THE **PORSCHE** MAGAZINE

KREMER 935

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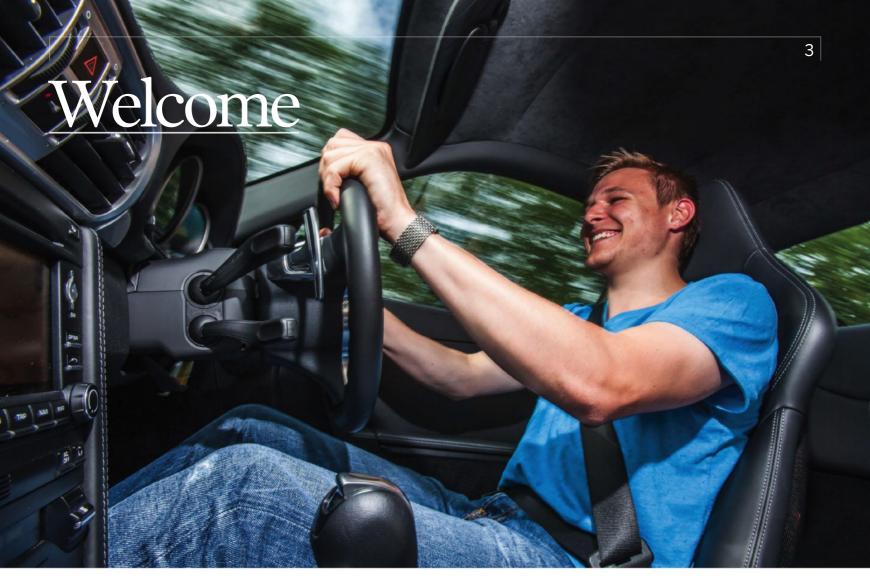
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^{*}Participating centres only. Fixed price maintenance tariffs apply to Boxster Type 986 (1996-2004) and selected 911 Type 996 (1998-2005) models only. Fixed price maintenance tariffs may be withdrawn or varied at any time. Contact participating centres for full details, terms and conditions.



orsche are certainly spoiling us 911 fanatics rather handsomely in 2013. On top of a multitude of special events the world over to celebrate 50 years of the model's existence, we've also been treated to a host of new 991 releases in both road and race form, heralding a glorious continued evolution to Zuffenhausen's flagship sportscar. Porsche itself will be the first to admit it's been an incredibly busy year in doing this, personified in its parallel release of the new Turbo and Turbo S at exactly the same time. The push to get both to market is to the merriment of motoring enthusiasts at large, although it appears bizarre that the Turbo S should so purposefully water down the Turbo's appeal. Nevertheless, a 911 Turbo is the

"A 911 Turbo is the glamorous Porsche, and a Carrera GT-eating 'Ring lap time for the 991 is glamorous indeed" glamorous Porsche, and a Carrera GT-eating Nürburgring lap time is glamorous indeed and ensures the 991 Turbo is without doubt the most breathtaking yet. Read all about the two new Turbo models – and where exactly this leaves the outgoing 997 Turbo S – starting on page 16.

Away from forced induction, it's now been 40 years since the closing of the Targa Florio race around Sicily, and with a 911 being the last and therefore eternal winner of the event, the anniversary is sure to capture the minds of many enthusiasts. Unbelievably, the same street circuit is still accessible by car to the public, providing a great 911 pilgrimage back to the scene of the RSR's famous victory back in 1973. Our own captivation in the Targa Florio was ensured after a visit to the Italian island this summer, before sitting down with Brian Redman, a man who conquered the Targa Florio. If you get the chance, learn about the history of this magnificent yet dangerous race – the story is as outstanding as the circuit itself.



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Porsche's entry-level classic

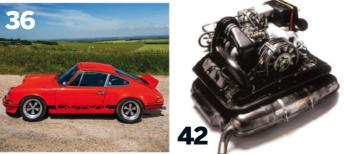
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Key dates, latest news, star products and race results from the world of Porsche







Silverstone's record-breaking 911 parade

ver 1,200 Porsche 911s took to the Silverstone Grand Prix circuit at July's Silverstone Classic race meeting, setting a new world record in the process. Organised jointly by the Porsche Club GB and Silverstone Classic coordinators as part of the 50 Jahre celebrations, the spectacle helped to raise money for the Hope for Tomorrow cancer charity.

The original idea was to get at least 911 Porsche 911s to take to the tarmac at the home of the British

Grand Prix. However, support for the event was unprecedented. With a plethora of 911 models involved, including RSs, RSRs, Carreras and Turbos, the total number of cars on circuit totalled a staggering 1,208. With Mark Porsche (son of 911 designer 'Butzi' Porsche) waving the parade away, the number of cars on circuit broke the world record for the number of 911s in one gathering.

Among the drivers were a multitude of famous faces, including Richard Attwood (who helped the

Stuttgart manufacturer to their first overall Le Mans 24 Hour victory in 1970). Derek Bell also took to the wheel to ensure that the current generation of 911 owners were joined by the people who helped to build the car's competition reputation.

Later on, Porsche GB's Project 50 historic race car would finish in 30th place in the Pre-1966 GT race. Gordon Robertson and 2003 Carrera Cup GB champion Barry Horne made up 15 places during the wet race to take fifth in class.



A 200-strong assortment of Porsches will be coming to auction in Norfolk, UK, over the coming months after their American owner decided to cut down his collection. Anglia Car Auctions, of Kings Lynn, auctioned the first batch of 911s, 912s, and 356s (amassed over a period of ten years) on Saturday 24th August.

The collection, ranging from project cars and rolling shells to working vehicles, includes 50 early Porsche 911s. Due to their American heritage, the selection is predominantly left hand drive. The auction has attracted worldwide attention, as Anglia Car Auction's Rob George explained: "It's completely crazy. Normally we get 1,200 to 2,000 people turn up for an auction, although August

is slightly quieter because of the summer holidays. We've had to double everything though for this one, including security. It really has gone viral."

After the bank holiday sale, the next classic auction at ACA takes place on 9th November. Thirty cars from the collection, which are currently in transit from the US, have already been earmarked.

"It's all been a bit of a rush this time," said George. "But next time we plan to have 50 to 60 pictures of all the cars. "It looks likely that we'll have some late-Seventies and Eighties SCs and Turbos. All the seller's cars are air cooled, and he has a few 2.7 RSs, in both lightweight and touring spec. There might be one or two of them up at the next auction."

What's on in 2013

June September

Porsche Museum
4 June - 29 September

Celebratory '50 years of the Porsche 911' display at the Porsche Museum, Stuttgart GT3, Turbo & Anni 991s September

GT3, Turbo and Anniversary models are expected to be delivered to customers



Salon Privé Concours 4-6 September

Concours d'Elégance at Syon Park, featuring a special class for 911s Porsche Club GB Trackday 5 September

£240 for members, £310 for non-members at Castle Combe in Wiltshire

Classics at the Castle 8 September

50 Jahre celebrations at Hedingham Castle. All models of 911s welcome Frankfurt Motor Show

14 – 22 September

Official 50th birthday of the

 $911's\,unveiling\,at\,the\,65th$

Frankfurt Motor Show

Magnus Walker's '72 STR II sells for \$302,500

The cover star of Total 911's 100th issue, Magnus Walker's 1972 STR II has sold at the annual Pebble Beach auction for over double its original estimate.

Coming up as Lot 61 at Gooding & Company's sale, interest in the car was high and, as the hammer fell, the Urban Outlaw's most famous project sold for \$302,500 (£193,000) to an as-yet unnamed buyer.

When it was announced for sale at the end of July, Gooding's had placed an estimate of between \$125,000 and \$150,000 on the hotrod-inspired build. However, the iconic vehicle has appeared on television sets on both sides of the Atlantic, thanks to the likes of Jay Leno's



Garage and Fifth Gear. As a result, attention naturally reached fever pitch when the car went under the hammer at the Concours d'Elegance. Although this

was the first time that Magnus has sold to the public, he is no stranger to selling his cars. His previous STR was sold to an enthusiast in France.

In brief



Elephant suspension

From the heart of Silicon Valley, CA, Elephant Racing has developed a new front suspension kit for the classic-bodied 911s of 1965-89. Adapted from the control arms of the 997 GT3, the system includes a complete subframe, as well as a new crossmember, control arms, mounts, bushings and ball joints. This saves weight and allows camber and track width to be adjusted. Priced at \$3,500 (£2,250). www. elephantracing.com

Facebook 911

To celebrate gaining five million 'likes' on Facebook, Porsche has launched a special edition 991 Carrera 4S. As part of the 50 Jahre anniversary, the car's design was voted for by more than 54,000 fans. Finished in Aquablaumetallic, with special white Carrera S wheels, the car includes the Aerokit Cup package and a special inscrip-tion on the dashboard. To read more visit the Total 911 website. www.facebook.com/ porsche

Urban Outlaw T-shirts

Magnus's custom race car inspired 911 builds are garnering international acclaim – and now the Urban Outlaw's style has been reproduced on a new clothing range, bringing a little piece of his Los Angeles workshop to your wardrobe. Here's a trio of his eye-catching T-shirts, all available at www.urbanoutlawshop.com.



'Racing Logo' T-shirt Price: \$30 (£20)

The bold motorsport-inspired design stands out from the crowd. Set upon black fabric, the lines of the logo nod towards the racetracks from which Magnus takes his inspiration.

'Race Car Target' T-shirt Price: \$30 (£20)

Featuring the STR II cover star of our own issue 100, this green number is based around the red, white and blue roundel given cult status by the mods. It's a lovely, timeless, distressed design.

'Racing Banner' T-shirt Price: \$30 (£20)

This distressed design has a strong American racing vibe to it. You'll feel like you need to get in your 1974 IROC RSR and go for a blast around the Daytona banking in this grey number.

911 in Motorsport

September

FIA WEC Brazil

1 September Porsche AG Team Manthey compete in round four in Sau Paulo, Brazil Goodwood Revival 13-15 September

World-renowned historic motorsport meeting with Bonhams auction

October

British GT Donington **5 October**

Oman Air Motorbase look to defend their title at the final round in their 997 GT3R

Petit Le Mans

16-19 October

Falken Tires will race their 997 RSR for 10 hours around Road Atlanta







orsche has become the first manufacturer to release a car for the United Sports Car Racing series, with the unveiling of its \$279,000 911 GT America racer. Production of the car, which will only be available through Porsche Motorsport North America, has already started back in Zuffenhausen in order to deliver the first batch of cars by October.

The United Sports Car Racing championship is new for 2014 after the American Le Mans Series and Grand-Am Rolex series agreed on a merger.

The new Porsche, built to the new regulations, is based on the current 991 GT3 Cup car that is currently competing in the Supercup.

