest of the range.

An 'X50' 450hp power package for the Turbo and a heated-glass rear window for the Cabriolet also arrived with the 996.2 update, as did two new models: the Targa and Carrera 4S. The Targa took inspiration from the 993, with a full-length sliding-glass sunroof that retracted behind the rear window. With the roof closed, the window hinged upwards on pneumatic struts, allowing easy access for luggage. The car was only available with rear-wheel drive and weighed 80kg more than a C2 Coupe.

The Carrera 4S supplanted the C4 for the final two years of production. It had the shapely, 60mmwider hips of the Turbo (albeit without air scoops aft of the doors) and a red reflector strip between the rear lights. Its drivetrain came straight from the C4, but with 10mm lower suspension, 18-inch 'Turbo Look II' alloys and the flagship car's mighty four-pot calipers. The C4S is perhaps the most desirable non-Mezger 996 today, especially as Porsche never made an 'S' version of the 996 Carrera 2.

Following the fearsome GT2, Cabriolet versions of the Carrera 4S and Turbo were introduced in summer 2003. The latter was the first roofless Turbo since 1989, and there was more to come with the 450hp Turbo S – itself available as both Coupé and Cabriolet. In late 2003, the special-edition 996 Carrera Anniversary was launched to mark 40 years of the 911. It had the X51 350hp powerkit (an option for 2004-model-year 996s), along with M030 sports suspension, a mechanical LSD, GT Silver metallic paint, chrome-finished wheels and a simple '911' badge on its rump. Only 1,963 were made, to mark the 911's year of birth. ⊃ Production of the Carrera ended in 2004, although the C4S, Turbo and GT3 continued well into 2005. Therefore even the youngest 996s are now 13 years old, and buying one demands due diligence. As with any used 911, the key checkpoints are maintenance, condition and – to a lesser extent – mileage. Regarding maintenance, **Total 911** recommends changing the oil every 5,000 miles for non-Mezger flat six engines: this affords an opportunity to check for evidence of any detritus in the oil which could

point to an imminent IMS or other failure. Similarly, to ensure the M96 is kept in best possible condition, avoid journey times of less than 20 minutes and remember to short-shift at 3,000rpm until the engine oil is warm (at the other extreme, don't let the car idle while engine temperature

is optimised). As for mileage, **Total 911** recommends favouring a car with a healthy amount of miles on the clock. A low-mileage car still has a lot of life ahead of it, and problems could lie in wait. By contrast, a car with a higher mileage will likely – if it has been appropriately looked after – have had these common faults fixed a long time ago.

Insist on a fully stamped service history detailing those regular oil changes and inspect panel gaps for signs of accident damage. Rust is a rarity on 996s (an occassional exception around the B-pillar door latch), so corrosion can point to a poorly executed repair. There are two acronyms that strike fear into the heart of any M96-engined 996 owner: RMS and IMS. The former refers to the rear main seal, located on the crankshaft at the front of the engine. If it leaks, the car will drip oil. However, this isn't a terminal problem, and most owners wait until the clutch is changed (an engine-out job) to replace the RMS. Upgraded seals are available from Porsche and aftermarket suppliers. A leaky RMS itself isn't too much of an issue and was redesigned by Porsche

"The 996 is fast gaining a deserved reputation for being a great-value 911, providing you find a good example"

throughout the M96 and subsequent M97's life, but a leaking RMS could mask an IMS that's about to give up, so treat any leaks with caution.

'IMS' stands for intermediate shaft and is a potentially more serious issue, although less widespread than the internet would have you believe. The IMS links the crankshaft with the overhead camshafts for each bank of cylinders. The IMS can essentially flush itself of oil, which breaks up the bearing. A tired bearing will rattle from cold and get progressively louder. In the worst-case scenario, the cam chain will detach and destroy the engine. Many M96s have since been rebuilt with stronger bearings, either from Porsche (which introduced two changes over the life of the M96 and M97 engines) or from aftermarket manufacturers.

Other problems to be aware of include a worn air/oil separator (spot blue smoke from the exhaust), cylinder failure on some 3.4-litre cars (look for signs of oil in the coolant) and cylinder bore scoring on 3.6-litre 996.2s. A bore scope should be completed to check for signs of bored scores, and a Porsche

specialist of any repute should have no problem seeing to this for you. None of these issues affect the Mezger engine, though.

Don't be put off by the potential issues here: the 996 is fast gaining a deserved reputation for being a great-value 911, providing you take

your time in finding a good example. A fun and engaging drive devoid of the driver aids which sought to nanny subsequent models, at last the 996 can be exalted and recognised as a crucial and positive evolution to the story of our beloved Porsche 911.

Thanks

Thanks to Ken Mack, Paul McAleer, Andrew Porter and Gary Haddock from Porsche Club GB R27 for supplying the immaculate 996s in our feature. Thanks also to Kirkistown circuit for providing a stellar location.



Why I ditched my air-cooled Porsche for a water-cooled 996

Most consider an air-cooled car the holy grail of Porsche ownership, yet one man has gone against the grain when refreshing his 911 stable. Sean Parr explains his decision to swap a 912 for a trusty 996 C4S



have loved air-cooled 911s since 1980 when I first opened a magazine featuring a green 930 Turbo and promised myself one before I was 30. I was 15 at the time. I didn't succeed in hitting that deadline (kids and houses got

in the way), but after 30 years of buying and selling cars – for love, not money – I managed to get myself into a 1982 911 SC Targa. I traded down (yep, down) to a 1990 964 C4, which was a stunning car and up until now the best car I've ever owned, but the prices of 964s literally doubled in six months, and suddenly I had made a ton of money on two cars and had also added to the garage with a 1967 912.

My belief was that if G-series cars and 964s could go up so fast, then a 'teens' 912 had to be a good buy. So it has proved, however, a hateful experience with the restoration of an SC proved that not every Neunelfer was the goose that laid the golden egg, and for a while I firmly believed that my love affair with Porsche was over. Yet the Irish green 912 had firmly weaselled its way into my heart, and wallet: I threw money at it for three years getting it perfect and it was great fun for a Sunday blast with mates and the odd short trip with my wife.

However, the 912 was being driven less and less and never through winter, which was starting to really get on my nerves. Cars are meant to be driven and mine wasn't being used due to values and practicality. It had to go. As soon as I said "I'm selling it" and wrote an ad, the phone was ringing off the hook, and it sold to the first guy that came to see it.

What to do? Porsche friends were saying: "What about water-cooled?" It was still a Porsche, still a 911, and comparatively cheap. "No way" I said, again and again. I hated everything that the 996 stood for: they're fat, bland, ugly in many ways, they have temperamental engines and are even less involving. "But have you driven one?" Well, the answer to that was easy: never have, never will. It seems I am a pig-headed, obstinate man. Then I got an opportunity to drive a 996, and a model even more controversial than most: the Carrera 4 version. And it was brilliant!

I started looking, and these things are cheap – really cheap. A bad SC will cost you upward of £25k these days, and 996s started at anything over £10k. The design by Pinky Lai had aged well, too, in my



eyes. Was I mad? I started looking seriously and every one that I saw on the road looked great – better in the metal than they do in the photos – and much nicer than the 997. The decision was made. I saw a Carrera 4S and I was totally in love. I'm sure I've seen one before, but I couldn't think of another car that was that good-looking, that capable and that cheap.

I found one locally which looked perfect. I took it for a test drive and looked at it in the sun with a rear three-quarter view and I was sold. I looked under it and was shocked by the rear tyres compared to my old classics – the tyres are huge! The car was taken to Porsche specialists DW Performance, where Kev gave it the okay, and the deal was done. The clutch, IMS, RMS, a few errant seals, the bits and pieces that all go with this work, the discs and pads and the tyres were all to be replaced, but I now had a cracking, usable 911 – and still had change from my 912 sale.

I collected the car with my great friend from Australia, Jeremy, who is another Porsche nut, and we were both blown away by the car. I have put more miles on it in the last three weekends than it has had in the last year, and I have loved every second of it. I was so worried that selling the 912 would take me away from what was wonderful in the 911 family – I am someone who loves basic cars – but the 996 C4S is simply the greatest car I have ever driven, let alone owned. It still has quirky Porsche traits, for example you still don't want to lift off mid corner. Yet it's comfortable, and myself, my wife and Bill the dog all absolutely love it.

There's a bit more interior plastic than would be absolutely ideal, but when you are at 6,800rpm in third with your hair on fire, you are not checking the ashtray! The sound on start-up is extraordinary, and the seat-of-your-pants feel from the chassis is exquisite. In short, it's a Porsche, it's a 911 and I love it; I won't ever be going back to air cooling. I never thought I'd say that, but the reality is not so much that 996's are just cheap, it's that they are, I believe, the motoring bargain of the century. There is no car in the world with this much history, this much engineering and is such a great car to drive at this price point. I love 'em!



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CARRERA ON THE CAUSEWAY COAST

In September we welcome the new 992 generation of 911, so how will history judge the outgoing 991.2? We find out with a road trip in the base Carrera

Written by Lee Sibley Photography by Dan Pullen



ain drums incessantly against the windscreen in front of my eyes, water clearing momentarily by the silent swooping of the Carrera's automated wipers. Its removal allows a better focus on the view ahead which, bizarrely, is enshrined in bright sunshine. It's then I notice the road surface in front is barely damp, let alone wet; a glance out to the driver's side mirror allays any fears of fictional rainfall, the dark sky behind a total contrast to the bright-blue hues ahead. Welcome to the Emerald isle, home to famously interchangeable weather on the edge of the Atlantic Ocean.

We're in Northern Ireland, to be precise, the topography here as impressive in its majesty as that more commonly found in the Republic south of the border. The countryside is endless and full of rich, green colour, while serpentine roads stubbornly hug the beautiful coastline away from the traffic of mainland Europe. Northern Ireland is a truly beautiful corner of the UK, perfectly surmised by a proud local who tells me over a beer later that night we're in 'God's country'. "We have the best of both worlds," he explains, pausing for a measured sip of real ale. "We're proud to be part of the UK and have the economic benefits which come with that, yet we're also very proud of our Irish heritage." He nods towards the pub's corner where two gents with a fiddle and an acoustic guitar are playing traditional Irish folk music, before turning back to me and asking, "Where else would you rather be?"

He has a point. We've showcased the merits of a road trip to the Republic of Ireland on these pages before, but this being the UK there's no need to switch the speedometer over to kilometres from miles, no need to adjust to driving on the other side of the road or, perhaps most importantly, no need to do any research on local road laws. They're all exactly the same as what I call 'home' on the UK's mainland. Save for a 90-minute blast up the AI from Dublin port through the Republic of Ireland, it's arrive and drive fun, and the perfect place to bring Porsche's outgoing 991.2 Carrera for one last road trip.

Having arrived in Belfast with snapper Dan the previous evening, the start of our adventure lies approximately 17 miles west of the capital in a small village called Dundrod. Home to just 167 people, it's most notably known for the Ulster Grand Prix road circuit running around it, which attracts more than a hundred thousand motorcycle enthusiasts from around the world to its 7.4-mile course every August. Back in Belfast, we fire up the Rhodium silver Carrera and instruct the PCM's navigation to point us in the direction of Dundrod. An estimated travel time of 35 minutes through the city's morning rush hour isn't ideal, but at least it gives plenty of time to remind ourselves of the circumstances surrounding the car's world debut in 2015.

Heralding the start of the 991.2 generation, Porsche's entry-level Carrera represented a big change for the 911, which would adopt turbocharged engines across the range for the very first time. Done to satisfy emissions regulations, this ditching of Porsche's famous, naturally aspirated flat six was met with consternation in the run-up to the 991.2's launch. Enthusiasts were deeply concerned turbocharging would alter the character of that famous flat six, not to mention the reservations over noise. Using the heavy, uninvolving and vocally restrained 911 Turbo as a case study, enthusiasts had every right to be fearful for the future of their darling sports car. Was Porsche really about to irrevocably change the 911 forever?

We reach the village of Dundrod and wonder if we're in the right place... at first there's no sign whatsoever of an international bike event having ever been held here. However, driving through the village and back out into the country soon reveals our destination: trees hugging the road eventually disappear and the road opens out, accommodating a wide home straight with starting grid markings on the ground in front, while to the left, a pit wall,





Model 991.2 Carrera Year 2015-2018

Engine

Capacity 2,981cc Compression 10.0:1 ratio Maximum power 370hp @ 6,500rpm Maximum torque 450Nm @ 1,700-5,000rpm Transmission G50 five-speed manual

> Suspension Front Independent; MacPherson strut; anti-roll bar; PASM Rear Independent; multi-link; anti-roll bar; PASM

Wheels & tyres Front 8.5x19-inch; 235/40/ZR19 Rear 11.5X19-inch; 295/35/ZR19

Dimensions Length 4,499mm Width 1,808mm Weight 1,430kg

Performance 0-62mph 4.2 seconds Top speed 183mph



<text>





















small grandstands and a towering commentary tower make themselves known.

Dubbed the world's fastest road race, there are echoes of the Isle of Man TT, but with key differences. The most obvious is the set-up, which at Dundrod is slightly more humble than the Isle Of Man. However, as I'd soon find out, this Northern Irish road race has a much better surface than the undulating asphalt lining Man. Here, it's reminiscent of a snooker table top.

I pull up in front of the main grandstand and meet Ulster Grand Prix organiser Ken Stewart, who's agreed to guide me through a few laps of the circuit. Swapping places in the Carrera's front passenger seat with Dan, who nips into the commentary tower for a cuppa, the Dundrod local is clearly passionate about the race – and the circuit – and is keen to show me around. We head clockwise first, the intended

direction of the track, and Ken is full of stats which, given we're not exactly hanging around in the Carrera, puts the gall of competitors into perspective. "This is a 150mph straight," Ken informs me as we storm away from the start/finish line down to Lindsay Hairpin. The Ulster Grand Prix is of course for motorcycles these days, but cars used to compete here too, Fangio being

a competitor in 1952. Ultimately, too many deaths resulted in two-wheeled-only competition.

There's a wonderful flow to the corners, made possible by that silky smooth surface and impressively long sight lines, and car and driver are in their element. Turbocharged or not, this 991 still revs to 7,400rpm, and despite the small size of those twin turbochargers (one for each exhaust) it doesn't run out of puff, pulling gallantly to the redline before each change up on the manual 'box. We're not hitting the circuit's average speed of 134mph, for obvious reasons, but by god are we having fun. Deer's Leap is a sensational corner, it tightening at the end before a sudden drop as the road follows a fall down a hill, but in truth the Carrera monsters it – turn-in is crisp, helped by standard-specification PASM which sits the car 10mm lower than its less agile 991.1 predecessor.

The laps soon fly by and we're getting quicker, the car sticking to the floor now those Pirelli P-Zero tyres have some heat in them. It's tempting to stay longer and try to put in a genuine lap time but, with common sense just about prevailing (this *is* a public road), we head back to the pits. "You should come down on 'Mad Sunday' when thrill-seeking bikers get down here early to experience the circuit without the worry of traffic. It's quite a sight," quips Ken as the commentary tower comes into view. I ask him when exactly 'Mad Sunday' takes place. "Every week," he says with a straight face. Retrieving Dan, we say goodbye to Ken and head directly north through the countryside in the direction of Portrush, part of the Causeway Coastal Route.

Northern Ireland's blue ribbon of a road, the Causeway Coastal Route almost exclusively hugs the coastline between Londonderry in the country's north west and Belfast in the south east. Comprising 120 miles of scenery, with sea to one side and land to the other, our adventure will be taking in around 75 per cent of the route, heading east from Portrush and finishing at our overnight digs in Belfast.

We elect to slow the pace a little and enjoy the scenery from Portrush onwards which, despite what we now know as perennially intermittent weather, is spectacular. It also highlights the touring credentials of the 991.2 Carrera, which are excellent: it's a comfortable place to be, the ride quality supreme for a car on 19-inch wheels with low-profile (35 front and 30 rear) tyres. The l4-way Sports seat is perfectly

supportive too, and I've long loved its positioning in a 991 – lower to the floor than any generation before it, it's without doubt the best seating position in any 911 yet.