The greatest difference between the new GT America and the GT3 Cup (profiled in the last issue) is to be found in the engine bay, where the former produces an extra 20bhp. Further changes include the addition of endurance racing-specific modifications, including quick-fill couplings on the fuel and oil tanks. The brake callipers are also designed for fast removal.

		s – Overall driver sta ı Francorchamps (Ro		
Pos	Entry no	Driver	Total	Spa points
1	14	Sean Edwards	106	18
2	2	Nicki Thiim	80	8
3	3	Michael Ammermüller	70	12
4	21	Michael Christensen	70	16
5	12	Kuba Giermaziak	65	5
6	1	Kévin Estre	59	9
7	6	Klaus Bachler	54	20
8	25	Christian Engelhart	42	4
9	10	Ben Barker	38	7
10	4	Jeroen Bleekemolen	36	10
11	5	Robert Lukas	35	14
12	22	Richie Stanaway	28	3
13	11	Patryk Szczerbinski	22	DNF
14	9	Jean-Karl Vernay	22	2
15	18	Jeroen Mul	18	6
16	19	Clemens Schmid	17	1
17	20	Markus Pommer	16	0
18	26	Martin Ragginger	9	0
19	17	Sebastiaan Bleekemolen	8	0
20	24	Jochen Habets	3	0
21	23	Alessandro Zampedri	2	-
22	8	Roar Lindland	2	0
23	15	Sean Johnston	2	0
24	7	Esteban Gini	0	-
25	26	Alain Menu	0	-

Porsche Supercup: key dates

• 12 May

Formula 1 Gran Premio de España 2013: Catalunya (Round 1)

• 23-26 May

Formula 1 Grand Prix de Monaco 2013: Monte Carlo (Round 2)

• 28-30 June

Formula 1 British Grand Prix 2013: Silverstone (Round 3)

• 5-7 July

Formula 1 Grosser Preis Santander von Deutschland 2013: Nürburgring (Round 4)

• 26-28 July Formula 1 Ma

Formula 1 Magyar Nagydíj 2013: Budapest (Round 5)

• 23-25 August

2013 Formula 1 Belgian Grand Prix: Spa-Francorchamps (Round 6)

• 6-8 September

Formula 1 Gran Premio d'Italia 2013: Monza (Round 7)

• 1-3 November

2013 Formula 1 Abu Dhabi Grand Prix: Yas Marina Circuit (Rounds 8 & 9)

Supercup: Bachler takes first at Spa



Porsche Junior driver, Klaus Bachler, claimed his first win in the Supercup series at Spa. Poleman Kuba Giermaziak was on course for victory in the sixth round until gearbox gremlins wiped out the Pole's comfortable lead on the final lap.

Bachler had jumped passed Sean Edwards at the start and the championship leader couldn't find a way back through, settling for an eventual second. Another of the Porsche Juniors, Michael Christensen, raced up from sixth to third. Giermaziak limped home in 11th, while one to watch Ben Barker finished 9th.

Racing updates latest news and results from racing series around the globe

☑ Carrera Cup GB

Michael Meadows reasserted himself at the head of the championship with a dominant double victory at Scotland's Knockhill circuit.

Carrera Cup Deutchland

Rounds 10 and 11 at the Nurburgring saw Brit Sean Edwards and Christian Engelhart of Germany take a win apiece.

American Le Mans Series

The Bryce Miller/Marco Holzer 997 GT3
RSR finished just one second shy of the podium in the sixth round of the ALMS at Road Atlanta.



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Here's the best of your tweets to @Total911 this month:

Baking hot day in Leonberg visiting Techart, feature in @Total 911 soon @iShoot cars

> Total 911 Collection



hot topic

Our hot topic this month focused on which of Porsche's venerable Turbo models is the greatest. Here are some of the best responses:



993 for it being the ultimate expression of the air cooled turbos @M_D_911, via Twitter

993 Turbo. In arena red. The size, proportions and the fact it is the last air-cooled make it mega cool. @gazzastubbs,

964 3.6, looks hard as nails. @adammelv, via Twitter



Has to be the 993 Turbo for me - I still remember seeing one for the first time as a kid!

Paul McAleer, via Facebook

993 Turbo S! Lydia E. Kers, via Facebook

It has to be the 993 TT 🚺 Leon Valverde, via Facebook

The current 991 because of the new changes compared to the 997. @kylesmiley21, via Twitter



etter of the month

The sender of the letter of the month receives the Total 911 Collection Volume 1 bookazine



Advanced driving for the road

I read Joel Newman's report of his driver training in Total 911, issue 104, with great interest.

Race tracks and airfields are superb locations for learning how to reach vehicle limits, allowing the driver to undertake the same exercise again with exactly the same circumstances. But I suggest that this has little practical use on the public road.

I was Head of the Metropolitan Police Driving School for two years and all my advanced driving students were trained to handle police vehicles in ever changing circumstances on the busy London streets.

I would suggest that anyone wanting to get more from their Porsche (I own

a 996 Cabriolet) would do better to sign up for a course of instruction with the Institute of Advanced Motorists, or one of many ex-police advanced driving instructors. Learn about hazard perception, raised vision, driving plans, and balancing the car. Learn smooth steering, acceleration and braking, as well as correct positioning for road bends (as opposed to racing lines). Learn the correct way to overtake and importantly where to never overtake!

After the training you will be amazed to see how much more enjoyable it is to drive country roads, as well as seeing how much faster you will be (constantly accelerating then braking is not the fastest or safest way to negotiate bends). Advanced driver

training on public roads will increase skill and ability in negotiating hazards such as pedal cyclists, pedestrians and other drivers of variable ability. Kind regards,

Mark Lewis, via email

This raises an interesting debate about the value of road-based and track-based advanced driving. Both have their positives, with track driving allowing drivers to start exploring the limits of adhesion and get used to the feeling of a car sliding. Road driving though is more about hazard perception and evaluating risk, which is where the IAM can help drivers. If you want to weigh in on this, email the Total 911 team on the usual address with your views.

Driving heaven at the Green Hell

Dear Sir.

A visit to the Nordschleife is a must for all serious 911 enthusiasts. All you need to do is check for the next 'tourist' day and book your Eurotunnel ticket. The track is about five hours from Calais, and there's a well-priced Dorint hotel located right next to the Grand Prix circuit. Single laps are €26 with small discounts for multiple laps. Standard

UK car insurance doesn't normally cover the Nurburgring, but insurance specialists can provide specific cover, including armco repair costs. It's a truly awesome experience.

Simon Chester, by email

The Nordschleife is one of the greatest challenges in motorsport, with an incredible history. In Total 911 soon!



I've wanted this beauty since the day I first saw it. Now I need to get hold of some serious cash. Guess I'll have to skip food

@ralle8K (in response to the news that Magnus' STR II was for sale)

All lined up and ready to show what they can do, at the awesome Blister Berg circuit, Germany @PorscheGB PR



the #911T around the Ring on road





997 GTS: A hidden gem

Dear Sir.

I am writing in response to Mr Burn's letter in issue 103. I purchased a Demo C4 GTS from an OPC in April 2012. I was looking to change from my Gen 1 C4S and, having looked at the 991, I decided this was not for me. So I started to search for a late Gen 2997 C4S. I was struggling to find a car to my desired specification, until I found a GTS that ticked the boxes.

I was quite surprised how little the car was marketed. It is certainly not a 'run out model'. It has surpassed all my expectations. Earlier in the year, I took the car around the Nurburgring, and I have just completed a 3,000mile trip to Austria. Whether on a nine-hour haul on the autobahn or on mountain passes, I feel this is the perfect 911.

With the GT3-style apron, I also felt the radiators were rather exposed. I put much effort into sourcing some mesh grills, finding an excellent product manufactured by Zunsport (www.zunsport.co.uk). They fit perfectly and I think they actually enhance the appearance. The part numbers for the GTS are ZPR31809 and 31909.

Kind regards,

Graham Hutchinson, via email

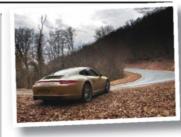
The GTS is certainly more than just a Carrera with a few added bits of trim. They provide a more sport-orientated drive than the Carrera S, with the added boon of extra exclusivity. Zunsport appear to provide a comprehensive range of grills for 996 and 997 models.



I was very excited to read what you thought of the GT3 RS in issue 103, a car that I have just purchased. To my shock, on completion of the article, I found that the car featured was the very one I purchased.

After camping on the Porsche Curves at this year's Le Mans 24 Hours with a Gen 2 RS staring me down at our campsite, I had to change up from my Gen 1 GT3. After a quick final track day on my return, I sold it on and bought the RS from Paragon.

Alex Smart, via email



Dear Sir,

As a regular reader who really appreciates the magazine, my wife and I thoroughly enjoyed the article in issue 101

We are just back from a truly great road trip over two weeks in Europe. On our way back from the Rhône Valley we took the Romantic Road and started in Füssen. In the article the first half of the route was drawn westwards from Füssen, which is incorrect. The first stop after Füssen is Neuschwanstein, located to the east, not west, of Füssen.

The correct route south to north is Füssen-Schwangau-Landsberg am Lech-Augsburg-Donauwörth-Dinkelsbühl-Rothenburg-Würzburg.

Hans Wolfhagen, Sweden

Thanks for the correction, Hans. The Romantic Road is a road to go on all driving enthusiasts' bucket list (along with our selection of 'Great Roads').



Inspired by Magnus

Please find attached photos of my Gen 1997 Carrera S with a tribute to Magnus Walker's STR II. One day I plan to have one of his original cars, but while I save up, I wrapped my current 911 (originally black). This really turns heads where I live in Johannesburg, South Africa. Regards,

Greg Ball, via email



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Win a software upgrade

Total 911 has teamed up with Regal Autosport to offer one lucky reader the chance to have an EVOMSit software upgrade on their water-cooled Porsche

ver the last quarter of a century,
Regal Autosport has been
tuning Porsches from its base
in Southampton, establishing
itself as one of the largest tuning
companies in the south of England.
Whether you are after a general service, or a

Whether you are after a general service, or a full-blown engine rebuild, Regal Autosport has the skill and experience to provide Porsche owners with a first class package. What's more, after any upgrade, the performance gains can be measured using their 1000bhp Mustang dyno.

Among its various services, Regal offers a software tune-up through its partnership with the Arizona-based company Evolution MotorSport. Founded in 1997 by Todd Zuccone, the business sets out to improve the car's performance by turning your relatively 'pokey' 911 into a highly tuned animal through the use of their blue riband software upgrade, EVOMS.

Dissatisfied with his previous software supplier's products, Zuccone travelled to Europe to learn about the secrets of extracting maximum performance form Porsche's engine management systems. Armed with this new knowledge and his mastery of hardware packages, Zuccone set about creating a formidable service: EVOMSit was born.

It was this passion, experience and skill that made Regal's partnership with Evolution a 'no-brainer'. With this new software upgrade, Regal's armoury of EVOMS hardware packages had been given an extra dimension.

Available for almost any Porsche (either turbocharged or naturally aspirated) EVOMSit improves performance by increasing horsepower, creating a sharper throttle response and improving efficiency throughout the engine's rev range. Each tune is developed at their base in Tempe, AZ, before it's tested on an all-wheel-drive dyno to ensure the upgrade is the highest quality.

Regal Autosport has been a dealer for Evolution MotorSport's products for over a decade and this month is offering one **Total 911** reader the chance to have their Porsche tuned by the EVOMSit software. The winner will get a full Evolution Motorsport software upgrade, as well as a run on the dyno both before and after the tune. This will showcase the car's greater performance, with a graph of the engine's torque and power curves.