We stop at the famous Old Bushmills whiskey distillery for a tour and to stretch our legs, Dan and I both bagging a souvenir bottle to take back to the mainland. Back in the car we are taken aback by the majesty of the Dunluce

medieval castle ruins which overlook the Atlantic Ocean, though we decide not to empty our pockets to the National Trust and skip the ancient basalt columns of the Giants Causeway phenomena. There's plenty more to see and do on this brilliant route, but we're here on assignment, the aim of which is to do some driving.

The road cuts inland at the country's most northeasterly tip overlooking Raithlin island, and a change in surface (the asphalt now much newer) invites an upturn in pace. A wave of excitement rising up from my stomach, I drop a cog and plant the accelerator, and the Carrera pushes forward. It's just so damn usable, this thing: unlike its entry-level predecessor, the 991.2 has plenty of low-down torque, which means the drive gets exciting pretty quickly, yet the car's modest 370hp output means you're given an opportunity to really work the car and hustle it up the road rather than just monster through each turn. Equipped here with a seven-speed manual gearbox, the car is decisively engaging to drive, despite those inherent shortcomings with the transmission which we've spoken about before. It's not that it's a bad gearbox by any means, just that the throw could be better, more precise.

However, that's not on my mind right now, with simply too much fun had wringing the little Carrera's neck through Ballypatrick Forest, leaning on those basic steel brakes to scrub speed when necessary (with plenty of pedal travel and less of an initial \bigcirc

"For the first time, Porsche's entry-level Carrera is all the 911 you'll ever really need"



Desirable 991 options

It goes without saying that, given the much talkedabout switch to turbocharging, finding an example with Sports Exhaust is a must. PSE with switchable valves provides the Carreras with a burbling growl on over-run, its depth of pitch not unlike the naturally aspirated cars preceding it. Identifiable by a pair of centrally mounted exhausts, the Carreras are simply too quiet without them.

Likewise, the Sport steering wheel is a must. Measuring 360mm in diameter, its rim is marginally thinner and, ergonomically speaking, nicer to hold. In terms of seats, the reclining buckets are surprisingly comfortable over long journeys, but for ease of use in getting in and out we'd recommend the 18-way Sports Seats Plus. They provide plenty of support and oodles of adjustability to keep you safe and comfortable, whether you're on track or in inner-city traffic. Likewise, cruise control is a sensible option.

Elsewhere, PCCBs do a monumental job in bringing the heavy 991 to a halt, though the reality is for all but hardcore track-day enthusiasts Porsche's iconic Big Red set-up is ample enough stopping power. In the same light, PASM comes standard on all cars now, and while PDCC provides extra stability through speedy corners, the caveat is a slight reduction in feedback from the 991's chassis. RWD or 4WD? The 4WD cars are now so good you won't detect too much by the way of understeer on the public road unless you're being very, very naughty, their wide hips and evocative rear connecting light making them stand out visually. Purists will always require a manual, RWD Coupe, however.

The big one though, of course, is manual or PDK? This will come down to how you plan to use the car:







bite than Big Reds or PCCBs, they allow for more of a progressive driving style on road conditions).

It's fast, but we're not taking the mickey: the Carrera feels dynamic, but not overstretched or short of grip. In short, it's awesome! I can't help but garner a soft spot for it. For the first time, Porsche's entry-level Carrera is all the 911 you'll ever really need – it's a cracking sports car right out of the box. Yes, it lacks the immediacy in throttle response which the naturally aspirated 991.1 has, but the difference is minimal and certainly not enough to really detract from the car's drive.

Rejoining the coastline at Torr Head, the road drops down to sea level and stubbornly hugs the shore right down to Belfast, the open scenery of land along the northern coast now replaced by rugged rock faces. There are fast and slow sections as we descend down south, but fun is had dropping the windows and listening for that burbling exhaust note bouncing off the cliff edge. Fitted here with Porsche's Sports system, it's a must for these turbocharged Carreras, and sounds great. Sure, I find I still miss that gnarly, throaty snare emitted from the tailpipes of the naturally aspirated 991, but the Gen2 Carrera does a fine job of providing the gruff to go with the car's grunt, the noise now best when on over-run. So how will history judge the 991.2? Much better than was anticipated in the immediate run-up to the model's release, that's for sure. Widespread concern over the presence of turbochargers negatively affecting the 991's drive never really came to fruition – much to the credit of Porsche's engineering of the car. Yes, the experience is different to that of the atmospheric 9Al engine found in the 991.1 Carreras, but there are many positives to this as well as the odd drawback.

As Porsche and the industry at large pushes towards a future of e-mobility and interconnected digitisation, the concept of merely bolting on a pair of small turbochargers to an internal combustion engine will seem increasingly insignificant for even the most ardent purist. The future will almost certainly be kind to Porsche's 991.2 Carrera, but focusing on perceptions in distant time is futile. Its destiny has already been decided, the outgoing model a success in evolving the 911 while keeping its DNA, its core values, firmly in step.

Reaching Larne and the southerly tip of the Causeway coastal route, rolling hills and rugged rock faces slowly make way for houses, businesses and a flurry of traffic. I glance at the time: 4pm. With no plans for the evening, it's an easy decision to spin the Carrera around and push north once more, those small turbochargers whistling away as rush hour in suburban Belfast is left behind. Northern Ireland's beautiful Causeway Coastal road deserves another bite of the apple – much like the 991.2 Carrera, it a sports car which satisfies the past, present and future of the 911's ever-developing story.

Positives of the 991.2 generation:

- Porsche has done a very good job of giving the turbocharged cars character
- Updated PCM with Apple CarPlay brings the 911 into the 'connected' 21st century
- Fantastic factory spec means entry-level Carrera is all the 911 you need

What the 992 will need to improve on:

- Gear change experience with the manual transmission. Are seven forward ratios really necessary?
- Haptics of steering wheel and Mode wheel. Latter in particular feels cheap.
- An entire generation of not being able to see Porsche's iconic flat six engine from under the decklid is one too many. #letusseethesix



GUIDE TO BUYING A 911 CABRIOLET

If you see the 911 as the ultimate sports car then chopping the roof off might be a hard sell, yet Porsche was always convinced of its appeal. With summer on its way, Total 911 explores the Cabriolet in more detail

Written by Chris Randall Photography by Total 911

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s the winter rain and snow becomes a distant memory, thoughts can turn to summer, and what better way to enjoy it than from the cabin of a drop-top Neunelfer? Few sports cars blend history, performance and engineering integrity quite like this one, so it seems like the perfect opportunity to explore the genre in more detail. Back in issue 130 we sampled the one-of-a-kind 901 Cabriolet, and although that led to development of the Targa it was ultimately the progenitor of the model that's been with us more than 35 years and seven generations. And whether you favour air- or water-cooled cars there's a model for every preference. It might have become more sophisticated over those years, but the basic principle remained the same, and its first appearance also coincides with the re-birth of the 911 after a period when it seemed that it might disappear for good. So, here is our rundown of both how it developed and how to buy the best Porsche 911 Cabriolet.

S C

After the concept debuted at the 1981 IAA show at Frankfurt - sporting a 3.3-litre Turbo engine and four-wheel drive - Porsche undertook some hasty reengineering to ready the production car for the 1983 model year. Sharing a basic structure with the Targa, the SC Cabriolet reverted to the regular two-wheel drive layout and was powered by the Coupe's 3.0-litre, 204bhp flat six. More than 4,000 examples were sold in the first full year of production, proving that there was a significant demand for a 911 that came sans roof. Speaking of which, the hood was a threelayer affair made from polyester and acrylic with a separate, insulating lining, and it was fitted over a lightweight, alloy frame. Manually operated (electric operation wouldn't arrive until later) it was fitted with a plastic rear window that Porsche recommended be unzipped before the roof was folded away and tidied up with a neat tonneau cover. Quite expectably this new model wasn't a cheap option, early cars arriving in the UK carrying a price tag just north of £21,000; choosing the Sport variant with larger wheels and the rear spoiler took this to more than £25,000. But Porsche had made its point, and the 911 Cabriolet has been with us ever since.







3.2 CARRERA & 930 TURBO



ABOVE Electrically-operated top was available from 1987, as seen here. Hood was only operable when stationary



With the 911's future safe the drop-top was quickly assured a permanent place in the line-up, featuring on the 3.2 right from its beginning. Porsche quickly set about cementing its place by offering more in the way of choice, not least when it came to hood colour, which could be better matched to the exterior hue - the SC had initially been offered only with a black roof. And with the bit firmly between Porsche's teeth the developments came thick and fast, the 1985 model year seeing the launch of the 'Turbo-look' model (option M491) with the more muscular aesthetic that implied. Two years later that model would become the Carrera Supersport, and at the same time you could operate the hood without any manual effort as electric motors took over the job. Almost 20,000 3.2 versions would be sold, which is rather more than the model that became available for 1988. On sale until summer 1989, buyers wanting their open-air motoring accompanied by more in the way of straight-line thrills could choose the 930 Turbo Cabriolet. Perhaps unsurprisingly the US was one of the biggest markets for this particular version; it's thought that around 3,000 were made in total, with 650 or so making it to UK shores. And just in case that wasn't quite exclusive enough, perhaps the 930 SE 'Flatnose' Cabriolet would have fitted the bill, assuming you had the necessary £130,000.

964 & 993

Neunelfer devotees will be entirely familiar with the sea change represented by the arrival of the 964, and its smooth new look and updated underpinnings would suit the neatly engineered Cabriolet variant rather well. Available for the 1990 model year, the greater modernity offered by the likes of powersteering, ABS brakes and coil-sprung suspension ensured that this generation of drop-top appealed to an even wider audience. More user-friendly and with the improved heating and ventilation system that certainly improved its all-year round credentials, an electrically operated hood was fitted as standard. And that IAA show car aside, this was also the first time that buyers could pair the Cabriolet body style

with the C4's four-wheel-drive running gear. Two years after launch came the option of a C2 version with the Turbolook body, and a further two years after that would see the arrival of the 993 generation in drop-top guise. Once again the hood was electrically operated and featured a plastic rear window, and it could be had in both C2 and C4 form. There was also an ultra-rare Turbo Cabriolet, with just 14 being made by Porsche Exclusive.



996



Costing around £6,000 more than the Coupe variant, the open-top 996 was launched for the 1999 model year and boasted a notably stiffer structure than its predecessor (in C4S form, available for 2003, Porsche claimed 35 per cent greater torsional rigidity). Weight was up by 75kg or so compared to the Coupe, although there was little impact on outright performance, while the 996 also delivered a number of other improvements. The ECU-controlled electrohydraulic roof could be raised or lowered in around 20 seconds, and at speeds of up to 31mph, while for maximum kerb-side impact could now be operated remotely via the key fob. And for the 2002 model year a heated-glass rear screen was introduced; it could be replaced separately from the roof if either were damaged. Once again you could go topless in C2 or C4 models, while for the Turbo Cabriolet Porsche boasted that it had been wind tunnel tested up to 210mph! Also new for this generation was a standard hard top, a colour-coded item in light aluminium that weighed just 32kg, along with a detachable wind deflector stored in the front luggage compartment. And alongside the additional stiffness came greater safety, the 996 now fitted with a pair of pop-up roll bars that deployed when sensors detected a possible roll over.







997



anyway) to be the finest generation of all 911s, so it's no surprise that the 997 Cabriolet was an incredibly well-rounded car. Available throughout production, it built on the improvements and technology introduced for the 996 and it could be had in just about every form, from two-wheel drive Carrera to Turbo. Indeed, the 193mph top speed of the latter made it one of the world's fastest convertibles at the time, although you'd have needed to shell out an additional £9,000 compared to the Coupe. And talking of money, you'd have needed a whisker over £90k to bag an example of the C4 GTS that arrived in July 2011. All versions were fitted with the same remote-controlled, automatic hood that folded concertina-like beneath a hard cover, just like the 996. Also present and correct were the glass rear screen, wind deflector and option of an aluminium hard top.

In issue 162 we proclaimed the 997 (in Gen2 form,



absorbing structure of the Cabriolet improved with high strength steel (red) and ultra high strength steel (green)



991

Pending the arrival of the 992 generation that's expected later this year, we now arrive at what, for now, is the current iteration of the Cabriolet. Porsche claimed the new model was 45kg lighter and had an 18 per cent increase in torsional rigidity; it also featured a new design of hood that Porsche called the 'panel bow'. Giving the new model a more Coupe-like outline when the hood was raised as well as being more aerodynamic, the roof comprised of fabriccovered magnesium panels and a glass rear screen. It folded away in just 13 seconds and could be operated at up to 34mph. Carrera and Carrera S variants were the first to go on sale, priced at £79,947 and £89,740 respectively, joined from late 2013 by the Turbo and Turbo S, the latter costing £152,000. The GTS Cabriolet arrived in 2014, followed a year later by the Gen2 991, which in Turbo S form seemed to have reached a performance apogee. Claiming figures of 205mph and 0-62mph in 3.0 seconds, this was some way to experience open-air motoring.













BUYING A CABRIOLET

"A 911 Cabriolet

could be a

canny way of

saving money"

We'll get on to any potential issues and concerns in a moment, but before doing so it's worth considering the wider aspects of the Cabriolet as a buying proposition. A chat with Paul Stephens from the eponymous specialist and Greig Daly, sales director at RPM Technik, reveals that a drop-top 911 certainly shouldn't be ignored.

As Paul says, there's certainly no reason not to buy one. They very much deserve a place in the line-up, and it could be a canny way of saving money, too. How so? Well, both of our experts agree that a Coupe is – and will probably always be – ahead in the desirability stakes, especially for those after the maximum focus when it comes to the driving experience. This means that model-for-model you'll pay less for a Neunelfer missing its roof, so

you'll get more for your money, and potentially a car with a lower mileage, too. Should you spend the money on a nice Cabrio that still offers most of what makes a 911 special, rather than a Coupe in need of work? It's not a decision to be dismissed out of hand.

So if you're convinced by

the appeal of an open 911 what should you look for before taking the plunge? First off is the condition of the hood itself, checking every inch of the surface for signs of tears and abrasions, and you'll want to ensure that the plastic rear window (where fitted) isn't cracked or badly discoloured; with age comes brittleness, and clumsy folding of the roof could have taken its toll. Should a replacement hood be needed there are various firms out there offering top-quality items, and you'll need to budget around £500 - and a little over twice that if you want them to fit it for you. Rear screens can be replaced separately, although Porsche will charge you around £760 for a 993 item. Evidence of regular care is good news, too, and you can buy kits containing suitable cleaning and protection products for around £25.

Although an obvious point to make, if a hardtop is fitted make sure you get it removed so you can check the condition and operation of the hood. It comes with a special tool. Operation is crucial, especially on models from the 996 onwards where things got increasingly complex with the use of hydraulics and electronic control systems. Diagnosis and repair is a specialist task, so it's important that you run the roof through a few opening and closing cycles, checking for any delay or juddering in its operation and that it latches securely. Ignore problems here and very expensive damage could follow. Parts-wise, you're looking at £700 or so for a 997's hydraulic pump and a similar amount for an electric front latch, so the need for caution is obvious. And it's no surprise that replacing the hardtop is a pricey business – a 997 item costs in the region of £5,000 before paint – while changes during production mean checking carefully before buying a second-hand one as it may not fit.

This brings us to that age-old Cabriolet topic of water leaks. The 911 is no more prone than any other

convertible, but carpets and trim should still be checked for signs of water ingress, something even more vital on older air-cooled cars where corrosion could enter the equation. The cost of replacing damaged seals will soon add up, but there's also the matter of ensuring that water is draining

away as it should. On 996/997 models, for example, water at the rear of the hood is directed down into channels behind the rear-side trim panels, exiting through tubes located behind the forward edge wheel-arch liner. These become blocked with muck and road debris, so it's well worth checking this bit of regular maintenance hasn't been neglected by a previous owner. Lastly, there have been a few recalls for Cabriolet-specific issues, so check the history for evidence they've been attended to. The first was for 964 models built in March 1993 and involved the fitting of modified parts to replace latching hooks that could fracture. 2005 saw 993s built between February 1994 and February 1998 recalled as the locking mechanism could fail (even though the warning lamp was extinguished); modified locking motors and a check that correct locking pegs were installed was the fix. More recently in March 2017, 991 Cabriolet and Targa models built between 10 January and 10 February could have received insufficient windscreen bonding.

VERDICT

It's fair to say that not everyone is convinced by the appeal of drop-top motoring, still less among those that consider a 911 to be all about driver focus and engagement. The fact remains that the Cabriolet has been a hugely popular part of the line-up ever since it first appeared more than three decades ago. Okay, so it might lack that last degree of outright handling precision, but when the sun is shining so too does it introduce another rich layer to the Neunelfer experience. We don't underestimate that, and neither should you.





PORSCHE FAMILY DYNASTY



Ferdinand "Ferry" Porsche 1909-1998



Dorothea Reiz 1911-1985 Representatives of the fifth generation are likely to become shareholders or board members, so what do you know of their ancestors?

Written by Kieron Fennelly



Ferdinand Alexander G Porsche Anto 1935-2012



Gerhard Anton Porsche 1938-



Hans-Peter Porsche 1940-



Wolfgang Porsche 1943-



Ferdinand Oliver Porsche 1961-



Peter Daniell Porsche 1973ew car companies survived with their founding families still significant beyond the second generation. Peugeot is one, Honda too and of

course Ford. The best example though is Porsche where Oliver Porsche, son of the designer of the 911 and a fourth generation Porsche, sits on the company's supervisory board. We look at the principal characters and their roles in this unique dynasty... \bigcirc



Professor Ferdinand Porsche (1875-1951)

Brilliant engineer whose inventiveness knew almost no bounds



Ferdinand Porsche was a restless spirit whose enquiring mind led him, at the age of only 25, to design the Lohner Porsche, a horseless carriage which operated thanks to an electric motor in each hub. As combustion engines took over transport he worked for a series of

car makers, notably Daimler Benz, before establishing his own consultancy, the Konstruktionsburo, in Stuttgart. Although his name did not appear on them, Ferdinand Porsche was the man behind the Wanderer, the mighty Auto Union racers and, of course, Volkswagen. Sought out by Hitler to build his 'people's car' when the war began, Porsche found his company pressed into designing military equipment of variable effectiveness – from innovative half-tracks and 4x4 Kübelwagen to the 200-tonne Maus, a tank so heavy and slow it was unusable. Porsche was always reluctant to start his own production.

After the war ended he was incarcerated for almost two years by the French who feared he would set up a Volkwagen factory in France, to the detriment of Renault. By the time he was released in 1947, his son had started making the claustrophobic coupe which would become the 356: the Porsche was born.







Ferry 'FA' Porsche (1909–1998) Ferdinand Anton Ernst Porsche started the company, managing it for 30 years



Always known as Ferry, he used to say that he had come into the world with the automobile. Driving at ten and by 16 handling an experimental Mercedes of his father's, the young Porsche was completely immersed in Dr Porsche's business.

As the VW project took off and Dr Porsche moved to the new factory at Fallersleben (the village which would become Wolfsburg) Ferry assumed command in Stuttgart. In 1944, more intense allied bombing meant moving the firm to Gmünd in the Porsches' native Austria. In early 1946, having been exonerated of war crimes by the Americans, Ferry, his father and uncle Anton were 'kidnapped' by the French. Ferry was released and returned to Gmünd, where he set about making the car he said he 'could not find anywhere else.'

Although Dr Porsche was a domineering father he never recovered from his French imprisonment and lacked the energy to try to stop Ferry, who by 1950 was de facto boss of Porsche. Cautious in his management style, Ferry tended to surround himself with people he knew and trusted. His close association with Heinrich Nordhoff, the former Opel man now running VW, ensured not only supply of parts, but also VW design contracts, which for 20 years contributed a major part of the company's income and paid for its R&D centre at Weissach.

Ferry was always careful not to borrow money: the early racing successes and vital attendant publicity were generated by client cars; Porsche's own competition expenditure was always relatively constrained, except on the 917. But when it mattered, Porsche could pay. Undemonstrative and gentle in his approach, he could be very decisive, as when he ejected family placemen and introduced independent management in 1971. As head of the supervisory board he continued to influence the company until the late 1980s.



FA 'Butzi' Porsche (1935–2012) Will always be the designer of the 911

Known by all as Butzi, FA Porsche was the oldest, and first son to join the firm. After failing to complete his art course, he arrived at Zuffenhausen in 1957 and underwent the standard family apprenticeship of working in every department, finishing in Erwin Komenda's body-engineering workshop. This was at a time when automotive styling was beginning to emerge in its own right, rather than being an adjunct to engineering. Coincidentally, it was also then that Ferry was planning the 356's successor.

After a major disappointment with the proposals of Albrecht von Goertz, stylist of the much admired BMW 507, Ferry turned to his own people. His son it seemed had remarkably clear ideas, and Ferry found himself siding with Butzi rather than Komenda. For years Porsche maintained the 911 was drawn by Butzi, but now acknowledges that, as with most designs to emerge from Porsche, the 911 was a collegiate effort from Butzi's group. FA himself had greater input on the 904, and on the 911 Targa the brushed steel roll hoop is always attributed to him.

As Ferdinand Piëch became ever more powerful, Ferry could see that neither the easy-going Butzi nor his younger son Peter could ever stand up to him. As the discord between them worsened, he called a meeting to announce the withdrawal of Porsches and Piëchs from management positions in the firm. This suited Butzi, who had external design interests, and freedom enabled him to establish his Porsche Design consultancy in Salzburg in 1972. He would return to Zuffenhausen to chair the supervisory board between 1990 and 1993, but by then Porsche had become a tense place with an uncertain future; then managing director Arno Bohn remarked that Butzi always seemed "far too nice a guy to be chairman".











Gerhard Porsche (1938-)

Never joined the family business, but failed to escape entirely



Second born (and second from right), Gerhard never showed any interest in the family firm, preferring to return to Austria and farming. In 1972 his wife Marlene had a protracted affair with his cousin Ferdinand Piëch, bearing him two of his 12 children before

Piëch abandoned her. The affair reportedly set Piëchs and Porsches even more against each other.

Hans-Peter Porsche (1940-)

Porsche production director at 25



Peter joined in August 1963 in the production department and was director within two years. Disagreements with Ferdinand Piëch were part of the reason that in 1970 Ferry decided that his company could no longer employ his and his sister's children. As a

result of this arrangement, Peter left in 1971 to work elsewhere. He remained a significant shareholder and his only child, Peter Daniell Porsche, will inherit his shares before 2020.

Wolfgang Porsche (1943-)

Today the youngest son is the most prominent Porsche



With a degree in business administration 'Wolfi' never sought work in his father's company, and in the mid 1970s with brother Butzi established the Yamaha importer for Austria. He joined Daimler Benz in 1976. In 2007 he became chairman of Porsche's

supervisory board and a willing party to managing director Wendelin Wiedeking's audacious plan to take a majority share in VW. When this project capsized and VW reversed the takeover, he found himself facing an old adversary in the shape of his cousin VW chairman Piëch, who saw off Wiedeking and took control. Wolfgang appeared emotional and embarrassed at this humiliation, but later he seemingly got his revenge: as a result of the takeover he had gained a seat on the VW board, and he reportedly led the revolt to oust Piëch in 2015.



Anton Piëch (1894 - 1952)Father of the Piëch Dynasty

Viennese lawyer Anton Piëch married Ferry's sister Louise in 1927 and was a founder of the Konstruktionsburo, where he proved a tenacious negotiator of supplier contracts. As deputy he was in charge of the VW factory at Fallersleben (Wolfsburg). Arrested by the French in 1945 together with Dr Porsche and Ferry, he was incarcerated for a year and a half. A potential future rival to Ferry as chief of Porsche, like Dr Porsche Anton Piëch's health had suffered too, and he succumbed to a heart attack aged 58. Of his four children, his second son Ferdinand would play a decisive role in the future of Porsche.

Louise Piëch (née Porsche)

(1904 - 1999)"The purest embodiment of her father's spirit'



So says Karl Ludvigsen of Louise, an exceptionally strong and determined woman. In 1944 she and Ferry moved the company to a former sawmill in Gmünd. During Ferry's enforced absence in 1946 she and Karl Rabe overcame post-war difficulties so that by the end of that year 220 people were employed and turnover had

returned almost to pre-war levels. Subsequently she ran Porsche Salzburg, which was responsible for sales in southern Europe, while Ferry dealt with the US and northern Europe from Stuttgart. Rivalries were always apparent, symbolised

by the competing works and Porsche Salzburg racing teams. Louise Piëch was a keen driver and was famously presented with the first prototype 911 Turbo, a 2.7, on her 70th birthday.

As a member of the supervisory board she was a formidable interrogator, as a roll call of subsequent Porsche bosses found to their cost.



Ferdinand Piëch (1937-) Once the most powerful man in the automobile industry



Historian Michel Thiriar has contrasted the comfortable family upbringing of Ferry's sons with that meted out to Ferdinand Piëch, sent away to school by his unsentimental mother Louise who lacked the maternal nature of sister-in-law, Dorothea

Porsche. Thiriar claims this simply increased the young Piëch's self reliance and determination, characteristics he had already inherited. Indeed he is often described as the spiritual heir of Dr Porsche, thrusting constantly to impose his vision.

Joining Porsche in 1962, he worked with Mezger on the new flat six, was technical and motorsport director by 1966 and flayed his engineers to build a series of ever more powerful sports racers culminating in that 1970 Porsche Le Mans victory. Clearly destined to take over Porsche, even though

by accident of birth he had the 'wrong' name (a subject of much amusement among his cousins, who were nonetheless intimidated by him) Piëch was excluded by the decision in 1970 to bar family members. Undaunted, he went to Audi-NSU, transforming the company into the premier brand it is today before being promoted to VW where he led Wolfsburg to new heights of proftability, treading on many toes, including General Motors, as he went.

As VW chairman he sanctioned the Bugatti Veyron, the fastest production car in history. Always a heavyweight on the supervisory board at Zuffenhausen, he defended the 911 and was instrumental in bringing back Wiedeking when Porsche was at its lowest - later Piëch would see him off when the latter tried to take over VW. Unused to being contradicted, he resigned from VW's board in 2015. In life, timing is everything: within six months the dieselgate scandal erupted.





and wife Dorothea pose for a picture with their sons in 1979



No one knew Dr Porsche better Kaes's mother was Dr Porsche's sister-in-law and his father was the UK Austro-Daimler importer. Ghislaine was born in London and long held a UK passport. At 19 he became Dr Porsche's trusted assistant at Steyr and followed him to the Konstruktionsburo in 1930, working with him for 20 years and accompanying him on visits to US manufacturers.

After Dr Porsche's death he started the VW archive. When the British came across him at Gmünd in the confusion of the post-war months he was briefly arrested because they did not understand how he could have a British passport. It was Kaes who arranged the import of the first Porsche to Britain for the 1951 motor show, and as Ferry's emissary he led negotiations with Studebaker; later he carried out the research and managed the acquisition of the plot at Weissach. He retired from Porsche in 1975.

Oliver Porsche (1961 -)

Oldest of the 11 great grandchildren



Thr first of Butzi's three sons, Oliver took his father's place on the seven-man Porsche supervisory board in 2005. He is one of two Porsche (the other is Wolfgang), while the Piëchs are represented by Hans Michel, who bought out his brother Ferdinand

Piëch's shares in 2017, and Florina Louise Piëch.

Peter Daniell Porsche

(1973 -)Fourth-generation heavyweight



When Peter Daniell inherits his father Hans-Peter's shares in 2020 he is likely to be the biggest individual Porsche shareholder, and this will increase his already significant influence within the VW Group. Trained in anthropology and musicology, he

spent large sums on special schools for mentally disadvantaged children. He has long advocated social responsibility for car manufacturers and championed electric traction. Since dieselgate the group has been going in this direction anyway; will he seek to supplant his uncle Wolfgang? Peter Daniell's role at Porsche is attracting growing interest.



60 | Developing the 911's efficiency



• e're happy to hold our hands up here and admit that improvements to the efficiency of the 911 – using less fuel and reducing exhaust emissions,

essentially – isn't the most entertaining of topics, or one we rarely cover. But it is one that has become ever more important over the decades, and that has required Porsche to use all of its engineering knowhow to ensure our favourite sports car remained relevant in the face of ever-tightening legislation.

It's only natural that establishing the Neunelfer as a sporting force to be reckoned with meant the early days focused firmly on power and performance, but as the important US market got tough on matters of economy and emissions it would act as a driver for many of the improvements Zuffenhausen developed. For example, the introduction of the 2.4-litre engine saw a greater focus on engine tuning along with lower compression ratios, lowering emissions (especially of nitrogen oxides) and bringing slight improvements in economy. But one of the major changes was to the way that fuel was delivered. While banks of carburettors were good for power outputs and engine response they were somewhat casual in the way they dispensed fuel, so for the 1969 B-series the 911S was fitted with mechanical fuel injection.

Okay, so the improvement in specific fuel consumption was small, but it was a start, and the adoption of the Bosch K-Jetronic 'Continuous Injection System' first seen on US-bound F-series cars delivered bigger gains (indeed, it delivered the best fuel consumption of any 911 up to that point). While power outputs continued to climb it allowed Porsche to claim economy figures in the mid-twenties, and they'd continue the trend with the 3.2 Carrera, which became the first production 911 to be fitted with an Electronic Control Unit as part of its Bosch 'Digital Motor Electronics' engine management system. Claiming to offer a ten per cent improvement in fuel consumption, a key benefit was the cold-start mapping that notably reduced fuel use after start-up and the cutting of the fuel supply when the throttle was released. It was an area of engine technology that continued to develop throughout the generations, each bringing ever finer control of fuelling and ignition requirements. The \tilde{I}





twin distributor and spark plug arrangement and engine management tweaks promised a three per cent reduction in fuel consumption for the 964, while the 997 would deliver one of the greatest gains of all. Gen2 models saw the introduction of Direct Fuel Injection (DFI) which fed fuel into the combustion chambers at close to 2,000psi and was also able to deliver two or three sequential injections per cycle, one benefit of which was faster heating of the catalytic convertors from a cold start.

Despite managing a notable 345hp in Carrera form, combining the new system with the PDK transmission resulted in claimed improvements of a thirteen per cent reduction in fuel consumption (to a combined figure of 28.8mpg) and a fifteen per cent reduction in carbon dioxide (CO²) emissions. And that latter figure was significant because aside from the US where it had long been a major focus - the issue of cleaning up emissions was becoming ever more pressing for car makers. Even during the 1990s data on CO² emissions was hard to come by, but figures for the 996 show that a C2 model was emitting 295g/km of the stuff. Catalytic convertors weren't new to the 911, but for the 964 Porsche focused their considerable engineering talent on improving them, introducing items using a metallic substrate rather than the more common ceramic – the key benefit was a faster warm-up from cold and for the 996 they claimed that 98 per cent of exhaust gases were being cleaned ten seconds after start-up. But if the 911 was to remain relevant as a sports car into the future it had to do better still, and the 997 slashed CO² emissions again, the outputs for the C2 measuring 242g/km and 230g/ km for manual and PDK cars respectively. Indeed,



replacing the previous Tiptronic automatic with the more complex PDK transmission brought notable efficiency improvements across the board, as well as the desirable benefit of faster outright acceleration. It was a theme that would continue for the 991 generation, which we'll return to later, but for now it's also worth considering a further aspect that Porsche deemed suitable for attention: aerodynamics. The earliest 911 models managed a coefficient of drag of somewhere around 0.38 - good considering the sporting pretensions, but not outstanding - and the subsequent focus tended to centre on improvements to stability by reducing lift and increasing downforce at higher speeds. Equipped with the ducktail rear spoiler, the 2.7RS was a notable step up in this respect and with only a small increase in drag. It was the introduction of the 964, however, where the biggest gains were made, the new design featuring a far more slippery silhouette thanks to the likes of smoothly integrated bumpers, the electric rear spoiler and underbody panelling. The result was a 0.32 drag coefficient, which was impressive indeed considering the performance on offer, and this figure would increase only marginally for the 993 thanks to a slightly larger frontal area.