To be in with a chance of winning, simply answer the following question:

What power does Regal Autosport's Mustang dyno read to?

Send your answer together with your name and address to competitions@total911.com with 'Regal' in the subject line before the closing date of 9 October 2013. To find out more about Regal or EVOMSit, visit www.regal-shop.co.uk/porsche.

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A technical masterpiece of rare ability, the new 991 Turbo is ferociously fast yet hugely forgiving – and £22,000 extra for the 'S' may prove too tempting an investment, as Total 911 reports...

Written by Kyle Fortune Photography by Porsche AG/Malcolm Griffiths







heady aroma of hot, hard-worked car fills the air, the heat shimmering off the back of the 911 Turbo's large rear haunches, the edges of the tyre's rubber showing some scrub. This unabated sign of hard work is the result of the Bilster Berg circuit in Germany, a new 991 Turbo and me having to follow Porsche's current new hotshoe driver, Alex Riberas, for a few laps. The driving resort track is nearly as new as the 991 series Turbo itself, and its 4.2 kilometres (2.6 miles) of tarmac was routed with the consultation of a certain Walter Röhrl. As challenges go it's a tricky one, undulating wildly, with some wicked crests, dips, climbs and descents all offering an incredible mix of the best tracks, but delivering a real road feel.

However, the new 991 Turbo has it covered. At the top of the 911 range, the Turbo has always represented the pinnacle of Porsche's technical expertise, so the fact that the new variant seems to master Bilster Berg's challenging tarmac is hardly surprising, even if the Turbo, despite its origins, is not Porsche's default track car. The stats are impressive though and the new Turbo keeps even the GT3 honest on the most famous of German tracks, suggesting that despite its differing focus, the end result of the two cars can be remarkably similar, against the clock at least. The Turbo takes 7 minutes 27 seconds to whip round the Grüne Hölle, just two seconds shy of the GT3's time of 7mins 25 seconds. However, the Turbo's time drops to 7mins 24 seconds on track-specific rubber.

Thomas Becki, Porsche director, product and technical press, laughed at breakfast earlier in the day when I asked why Porsche had chosen to launch its new Turbo on track and the GT3 on the



road. Porsche has a long tradition of doing things unconventionally – this coming from a company that's persisted with the rear-engine concept. And it's August, which means Becki and his team should, like the rest of the factory, be on holiday. Their extra working underlines how busy a year it is for Porsche, so much that they've even brought the Turbo S along for launch at the same time.

Looking at the technical specifications, it's little wonder the Turbo absolutely monsters the circuit at Bilster Berg. Four-wheel drive might have civilised the Turbo from the 993 generation onwards, but its increasing complexity, allied to ever more clever

electronic stability systems, enables the Turbo to despatch its massive 520hp and 660Nm with little drama. The four-wheel drive system is electrohydraulically controlled for the first time, while the front axle gains water cooling to enable it to cope with its massive torque inputs.

Porsche Torque Vectoring Plus adds an electronically controlled, fully variable rear differential lock. Active elements assist too, with the new active aero increasing downforce on-track – without increasing drag – and active rear steering doing the same complementary/counter steering depending on speed as the new GT3, which



pecification

991 Turbo S Coupe

(2013)

Engine

Capacity: 3.8-litre, biturbocharged with variable turbo geometry

Compression ratio: 9.8:1 Maximum power:

560 hp (412 kW) at 6,500 – 6,750 rpm

Maximum torque:

700 Nm at 2,100 - 4,250 rpm (750 Nm at 2,200 - 4,000 rpm in Sport Plus mode)

Transmission: Seven-speed Doppelkupplung (PDK) with controlled rear locking differential and Porsche Torque Vectoring Plus (PTV+).

Suspension

Front: Strut suspension (MacPherson type, Porsche optimised) with wheels independently suspended by transverse links, longitudinal links and struts; cylindrical coil springs with internal dampers; electromechanical power steering.

Rear: Multi-link suspension with wheels independently suspended on five links; cylindrical coil springs with coaxial internal dampers; active rear-wheel steering. Porsche Active Suspension Management (PASM) with electronically controlled dampers; two manually selectable maps.

Wheels & tyres

Front: 9x20-inch alloys, 245/35 ZR20 tyres Rear: 11.5x20-inch alloys, 305/30 ZR20 tyres

Dimensions

Length: 4,506 mm **Width:** 1,880 mm **Weight:** 1,605 kg

Performance

0-60mph: 3.1 secs **Top speed:** 197mph



"There are no compromises with the Turbo S"



virtually lengthens or shortens the wheelbase for greater agility and stability. Active engine mounts (as part of the optional Sport Chrono package) help manage the engine's weight shift, while the usual arsenal of stability, braking and traction control systems helps the 911 Turbo manage its prodigious output. PASM comes as standard on the Turbo with PDCC (Porsche Dynamic Chassis Control) an option, with the technology mitigating roll in the corners and managing the transfer of lateral forces to the tyres better by creating optimal contact.

The cumulative effect of all of the Turbo's hardware is mesmerising. On the road the Turbo's

ability to carry its speed is remarkable, as it rides with surprising composure and comfort on the admittedly smooth tarmac in Germany. The engine is relentless in its delivery, if ever so slightly hesitant to react to the accelerator. It's not immediately noticeable on the road, but the 3.8-litre unit's immediacy is muted minimally by the turbocharging. On the track, when pushed to the very extremes of its performance, that slight tardiness needs to be remembered if you're snapping off the throttle then getting straight back on it to help change direction. When the force does come on, it compensates heavily for this

infinitesimal pause. Measured against its forebears, it's so fractional to be all but unnoticeable, but it's there regardless. Also, keep the revs in the mid-to upper-range of the tachometer needle's sweep and the performance that accompanies your demands will be scarcely believable. Porsche quotes a 3.4-second 0-62mph time for an entirely standard Turbo or 3.2 seconds if optional Sport Chrono is fitted, though Porsche has long been conservative when quoting figures. They need to be repeatable in imperfect conditions, which means that, in more favourable ones, the standard Turbo is likely to be capable of an easy three-second sprint. Keep your









foot to the floor, hang on and 124mph is passed at 11.1 seconds onto the Turbo's 195mph top speed.

At the greater velocities the Turbo reaches, the new Porsche Active Aerodynamics duly comes into play. The front spoiler can be deployed in multiple stages, while the rear wing rises both in its height and its angle of attack. All of this is automatic if you choose Sport Plus, or the Aerodynamic button, whereupon front and rear spoilers will deploy to their maximum settings, delivering up to 44kg of downforce at the front axle and 88kg at the rear. A further Speed setting deploys only the outer elements of the front spoiler to direct air around the car, while the rear wing raises 25mm upwards

to reduce drag – enabling the Turbo to reach its top speed. The active aero not only improves the airflow around and over the car, but improves ramp angles at the front. With the front spoiler retracted, the ground clearance increases from 139- to 156mm, while the approach angle also benefits by 2.5 degrees over the 997 Turbo.

The result of this is a 911 Turbo that will better cope with the trials of traffic planning, steep driveways, forecourts and parking ramps, but does rob the Turbo of some of its assertive looks when that spoiler is absent. Without it, the nose's familial link appears more Cayman-related than Carrera. Arguably this is also true of its flanks, where the

sharper-edged profile of the rear wings and the converging roofline (and that punctured wing ahead of the back wheel) does cause a double-take. Those rear wings are near flat in their shape, with the 991-series Turbo losing some of its voluptuous form to cover its ever-growing track width – it's some 28mm wider than the Carrera 4.

That's enough to make the 911 Turbo feel like a bigger car on the road, with the effect heightened by both its mighty performance and the limited levels of communication it delivers. The steering, while accurate and incisive on the turn in (helped in no small part by the active rear steer) doesn't deliver the level of information that we now

Turbo S

I'm finding it difficult to quantify the £22,533 the Turbo S adds over the standard 911 Turbo. The numbers say that Sport Chrono and some ECU trickery (project manager of Powertrain Product Line 911, Tomas Krickelberg, admits that the S's gains are entirely down to software) boosts the S to a scarcely believable 560hp at 6,500- to 6,750rpm. That's a hike of 40hp over the regular car.

However, it's the substantial torque figure that makes the most interesting reading though. The S twists out 750Nm at 2,200- to 4,000rpm, assuming you've pressed the standard Sport Chrono's Sport Plus button on the transmission tunnel to provide overboost. Don't, and it's still a frankly ridiculous 700Nm at 2,100- to 4,250rpm. Maximum revs increase to 7,200rpm, too, though given that the Turbo hits the red paint at 7,000rpm it's unlikely you'd notice.

Those gains look mighty impressive on paper though, dropping the Turbo S's 0-62mph time to 3.1 seconds (Porsche's numbers are typically

conservative) from the Turbo's 3.4 (3.2 if you opt for Sport Chrono). Thing is, there's a quiet murmur around the table after a day's driving among the assembled hacks. It seems that for all the increases shown by the raw figures, the differences behind the wheel are all but impossible to quantify.

The standard car is indecently quick, the S more so according to the numbers. But on road and around the epic Bilster Berg circuit there doesn't feel like there's anything in it. Some of the blame can be levelled at Porsche for fitting all the Turbos at the launch with Sport Chrono (at £3,092), as well as Porsche Dynamic Chassis Control (£2,185), and all but a handful without Porsche Ceramic Composite Brakes (£6,248) – our red Turbo being one of the few cars on standard discs.

The S's advantage has been lost to Turbos with options then, though it does highlight a 'why not?' scenario. After all, start optioning the Turbo with many of the features that come as standard equipment with the S and it's not difficult to make

an argument for the more expensive version. All of the above accounts for £11,525 of the premium before you've added the other kit like 18-way electrically adjustable sports seats, full LED headlamps and centre-locking Turbo S wheels into the mix. Then, of course, there are those numbers, which make more impressive reading regardless of what they do to the car.

So there are no compromises with the S really, even though it's on slightly wider wheels (9x20-inches up front and 11.5x20-inches at the rear) there's no difference in the ride quality. Indeed, the standard PCCB stoppers reduce the unsprung weight. All that additional equipment does add some weight overall, but the extra 40hp isn't going to be troubled by a mere 10kg difference. For many, that it's the fastest 91l you can buy will be all that matters and worth that £22k premium alone. I can see their point: even if I wouldn't feel short-changed one bit in the standard car, the allure of that S on the rear is high.



know - via the GT3 - is possible through a Porsche electrical power steering system. In isolation it's good enough, but if Porsche could deliver even a percentage of the intimacy of the GT3's wheel to the Turbo, it'd be to its enormous benefit. So too would the GT3's punchier, more responsive PDK delivery, as the Turbo's paddle-shifted seven-speeder feels a little bit remote in its operation.

Add an exhaust that's not overly vocal - the odd crackle on overrun aside - and a flat-six engine muffled by those turbos and the mightiest 911 is one of the meekest aurally. That's arguably one of its appealing facets, but so too is a rousing accompaniment when the physical performance on offer is so intoxicating. Unusually, economy does

enhance this. The stop-start system's enthusiasm when starting back up is always pleasing as the revs quickly flair. Economy adds a further aural discord though, with the PDK slipping its clutches at low speeds to enable the transmission to offer virtual ratios at speeds of up to 40mph. The gearbox is not just noisier when doing this, but doesn't always engage the actual gear particularly smoothly when switching out of the slipping mode.