For the 996 Porsche had the numbers heading in the right direction once again with the Cd dropping to an all-time low of 0.30, and the 991 Gen1 would improve on this again at 0.29. These gains, which contribute notably to overall efficiency, are all the more impressive when you consider that they're set against a backdrop of increasing dimensions and the need to manage aerodynamic performance at ever higher speeds. And mention of the 991 is apt because it heralded the largest technical onslaught yet, Porsche equipping the new Neunelfer with all manner of features aimed at driving up efficiency. Among them were a stop/start system, electrically assisted steering, a coasting function for the PDK gearbox, improved thermal management of the engine promoting faster warm up and a smarter electrical system where the alternator recharged the battery under braking. At launch the 350hp Carrera boasted combined economy of 34.4mpg in PDK form along with CO2 emissions of 194g/ km - phenomenal figures when you consider that it was capable of 180mph and sprinting to 62mph in less than five seconds. And Porsche had no intention

LEFT AND BELOW First water-cooled engine improved economy but produces nearly double the emmissions of a 991.2 today; DFI was introduced for the 997.2



of stopping there, the Gen2 991 introduced in 2015 delivering a raft of engineering changes in the name of even greater efficiency. The adoption of twin turbochargers helped, but there was also a new design of cylinder head with a centrally mounted fuel injector to improve combustion, along with reduced friction in the valvetrain and more precise control of valve opening, lift and duration. It was also the first regular production model to benefit from 'active cooling air flaps'. Essentially, this aerodynamic improvement saw three louvres in each of the front air intakes that could be closed above 15km/h and then opened in stages above 160km/h.

Not only was cooling more efficient but it reduced unnecessary drag. The result was claimed economy and emissions of 38.2mpg and 169g/km respectively for a Carrera 2 equipped with PDK. Those are impressive numbers by any measure, much less ones gracing a sportscar, but where do things go from here? Well, all of us are keenly anticipating the arrival of the 992 generation, and although we don't yet know exactly what sort of technology will feature on the new model we can be fairly certain that it will look to move the efficiency game on again. What we do know, though, is that future 911s will be fitted with a Gasoline Particulate Filter. As reported in issue 164 all models leaving the factory from September will feature the new technology, which aims to further reduce particulate emissions by trapping harmful soot in the exhaust gases. All car makers are feeling the squeeze when it comes to legislation, and Porsche is no different, but it's encouraging to know that the company has long been a proponent of balancing superb performance and handling with improving environmental credentials.

Lastly, it's not just the cars themselves, as the factories they are built in come in for similar scrutiny, Porsche committed to reducing energy consumption, waste and the emissions of noxious gases from plants, including Zuffenhausen and Leipzig. As we said right at the beginning this isn't a subject that we dwell on very often within these pages, but it's one that will take on ever greater significance in the years to come. As Porsche moves towards electrification and hybridisation, our very own Neunelfer will have its own part to play in contributing to a cleaner, yet still very much sporting future. It's going to be a fascinating time.



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PORSCHES WANTED (2003 TO 2014)

THE POWER OFANALOGUE

In this modern motorsport age of hybrid technology and fuel saving, the Peter Auto 2.0L Cup promises full-on Porsche racing back to its very best. We take a look behind the scenes prior to the first race...

Written by Neill Watson Photography by Tim Andrew

he sun is piercingly bright, blazing down from a cloudless blue sky. After a long winter of cruel wind and rain, the day is beautiful and the warmth on the skin is very welcome. There's a backing soundtrack of high-revving racing engines, and the aroma of race fuel is in the air. Yet this is not Le Castellet or Dijon in July. This is Donington Park and an unsilenced test day, surrounded by beautiful, historically significant racing machinery far from that pre-hybrid era of motorsport.

We're here to take a closer look at one of the most talked-about new series in Porsche racing circles in years: the Peter Auto 2.0L Cup. The fact this series involves cars all more than 50 years old, rather than showcasing modern technology, is testament to the current momentum of historic motorsport. There is a wave of affection and a love of yesteryear that has helped bring back an era of racing when cars moved around and oversteer was the best way forward.

Peter Auto has become synonymous with historic racing in Europe. The skilful combination of beautiful cars, sensible regulations and iconic race circuits attracts drivers across the entire











spectrum and value of historic racing. Owners of classic pre-1966 short-wheelbase Porsche 911s have long been a familiar sight on the grids at Europe's iconic race circuits. Generally further back down the often-packed grids, these small capacity 911s enjoy fierce battles among each other as well as occasionally embarrassing machinery with far higher capacity and power, using driver talent and the agility of the Porsche chassis to punch above its weight.

This popularity of the 911 in historic racing motivated several within the sport to create a series solely for this particular model of pre 1966 short wheelbase Porsche 911. Patrick Peter, founder of Peter Auto, together with motorsport specialists James Turner and Lee Maxted-Page, joined forces and discussed what was needed to create a series with as level a playing field as possible to enable owners of these early 911s to race for outright victory, not merely a class win.

This resulted in the largest ever database of early 911s being compiled to regulate this new series and attract drivers from across Europe. Today at Donington, we're chatting with Phil Hindley of Porsche specialists Tech9 as they prepare this particular 2.0 911 ahead of the first round at Spa.

Phil is here today to shake down this beautiful, historic 911 2.0 racing car. Just two weeks later, he'll be plunging down into Eau Rouge as the first round of the Peter Auto Porsche 2.0L Cup series kicks off (see report on page 10). We're here to chat in between runs about this series, find out what's needed to race competitively in FIA-approved historic Porsche racing and what tempted Phil back into the racing seat once again in a £250,000 early 911.

"Tve always enjoyed racing to win – from the front and not just for a class victory," Phil says. "It's fair to say that these little 2.0 91Is are great to drive, but in a grid full of Mustangs and E-Types ahead of them, they are the lowest powered cars out there. This Peter Auto series brings together everyone who loves racing these cars and levels the playing field. The attraction of being able to race a 2.0 911 to win outright is a huge attraction for the series."

The bark of a Cosworth DFV V8 in the neighbouring garage snapping into life stops our conversation in its tracks. Nobody can compete with the sound of an original, historic FI engine, so we have no choice but to pause our conversation. We enjoy the interruption, then the iconic engine stops with the same suddenness that it started, the comparative silence of the Donington pit lane returning so we can resume our conversation.

So apart from the obvious requirement to own a suitable car, what is required to go racing in this series? "The cars all have to be to the original, homologated specification, as declared by Porsche in period. This means a minimum weight of 1,002kg, a standard engine specification and built exactly as they were in 1966 to FIA Appendix K regulations," Phil advises.

Today in historic motorsport, it is generally acknowledged that all cars develop more power and are significantly quicker than they were in period. "It's simply a case of skills, technology, modern race preparation and a modern ability to optimise everything," explains Phil. The cars that will be lining up for the first round at Spa will be generally developing around 180bhp, and in some cases may well rev to almost 9,000rpm. That's significantly more power and a higher limit than in period. Phil continues jovially: "This car is actually more standard, simply because of the time it takes to develop the engines. Some cars will certainly have all-steel internals that will give a higher rev limit. We haven't had time for that yet, so I will have to make up for the power with ability!"

Anyone who follows Porsche racing in the UK will be aware of Phil's abilities. In addition to running Tech9, Phil has raced in Porsche Cup and GT series for many years, including winning the Tour Britannia in his beautifully prepared 1979 SC.



Model Appendix K FIA spec Year 1965-66

Porsche 911 2.0

Engine Capacity 1,991cc Compression 9.0:1 ratio Maximum power 130bhp in period, now circa 180bhp Maximum torque 173Nm in period

Transmission Five-speed manual

Suspension Front Torsion bars and Bilstein damper

Rear Torsion bars and Bilstein damper

Wheels & tyres Front 4.5x15-inch; 165HR Choice of Dunlop or Avon tyres Rear 4.5x15-inch; 165HR

Dimensions Length 4,163mm

Width 1,610mm Weight As standard, 1,080kg, homologated as 1,002kg minimum, ballast required

Performance 0-62mph 8.3 seconds Top speed 130mph

BELOW Porsche GB's entry is piloted by Anthony Reid and Josh Webster, the no.70 chosen to mark Porsche's 70th anniversary this year







The 2.0L Cup key rules and regulations

- The series is open to any pre-1966 short-wheelbase Porsche 911 2.0. Cars must be prepared to FIA Appendix K regulations and possess a Historic Technical Passport (HTP).
- Original FIA homologation rules apply, with the technical specification as raced in period. Engines cannot be modified outside of these regulations.
- FIA Appendix K is the official regulation for historic motorsport. It governs period racing cars and dictates what can be changed and what must remain as in period.
- HTPs are a technical descriptive document detailing what the car was like when it left the factory (its homologation papers), against what it is (or should be) now.
- Driving conduct is to be in the spirit of historic racing. Two drivers per crew with a mandatory pit stop/driver change, with each race meeting lasting a minimum of two hours. Sole drivers can compete, though the pit stop must still take place.

CUP DATES

- Spa Classic 18-20 May
- L'Age D'Or, Dijon 8-10 June
- Dix Mille Tours Du Castellet 31 August 3 September









All of a sudden, the two Porsche in garage number 12 at Donington come to life. They have nothing like the screaming volume of the Cosworth DFV, nevertheless, they have that unique characteristic response of a lightweight race engine that always quickens the pulse. Phil's sharing the garage today with the Porsche GB car celebrating 70 years of Porsche this season. Both cars will be at the Spa round, and while they will be competing against one another, there's a spirit of collaboration in the garage.

The 2.0-litre flat six engines respond gently to the mechanic's hand flipping the throttle linkage through the open engine cover. The triple-barrel Solex carbs cough and splutter at first before clearing their throats, and the engines gently warm through as the oil temperature gauges begin to move. Phil straps into the Ivory white car, while Porsche Supercup racer



Josh Webster climbs aboard the Porsche GB car for his initiation into historic racing and treaded tyres.

With a busy test day of more than 40 historic race cars signed on, it is punctuated with red-flag periods as highly strung Formula One cars return on the recovery truck. This is testing, historic motorsport style. Phil is happy with the car and obviously in his comfort zone. Josh is finding it a revelation. "This is the first time I have ever driven a racing car on period, treaded tyres. The first corner, you only seem to have to move the wheel a tiny bit and it's turned in and starting to move around!" he enthuses.

Like many drivers bred on a diet of slicks and aero, Josh is going through a learning curve to develop the feel needed to race these old Porsche. To his credit, he adapts very quickly, despite the red flag interruptions. "At first you tense up, as it feels like the back end is coming around. Then once you realise that it's just how it is and it's not going to swap ends, you relax and go with it. The feeling when you get it right is absolutely brilliant," he says.

Phil smiles knowingly and heads out for another session, bedding in the brakes, checking adjustments and putting some more time on to the fresh engine. His early motorsport background of grass-track racing means he's at home with a car that's always moving around beneath him and knows the style of driving needed to carry the speed in these cars. They may not have the ultimate budget needed to spend on the ultimate preparation compared to other competitions in the series, but that doesn't concern him too much.

So what sort of budget is needed to compete? "The big expense these days is finding a donor car. Even once you've found one, chances are the shell will need an awful lot of work. So a base car that you may need to pay £80,000 for can possibly need a further £25,000 spending on the shell. Then you have the engine, which can easily run to £50,000 if you want an all-steel internal for higher rev limits. It's quite possible to have an early 911 2.0 racing car, with its FIA Historic Passport and paperwork, costing £200,000," Phil says.

The cost of entry to the Peter Auto 2.0 Cup is 6,500 Euros, plus 2,500 Euros per round. The series covers four rounds: three bespoke 2.0-litre-only races at Spa, Dijon and Le Castellet, plus the Le Mans

BELOW MOMO wheel and rotated tachometer underline the SWB car's motorsport inentions



Classic round where they share the grid for the Porsche specialist race. Each race is 90 minutes and incorporates a mandatory pit stop for driver changes. At Spa, the Porsche GB car will be shared by Josh and Anthony Reid, while Phil will be driving the full 90 minutes. The pit stop driver change is currently set at a minimum two minutes, a period of time that will seem like an eternity as solo Phil waits to rejoin the track.

The Porsche Phil will be racing has been a competition car for many years. Initially a left-handdrive car, it was converted to right-hand drive at some point in its life. Owned briefly by Ivan Dutton of vintage Bugatti fame, the car was bought by Howard and Chas, who own some of the historic rally cars we've featured in the magazine in the past. The three are firm friends, and in 2014 Phil raced the car at the Spa Six Hours. Since then, the 911 has remained dormant until Phil mentioned the 2.0L Cup Series. A deal was agreed very quickly and Phil set about overhauling the short-wheelbase car in readiness.

There are no less than 40 Porsche 91Is registered for this series, representing quite possibly £6 million worth of classic Porsche, all exiting La Source to Eau Rouge, then upwards to Raidillon and onwards around the 7km Spa circuit at one time. For me, seeing one of these classic, elegant Porsche 91Is being driven well is akin to watching a concert violinist. The delicate touch needed to carry the speed through the corner, just the right amount of oversteer, is almost balletic in its elegance. The opportunity to see 40 of these cars all caressing those iconic red and yellow kerbs together at the Spa Classic is sure to be an orchestral performance.

Very often we look back at older cars through rose-tinted glasses. Modern technology is almost always far better and, in fact, the phrase 'never meet your heroes' springs to mind. And yet as we move gradually and ever more rapidly away from the internal combustion engine as our daily automotive power, the passion and affection for older Porsche simply gets stronger with every passing year.

So, if you love the aroma of mineral racing oil and adore the sound of high-revving racing engines, you owe it to yourself to make the journey to Europe at some point this year to bear witness to the continued success and popularity of a car born more than five decades ago – and still going strong.



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Living_{the} Legend

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







Lee Sibley Bournemouth, UK

0 @lee_sibs

Model 996 Carrera 4S Year 2002 Acquired April 2017



a new auxiliary belt and water pump) and getting sidetracked with restoring my 'Big Red' brake callipers, at last I was ready for a switch-up in suspension.

For fitting I took my 996 along to Matt Samuel at ZRS Engineering. Matt is the brother of fellow columnist, James. My decision to go to Matt for the work came down to three key factors: as an owner of a 996.1 C4 himself he's attuned to the workings of a 911; as 2013 British Drift champion he certainly knows all about car handling and control; and in running a small, independent business, I know exactly who's going to be undertaking the work on my beloved Neunelfer.

I rocked up to Matt's premises in Poole, Dorset early on the Saturday morning, and the man I would soon realise is nothing short of an engineering whizz soon got cracking. The car was promptly in the air, wheels off, front driveshafts popped off and factory struts whipped out. From here it was a case of fitting KW's new front drop links to the KW front struts, plus top mounts. It's a good idea to replace top mounts when fitting new struts, but luckily for me the rears were fine, while Matt had a spare set of very nearly new top front mounts from James' 997.1 Turbo (cheers mate!), which is an identical part. Incidentally, Matt also tells me a 997 Turbo top mount is cheaper from Porsche than a 996 C4S, despite their striking similarity...

With top mounts and drop links affixed the KW coilovers were installed. Matt had the coilovers set at the height KW delivered them, but after a test drive found the car to be too low, promptly raising the 996 by 10mm at the front and 20mm at the back to give a slightly 'raked' stance. "The springs will need a bit of time to settle, so when you've burned through a tank of fuel, come back to me for a final tweak," he said. It was at this point Matt earned my admiration: whereas others would have wanted to get the job done, the car out the door and the money in the bank, Matt's diligence to getting the task at hand absolutely right really struck a chord with me. We agreed to leave the bump and rebound on KW's 'basic' settings - they are 16way adjustable - and have a play with the car as the miles roll along.




I'll report more on the finished article next issue, but for now I'm mega happy to have these KW V3s on the C4S and have been left so impressed by Matt's excellent work. For service, performance and 911-specific tuning call Matt on +44 (0) 7814 148784 or email matt@zrs-engineering.com.



Gina Purcell Oxford, UK

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



However, being the first registered failure of a Classic Retrofit CDI ignition box brought only a two-hour wait by the roadside. Stranded again, though this time not

Being the first

sometimes brings

"The car

turned over

but refused

to fire up"

its own rewards.

in anything

in Sweden, but only five miles from home. Bugger. This was only the second shakedown drive since having Steffi the SC back from restoration,

so part of me was expecting some minor teething problems, but not the full-on full stop! The motor died and I rolled to a stop just south of Oxford. I had no idea what was wrong, and a cursory check

under the lid revealed everything in place. The car turned over vigorously but refused to fire up. With little else to do while waiting for my knight in shining armour, AKA Big Rob from B.S. Motorsport, to come and rescue me with their van and box trailer, I took to social media to post a picture of my plight on Facebook. Big Rob's roadside diagnosis of CDI failure later turned out to be correct.

I've heard that when Tesla owners have problems with their cars and message Elon Musk himself via social media, they are often shocked to receive not only a reply from their machine's creator, but also a promise (seemingly always later fulfilled) to fix the fault. As with Tesla, the same can be said for Classic Retrofit's Jonny Hart. He responded to my plight within a few hours. BSM sent my unit to Jonny for examination, and it was

returned within days with a brand-new motherboard. No fuss. No quibbling. Just super-fast service and my frown turned upside down. In the interim, BSM fitted one of their evaluation Classic Retrofit CDI

boxes to get me up and running. My original motherboard is being forensically examined to see what went wrong, but given it has been the only failure to date, it looks like random component fatigue.

I'm pleased to report no problems since, and that I continue to champion Jonny's products!







Tony McGuiness San Diego, USA

🔰 @tonygt3rs

Model 997.2 GT3 RS Year 2011 Acquired February 2011 Model 991.1 GT3 Year 2015 Acquired December 2014

@tonymcguinessgt3rs



It is widely known that some 991.1 GT3s have had engine issues. In fact, in November of last year, GT3 owners including

yours truly received a letter from Porsche stating that effective at once, the limited warranty on the GT3 internal engine components continues for ten years or up to 120,000 total miles, whichever occurs first.

This could become very important for me because last month on one of my usual drives through San Diego County, the GT3 lost power and began to run quite rough. I was able to drive it back home but clearly it wasn't good.

I should also mention that occasionally on start-up the car could blow a huge plume of bluish-white smoke. It is worth noting that it isn't unusual for a GT car to blow a small puff of smoke on start-up; it can be considered a charming characteristic of a GT3. However, my GT3, along with other owner's GT3s, can occasionally blow a massive plume of smoke. When it does occur it can cover several cars parked behind in a huge cloud of smoke, which not only is embarrassing but obviously concerning.

Hoen Porsche in Carlsbad examined the GT3 and found the following: "Noted rough idle. Found fault misfire on cylinder six. Swap spark plug from cylinder six to cylinder four. Delete faults. Restarted engine, check engine light came on. Found misfire fault for cylinder four. Reinstalled spark plug from cylinder four, removed and replaced spark plug from cylinder six. Deleted faults. Turned on engine, noted check engine light is still on. Performed a second evaluation. Ran faults. Found fault for misfire on cylinder three active. Removed and swapped spark plugs from cylinder three to one and one to three. Deleted faults, turned on vehicle, found check engine light still on. Ran faults, found misfire on cylinder one active. Reinstalled original spark plug to cylinder one, removed and replaced the spark plug from cylinder three. Deleted faults. Started vehicle, no check engine light on. Performed a post evaluation and vehicle ran well."

Porsche also found light oil in cylinder two which they consider to be within parameters according to the report. I can unequivocally state that the amount of smoke the GT3 can randomly discharge



is in no way normal. Unless, of course, it was a battleship trying to hide under a smokescreen!

Essentially, two spark plugs were replaced. This engine episode, of course along with the massive plumes of smoke, are very concerning to me, and not isolated occurrences. I have learned similar events have happened to other GT3 owners that led to Porsche replacing their engines.

It would definitely seem that Porsche has extended the engine warranty for a reason. I will now video each engine startup. This is unfortunate but something I will have to do. I truly hope that my GT3 ownership does not take a turn for the worse, and I am forced to report these issues each month. I will keep **Total 911** readers posted!



Rob Clarke Bristol, UK

👩 @rob911_ltl 💟 @Rob996LTL

Model 996.1 Carrera 4 Year 1999 Acquired February 2014



was a catastrophe waiting to happen. I got my mechanic to run a cooling system pressure test and the pressure was running twice what it should be, so there was clearly a problem. I decided to take some professional advice. I spoke with Grant at Hartech and Kev from DW Performance. Kev suggested some additional tests and suggested a thermostat replacement

I started this month

my car, due to the

depressed with

ongoing saga of

my coolant and

wondering if this



(apparently common when a water pump goes). Grant also mentioned that the cooling systems needed to be pressure filled, as airlocks are common.

At this point the other cars in my fleet decided to cause me grief: my daily commuter ended up with a double buckle due to potholes, my old camper van destroyed a wheel bearing and the deal for a new camper van went bad. So my car depression dropped to rock bottom. Then, the new stat (low temperature one under advice from Kev) was fitted, so I was hoping for a good result, but I was sent a video of what looked like the car boiling over, which looked like exhaust gases in the coolant – game over!

At this point I was on the verge of shifting the car broken, as I had had enough. I even spoke to the guys at 9 Apart to see what a broken 911 was worth; the low figure shocked me to be a bit more positive. So I called a friend who was potentially interested in a broken car (he is another mechanic so was up for a project), but we fired the car up and it did not start like a car with a potential blown head gasket. It did not run liked a car with a problems, so we took it for a spin.



The car was faultless. It did seem to lose coolant, but there was no smoke, so if not in the oil and not coming out the pipes, where is it going? Since this epiphany I have found that the 996 cooling system is prone to airlocks in the region of two to five litres. I have put about three litres of coolant in. I have driven the car hard, and apart from it getting hot enough for the deck fan to kick in it has not missed a beat! So all that stress and worry about potentially selling the car cheap was for nothing!



James Samuel Poole, UK

ØJamessamuel4

Model 997.1 Turbo Year 2008 Acquired April 2015 Model 996.1 GT3 Year 2000 Acquired January 2018

The summer sun has arrived and that means it's back to cycling for me, so the Turbo has been fitted with its original rooftransport system,

making this truly the everyday supercar! As the picture shows, I'm now fully equipped to explore the New Forest with pedal power as well as horse power.

This month was very exciting as I got to do a studio shoot with the GT3 for last issue's Total 911 buyer's guide feature. It was incredible seeing the pros at work -

and grabbing lunch with Editor, Lee - and the car came out looking amazing. I hope you all agree!

The GT3 was with the RPM boys for just a couple of days until they had space to fit it in the workshop for the issue I explained last month. Luckily the misfire turned out to be just a faulty coil pack - due to location they take a bit of a battering - so they were replaced and the car is back to running perfectly again.



we managed to replace all of the GT3's gearshift components with the upgraded items, as well as the engine mounts. The original equipment was well past its best, with split bushes and cable ends. This car is nearly 20 years old after all.

I went for the track day-spec Cantrell transmission mounts and a mid-spec hardness on the Rennline engine mounts, the engine mounts being very easy to swap to slightly softer/harder settings depending on how we get on.

As for the results? Finally I have a slick and smooth gearshift with minimal resistance when cold; shifting under heavy load is also rifle-bolt action. There is some extra noise transmitted through the cabin, but it all adds to the ambience of a race car for the road. One last bit of prep was to re-install my Sparco Grid II seat. It may not be OEM but fits great, and at only 6.4 kg it's a lot lighter than the OEM 'comfort' seats. I have also fitted a heavy duty slider assembly to keep the car versatile enough for road use.

My first track day of the year is fast approaching and this will actually be with my father and brother as a bit of a family affair. Matt at ZRS has a 996.1 C4 and dad will be in his trusty SEAT Leon. It'll make for a nice occasion to enjoy the cars!

With the GT3 back with me. I finally grabbed some ramp time down with my brother at ZRS Engineering in Poole. It was a late one finishing at 3am, but







Joel Newman London UK

Model 996 Turbo Year 2003 Acquired April 2014

of difference, and for once I have been keeping the car clean, too. As I have been thinking about selling up at some stage, the way the car looks has become more important to me; you only make a first impression once as they say.

Well the sun is finally

here and I've been

driving the Turbo

as much as I can.

The new brakes are

now bedded in and

have made a world

My Basalt black paint, when in direct sunlight, is covered in swirl marks and marring thanks to me using the services



of the local car wash. I have some lacquer that has lifted around a stone chip, probably the size of a ten-pence piece. Worse still is that where I live I have to park the car outside, and there are birds who live here who hate me - I have established, anyway.

This would not be too much of an issue for most, but as the weather has improved and my work commitments have led me away from home, these deposits have had time to sit and burn my paint. If there was ever a colour that hides nothing, that colour is Basalt black.

I was tempted to have the car detailed again, but at a cost of £350 it seemed



a lot to invest into paint that has some damage, so I started asking around and did some digging and have managed to find myself a specialist paint shop that works for a couple of well-known Porsche specialists (you would never guess this from the site and location).

I popped in and asked them to quote me for the front end (bonnet, bumper and arches), both doors and sills, and I just could not believe the price I was quoted. It was less than 35 per cent of the fee the specialist who uses this same firm wanted, the cheek!

Now I don't wish to land anyone in it, but I have been asked for £600 all-in by the man behind these 'specialists', who quoted me over £2,000 - bear in mind this is for the same work! Now I appreciate business is business, but someone is getting a raw deal here.

I tell you this purely because it really is possible to get quality work done at an affordable price if you are prepared to ask around and listen to people. Now I must wait to see the results for myself. The car is booked in for the end of this month, and I will keep you all informed of what happens. It should be interesting to see, that's for sure, but it's a risk on an older car I am willing to take.



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 3.2 Carrera Year 1986 Acquired 2015 Model IROC Tribute Year 1988 Acquired 2018 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 2015 Acquired 2018



New addition alert... Introducing my **IROC** Tribute built by RS-Werks. At the risk of sounding like a broken record, this was not a planned

purchase... honestly!

During a recent visit to RS-Werks on the east coast, one of their clients. Todd, stopped past with his black IROC Tribute he commissioned RS-Werks to build. I'd been following the progress of the build during my visits to RS-Werks in 2017. While not one of these super-exotic builds you see, everything was executed to a high standard; one of those cars where the parts you can't see are just as nice as the bits you can.

Todd was not keen on selling so he took some persuasion over a few days, but eventually he agreed to a cash plus trade deal. He insisted on trading for a Grand Prix white 1981 Euro 911 SC I had acquired for a future build, as he had always dreamed of doing a 911 SC/RSinspired build. I'm looking forward to see how that one turns out.

His build was based on a 1988 factory black 911 Carrera. It was a bare-metal rotisserie build with steel 930 Turbo

flares and fiberglass IROC style bumpers and ducktail. The powertrain uses a rebuilt G50 mated to a rebuilt 3.6 from a 964 with heat exchangers and in-house custom fabricated exhaust. The rear was converted to coilover suspension while the front has conventional trailing arms. The wheels are 17x9/11-inch Fikse ZF's. Normally I'm a stickler for using 15-inch wheels whenever possible, but in this case I felt they suited the IROC style.

Naturally I could not leave everything alone, so once I concluded the deal with Todd I made a few minor updates,

including new tartan Rennsport seats by GTS Classics, electric air conditioning (essential for Houston summers) by Classic Retrofit and LED headlights.

The result is a crazy-fun version of the 1988 Carrera. While the factory version feels a tad sluggish and heavy, the winning combination of weight loss and increased bhp is awesome, and surprisingly comfortable yet incredibly responsive thanks to the coilovers.

Keep an eye out for me driving around Houston, Texas, although you will probably hear me before you see me!





David Grover London, UK

@propertypetrolheads

Model 991.1 Carrera S Year 2014 Acquired March 2016

Model 997 Cup Year 2014 Acquired December 2016



I'm happy to report I've found a new car detailer. It sounds trivial, but being in central London these days stops me from cleaning my own

cars, and his work is superb. Anyone wanting a similar service in the city, please message me for details.

Last week I was at Silverstone for the first time of the season, not on the main track but at the Porsche Experience Centre as a guest of one of our suppliers to spend an evening on their various tracks. We were treated to plenty of track time in our two selected cars, which for me started with an unusual Chalkcoloured 4S, which was manual and had no Sport Chrono or any real extras.

The 4S is certainly sure footed, and even though it was very damp I was able to get the car to grip well through the adverse cambers and tricky surfaces. My second car was an orange Cayman GTS. A little cracker of a car actually; great sound and plenty of urgency about it in every sense. Caymans these days really are so close to the 911 experience, although for me I have to say the only proper Porsche is a 911. I am a die hard.



I mentioned last time that my racing plans have sadly been pushed aside this year, but the first track day is looming and I'm looking forward to getting the car back on track for a post-Snetterton session. Last time out I had to leave the track in a full race situation to avoid hitting the spinning cars in front of me, creating damage for me and taking me out of the race weekend. Track days are comparatively very restrained and safe, and I plan to keep it that way.

I am looking forward to a number of car shows over the coming few weeks, details of which I will share in due course, especially if there are any rare 911s around. The big event topic of the year of course is the 70th year of celebrations for our beloved Porsche AG. Numerous big venues will be engaging in this, notably at Goodwood FoS, where I hope to be on the Saturday this year having missed it last year for the first time in over a decade.



Ben Przekop Mercer Island, WA

Model 996 40th Anniversary Year 2004 Acquired 2018



62,000 miles meant it could very well be a time bomb ticking away in my engine. Porsche designed this bearing to be

self lubricating, with a series of internal ball bearings lubricated by grease held together by seals on either side of the







bearing. When the seals eventually fail the bearings quickly lose their lubrication and start to disintegrate, which causes the intermediate shaft to go haywire and tear up the entire engine.

There are owners who insist that with frequent oil changes and inspection of the bearing itself you can stay ahead of disaster by simply replacing the OE bearing when it appears to need replacement. Evidence suggests that the OE bearing often gives little or no advanced notice of impending doom, so I agreed with the advice given by many on Rennlist that replacing my IMS bearing soon would be inexpensive insurance, considering the significant cost of a new M96 engine (around \$25k).

The three most common approaches to 'fixing' the IMS bearing problem are: replacing the bearing with another Porsche OE bearing, replacing it with a more durable ceramic bearing such as the one that LN Engineering makes or replacing it with LN's 'IMS Solution', which involves installing a conventional bearing along with an oil line to provide lubrication to that part of the engine.

This is essentially the same approach used in the Mezger engine in the 996 GT3 and Turbo, which seem immune to

IMS-bearing failure and have a reputation of being bulletproof. LN goes so far as to call this a permanent solution, which sounded perfect to me as I plan to keep this car a long time.

A week after getting my car I took it to Chris's German Auto Service in Redmond, WA, who are certified by LN to install the IMS Solution Kit. As I expected from my test drive before purchasing the car, upon removing the engine and inspecting the other drivetrain components they also found that the clutch, flywheel, rear main seal and air/oil separator needed to be replaced. Hunter MacDonald, their very talented and friendly Porsche tech, did all of this work flawlessly, and he also took the great pictures of the new IMS Solution that accompany this article.

Can I feel the difference? Actually, the car does feel noticeably smoother and more powerful, but more importantly it is now with a worry-free, confident smile that I can now push it to 10/10ths at every opportunity, and fully enjoy all this great car has to offer! For those interested in more details on the IMS issue and how the LN IMS Solution works, their website Inengineering.com has some great info.



Chris Wallbank Leeds, UK Chris_wallbank

💟 @chrisjwallbank

Model 997.1 Carrera S Year 2005 Acquired November 2012



my left hand. I hit a wave too fast and became a mere passenger until I came crashing back down onto another wave. This is definitely not ideal when you own a manual Porsche and take photographs for a living – writing this column has also proved a challenge!

It's been a frustrating

in Malta resulting in a

broken and displaced

last few weeks for

me due to a freak accident on a jet ski

midshaft bone in

So that's me almost rendered useless for at least another few weeks with a massive rescheduling of a lot of photoshoots to boot, one of which was with a rather nice Carrera T down at Litchfield Motors. I'm looking forward to taking a closer look at the Carrera T once I'm back into the swing of things, as I really like the concept behind the car.

Immediately after the four weeks with my arm in a cast is over there's plenty to look forward to in late June, including a road trip around Yorkshire in the Carrera S with some of my fellow 'Living the Legend' columnists (thanks for organising, Joe), as well as a road trip to the KW suspension factory in Germany. I'm looking forward to reporting back on both of those trips!

Oh and lastly, just before I broke my hand, my Carrera S's active rear wing decided to get stuck in the 'up' position. That will be something to investigate when it goes in for its major service next month... it looks like it's going to be an expensive one!