Any thoughts of economy are utterly lost around Bilster Berg, however, as the Turbo demonstrates that, for all its clever technology, it remains a 911 at its very core. It's able to be backed into a bend with judicious use of the accelerator and the weight in the rear, while its traction out of corners is simply

sensational. The way it can carry its speed seemingly impervious to the track surface or topography has to be experienced to be believed. The Turbo gives credence to Porsche's continued embracing of new, innovative technology on its 911 flagship. If that creates a car that, thanks to levels of performance and interaction being so high, is difficult to really enjoy or exploit readily on the public road, this shouldn't really be surprising. The 911 Turbo has been too fast for many generations before this one, but then that's always been part of its appeal and for Turbo fans it's difficult to see the new car as anything but a towering achievement. Just be sure to take it to Bilster Berg if you buy one. It's sensational.



The Total 911 verdict

Why you should buy the 991 Turbo

- The Turbo remains as usable and flexible as ever, yet even faster and more efficient at the same time.
- · Performance really is in the other-worldly league, while traction, grip and body control are all phenomenal.
- Given the performance on offer, its price looks like a bargain compared to its contemporary rivals.
- *Check the **Total 911** rating of the 991 Turbo and Turbo S on page 95 of our Data File now.

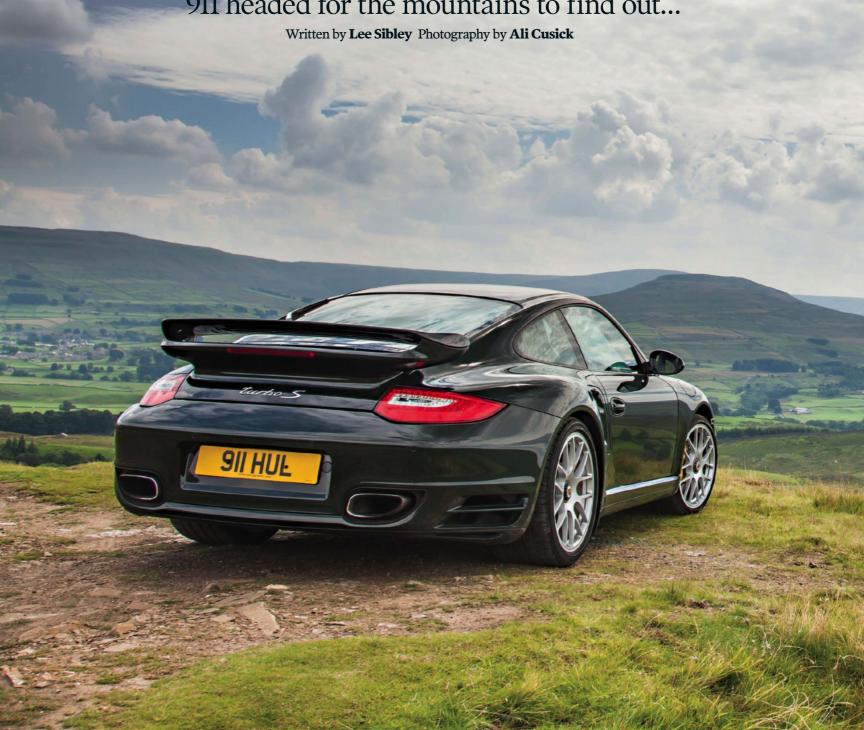
Points to consider

- Once you begin speccing up your 991 Turbo, a 991 Turbo S may quickly become a sensible and all-too-tempting proposition.
- PDK-only isn't really an issue with the Turbo, but again the GT3's PDK feels more immediate and faithful; those virtual gears are noisy around town, too.
- The Turbo's styling looks a touch ordinary at the front without the active aero extended, while those wide rear haunches have lost their voluptuous curves.



THE PINNACLE OF PORSCHE?

With the arrival of the showpiece Turbos to the 991 range, has the 997 Turbo S been knocked off its pedestal? Total 911 headed for the mountains to find out...







rom where I'm sitting right now, it can't get much better for an exuberant 911 fanatic. Suitably nestled into the carbon-backed bucket seats inside a 997 Turbo S perched high above the Yorkshire Dales, I'm on what appears to be the very zenith of a beautiful sweeping valley overlooking the sleepy village of Hawes, offering a breathtaking view.

However, I might add there's only Ali Cusick between me and a tantalising drop down – yet the unflappable photographer is continuing to beckon the car forwards. Unperturbed, I allow the 997 to crawl inch by inch over the uneven grassy terrain towards Ali, as my trust in the esteemed photographer battles with nerves heightened by no longer being able to see the floor in front of the 911's headlights. Yet, as Ali finally signals for me to stop the car and kill the engine, I marvel at how the Turbo S has accomplished this potentially tricky task at low speed so admirably. There were no engine jolts and no strain in my left thigh from trying to manually balance some overtly heavy clutch typically designed to revel in extremes of torque rather than near-idle speed. I say this as I've been at the wheel of other similarly powered high-performance sports cars marred by such problems when failing to remain composed in stop-start commuter traffic, let alone on an uneven plinth halfway up a small mountain. However, the 530bhp Turbo S allowed me to negotiate the small path – at

a speed of no more than 2mph – with sensationally zero fuss or issue.

It might seem bizarre that I've opened my account of an absurdly powered range-topping sports car by discussing its merits at miniscule speed, but it's this demonstrable practicality, twinned with outstanding performance when called upon, that's the reason we've brought the Turbo S back out for review. You see, it may be about to be replaced, but with the 997 Turbo S already assured as an incredibly accomplished sports car, the question is can it be knocked off this metaphorical perch by the 991 in the day-to-day world? After covering approximately 1,450 miles in the 997, I'd find it hard to believe. Sure, I can hear



some crying for a mention of the equally impressive 997 GTS as the everyday high-performance Porsche 911, but the extra 80bhp of the Turbo S means it enters the realms of a 500bhp+ sports car category that the GTS can't touch.

As Ali and I finish the opening photos and climb back in the 997 to tackle the superbly engaging Buttertubs Pass nearby, the performance merits of the outgoing Turbo S become apparent from the off.

For starters, the 997 is full of the sheer brutal performance the Turbo S at large is famed for. Kicking out 530bhp (30bhp more than the 997 Turbo, found slightly higher up the rev range), the Turbo S gathers pace at an astonishing rate with little turbo lag from the Mal70S engine. In terms of

torque, the 997 delivers an impressive 700Nm of it without the need for an overboost function, which the 997 Turbo relies on to achieve such figures. But figures are just pub talk, and true to form these only tell half the story here.

Even in basic Drive mode, the sheer velocity of acceleration throws you back in your seat time after time, continually providing a warm glow right in the pit of your stomach. The 991 Turbo S may boast 40 more horsepower over this outgoing model, but when you're already dealing with absurd power figures, it'll be hard to be able to physically quantify that gain on the road.

Switching into Sport mode however, the 997 Turbo S comes alive: PASM with dynamic engine mounts stiffens the car superbly and provides the 997 with even more poise. You can feel every small characteristic in the road while the throttle becomes noticeably more responsive, giving you a much more raw driving experience. On the Turbo, this function is activated only after the driver floors the accelerator pedal or releases it briefly – on the Turbo S though, it's activated immediately without any change in the position of the accelerator. The Porsche Traction Management gives superb agility through its rear-biased drive torque distribution, and PSM enables you to play with the car more before it intervenes.

As we push on through the Pass, the grip afforded to us by the N-rated Bridgestone



How Porsche has been boosting the Turbo for over 20 years

Schnelligkeit, or speed: if you want more of this from its Turbo offering, Zuffenhausen has offered the irrepressive Turbo S for 21 years

Turbo S for 21 years.

In 1992, Porsche fitted a larger turbine and revised engine management to a 964 Turbo, yielding an extra 61 horsepower. Coupled with 180 kilos of weight-saving, this new car raced to 62mph in 4.6 seconds. Braking from 180mph was improved with the addition of brake vents on the rear arches and on top of this the car's suspension was redesigned with components based on those of the RS.

Six years later, as a last hurrah to the air-cooled generation, the 993 Turbo was given the S treatment. Once again, larger turbochargers increased the engine's power to 450bhp. While the standard 993 Turbo was available

as a manual or automatic, the Turbo S variant only came with the former – Porsche's Tiptronic gearbox was unable to deal with the power plant's extra torque. Inside, carbon fibre trim saved weight over the standard Turbo.

As the 996 entered its swansong in 2004, the Turbo S arrived with a modified intercooler, revised ECU and the now-obligatory larger turbos. On top of this 30 horsepower boost, PCCB ceramic brakes were standard equipment.

The first-generation 997 Turbo missed out on the S treatment but with the 2011 and the S.

The first-generation 997 Turbo missed out on the S treatment but, with the 2011 release of the Gen 2 997 Turbo S, another 30bhp was squeezed from the 3.8-litre, turbocharged motor. This power was then transferred through a set of motorsport-inspired centre-locking wheels, while inside there was a unique two-tone interior.











Potenzas is astounding and the car feels incredibly planted as we duck and dive along the many dips and varying road cambers, opening up the revs through long straights. It makes for a sublime driving experience, even on public roads, and better still this package is all straight out of the box in Turbo S guise.

Re-entering a degree of civilisation in our environment, we return to Drive mode as we approach a small clutch of quaint country houses. With PASM off, the suspension eats up the anomalies in the road surface and comfort returns to the cabin. We successfully negotiate a series of cattle grids (how many 500bhp+ sports cars can do that without damaging their undercarriage?), before pushing on back up the other side of the valley, where the impressive PCCBs are called on several times to halt the car immediately when sheep are found meandering across the rural carriageway. Sport Turbo Plus is lost on anything but a track and as we're testing the day-to-day practicality of the

car, the coveted button is left well alone. Comfort is the name of the game and that's exactly what we get during the resulting five-hour journey back from the mountainous roads of rural Yorkshire down to the capital city of London, furthering the Turbo S's worth as a great GT cruiser.

The 997 Turbo S is an absolute machine and despite no longer conjuring the pizzazz of being the latest Turbo 911, the 997 still has a lot to shout about. Its PDK transmission turned out to be rather a precursor for the highline Type 991 models and, much like those 991s, is effortlessly intelligent here: rarely do you find a need to override the system with manual input. Although even the Turbo S utilises a longer seventh gear in normal Drive mode, you can simply tap the accelerator pedal with your foot to prepare the motor when you want to overtake another vehicle, to which the transmission duly responds by instantly dropping down a couple of gears. It's a constant reminder that brute power is only ever milliseconds away.

Likewise, Variable Turbine Geometry, as found on the 991 Turbos, was also first deployed on the 997 Turbo S, a technology using electronically adjustable guide vanes to change the angle of the vane feeding the 3.8-litre engine's twin turbines. This system provides higher boost pressure, even at a lower RPM, meaning that huge power is always near-instant.

Despite these similarities in evolution, there are areas of the 997 generation that still hold key elements of quintessential 911. The prime factor here, of course, relates to its steering. The 991 Turbo and Turbo S models are the latest to revert to electric-driven steering, still a controversial topic among 911 traditionalists, while the 997 Turbo S is the last Turbo model to hold onto its mechanical-pump-driven steering – a surefire settlement in its likability factor.