Kyle Fortune Warwickshire, UK

@kylefortune205
 ✓ @Kyle_Fortune

Model 993 Carrera 2 Year 1994 Acquired December 2014 Finally, it's arrived, that yellow thing in the sky that signals old car season, or 'summer' as those of the non-petroleumveined persuasion

refer to it. The Carrera's been out and about, out of its leak-roofed garage – the summer meaning I'll get the chance to repair that – and on to the road. It's always a joy getting the 993 out for a proper drive, and I've used any excuse to use it now it's mostly dry.

With my daily driver now a BMW i3s, I'm embracing the electrified plug-in future, but the limitations of its range (and my reluctance to sit for hours waiting for 'fast' charges) does mean the 993 is being pressed into service more this year than it might have been in the past. No bad thing, as while I don't always practice what I preach, I think old cars should be used rather than squirrelled away.

The joy of driving it is often matched by the reaction it gets. There's many a nod of approval from other drivers, while I don't think I've ever stopped to fill it up and not have at least one person comment on it. A nice byproduct of owning a lovely car, and one that I reciprocate when I see people out enjoying their own older metal. As I type this I'm off to my homeland to experience the 993 on some familiar roads up in Scotland. I cant wait to get my little green car into the big green wilds of the north; if you've never been you really should, as the drives and views are like little else I've experienced.

As ever it's not all been just about my 911, with a few drives among these very pages also adding to my Porsche mileage tally this month. That my basic Carrera still manages to raise a grin every time I drive despite the opportunity to drive faster, rarer and way more expensive relations underlines that when the opportunity arises I really should use it as much as I can...



Joe Croser Northamptonshire, UK

0 @jcx911

Model 997.2 Turbo Year 2010 Acquired December 2015



The older I get, the faster time flies, and it's not just the two turbochargers thrusting me forwards at warp speed, because time

passes just as quickly during the winter months when my car is stationary more often than it is driven. It's definitely an age thing. Thankfully, this past winter soon turned to spring, and the car show season returned with Bicester Heritage's Sunday Scramble.

For me, a car show is a sociable thing; it's an opportunity to drive my car, to share it with other petrol/gear heads and to socialise. Accordingly I arranged to meet up with two pals for the drive down. Ben rocked up in his E-Type – to stretch its legs – and Sunny in his C2S – to wring its neck! Ben's a Porsche guy too, with a couple in his garage, but today for the scramble the E-Type was his preference.

We had breakfast at 'Scoffer's Café' on the A45 just north east of Northampton. Tap NN3 5LU into your sat-nav and you'll enjoy, as we did, a fine breakfast with cheery service for a very fair price. We'll be back there again! Once we'd 'filled our





tanks we set off for Bicester. The obvious route would be via the A45, A43 and M40, but can you imagine anything less exciting?

With a little planning I devised a route that 'cut the corner' to enjoy a fantastic series of roads across the country. We left the A43 at Silverstone, passing the hallowed track on our way past Stowe School and through Newton Purcell (Gina I naturally thought of you!) as we





gunned our cars and grinned all the way to Bicester, where we joined the queue crawling into the Sunday Scramble.

The show opened at 9am and we arrived around 9.40am. Already the PCGB parking area was full and I was directed by a PCGB chap to park on some adjacent grass. The Hagerty Insurance rep on site then claimed that patch of grass as his own for the duration of the show and asked me to move on, very politely I might add. We 'negotiated' and quickly reached an agreement that worked for us both. Another mature PCGB lady was far less amiable with said chap and effectively told him to 'do one'. Temperatures were rising.

Once out of the car I snapped a few pictures of mine and some other lovely motors as I toured the site with Ben and Sunny. It was my first time there and I was blown away; not so much by the cars – which were numerous at 2,000-3,000 and varied, but by the setting of the wartime architecture nestled within this leafy site. The red and brown rusting steel of the sharp-edged buildings contrasted strongly with the leafy tree canopies that were sprinkling the sunlight on the ground for all to enjoy.

Bicester Heritage is dedicated to classic vehicle and restoration businesses, and it's a place I feel the need to visit again on a less-busy day. Naturally we also toured the car park where we enjoyed many more cars worthy of a more prominent position. I loved the show but with the sun out I was itching to just get back into my car and drive. I wasn't expected home until later afternoon so I took the long route back with the sunroof open. With both turbos whistling and my SharkWerks exhaust howling all was well in my little corner of the world.

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Image: Constraint of the second state of the second sta



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PHILIP RABY **PORSCHE**

Today a respected independent Porsche specialist on the UK's south coast, Phil Raby has an interesting CV, which includes founding and editing a familiar Porsche magazine...

Written by Kieron Fennelly Photography by Rich Pearce

Contact

+44 (0) 1243 780389

philipraby.co.uk

ristolian by birth, Phil Raby has gradually migrated east, fetching up in Sussex some 15 years ago. "I like this part of the world," he says, "It's good for the outdoor things I like doing like biking off-road and sailing." He might also add that it's not bad for driving Porsche of the 300 horsepower or below variety he favours. So how did this photography graduate come to sell Porsche?

"Well I always liked cars: my father was of the generation that didn't hesitate to work on its cars and I picked it up from him; as a youngster I owned and rebuilt several Triumph Spitfires. I went to work for an established photographer who had a contract with Ford. There was no Photoshop in those days and we

used all sorts of ruses to make cars look good, such as weighting them down so they sat lower. Then I joined the Motoring Picture Library at the National Motor Museum. Imagine, that was a brilliant job for a car-mad youngster, adding new cars to the collection and driving press cars. I remember getting my hands on the 944 Turbo and a slantnose 930 Turbo. I always fancied writing and began working for EOS, then the biggest circulation camera magazine. But the magazine I really wanted to write for was a certain Porsche magazine, then the only Porsche title. I wrote to its editor and eventually became associate editor."

Phil also wrote a number of car books, putting his experience fettling a 964 for the magazine

into a buyers' guide published by Porsche guru Peter Morgan. Keen nevertheless to steer his own enterprise, Phil established Total 911 in 2005 with a couple of friends from the 964 forum. He ran the magazine through 80 issues until 2011 when he left, as they say, to pursue other interests. Those other interests were, of course, his used Porsche business.

"Looking back to those Spitfires I always sold them for more than I paid for them, and I think my retail instinct, if you can call it that, began there."

> Readers of Total 911 in its early days may also recall Phil's analysis of used 911s he encountered, which always managed to be both informative and entertaining. A personal interest which also informed his writing, he had been buying and selling Porsche from home

for a number of years, and now decided he had sufficient contacts to launch himself into it full time.

He admits he got off to a fortunate start. "I needed to trailer a car and this chap Andy Windsor was recommended to me. Not only did he do a very competent job, it transpired his father owned premises in Southbourne: this turned out to be eminently suitable for my fledgling business. But the real clincher was that Andy's two-bay workshop was next door." Trading as AW Motorsport, Andy Windsor, a Honda-trained technician, already knew his way around Porsche, and his servicing business dovetailed neatly with Phil Raby's retail enterprise: "Andy and his team do all my preparation. People













expect cars to be well presented, both visually and mechanically, and I provide my own six-month warranty so obviously I don't want cars to come back with problems. Andy's team picks all the points needing attention and deals with them, which enables me to sell the cars with confidence – reputations matter, and once you are known to be reliable people keep coming back."

Although the two businesses are run separately by their owners, this is effectively a close partnership. It has worked well, expanding turnover for both parties. AW Motorsport has a large number of customers who rely on it to keep their classic and modern Porsche in good fettle. "We are always there for our customers," says Andy Windsor. "We do everything from routine servicing to engine rebuilds and full restorations. I like to give people honest and sensible advice about what needs doing to their cars so they can run them on sensible budgets."

Phil claims he is not a salesman: "For many people, buying a Porsche is fulfillment of a dream. They need guidance, some hand holding. You ask them what they have in mind, how they might use their Porsche and point them in the right direction. I've had clients come back to me saying we purchased from you rather than the other guy because you didn't try to sell us the car."

Sometimes simply being available to listen to a potential client is all that is required. "I was here late one Saturday afternoon with my young part-time assistant, Will. I was about to lock up when two chaps came in expressing an interest in a 996 Turbo and a 996 Carrera they happened to see through the window. Normally I receive people by appointment, but they had turned up, and late as it was I wasn't going to shoo them away. Will took one of the fellows out in the Carrera and I took the other in the Turbo. They returned the next day and bought the Carrera."

He really appreciates feedback from satisfied clients, recalling a Belgian couple who phoned about a left-hand-drive Targa who wanted to drive over there and then. "I described the car and suggested they thought about it, but they took the tunnel and were here the very next day. They bought the car and later wrote to me to say how happy they were with it: that means a lot.

"In principle I don't haggle: I price cars fairly, I think, and I'm always happy to explain the work we've done and why the price is what it is. After all if you are buying your dream car, price isn't your main consideration."

Phil's stock generally comprises air-cooled 911s, but he has always liked 996s. He points out that these are the most effective way into 911 ownership, and he looks actively for good examples. His favourite is the 4S: these tend to have been looked after and perhaps offer the best value as future classics. Of course with a remit to offer interesting Porsche he cannot exclude the transaxle cars, and recently a rare 924S and a spotless 944 Turbo have passed through his hands. Some new customers have never driven a Porsche - simply having the opportunity to try a variety of Porsche enriches their buying experience. Often it ends up in a sale, but Phil's satisfaction is derived from the deep-seated feeling his approach is right. He may make it sound easy, but gauging the client really involves listening skills many of us have forgotten how to use. Though he would deny it, Phil Raby shows the real art of salesmanship.



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Jata A 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.



model's used value compared to the previous financial guarter. The review for 2018 Q3 will be July. The review for 2018 Q2 was April.



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





911S 1969-71 1 1 -

An upgrade in engine size gave the 9115 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.

good power.	
Production numbers 4,691	(C & D series)
Issue featured 120	011T
Engine capacity 2,195cc	9111
Compression ratio 9.8:1	1969-71
Maximum power 180hp @ 6,500rpm	Like the E the Q
Maximum torque 199Nm @ 5,200rpm	
0-62mph 6.6sec	torque curve wa
Top speed 145mph	making the car i
Length 4,163mm	drivable Vantila
Width 1,610mm	urivable, veritila
Weight 1,020kg	from the S were
Wheels & tyres	and a five-speed
F 6x15-inch; 185HR	
R 6x15-inch; 185HR	became standa



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

G.H.I.J Carrera 3.0 RS 1974

Updated version of the 1973 Updated version of the 19/3 2.7 RS, complete with impact bumpers and Turbo-spec whaletail rear wing. Steel arch added by hand at the factory, with 917 brakes.

Maximum power 230hp @ 6,200rpm Maximum torque 275Nm @ 5,000rpm

109

2,994cc 8.5:1

5.3sec 152mph 4,135mm 1,680mm 900kg

Production numbers

Issue featured Engine capacity Compression ratio

Weight Wheels & tyres F 8x15-inch; 215/60/VR15 R 9x15-inch; 235/60/VR15

0-62mph



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.

16 933 2,341cc 7.5:1 130hp @ 5,600rpm ximum torque 197Nm @ 4,000rpm 0-62mph 7.6sec 128mph 4,163mm 1,610mm 1,077kg Weight Wheels & tyres F 5.5x15-inch; 165HR R 5.5x15-inch; 165HF



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

	ouncursy
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



only normally aspira eloped from the Carrera Developed from the Carrera 3.0, but produced less power Upgraded Sport options. Production numbers Engine capacity Compression ratio 8.5:1/8.6:1/9.8:1

100/100/20+iib @
5,500rpm
265/265/267Nm
6.5sec
141/146mph
4,291mm
1,626mm
1,160kg (1978)
VR15
VR15

60,740 2,994cc



so that Porsche could go Group Brallying. Six Rothmans cars used fibre glass front wings and lid. Tuned 3.0-litre engine had its

basis in 550 5 ci ai incase.		
Production numbe	rs 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	5/VR16	
D 9v16 inch: 225/5/	1/V/D16	

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HEXAGON

n 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 Engine capacity Compression ratio 138 1,991cc 9.0:1 130hp @ 6,100rpm imum power Maximum torque 173Nm @ 4,600rpm 0-62mph 8.4sec Top spe Length Width 132mph 4,163mm 1,610mm 1,080kg

911L 1967-68



● (A & B series) ★★★★

911T 1967-69



• (B series) $\star \star \star \star \star$	Production numbers
911E 1968-69	Engine capacity Compression ratio
The 911 received its first major update, evolving	Maximum power 140hp @ 6 Maximum torque 175Nm @ 4 0-62mph 175Nm @ 4
into what is known as the B series. The 911E replaced	Top speed Length 2 Width 1
the 911L as the 'standard' car. The 'E' stood for 'Einspritz' (injection).	Weight Wheels & tyres F 5.5x15-inch; 185HR R 5.5x15-inch; 185HR

1.01		
the second	Like the E, the S injection, boost 170bhp. To help extra demands an additional oil fitted in the fror	gained a fuel ing power to cope with the on the engine, cooler was it right wing.
2,826	Production numbe	rs 2,106
n/a	Issue featured	n/a
991cc	Engine capacity	1,991cc
9.1:1	Compression ratio	9.1:1
0rpm	Maximum power	170hp @ 6,800rpm
0rpm	Maximum torque	183Nm @ 5,500rpm
7.6sec	0-62mph	7.0sec (est)
Omph	Top speed	140mph
53mm	Length	4,163mm
10mm	Width	1,610mm
020kg	Weight	995kg
	Wheels & tyres	
	F 6x15-inch; 185/70	/R15
	R 6x15-inch; 185/70	I/R15

	CO H
• (C & D series) $\star \star \star \star \star$ Production numbers	4,927

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	



Weight Wheels & tyres F 5.5x15-inch; 185HR R 5.5x15-inch; 185HR

increasing the stroke from 66mm to 70.4mm while at the same time leaving the bore unchanged. The new 915 transmission was stronger.

	0
Production numbe	rs 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	



911T 1972

911S 1972	000		
A 2.4-litre engine increa torque. The mostly chro brightwork had a black o grille with a '2.4' badge. oil filler on right rear win confused some.	sed ome decklid External g		
Production numbers Issue featured Engine capacity Compression ratio	5,054 120 2,341cc 8,5:1		• (Fs Car 1973
Maximum power 190hp @ Maximum torque 211Nm @ 0-62mph Top speed	 6,500rpm 5,200rpm 6,6sec 140mph 		The R engin
Length Width Weight Wheels & tyres F 6x15-inch: 185/70/R15	4,163mm 1,610mm 1,077kg	f	ightei Iared optior
D 6v15 inch: 195 /70 /D15			and T







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 ue featured 144 Engine capacity Compression rat Maximum power 2,341cc 8.0:1 165hp @ 6,200rpm 206Nm @ 4,500rpm 0-62mph 7.5se Top speed 137mph Length Width 4.163mn 1,610mm 1,077kg Weight Wheels & tyres F 6x15-inch ATS; 185HR R 6x15-inch ATS; 185HR



also adopted black trim around the front and rear lights and black front quarter grilles.

Toutection number	J,UJ4
ssue featured	120
ingine capacity	2,341cc
Compression ratio	8.5:1
Aaximum power	193hp @ 6,500rpm
Aaximum torque	211Nm @ 5,200rpm
)-62mph	6.6sec
op speed	140mph
.ength	4,163mm
Vidth	1,610mm
Veight	1,075kg
Vheels & tyres	
6x15-inch; 185/70/	/R15
6x15-inch; 185/70.	/R15

 (G, H, I, J series) 911 1974-77 	\$)★★★★★
	(A)

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.

Desidentian annah	0.220
Production numbe	IS 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 L Iseries)★★★★

911S 1974-77

Production number	rs 17,124	
Issue featured	n/a	O
Engine capacity	2,687cc	Э.
Compression ratio	8.5:1	_1C
Maximum power	173hp @ 5,800rpm	
Maximum torque	235Nm @ 4,000rpm	Fro
0-62mph	7.0sec	Wa
Top speed	142mph	tor
Length	4,291mm	
Width	1,610mm	sa
Weight	1,080kg	ve
Wheels & tyres		ev
F 6x15-inch; 185VR		CA
R 6x15-inch; 185VR		av



G&H series) ★ ★ *** **11 Carrera 2.7** 974-76 om 1974, Carrera name is given to rangepping 911. Essentially the me engine as previous ar's RS for all markets cept USA. Whaletail available from 1975

Production numbers	1,6
Issue featured	13
Engine capacity	2,687
Compression ratio	8.5
Maximum power	210hp @ 6,300rp
Maximum torque	255Nm @ 5,100rp
0-62mph	6.3s
Top speed	148mj
Length	4,291m
Width	1,610m
Weight	1,075
Wheels & tyres	
F 6x15-inch; 185VR	
R 7x15-inch; 205VR	



only fitted with a new 2,994cc engine, essentially from the 911 Turbo.