The 997 also has a more traditional chassis that favours the purist and in many years to come will only aid its collector charm. A full 100mm

shorter wheelbase than the 991s, there is no rearaxle steering here, protecting the direct relationship between car and driver.

Inside, the 997 cabin maintains a precedent set by every Turbo S over the last 20 years of being abundant in Porsche luxury. Rather refreshingly, the layout here does not feel dated (no doubt aided by the presence of a PDK gear stick and paddle shift behind the steering wheel), though after driving numerous 991 Carreras so far this year I can now start to see the beauty in the Panamera-esque centre console, which ensures reaching for the PASM button, for example, isn't hindered by an annoying obstacle by way of the gear shifter.

Even on the outside, the 997 Turbo S doesn't yet look particularly dated. While not appearing quite as aggressive as the new 991s, the gaping intakes in the rear fenders strike fear into those who know what they signify and wonder to those who don't. No doubt helped by the Turbo Aero Kit (a £3,500

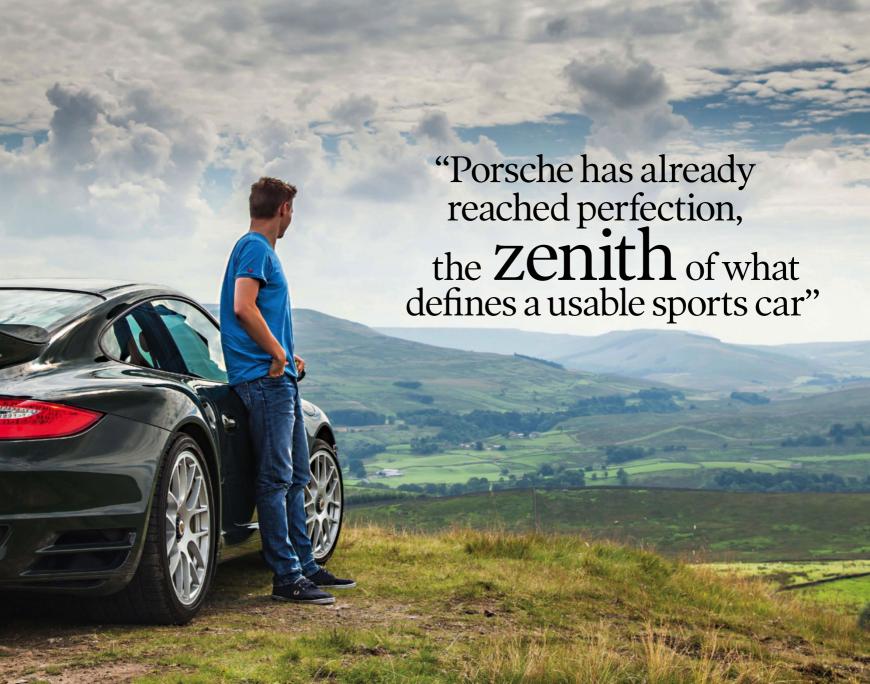
option) and exclusive shade of Brewster green from Porsche paint to sample, the Turbo S even turned many heads through the hustle and bustle of central London's city streets after its teardown in the quiet Yorkshire Dales. Would the new 991 Turbo S turn more heads? I'm not so sure.

Certainly, the 997 Turbo S already appears to tick every box in a real-world environment. The new base Turbo may be quicker to 62mph than this top-spec Turbo S, but crucially you'll have to pay at least an £18,000 premium for the pleasure and that's a lot of anybody's money for what amounts to just a tenth of a second of superior pace in the new model.

What's more, the new Turbo S starts at a whopping £142,000, whereas a nearly new 997 Turbo S had crept into five-figure sums as early as January of this year, much before the 991 models had finished testing in South Africa and on the Nurburgring Nordschleife. In like-for-like terms, the current market says a 997 Turbo S is worth

only two-thirds of a 991 Turbo S – but where would the extra third of value come from in day-to-day capability? Even the argument of increased running costs cannot be counted against the 997, returning a more-than-respectable 27mpg over the 1,450 miles of varied driving, proving its worth – if indeed it matters – as an economical yet rapid powerhouse.

With that, I believe the message is clear. There's no denying the 991 Turbo and Turbo S are an astounding pair of 91ls (as we've just told you in the preceding feature), but as an everyday GT car capable of savage performance and brilliant practicality, the new models are simply joining the 997 at the top table. Why? Because, aside from the track where adaptive aerodynamics and rear-axle steering will undoubtedly provide a noticeable edge in lap times, Porsche has already reached perfection, the zenith of what defines a usable sports car, in the 997 Turbo S. The pinnacle of Porsche? Absolutely, and for a long time yet.





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SPIRIT STANSON

A good Carrera 2.7 RS is worth over £250,000, but what if you could have its looks and fun for around a tenth of that price? Total 911 investigates...

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



"The 911 was always bound to be replicated or customised"



eplicas: making a copy of an object such as a work of art so that more people can enjoy it is quite acceptable. There is nothing inherently wrong with them unless a wilful attempt is being made to pass them off as the genuine article, especially for commercial gain.

There is, however, a school of thought that in seeking to give the impression of being the real thing, the replica somehow falls short because it is an artifice rather than a work of artistic creation, and that the viewer – or user – is being manipulated. This attitude is certainly at the root of the prejudice against replicas still found in the 'purist' circles of Porschedom. This is a pity, for replicas have an honourable history in Porsche. The immense popularity of the 1500 RS Spiders, for example, meant that Americans in particular could never get enough of a car which Porsche did not intend to be a significant road-going model, and a parallel industry grew up making copies. Naturally,

some of these – especially in the early days – were relatively crude, but there have been some brilliant re-creations too and if the market demands them and buyers know that what they are paying for is not a Zuffenhausen Porsche, then few can object.

As a much sought-after production car with a manufacturing history stretching back decades, the 911 was always bound to be replicated or customised. In the mid Eighties, Porsche itself was 'guilty' of this, marketing the Flachbau (flat build) look on the 930 Turbo. Its enterprising Exclusive department also sold a few thousand Flachbau conversion kits in response to demand for a 911 to look like the all-conquering 935 racer. At around this time, the value of the Carrera 2.7 RS went up. Its competition career had finished as Porsche club racers moved on to more recent 911s, while a rush to invest city profits in classic cars saw the likes of the Ferrari 250 GTO auctioned for over £1 million. The Carrera 2.7 RS, one of the last classic preemissions sports cars, followed in its wake, and US

collectors in particular began to buy them. By the mid Nineties, the 2.7 was already selling at almost £50,000 – two to three times the rate of ten years earlier. Since then, despite assorted recessions and banking crises, the most famous of 911s has proved to be a fine investment: in 2013 the best of them can sell for over five times its price 20 years earlier.

Today, as cars become ever more technically sophisticated, demand for the basic mechanical pleasures of earlier sports cars runs unabated. The earliest 911s are now beyond most budgets, and even the mass-produced SC, which used to be the cheapest entry level 911, is increasing in value. So it is hardly surprising if enterprising specialists have spied an opportunity here. The pinnacle of historic replica 911s is surely the Singer, a magnificent example of what can be achieved by a no-expense-spared re-engineering of a Seventies 911; more accessible but still comparable in cost with a new 911 would be one of Autofarm's classic re-creations or a subtly customised and updated 911 from



The UK replica market

Over the decades, many companies and individuals have attempted to build 911 replicas, with varying and often dubious results. The two best known and reputed exponents are Josh Sadler's Autofarm and Paul Stevens' PS Autoart. Autofarm has dealt in 911s since 1972, and is credited with the first proper 're-creation'. Essentially, this uses a post-1976 (so galvanised) donor shell to remake a 911 from the early production. Authentican and feel are the main artibutes of these

Stevens is a Porsche dealer who set up his Autoart division in 2005 in response to client demand for the feel and look of air-cooled 911s with the creature comforts of more modern models. Stevens tends to use the 964 body and will add air conditioning, a refurbished interior and 3.8-litre engine conversions to order. He also offers a classic 911 based on the 3.2, again with an upgraded interior and 3.4-litre engine conversions. Perhaps his most interesting effort to date is a 964-based but distinctly retro-looking speedster, which even has instrument dials that work from right to left in the hallowed tradition of competition.



SC conversion to RS replica (1983)

Engine
Capacity: 2,994cc
Compression ratio: 9.8:1
Maximum power:
204bhp @ 5,900rpm
Maximum torque:
267Nm @ 4,300rpm

267Nm @ 4,300rpm

Transmission:

Five-speed 915 manual gearbox

Suspension Front: Independent front struts; torsion bars; antiroll bar

Rear: Trailing wishbones with telescopic dampers and transverse torsion bar

Wheels & tyres Front: 16 inch Fuchs-copy alloys, 225/45 ZR 16 tyres Rear: 16 inch Fuchs-copy alloys, 245/40 ZR 16 tyres

Bodyshell: Standard 911 SC with sunroof; bespoke glass fibre bonnet; front valance and rear engine cover

Performance

0-60mph: 5.9 secs **Top speed:** 149mph



Paul Stephens. Entry level in the rarified world of replicas is represented by the output of workshops like Paul Cockerill's of Learnington Spa, whose production is the subject of this feature.

The orange 911 in our pictures is a 1983 3.0 SC, which has been backdated to resemble a Carrera 2.7 RS. It clearly isn't trying to pass itself off as a 2.7, but lowered to the correct height and lightened with glass fibre, it imparts some of the dynamic as well as visual personality of the original RS. The owner is Arni Wookey, who has almost a decade of aircooled 911 driving experience under his belt.

"I bought a 993 C4S and covered 100,000 miles in eight years. It was reliable, brilliant to drive and, of course, I contracted the 911 bug. I became attracted to the idea of a replica to enjoy the sensations of the vintage Porsche, yet have a 911 I could use without having to worry too much about it."

Arni saw the orange 'RS' at an auction and turned to it when he was outbid on a Caterham. "I

liked the looks and the colour. There was a choice of two RS replicas from the same builder. I chose this one because it cost 20 per cent less, and the other 'rep' seemed almost too nice to use."

This 9II certainly looks the part: with a sunroof and twin exhausts it is clearly not an RS, but neither does it purport to be. Yet for a car sold for £30,000, it offers a lot: first and foremost it is structurally sound. Engines and components can be rebuilt or replaced, but corrosion in the wrong places will ensure a shell is beyond redemption; the 3.0 flat six shows 160,000 miles, supported by the MoT certificates. Arni readily acknowledges that the history of this 9II is incomplete, but the inspections he's carried out and the subsequent 4,000 miles he has driven it denote a 30-year old car in fine fettle.

The 911 underwent its replica conversion in 2011, and was evidently chosen for its solid – though far from concours – condition. The conversion lowered the suspension and replaced the 15-inch wheels

with 16-inch Fuchs copies supplied by Porscheshop. Purists might question the oversized tyres, but they enhance dry road grip according to Arni, who says you have to push very hard to get the rear out of line and adds that traction is staggering. He finds that the car tracks straight, brakes correctly and generally behaves "exactly as a 911 should."

Of course, he knows he has bought in at a basement price, and is far from blind to any shortcomings, as he demonstrates. Neither door lock worked when he took the car and the sunroof required reassembly to stop it jamming. The clips securing the glass fibre (not aluminium) bonnet are poor-quality affairs which break so often that he carries spares as a matter of necessity. Arni intends to find a more sophisticated solution, such as the catch used on the aluminium-bonneted original, and this will be one of the improvements he will largely carry out himself when the car is off the road in the winter. Trips to the Nürburgring and



Le Mans have taken their toll on the stone-chipped front valance too, which Arni says has received only one coat of paint – another job for his list, then.

The main RS concession in the cabin has been to dispense with the heavy electric seats and replace them with period imitation buckets; together with the glass fibre back and front ends this probably shaves a good 80 kilograms off the SC's official 1,180 kilogram weight. Door pulls rather than handles are again in the RS spirit rather than exact copies. Arni intends to leave the impressive aftermarket twin tailpipes, though – not only do they show this car is no copy, they also sound great!

The 3.0-litre fires with the characteristic rasp of the pre-964 models. Steering with 225 rather than stock 205-width front rubber through the smaller, non-standard wheel is slightly heavier, but loses little in feel. Ride is hard, the clutch is perfectly weighted and only the 915 gearbox shows its age, fast changes requiring some thought for those who

are more used to the Borg Warner synchromesh of the G50 series. But this later gearbox is heavier, and retrofitting one would spoil what is essentially a light 911. The speedometer may show 160,000 miles, but we know from experience how long these 3.0 and 3.2 flat sixes can retain their zest, and this orange example is no exception, comfortably holding **Total 911**'s 993 on acceleration.

Of course, this 'replica' is far from perfect, but to Arni, who enjoys doing his own maintenance, it represents a work in progress that he can improve on as and when he wants to. Essentially, he has a traditional lightweight 911 which handles "like a kart" and which he can drive and enjoy without having to worry about stone chips or other minor damage. "A replica 911 is like having your cake and eating it," says the owner. "You couldn't take this attitude with a Mercedes-Benz, for example, because of the potential cost of rebuilding it. I'm so glad I was outbid on that Caterham!"



Owner: Arni Wookey

Managing the Fiat UK account in the Eighties, it was Arr who coined the phrase 'designed by computer, built by robots, driven by Italians!' to launch the Fiat Ritmo (sold as Strada in Britain). "I bought a two-year old 993 C4S and only sold it when it was starting to produce the big bills inevitable when you reach 120,000 miles. After that I was on the lookout for another 911," Arnie says, acquiring his latest 911 to have an exciting car on a daily basis. "It may seem daft, but I didn't want to pile the miles on my M3: the 911 is more practical in this regard."





911 TECH: ENGINE OVER-REVS

With ECUs now recording more engine management data than ever, big brother is watching. So should owners be worried?

Written by **Kieron Fennelly** Photography by **Porsche Archive**

Porsche introduced

n the 2lst Century, much of how we operate as a society would not function without systems which log both where we are and what we're doing. Leaving aside the 4 million CCTV cameras watching over Britons alone, the trucking business, for example, already has individual surveillance – with GPS, the transport boss always knows exactly where his vehicles are, and telematics in HGVs record every instance of heavy braking or harsh acceleration.

For private motorists, Big Brother has not yet quite climbed into the passenger seat, but as far as later 91ls are concerned he is watching ever more closely. Porsche introduced a DME (digital motronic electronic) on the 1984 3.2 and the upgraded version for the 964 was able to record the 'knock' rate (the number of engine misfires), which are imperceptible to the ear, but act as a gauge of how well the car is running. With the 996, the DME's repertoire was increased to record instances of what Porsche calls 'engine over-speeding', in other words, revving the engine over

the limit set by the ignition cut out. The electronics could now also record the hours the engine had been running. With the 997, this piece of data logging became more sophisticated, distinguishing between no fewer than six levels of over-revving, which were defined as ignition ranges. Now, if this information appears obscurely technical to some, it suddenly becomes horribly relevant when a download carried out by an OPC as part of a service or a trade-in leads to the disturbing news that the owner may have invalidated the warranty, which can be especially perplexing if the car is apparently operating correctly.

So what are the implications if a 997 is over revved? First, it is important to understand the numbers. The rev limit (and ignition cut out) is set at 7,300rpm. For naturally aspirated models, Porsche categorises transgressions in the following ignition ranges: 7,300-7,500rpm; 7,500-7,700rpm; 7,700-7,900rpm; 7,900-8,400 rpm; 8,400-9,500rpm and 9,500-11,000rpm.

These ignition ranges theoretically cannot occur with an ignition cut out; in

reality they do happen. At full acceleration, particularly in first or second gear, the car's momentum can push the engine momentarily into the red zone (literally for milliseconds), yet this is logged as an overspeed. While the software managing Tiptronic and PDK transmissions should prevent premature down changes, the owner using the manual gearbox can inadvertently overspeed the engine by





"The onus is on the driver: momentary over-revs are normal in a car built to be driven consistently to its rev limit"

hitting second instead of fourth, for example. Porsche's warranty does not differ in principle from any other such guarantee: it excludes what is deemed fair wear and tear and incorrect or abusive application. Overspeeding the engine comes into the second category. Porsche is far from alone in setting this condition, but has not helped the situation by twice changing its criteria. However, the present policy is reasonably clear - ignition ranges one and two are obviously the most common transgressions and do not incur any sanction. The next two ranges are more serious: for ranges three and four, from 7,700 to 8,400rpm, to maintain the warranty the OPC will need to check cylinder compression, examine the oil filter and verify that the camshaft timing has not slipped or that engine sensors are not transmitting any negative feedback. For the top ranges (8,400rpm to a rather theoretical 11,000rpm) OPCs are instructed to inform clients that a new engine is needed to keep the warranty. However, Porsche have softened the blow with the fact that analysis can be carried out providing the last recorded range five or six occurred 200 hours or more ago. The test results are then sent to Porsche, who make the final decision.

This may all seem rather arbitrary, particularly if the 911 appears to be running normally. Indeed, momentary over-revs are normal in a car built to be driven consistently to its rev limit, but Porsche's scheme does take this into account and Zuffenhausen is confident that if an engine has gone a further 200 hours after a category six incident, it is likely that no damage has been done. To put this in perspective, we are talking here about exceeding the rev

limit by a minimum of 1,100rpm, and the analysis would also take into account how many times this level had been exceeded. In extremis, the company would argue an owner who repeatedly changed down too early and still expected to be able to spin the engine to 10,000rpm was unreasonable.

Buyers are naturally concerned over whether they should purchase a 997 with evidence of above redline ignition ranges. Darren Anderson of independent specialists RPM Technik thinks it is wrong to look at over-revs in isolation. Rather than a compression test, RPM would use a

The 997 generation of 911 was able to categorise engine over-revving into an incredible six levels of extremity boroscope to examine the cylinder bores for signs of damage. Darren believes that the duration of over-revving is important, and points out how many trackday GT3s (admittedly with the 'Mezger', not the 997 engine family) exhibit large, very short (millisecond) over-revs without harm, and it is significant that these 911s receive frequent oil changes as part of normal track preparation. It is suggested that one reason why Porsche moderated its earlier position was because OPCs were finding themselves with otherwise good used 997s, which under the more inflexible regime could not be offered under the Porsche Approved banner. This cannot be substantiated, but the move to a more individual approach does suggest a greater degree of confidence in its engines at Zuffenhausen. The onus is rightly on owners: a downshift clumsy enough to spin the engine 2,000rpm over the limit could be construed as comparable with losing control of the car through a corner, a mistake few owners would be likely to blame on the manufacturer.

As the seller of a 911 with an ignition range 'history', you may have to accept some expenditure to 'cleanse' the service data; as a potential buyer, as Darren Anderson notes, evidence of overspeeding is not in itself a reason to dismiss a used car. Porsches are exceptionally engineered, expensive automobiles and they create high expectations. But, as ever, driver error can break anything.



CARR





sk anyone with a passing interest in cars to imagine a Porsche 911, and there is every chance that the 3.2 Carrera is the car they would see. Introduced for the 1984 model year, the Carrera was a perfect way to remind the world that the 911 was here to stay – and in Guards red, with the Fuchs alloys and chunky rear wing, many consider it the archetypal Porsche of the Eighties.

Having become distracted by the introduction of the 928 and plans to axe the 911, the 3.0 SC, introduced in 1978, wasn't met with universal approval by Porsche aficionados. Many perceived the car as lacking in power, with output down by 20bhp over the previous 3.0 Carrera to 180bhp, but sales remained strong. Power was boosted to 204bhp for the final iteration, and with any ideas of canning the rear-engined legend forgotten it was time for Porsche to do what they did best and launch an improved version. The result was the 3.2.

With the Carrera name back in use for the first time since the mid-Seventies, outwardly the car remained similar, the Stuttgart firm seeing no reason to tamper with a successful formula. The big-bumper look remained, there were 'telephone dial' alloy wheels as standard (the classic Fuchs design was optional, finally becoming standard in 1988) and the front end was improved by the addition of a new spoiler with integral fog lamps.

Overall then, it was very much a case of evolution not revolution, an accusation that has often been levelled at the 911 by certain sections of the motoring media. The fully galvanised shell was available in Coupe, Cabriolet and Targa forms right from the beginning, although buyers could also opt to have their Carrera clothed in the wider body from the Turbo model. If anything, the latter was slower than the standard car due to the additional weight and aerodynamic drag of the pumped-up metalwork, but the fact that it looked the part was enough for many buyers. Perhaps stranger still was the addition in 1989 of the 'Speedster', a model that had been unveiled at the Frankfurt Motor Show two years previously. In essence a standard

3.2 Cabriolet but with a lower and more steeply raked windscreen and a humped fibreglass cover hiding a thinner and lighter hood, it wasn't to all tastes – motoring magazines and die-hard 911 fans questioned the aesthetics as well as the purpose – and just over 2,000 were produced.

Also mirroring the previous SC was the interior, which benefited from little more than revisions to the trim and seat fabrics at launch. There were minor changes to the instrument layout and heater controls, the buckles for the seat belts were now seat rather than floor-mounted, and the options list grew a little longer. In fact, the 911 was becoming much more luxurious in its new iteration, and many models left the factory sporting full leather trim, air conditioning, an electric sunroof and a high-quality audio system. Where this did have an impact was on weight, the bigger engine (reckoned to add around 20kg) and extra kit ensuring the Carrera was perhaps a little porkier than Porsche had intended. They had plans to combat this though, which you can read more about in the boxout.



• 1973

The Carrera badge appears for the first time on the 911, a moniker still being used today.

• 1978

Porsche launches the 3.0 SC, although the 180bhp output disappoints some

• 192*/*

The 3.0 makes way for the 3.2, its electronically managed flat six pushing out a healthy 231bhp.

• 1989

Production of the 3.2 comes to an end, but not before Porsche launch the chopped-down Speedster variant to a somewhat mixed response.

• 1997

The first model to carry the Carrera S badge goes on sale, sharing bodywork with the Turbo model

2012

The 991-model Carrera S arrives, the 3.8-litre engine with direct injection showing how far things have come.