Production number	rs 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



33

1,840mm

1,450kg

930 <u>3.</u>0 1975-77 Fitted with a KKK turbo, this was the world's first production Porsche to be turbocharged. Flared

Issue featured arches, whaletail rear wing and four-speed gearbox

Engine capacity	2,33400
Compression ratio	6.5:1
Maximum power	260hp @ 5,500rpm
Maximum torque	343Nm @ 4,000rpm
D-62mph	5.5sec
Top speed	155mph
Length	4,291mm
Width	1,775mm
Weight	1,140kg
Wheels & tyres	
7x15-inch; 185/70/V	/R15
R 8x15-inch; 215/60/	/R15

157



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 11.35 Issue featured 14.44 Issue featured 14.94 Issue featured 14.94 Issue featured 14.94 Segme capacity 3.2995c Compression ratio 70.1 Maximum power 30.01p @ 55.00mm Maximum torque 432Nm @ 4.000mm O-62mph 5.95 speed 1.60mpt 1.60mpt Vieth 4.22Nmm Width 1.75mm Weight 1.30kg (1.335kg from '36) Whels & tyres F.745-incht.205/55/VRIG Pails incht.205/55/VRIG Pails incht.206 / 200 ME		560	claimed to be 8 and the first pro to feature an EC ignition and fue	0 per cent new, oduction 911 CU to control I systems.
Issue featured 144 Issue featured Engine capacity 3.290cc Frigine capacity 3.31 Compression ratio 70.1 Compression ratio 3.01 Maximum power 3.00hp 0 ± 5.00 pm Maximum power 2.31hp 0 ± 5.00 O-62mph 5.4sec O-62mph 0.62mph 1.00 kg (1.335kg from 36) With 1.77mm Weth 1.65 Weth 1.2 Whels & Upstor 1.300kg (1.335kg from 36) Whels & Lyres 1.2 Whels & Lyres F Ald-Incht (25/55/WRI5 F Ald-Fincht (19/565/WRI5 F Ald-Fincht (19/565/WRI5 F	Production number	rs 11,135	Production number	ers 70,04
Engine capacity 3.299cc Engine capacity 3.3 Compression ratio 701 Compression ratio 1 Maximum power 300hp @ 5.500rpm Maximum power 23hp @ 5.90 Maximum torque 452Nm @ 4.000rpm Maximum power 23hp @ 5.90 OeSamph 6.80 rph 5 Top speed 15 Length 4.29 lmm 4.20 15 With 1.300kg (1.375mm Kifth 1.66 Wheels & Lyres 7 AU5-Inch: 1256/55/VRI5 Powers & Lyres 7 AU5-Inch: 1256/55/VRI5 Public Inch: 205/55/VRI5 Powers & Lyres F 7 AU5-Inch: 1256/55/VRI5 Powers & Lyres	Issue featured	144	Issue featured	14
Compression ratio 70.1 Compression ratio 21 Maximum power 3001b @ 55.00mm Maximum power 231b @ 55.00mm Maximum torque 432Mm @ 40.001pm Maximum torque 231b @ 55.00mm O 62mph 5.4eec O 62mph 5.62mph O 50 speed 16.1mph Top speed 155 Length 4.22lmm Length 4.22 Weight 1.300kg (1.335kg from 785) Weight 1.2 Wheels & Upres F7.015 micht 205/55/VR15 F7.025 micht 205/55/VR15 F7.025 micht 205/55/VR15 Paulis micht 205/55/VR15 F7.025 micht 205/55/VR15 F7.025 micht 205/55/VR15 F7.025 micht 205/55/VR15	Engine capacity	3,299cc	Engine capacity	3,164
Maximum power 300h № 5.500 rpm Maximum torque 231h № 5.900 rpm Maximum torque 432Nm № 4.000 rpm Maximum torque 284Nm ⊕ 4.800 rpm O-62mph 5.4sec O-62mph 5 Top speed 161mph 4.291mm Length 4.291mm Width 1.500kg (1.355kg from 786). Width 1.65 Wheels & Uyres F 7.155-Inct: 1269/55/VR16 Po.456 rev 05760/015 Po.456 rev 05760/015 Po.416 rev 05760/015 Po.416 rev 05760/015 Po.416 rev 05760/015 Po.416 rev 05760/015	Compression ratio	7.0:1	Compression ratio	10.3
Maximum torque 432Nm @ 4.000rpm Maximum torque 24Nm @ 4.800rpm 0-62mph 5.45mph 5.5mph 5.5mph <td< td=""><td>Maximum power</td><td>300hp @ 5,500rpm</td><td>Maximum power</td><td>231hp @ 5,900rp</td></td<>	Maximum power	300hp @ 5,500rpm	Maximum power	231hp @ 5,900rp
O-S2mph 5.4sec. O-S2mph 5.5 Top speed 16/mph 5.2 Top speed 152 Length 4.20mm Length 4.20mm Weight 1.300kg (1.33kg from 86) Width 1.66 Wheels & tyres F Xid-Inich, 200/55/XRI5 F 7.45-inich, 205/55/XRI5 P Aul- and State Count P Social and State Count P Social and State Count	Maximum torque	432Nm @ 4,000rpm	Maximum torque	284Nm @ 4,800rp
Top speed 161mph Top speed 152 Length 4.291mm Length 4.29 Width 1.500kg (1.35kg from 786) Width 1.65 Wheels & tyres F 7.455-mic.200/55/VR16 P. 9.455-mic.200/55/VR15 P. 9.455-mic.200/55/VR15 Public part 276 & F0.0015 P. 9.455-mic.200/55/VR15 P. 9.455-mic.200/55/VR15 P. 9.455-mic.200/55/VR15	0-62mph	5.4sec	0-62mph	5.6s
Length 4.23Inm 4.23 With 1.77mm With 1.65 Whels 1.300kg (1.335kg from '85) With 1.65 Wheels & Lynes 1.300kg (1.335kg from '85) With 1.2 Wheels & Lynes 1.2 Wheels & Lynes 1.2 PixLis-Incht 200/55/WIL5 F.7L5-Incht 195/55/WIL5 F.7L5-Incht 195/55/WIL5 F.7L5-Incht 195/55/WIL5	Top speed	161mph	Top speed	152m
Width 1.775mm Width 1.65 Weight 1.300kg (1.355kg from '86) Weight 1.2 Wheels & tyres F XL5-inch; 205/55/VR15 F XL5-inch; 195/55/VR15 B Vale low: 207 66/0016 D Vale low: 207 60/0015 F XL5-inch; 195/65/VR15	Length	4,291mm	Length	4,291m
Weight 1.300kg (1.335kg from '86) Weight 1.2 Wheels & tyres F7.456-inch; 205/55/VR16 F7.425-inch; 195/65/VR15 F9.456-inch; 205/55/VR15 Branch and an analysis Branch and analysis Branch and analysis Branch analysis	Width	1,775mm	Width	1,652m
Wheels & tyres Wheels & tyres F 7x15-inch: 105/55/VR16 F 7x15-inch: 105/65/VR15 B 2x16-inch: 205/65/VR16 D 2x15-inch: 205/65/VR15	Weight 1,3	00kg (1,335kg from '86)	Weight	1,210
R 8X10-IIICI, 223/30/ VR10 R 8X13-IIICI, 213/80/ VR13 (10 10/8	Wheels & tyres F 7x16-inch; 205/55. R 8x16-inch; 225/50	/VR16	Wheels & tyres F 7x15-inch; 195/65 R 8x15-inch, 215/60	/VR15)/VR15 (16" for '89)



Almost the same galvanised body as the SC. Engine was claimed to be 80 per cent new, he first production 911 ature an ECU to control on and fuel systems. 70,044 ction numb 148 eatured 3,164cc e capacity ression ratio 10.3:1 ium po ium to iph beed 231hp @ 5,900rpm 284Nm @ 4,800rpm 5.6sec 152mph 4,291mm 1.652mm 1,210kg



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 (50 (UK only) 146 Engine capacity 3,299cc 7.0:1 rpm isec nph mm 5kg

Compression ratio	/
Maximum power	330hp @ 5,500r
Maximum torque	432Nm @ 4,000r
0-62mph	4.6
Top speed	173n
Length	4,291
Width	1,775
Weight	1,33
Wheels & tyres	
F 7x16-inch; 205/55	5/VR16
R 9x16-inch; 245/45	5/VR16



1986-1988	Compression ratio	
	Maximum power 450h	
Had lech later used on	Maximum torque 500Nr	
911s including 4WD,	0-60mph	
ABS and twin turbos. A	Top speed	
959S was also available	Length	
5555 was also available,	Width	
featuring lighter cloth	Weight	
Sport seats five-point	Wheels & tyres	
	F 8x17-inch; 235/45/ZR17	
narnesses and a roll cage.	R 9x17-inch; 255/40/ZR17	

Speeds	ter 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 numbe	ers 2,274 (for both
wic	le 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	5/VR16
R 8x16-inch: 245/60	0/VR16







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HEXAGON





R 11

996 Carrera 4S 2001-05

0-62mph

Top spe Length Width

0-62mph

Top speed Length Width

0-62mph

Length

Width

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.

MBLOB	JTOGLYM	4
and the second se		
		16
and the second se	And in case of the local division of the loc	1
	and the second	6
		E
Production numbers	s 23,055	k
Issue featured	155	Ē
Engine capacity	3,596cc	Ċ
Compression ratio	11.3:1	1 Å
Maximum power	320hp @ 6.800rpm	
Maximum torque	370Nm @ 4.250rpm	"
0-62mph	5 1sec	6
Top speed	174mph	
l enoth	4435mm	Lî
Width	1.830mm	15
Woight	1.405kg	
Wheels & tures	1,453/18	
F 8v18-inch: 225/40/	P18	
D 11v18-inch: 205/30	/018	15
N 110111110111777777777	/ 15 11 1	



ssue featured	127
ingine capacity	3,600cc
compression ratio	9.4:1
Aaximum power	462hp @ 5,700rpm
Aaximum torque	620Nm @ 3,500-
	4,500rpm
)-62mph	4.1sec
op speed	196mph
.ength	4,450mm
Vidth	1,830mm
Veight	1,440kg
Vheels & tyres	
8x18-inch; 235/40/	/R18
12x18-inch: 315/30)/R18





R 9x17-inch; 255/40/R1



	4.40
	14
	NIN AVEN
	A CONTRACTOR OF
Production number	s 56
Issue featured	
Engine capacity	3,38
Compression ratio	1
Maximum power	300hp @ 6,800
Maximum torque	350Nm @ 4,600
0-62mph	5.3
Top speed	174
Length	4,430
Width	1,765
Weight	1.32
Wheels & tyres	
F 7x17-inch; 205/50/	'R17
R 9x17-inch; 255/40/	'R17



LSD standard.	
Production number	rs 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: 285/3	30/R18

11.3:1

Sales debate Is there a genuine market for used 'reimagined' 911s?



Backdating and other personalised modifications have been in practice since the dawn of the 911 itself (and even before, with bespoke specs and features on early 356s helping to form Porsche's very own 'Sonderwunsch' department). Today, the universal popularity of a Porsche 911 reimagined by Singer has brought the idea of a truly bespoke 911 build into the eyes of the wider public, with many specialist Porsche businesses now offering to build you your dream 911... for a pretty penny, of course. Typically, the base car is a 964 or earlier, with an air-cooled flat six vastly reworked to kick out big power, while other discreet modifications help ensure the car is relevant for a 21stcentury lifestyle.

The build itself can take up to two years to complete, but nevertheless a bespoke 'reimagining' of a Porsche 911 will be no stranger to the majority of enthusiasts who attend high-profile shows and events. But what happens when the owner decides to <u>sell his or her bespoke build? Is there a genuine market for this?</u>

"Bespoke 911s are highly desirable cars, because they are unique," says Paul Stephens of Paul Stephens Porsche, the business which has successfully curated its own line of bespoke Porsche under the PS Autoart brand. "We find some of our clients enjoy the process of the build just as much as the finished product itself, then there are others who like to jump straight into a car which appeals and is ready to go. We therefore often buy back our Autoart cars from clients and have successfully re-sold them many times over, sometimes with tweaks which the new owner has requested."

Paul Stephens clearly has a successful model, but is this representative of the wider market? Karl Meyer, who's worked in Porsche sales for the last ten years, believes a bespoke car needs a different approach to a 911 that's still true to the car which originally rolled off the production line at Zuffenhausen. He says: "By the very nature of it being a bespoke car, they tend to take longer to sell, as their appeal isn't as broad as a factory example - particularly in the present climate. So a seller will always need patience, but from a buyer's point of view, due diligence is key. Get an expert to take a detailed look at the car. Just because it's had a lot of work put into it, doesn't necessarily guarantee the standard of that work, so make sure the base car is a good example and that all work carried out has been to exemplary standards - particularly if the asking price is strong. While not a common occurrence, the market will always cater for those who want something a little more bespoke," he says.





 Witte...

 Weight

 Wheels & tyres

 F 8x18-inch; 235/40/R18

 R10x18-inch; 265/40/R18

997 Carrera	S 2004-08
As per the 997 C more powerful 3 and PASM. 19-ir standard, with b brakes. Feature tailpipes	2 arrera, but with 3.8-litre engine 1 ch wheels as 1 gger ventilated d quad exhaust

Production 41.059 Issue featured Engine capacity 3,824cc 11.8:1 ompress ion ratio 355hp @ 6,600rpm um power Maximum torque 400Nm @ 4,600rpm 0-62mph 4.8se 182mph 4,427mm 1,808mm 1,420kg Weight Wheels & tyres F 8x19-inch; 235/35/R19 R11x19-inch; 295/30/R19



Top speed

Weight Wheels & tyres F 8.5x19-inch; 235/35/R19 R 12x19-inch; 305/30/R19

Lengt Width

996, but refined for more

power. Six-speed Tiptronic option available.

all	· · ·	-
1		() GDES

1,808mm 1,395kg

997 GT3 RS 2006-07 Similar to GT3, with wider rear bodyshell of the Carrera Ś. 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 GT3 2009-12

2,200 117

3,797cc 12.2.1 435hp @ 7,900rpm

> 4.1sec 194mph 4,460mm 1,808mm 1,395kg

> > 600

3,996cc 12.6:1

1,852mm

1,360kg



192mph

4,445mm

1.808m

1,395kg

Cam2 007 C4C	Issu
Genz 99/ 645	Engi
2008-12	Com
Deduce per C4 but with	Maxi
Body as per C4 but with	Maxi
arger engine. Utilised 997	0-62
Turbo's 4WD and PTM.	Top :
viscous coupling gives	Leng
	wiat
way to electromagnetically	Weig
controlled multi-plate	Whe
	F 8x1
ciuton.	R 11b

clutch

		Updated as per but with a uniqu wing, revised PA wheels and bett 2010 MY GT3s r rear hubs.	the Carrera, le front and rear ASM, centre-lock ter brakes. recalled to fix
duction numbers	7,910 (Coupe)	Production numbe	rs 2,200
ue featured		Issue featured	
ine capacity	3,800cc	Engine capacity	3,7970
npression ratio	12.5:1	Compression ratio	12.2.:
ximum power	385hp @ 6,500rpm	Maximum power	435hp @ 7,900rpn
ximum torque	420Nm @ 4,400rpm	Maximum torque	430Nm @6, 250rpn
2mph	4.7sec	0-62mph	4.1se
speed	185mph	Top speed	194mpl
igth	4,435mm	Length	4,460mm
lth	1,852mm	Width	1,808mm
ight	1,480kg	Weight	1,395k
eels & tyres d9-inch; 235/35/21 x19-inch; 305/30/2	R19 ZR19	Wheels & tyres F 8.5x19-inch; 235/3 R 12x19-inch; 305/3	35/ZR19 0/ZR19



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; 235/3	5/ZR19
R 11x19-inch: 305/30	/ZR19



2010	Compression ratio
	Maximum power 50
Engine was upgraded and	Maximum torque 46
aerodynamically tweaked,	0-62mph
with the angle of the rear	Top speed
wing increased and dive	Length
wing increased and dive	Width
planes on either side of	Weight
the front nose. A future	Wheels & tyres
	F 9x19-inch; 245/35/ZR19
collectors gem.	R 12x19-inch; 325/30/ZR19



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Technology explained CARBURETTORS

Before the dawn of fuel injection, early Porsche 911s featured carburettors to feed fuel to the flat six. Total 911 takes you through the basics

From the Solex of pre-1967 cars to the Webers of early 911Ss and Zeniths of later 911Ts, the air/fuel mixture in Porsche's early flat six engines was fed into each cylinder by a pair of three-choke carburettors. A carburettor's job is to mix together air and fuel before it is pulled into the cylinder during the intake phase of the internal combustion cycle. The inside of a carburettor is shaped like an hourglass, with a narrow section at its centre creating a venturi.