IF THE BODYWORK AND
CABIN WERE FAMILIAR, THE
CHANGES WROUGHT TO
THE MECHANICALS WERE
FAR MORE EXTENSIVE,
THE AIR-COOLED ENGINE
RECEIVING THE BULK OF
THE ALTERATIONS

But if the bodywork and cabin were familiar, the changes wrought to the mechanicals were far more extensive, the air-cooled engine receiving the bulk of the alterations. Claimed by Porsche to be 80 per cent new, the most obvious change was the increase in capacity to 3,164cc. Forged pistons with a new design of crown contributed to a compression ratio that was now a higher 10.3:1, and there were tweaks to the induction and exhaust systems that mainly consisted of larger ports and pipework for better breathing. The result was a boost in power to 231bhp backed by a healthy 284Nm of torque.

More important still was the addition of Bosch LE-Jetronic injection that was controlled – like the ignition – by a new Bosch Motronic 2 engine management system (termed Digital Motor Electronics), the first time an ECU had been used in a production 911. There were a number of benefits to the new setup, one being electronic control of the idle speed, which improved driveability when auxiliary items like air conditioning kicked in, but it also contributed to a claimed ten per cent improvement in fuel consumption compared to the SC, mainly as a result of the fuel supply being cut on the overrun – not high on the agenda of most 911 owners, but a welcome improvement all the same.

Porsche weren't finished there though, as they also took the opportunity to rid the 911 of a well-known weak point. Out went the troublesome mechanical tensioners for the cam chain that had been responsible for many an engine rebuild, and in their place was a new system of hydraulic tensioners fed by the engine's main oil system. A new design of finned oil cooler was also fitted.





HOW WEIGHT WAS SAVED

If rising weight had become a concern, then Porsche had an answer in the form of the lightweight Clubsport version launched in 1987, which brought a more minimalist approach to the 911. Luxuries such as electric windows and seats were junked, while the front fog lights and rear seats disappeared along with the underseal and sound-deadening. The engine received attention too, including hollow intake valves and a red line that was raised to 6,840rpm. Porsche claimed a modest drop in the 0-60 time and a weight saving of around 50kg. 189 were made, and in the days before less actually cost more the Clubsport was cheaper than the standard Carrera.









BUYING TIPS

The popularity of this generation of 911 and the rise in values sometimes tempts people to go in search of a bargain, but such cars can prove to be risky propositions. Restoration costs can be huge, so bringing a tired example up to scratch isn't for the fainthearted. It's better to instead find a car that comes with a fat wad of maintenance bills

- Corrosion: Galvanised they may have been, but even tidy-looking cars can hide serious rot. The wings, B-pillars and 'kidney bowls' at the rear of the sills are common areas.
- Engines: A smoky exhaust or signs of serious oil leaks should ring alarm bells. Rebuilding a tired engine will cost a lot, so beware.
- Gearbox A tired '915' gearbox is another expensive problem odd noises or a particularly recalcitrant gearchange should be treated with caution.
- Heating: Corroded heat exchangers are a common issue, and renewing a complete system including exhaust will leave little change from £2,000.
- Electrics: Electrical silliness can be caused by poorly fitted aftermarket security systems, so ensure everything works. Watch out for engine management issues too.

WITH TALK OF CANCELLATION A MEMORY, THE REMAINING YEARS OF PRODUCTION WERE FILLED WITH UPDATES AND REVISIONS

77

One thing that hadn't changed at launch was the gearbox, still the 915 unit used in the SC, although minor changes to the top two ratios benefited refinement and economy. Too much has already been written about the merits or otherwise of this 'box to labour the point here, but suffice to say the introduction of the Getrag G50 unit in 1987 was

welcomed by many. Hydraulic operation for the clutch accompanied the change. Incidentally, if you're viewing a potential purchase and want to know at a glance which gearbox is fitted, check out the shift pattern on the gear lever – if reverse is to the left and forwards then you've got a G50-equipped car, and if it's to the right and backwards it's a 915.

The rest of the running gear wasn't too different from the SC.

The feelsome rack and pinion steering still controlled the gently bobbing nose, while springing was by torsion bars with antiroll bars at both ends.

The springs and roll bars

would be enlarged in a later round of revisions with a switch to Boge dampers, the changes bringing subtle improvements to the ride and handling as well as helping the Carrera cope with the increased weight of the equipment. It still wasn't a car you could take liberties with, but the handling was being tamed.

With the Carrera firmly ensconced in Porsche's line-up and talk of cancellation a distant memory, the remaining years of production were filled with updates and revisions. Engine output varied slightly as Porsche tuned the engine electronics to improve flexibility and efficiency, the models fitted with a catalytic converter from 1986 put out 217bhp. The interior was radically altered too, with a four-spoke steering wheel fitted in 1985 along with central locking, heated screen washers and electric front seats. The radio aerial was also incorporated into the windscreen – look for the line around the edge and down the centre of the screen.

The following years saw changes to the ventilation system that included larger air vents on the dash, while seats were lowered by 20mm and Cabriolet owners could operate the hood at the push of a button. There were also changes to the rear of the bodywork, with the reversing lights and fog lamps integrated into a full-width reflector panel, while 1986 saw the anti-corrosion warranty extended to ten years. And in a last-gasp round of revisions for 1989, buyers got 16-inch Fuchs wheels as standard and the option of a CD player.

One variant that is worth mentioning is the Anniversary model introduced in 1988. All 875 examples were painted Diamond blue metallic, and inside you'd find blue leather seats with a Ferdinand



Porsche script embossed on the headrests – and yes, blue carpets. The model was available in all body styles, and 16-inch wheels were standard.

The 964 generation was waiting in the wings though, and by the time production ended the Carrera 3.2 was the best-selling 911 ever with over 73,000 examples leaving the production line. The majority of those were Coupes, although such was their popularity that almost 20,000 each of the Cabriolet and Targa models also found homes. Was it the pinnacle of air-cooled 911s? Many thought so, but what isn't in any doubt is that if bought with care, it makes for one heck of a sports car.

"I'VE GOT ONE"

"Air-cooled 911s have great build quality and engineering, and are unique to drive. I bought my



to arive. I bought my
Carrera privately in South
Yorkshire in 2008. The
condition and history
were spot-on, and I have
continued to improve
it cosmetically while
enjoying it on weekends and
holidays. My dream is to
take it round the old Targa
Florio route some day."

Jonathan Braim







One of the few drivers to ever turn down a Formula 1 offer from Enzo Ferrari, Brian Redman preferred the cut-and-thrust of sports car racing. Regarded by many as one of the most versatile drivers of his time, he shares his 911 experiences on the Targa Florio and success in the US

Written by **Glen Smale**Photography by **Glen Smale** and
the **Porsche Archive**



The son of a retail grocery business owner in Lancashire, Brian Redman almost opted for a life behind the counter in the family business. Already a regular driver for Charles and David Bridges, Redman was one day given an ultimatum by his father: "'You are spending a

lot of time on racing and you need to decide whether you are going to be a grocer or a racing driver.' At that time – 1967 – David said to Brian, 'Do you want to turn professional?' to which he replied, 'What does that mean?' Bridges explained, 'It means that I will pay you £30 a week guaranteed for a year, and I will supply a car and a mechanic.'" This was not an easy decision for Redman, as the family business, which already consisted of 25 retail stores around Lancashire, was growing, and his father said to him, "If you change your mind you cannot come back in." A week later, after discussing it with his wife Marion, he told his father he was going follow racing as a career. The rest, as they say, is history...

ESSENTIAL FACTS

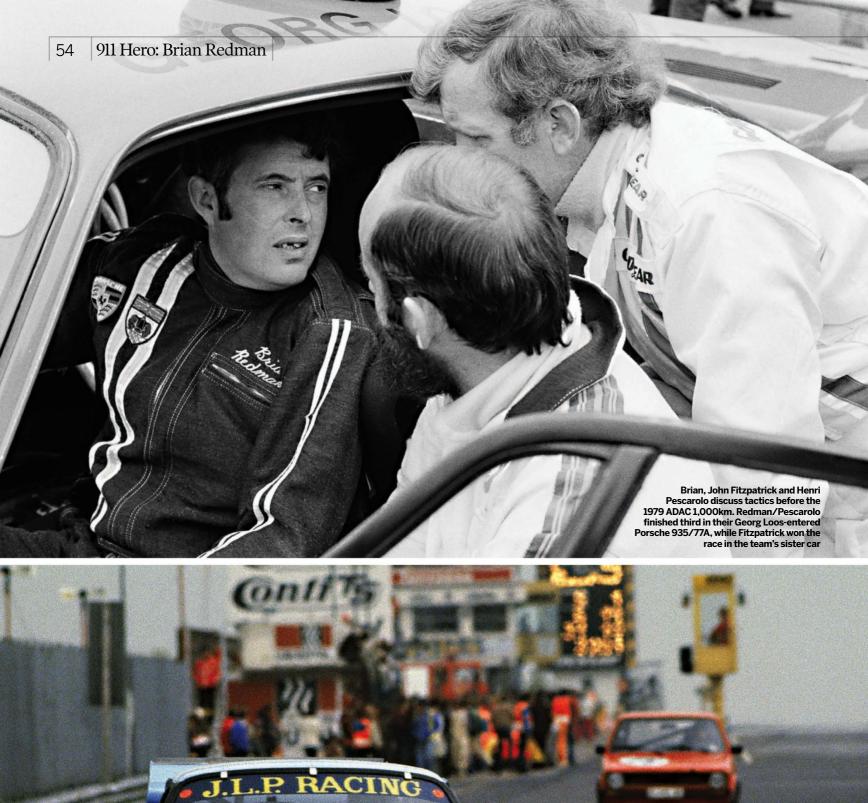
- Achieved the fastest time of the day in the ex-Stirling Moss XK120 at Woodvale Airport, Southport in 1962
- Won five of the ten world championship races in a 908 with Jo Siffert in 1969.
- Won the 24 Hours of Daytona in 1976 while driving a BMW 3.5 CSL with John Fitzpatrick and Peter Gregg.
- Won three American Formula 5000 championships in 1976.
- \bullet Sold his 917 to Richard Attwood for £30,000. Today, it is worth millions.
- He still regularly drives his 908/03 on behalf of the Collier Museum.
- Won the 24 Hours of Daytona in 1981 alongside Bob Garretson and Bobby Rahal in a 935 K3.

You drove a 911 from Stuttgart to Sicily to practice for the 1969 Targa Florio. Can you recount this experience?

Richard Attwood and I collected a car each in Stuttgart, and we drove to Zurich, where we stayed overnight with [Porsche Competitions Manager]

Rico Steinemann. The next day we set off for Sicily driving these 911Ts, which were low-geared rally cars, and we drove all the way to Sicily at 7,000rpm in top gear, which is about 110mph. When we got there we couldn't find the circuit, so we had to ask the people where it was, but of course in those days nobody spoke English. Quite honestly I don't remember learning much because there are about 800 turns per lap, so all I tried to do was learn the blind corners that were tight and those that were fast. We were there for about four days but, you know, driving in normal traffic; it took more than an hour to do a lap, so we only did three or four laps each day, and by that time we were both worn out. After that we drove back to Stuttgart, but the cars were reliable and it was a fantastic experience. I drove together with Richard in a 908/2 Spyder in the 1969 Targa Florio, but a driveshaft broke when Richard was driving, so we didn't finish.