At this narrowing, the air travelling through the carburettor is forced to speed up. When this happens the higher velocity air creates a low-pressure zone, forcing a vacuum effect that draws petrol out of the float chamber, through a jet and into the intake tract of the carburettor. Airflow through a traditional carburettor is controlled by two butterfly valves. On a downdraft unit, where air flows in from the top-mounted velocity stacks as per a Porsche 911, the uppermost butterfly valve is the choke.

This is used to prevent airflow during cold starts when engines need a rich mixture (more fuel per unit of air) in order to start. However, in all carburetted 911s the choke is removed, simply leaving the throttle butterfly valve mounted below the venturi and main intake jet. Whenever the intake valves in the cylinder head open, the suction created by the downward movement of the piston sucks air into the top of the carburettor.

As the throttle pedal is pressed, the valve inside the carburettor rotates, increasingly allowing more air to flow through the venturi, sucking in more fuel from the float chamber. Mounted to the side of the carburettor's body, the float chamber is a reservoir filled with fuel from which the petrol is sucked into the venturi. The chamber's name comes from the float that is used to control the level of fuel stored inside the reservoir. As the float drops, it pulls down on the float arm, opening up a float valve. Fuel can then be fed into the float chamber via the pressurised fuel line.

vith 10mm wid connecting real standard. Also distribution ind digital dash cloo	er tyres and r tail light as features a torque icator on the ck.
Production numbe	rs Unknowr
ssue featured	98
ingine capacity	3,436co
compression ratio	12.5:1
Aaximum power	350hp @ 7,400rpn
Aaximum torque	390Nm @ 5,600rpm
)-62mph	4.9sec
op speed	177mph
.ength	4,491mm
Vidth	1,852mm
Veight	1,430kg
Vheels & tyres	
9 Ev10 in ob: 22E /	40/7D10

R 11x19-inch-305/35/7810

▼ ★★★★★		Production numbers	
001 1 Car	A C	Issue featured	
2211 Cau	era 45	Engine capacity	
2012-15		Compression ratio	
Composition	ductuling	Maximum power	400hp
Same wider bo	iay styling	Maximum torque	440Nm
as C4, coupled	to 3.8-litre	0-62mph	
400hhn engine	- Also	Top speed	
footinp chight		Length	
leatures six-pis	lon brake	Width	
calipers at from	t. PTV	Weight	
spraad torqua	more	Wheels & tyres	
spread torque	nore	F 8.5x20-inch; 245/3	5/ZR20
eveniy.		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

+++

3,800cc 12.5:1 7,400rpm

5,600rpm 4.5sec

185mph 4,491mr

1,445kg

Production numbers	In produc
Issue featured	
Engine capacity	2,98
Compression ratio	10
Maximum power	370hp @ 6,500
Maximum torque	450Nm @ 1,7
	5,000
0-62mph	4.2
Top speed	183r
Length	4,499
Width	1,808
Weight	1,43
Wheels & tyres	
F 8.5x19-inch; 235/40.	/ZR19
R 11 5x19-inch: 295/39	5/ZR19

991.2 Carrera 4 GTS 2017

arbox. Features Carrera abriolet active rear wing with diffuser aiding downfo Lightweight flywheel optional tion numbers 991 153 Engine capacit 3 9960 13.2.1 500hp @ 8,25 201mph 4,532mm 1,852mm

1,370kg

lob st

els & tvre ; 245/35/ZR20

R 12x20-inch; 305/30/ZR20

iction number	rs In productio
featured	15
e capacity	2,9810
ression ratio	10.0
num power	450hp @ 6,500rp
num torque	550Nm @ 2,150
	5,000rp
nph	4.1se
peed	194mp
h	4,528m
1	1,852m
	1 4501

Weight Wheels & tyres x20-inch; 245/35/ZR20 R 12x20-inch; 305/30/ZR20

controlling drive between both axles (rear always driven). Red

oor in looking builp or in our.			
Production number	s 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			
E 0x20 inch: 245/25	(7020		

P 9X20-Incli, 249/35/2R20 P 12x20-inch: 305/30/7R20

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HEXAGON

Unknow

3,800cc

4.5se

188.9mph 4,491mm

1,808mm 1,395kg

12.5:1 400hp @ 7,400rpm

440Nm @ 5,600rpm

Unknown

125

114

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

Production numbers	s 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; 245/3	5/ZR20
P 11 5x20-inch: 305/	30/7220

991.2 GT3 2017-

0

transmission now a no-cost option. Revised airflow to front

 ne capacity
 3.996cc

 pression ratio
 13.3:1

 imum power
 500hp @ 8.250rpm

 imum torque
 460Nm @ 6.000rpm

and rear.

0-62mph

Top speed Length Width

Production numbers

ue featured

gine capacity

Maximum power

 Weight
 1.413

 Wheels & tyres
 F

 F 9x20-inch; 245/35/ZR20
 R

 R 12x20-inch; 305/30/ZR20
 R

222 (UK, est)

3.9sec (manual)

1,413kg (manual)

3,996

199mpł

4.562mr

1.852m

991.2 Carrera 4

with sprayed intercoolers. Rear wheel drive, PDK only. New inlets on bonnet feeds air to brakes. Production numbers 1,800 (estimate Issue featured 161 ine capacity opression ratio kimum power 3.800c 9.0: 700hp @ 7,000rpm 750Nm @ 2,500-4,500rpm 0-62mph 2.8se U-52Mpn Top speed Length Width Width Wheels & tyres F 9.5:20-inch; 265/35/ZR20 211mph 4.549 1.880r 1,470kg R 12.5x21-inch; 325/30/ZR21

bers

Issue featured

Engine capacity

sion ratio

In production

370hp @ 6,500rpm 450Nm @ 1,700

133

2,981cc

5,000rpm

4.1sec

181mph

4,499mm

1,852mm

10.0:1

oznipn	2.33
p speed	205m
ngth	4,507m
idth	1,880n
eight	Not specifi
heels & tyres	
x20-inch; 245/35/ZR20	
11.5x20-inch; 305/30/ZR	20

Purist take Carrera witl of weight sa regearing of manual gearbox. Same 370hp engine as Carrera, PDK gearbox optional.

As per C4 but using revised

turbos, exhaust and engine

management from C2S to

produce extra 50hp. Faste

Engine capacity Compression ratio

 U-ozympin

 Top speed

 Length

 Width

 Weight

 Wheels & tyres

 F 8.5x20-inch; 245/35/ZR20

 R 11.5x20-inch; 305/30/ZR20

0-62mph

0-62mph than C2S for first time

Production numbers In production Issue featured 154

2,981c

420hp @ 6,500rpm 500Nm @ 1,700-5,000rpm

10.0:1

3.8sec

189mph

4,499mm

1.852mn

1,490kg

0		
****	Production numbers	2,000 (estimate)
	Issue featured	162
-	Engine capacity	2,981cc
 antha001 2	Compression ratio Maximum power	370hp @ 6,500rpm
JITUIE 991.2	Maximum torque	450Nm @ 1,700-
n∠∪kg		5,000rpm
ived and	0-62mph	4.1sec
f 7-sneed	lop speed	183mph
	1 onorn	///////////////////////////////////////

Width

0

higher fuel pressure

um power

U-62mpn Top speed Length Width Weight Wheels & tyres F 9x20-inch; 245/35/ZR20

R 11.5x20-inch; 305/30/ZR20

ssue featured

Engine capacity

0-62mph

Revised 9A1 engine from 991.1,

producing 540hp thanks to modified inlet ports in cylinder

head, new injection nozzles and

Production numbers In production

135

9.8:1

3.1sec

199mph

4,507mm

1.880m

1,595kg

1,808mm

 Weight
 1,410kg

 Wheels & tyres F 8.5x19-inch; 245/40/

ZR19 R 11.5x19-inch: 295/35/ZR19

3,8000

9.8:1 540hp @ 6,400rpm 710Nm @ 2,250-4,000rpm

Issue featured	157	Issue featured	125	
Engine capacity	3,800cc	Engine capacity	3,800cc	
Compression ratio	12.5:1	Compression ratio	12.5:1	
Maximum power	430hp @ 7,500rpm	Maximum power	430hp @ 7,500rpm	
Maximum torque	440Nm @ 5,750rpm	Maximum torque	440Nm @ 5,750rpm	
0-62mph	4.0sec	0-62mph	4.4sec	
Top speed	190mph	Top speed	188mph	
Length	4,491mm	Length	4,491mm	
Width	1,852mm	Width	1,852mm	
Weight	1,425kg	Weight	1,470kg	
Wheels & tyres		Wheels & tyres		
F 9x20-inch; 245/3	5/ZR20	F 9x20-inch; 245/3	F 9x20-inch; 245/35/ZR20	
R 11.5x20-inch; 305	/30/ZR20	R 11.5x20-inch; 305	/30/ZR20	
	6	and l		
8	-6		RUELIN	

*** 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			

PORSCHE 911 CARRERA SPORT CABRIOLET, 1989 50,300 miles. Electric sports seats, electric soft top, Kenwood DAB radio and CD player, Bluetooth incorporated

PORSCHE 911 996 TURBO CABRIOLET, 2004 37,500 miles. Tiptronic, adjustable seat heating, CD autochanger, Porsche embossed headrest, top tint screen, hard top in body colour

PORSCHE 911 997 TURBO S CABRIOLET, 2010 19,800 miles. PCCB ceramic brakes, sports chrono turbo package, BOSE Speakers, universal audio

PORSCHE 911 CARRERA SPORT CABRIOLET, 1989 56,500 miles. Comfort seats, electric soft top, rear spoiler, sports suspension, Hi Fi sound system, air conditioning

PORSCHE 911 997 CARRERA 4S CABRIOLET, 2008 11,800 miles. PCM extender navigation, factory hardtop, 19" Turbo wheels, BOSE sound system, multifunction steering wheel, telephone module

PORSCHE 911 997 CARRERA 2S CABRIOLET, 2010 15,500 miles. Short shifter, BOSE sound system, heated sports seats, 19" Carrera sport wheels, top tint screen, PCM navigation

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SCAT40 Now four decades old, we chart the history

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and evolution of Porsche's Super Carrera



THE OTHER 2.7 CARRERA The MFI is revered, but how does the US-spec 2.7 Carrera stack up?



997 V 991 GT2 RENNSPORTS Battle of the blown Rennsports as PDK 991 takes on manual 997



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911 DESIGN ICONS THE COOLING FAN

Engine cooling is always critical, but for more than thirty years Porsche tackled it in its own unique way







pen the engine lid of an air-cooled Neunelfer and you'll instantly spot an item that's defined the flat six from the beginning: that vertically mounted cooling fan sitting front and centre. Of an axial-flow design, it was more efficient than the radial type employed

on the 911's predecessor, the 356, and would serve the sports car well for more than three decades. But why choose to mount the fan vertically when race cars such as the 934 and 935 opted for a horizontal layout?

There's only one man to ask, and that's Hans Mezger himself, who told **Total 911** the reasons were really quite simple. Essentially,

it was much easier to locate it this way and required less parts, which in turn meant costs were lower. And it was indeed a simple arrangement, the fan driven by the crankshaft via a v-belt that also drove the alternator mounted immediately behind the fan. Compare that to the racers – where not only was the belt drive required, but also a gearbox to turn the drive through 90 degrees – and it's easy to see why this would have been a needlessly complex and expensive solution for road-going 911s. Also, the additional cooling required for

the track – the horizontal fan layout was optimised for maximum airflow over the engine – would also have been deemed unnecessary.

Initially a 245mm, ll-blade item made from magnesium alloy, the fan turned at l.3-times crankshaft speed, drawing air towards various shrouds and panels that directed flow to the cylinder heads,

"The gearing of the fan would change on numerous occasions over the years" anels that directed how to the cylinder heads, barrels and crankcase. One of the first changes arrived on the 2.7- and 3.0-litre engines for the 1976 model year, the fan now featuring five blades rather than 11 and rotating at 1.8-times crankshaft speed, increasing both the flow of air and rotation of the alternator to allow greater charge to be generated at low engine speeds. In fact, the gearing of the fan would

change on numerous occasions over the years depending on the model, and by the 964 the fan and alternator were driven by separate belts, with the fan blades reshaped for quieter operation (the fan was shifting around 1,010 litres of air per second). Of course, the 996 and water-cooling brought an end to all this and meant that an instantly recognisable component was gone for good. We already know the original was simple, and for, ahem, fans of air-cooling, it was almost certainly the best.

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1966 Porsche 911 -stock-09477

This very desirable 1966 Porsche 911 being offered for sale with matching numbers, and the Certificate of Authenticity Included, was built on July 30, 1965. Its shown here in light ivory with black interior and is equipped with a manual transmission, Solex carburetors, rebuilt engine and transmission including receipts, wood steering wheel, wood dash, OEM radio and with solid wheels. An extremely clean and presentable example which is highly collectible and mechanically sound.

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1986 Porsche Carrera Cabriolet-stock-09655 The 1986 Porsche Carrera Cabriolet shown here with matching numbers and 57,700 miles on the odometer, is available in its original color code#027 Guards Red with a black interior. It is equipped with a S-speed manual transmission with a 32-liter engine, air conditioning, power windows, soft top, original owner's manual, Fuch wheel and includes the jack, spare tire and tool kit. An excellent original car which is mechanically sound. For \$32,500



970 Porsche 91 1E Targa-stock-09446 his very collectible 1970 Porsche 911E Targa featured here with hatching numbers is available in green with black interior. It comes guipped with a 5-speed manual transmission with a 2.24ter engine, river's side sport seat, Fuchs wheels, OEN radio, original owner's nanual and includes the spare tire and original maintenance booklet. his is a very south-staff the analysis of the staff of the owner or many years and is mechanically sound. For \$62,500



1977 Porsche Carrera Targa 3.0-stock-09219 This low production 1977 Porsche Carrera 3.0 Targa presented here is available in its original color codeff43 copper brown metallic with a tan interior. It is equipped with a 5-speed manual transmission with a 2-Tilter engine, power windows, Fuchs wheels and includes the jack, spare tire and tool kit. It has lost of potential of is priced just right. It has had the same owner for many years and has just came out of storage. For \$29,950

1993 Porsche 964 Cabriolet-stock-0940

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1971 Porsche 9111 Coupe-stock-09488 The excellent original 1971 Porsche 9117 Coupe shown here with matching numbers comes in its original color code#1111 light ivory with a tan interior. It is equipped with a 5-speed manual transmission, ar conditioning, cookie cutter wheels and includes the spare tire. The 9117 was previously owned by a Porsche Club of America (PCA) owner and is mechanically sound. For \$49,500



1984 Porsche Carrera Targa-stock-09566 The 1984 Porsche Carrera Targa featured here with matching numbers is available in its original color code/027 Guavilable in its Red with black interior. It comes with a clean CarFax and is equipped with a 5-speed manual transmission, air conditioning, power windows, power seats Fuchs wheels and includes the spare tire and jack. A very clean and presentable weekend driver which is mechanically sound. For \$37,500



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1972 Porsche 911E Targa-stock-09574 This very presentable 1972 Porsche 911E Targa is available in red with black interior and comes with a 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



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