In 1969 we're told you were returning home to England in your LHD 911S when you were stopped by a policeman...







All the Porsche drivers chose a 911 according to their own spec because we were expected to drive to all races in the 911, so in 1969 me, Marion and our four-year-old son James drove to the Targa Florio. On our way back I did the 1,000km Spa, which Siffert and I won in the 908 LH, and then we drove back to England. When we were about eight miles from home, it was early evening when suddenly a policeman stepped out from behind a building and held up his hand. I was driving a left-hand-drive Germanregistered 911S, so I thought it was worth a try; I wound the window down and said, [puts on German accent] "Jawohl, was ist das?" He shouted, "You were speeding sir." "Was ist das speeding?" I replied. "Sir, you were speeding," He was getting louder and louder, and then from the back came my son's voice, "That's my daddy." The policeman took a step back, looked down at me and said, "Just a minute, you're Brian Redman," and let us on our way with a smile.

After winning the 1970 Targa Florio with Jo Siffert in a 908/3, were you surprised when they stopped the event in 1973? The 908/3 was built for the Targa Florio and the Nürburgring. It was an absolutely amazing car, and an indication of Porsche's dedication and – particularly Ferdinand Piëch's – total commitment to whatever they did. It even had a fifth gear which we only used once a lap – it was out of the gate and up to the right alongside third, and that was because you had to use first and second all the time. The normal layout of an H-pattern with first to the left and down would have been very difficult. I wasn't surprised when they stopped the Targa in '73, and in fact I did it that year with Jacky Ickx in a Ferrari 312 PB, and before the race I said, "Jacky, you must remember one thing: this is not a race; you have to drive it more like a rally."

You won the 12 Hours of Sebring in 1978 in the Dick Barbour 935. What was it like returning to racing following your horrific injuries (sustained at the Mont-Tremblant circuit) in 1977?

By late '77 I was walking and starting to run again, and in January '78 I rang Joe Hoppen, the head of Volkswagen, Audi and Porsche competition in the US, and asked if he could find me a decent car – but

not a potential winner – for Sebring, and he said yes. So I drove at Sebring in a 935 with Charles Mendez and Bob Garretson, who prepared the 935s for Dick Barbour Racing, and part of his deal was that he got to drive. To win you need a fully competitive driver setup and a reliable car, because Sebring is a very tough race; probably the hardest of all the big endurance races. I was only trying to find out whether I could drive – you know, physically and mentally – and whether I wanted to drive. So we drove in this basically non-competitive 935, and unbelievably we won.

Winning the 24 Hours of Daytona in 1981 with Bob Garretson and Bobby Rahal while driving a 935 K3 was also a huge achievement.

Yes, I qualified the car in something like 15th place, and young Bobby rushed up to me and said, "Brian, let me drive it, I can qualify it higher than that." I said "Bobby, leave it," and in the race at about 2am he came into the caravan. I said, "How are we doing?" and he said "We're leading." I said, "Bobby I thought I told you..." and he replied, "I haven't passed a single car; the others have all broken down." That's what endurance racing is all about, and I think that is one of the reasons I managed to beat Mario Andretti in two consecutive years for the Formula 5000 championship; because I was easy on the cars, particularly on the gearbox.

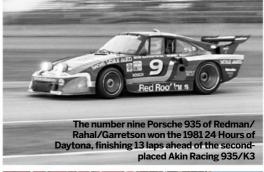
Which race stands out for you as one of your greatest in a Porsche?

The Targa Florio in 1970 in the 908/3 stands out in the records as a great win, but it wasn't a



"The 908/3 was an amazing car and an indication of Porsche's dedication, particularly Ferdinand Piëch"









Redman/John Paul Snr/Dick Barbour finished fifth behind four works entrants in the 24 Hours of Le Mans in 1978 in their 935/77A

particularly great drive. What happened was that when I took over from Siffert, we were in fourth place and I caught the leader, Nino Vaccarella, in the Ferrari 512. Three times on my first lap I tried to pass him, and each time he was going to push me off the road, no question, so I sat 100 yards behind him for 100 miles waiting for the pit stop, because I knew we would be faster there. And that's what happened; I came into the pits right behind him, Jo Siffert took over, we changed drivers more quickly because we were an open car, Jo left the pits before Ignazio Giunti in the Ferrari, and we won the race.

What was it like at Porsche during the Piëch era?

Piëch was the driving force behind all of these immense racing programs. First of all, when Porsche saw for the first time that they had the opportunity to win the World Manufacturers' Championship, they shot in with all of these longtail and short-tail race cars with ten contracted drivers: six German, three English and one Swiss. On the Monday after the 24 Hours of Daytona in 1969, Steinemann asked me if I wanted to be number one in my own car or number two to Siffert. I decided that I would win more races being with Jo, although I realised that I wouldn't get any of the adulation or press. But despite that possibility, I decided to go as number two to Jo, and we won five of Porsche's seven victories that year.

During your racing heyday could you foresee the longevity of the 911, and why do you think the 911 has proved to be such a successful sports car?

No, I don't think I could foresee its longevity. You have to hand it to Porsche due to the way they have been able to continue this legendary car, and there were no real signs of that in the late Sixties or in 1970. It was a great car, and people just saw it as a very reliable, great-performing Coupe. The success of the 911 I think is largely due to Porsche's management, the way that they took a very far-sighted look at the most successful and popular model and have been able to carry it on. I mean, you have got to hand it to the Germans, because they have taken over Bentley and Rolls-Royce and are doing fantastic things with them, and are hugely profitable. I have to ask, though, why the British couldn't do this, and the reason is money, because the British never wanted to spend any money, while the Germans are extremely astute and hard-working. I think it is this far-sighted view into the future through which they saw the way to carry on this famous name - 911 - even though the car has changed out of all recognition. It is down to smart engineering and marketing on Porsche's part.

How do you see the future of the 911?

Well, I don't think it will end, if that's what you're trying to ask. I think the world of Porsche will continue

coming up with amazing things surrounding th 911. Porsche themselves will come up with a wonderful derivation or a keen owner or collector will create an incredible take on a 1970s 911, for example. Porsche will just keep doing great things, as they have done for 50 years now.

Other than the '50 Jahre' milestone, what is Porsche's greatest achievement with the 911?

Well, it is very difficult to say, I mean you have to count Vic Elford's win in the Monte Carlo, which was really pushed forward by him to Huschke von Hanstein. Vic was the guy who wanted to make that happen, Huschke didn't want to do it and so that win was very pivotal in the way that Porsche entered into competition with the 911. You have also got to look at the 959's victory in the Paris-Dakar in 1984 and 1986, and the Pharaoh's Rally in 1985 – just look at the development that went into that car!

Is the soul of the 911 still prevalent in modern examples, do you think?

As I'm able to look back so far, I'd say it probably isn't really, but I think to modern people who see it as a successor and part of the 911 legend, it probably is. It's a good question, but to some people it is and to others it has changed so much that maybe it is not even relevant to them.



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eaders of **Total 911** will no doubt be aware that 2013 marks the 50th anniversary of the 911. However, I suspect considerably fewer know that it is also the 40th anniversary of two other events of great significance: the 911 RSR being raced for the first time and the final race of the Targa Florio in Sicily. You're probably already guessing it's no coincidence that these two events are being mentioned in the very same breath. The story here of endurance motor racing on mountain road circuits, rare classic 911s and Porsche versus Ferrari duels is a real cracker – and as we discovered, it's even possible to relive the Targa Florio circuit in your own 911 today.

The Targa Florio (from which the 911 Targa got its name) is generally accepted as the world's oldest endurance motor race. It was created in 1906 by wealthy pioneer racing driver Vincenzo Florio for a race around the island of Sicily. By the mid-Twenties, with the 24 Hours of Le Mans

and the Mille Miglia still yet to be established, it became one of the most important contests in Europe. Early events circuited the entire island, but by the time the race was incorporated in to the new FIA World Sports Car Championship in 1955 it had been shortened to the 45-mile Circuito Piccolo delle Madonie. The Targo Florio now represented 491 miles over 11 punishing laps through the wild Madonie mountain range. Unfortunately, the FIA decided that the 1973 race would be the last on the grounds of both driver and spectator safety.

As a boy, my most prized possession was a poster of a Ferrari GTO on the Targa circuit. I'd never been to Sicily, but I made myself a promise that one day I would own a GTO and drive the Targa Florio. I never got the GTO, and until this year I had never got to drive the Targa Florio either; as the last proper one was in 1973 it had seemed a lost cause, until it dawned on me that it didn't have to be. I may not have a GTO, but I do have a 911, and surely the 40th anniversary of that legendary 1973 race

had to be the best excuse imaginable for driving down to Sicily and seeing how it felt to take a relatively modern Porsche around those infamously unforgiving mountain roads.

I rolled off a ferry from the UK and onto French soil at 2am. I was sharing the car with my usual photographer – and partner – Iris, who had joined me straight from another assignment, and as we drove through the night I filled her in on the background to this one.

In early 1972, Dr Ernst Fuhrmann, Porsche's head of engineering, took over the day-to-day running of the company. He was committed to the 911, but was convinced that Porsche needed to establish it as a successful racer in its own right. Sound business reasoning underpinned his thinking; he believed that track wins translated into sales. Fuhrmann turned to Norbert Singer to work on the Turbo 917. His task now was to develop a 911 that would be genuinely competitive on the track, even against more exotic competition. Singer and his team



















began the 911 RSR project in 1972 with a target of being ready for the 1973 season. The standard body shell was retained but lightened, and all creature comforts stripped out. The trademark 'ducktail' rear spoiler was added and engine capacity increased to 2,806cc, making the RSR the first 911 to break the 300 horsepower barrier.

If they could get the new car ready in time, a major target for the team would be a creditable showing in the 1973 Targa Florio – but this was a big ask. 300 horsepower back in 1973 may sound a lot, but to put it in context, manufacturers like Ferrari and Alfa Romeo would be fielding bespoke flat-12 racers, with the Ferrari 512P having the best part of 500 horsepower and the Alfa 33TT not far behind at all. True, the 911 RSR would be smaller and more nimble, but such a power deficit would make it hard for it to be truly competitive. Still, the team were

not put off, and rose to the challenge.

Singer's team managed to get a pair of RSRs to Sicily in time for the practice sessions in early May. Practice week was always interesting, as the roads were only closed to traffic for the actual race and two sessions of official timed laps, so at any other time a driver could round a bend flat-out to find a fully laden donkey cart coming the other way. Ferrari and Alfa Romeo dominated the practice laps, while the 911 RSRs were a long way off the pace. The crowds watching the practice were delighted that the Porsches were clearly not going to be a threat in the next day's race. It looked as if the only remaining issue of any doubt was the shade of red of the winning car. The outcome is detailed later, but suffice to say it was a day of mechanical components stretched beyond their limits, brick walls and roadside rocks claiming their many victims, and genuinely heroic driving.

We arrived in Genoa in plenty of time for the ferry. As the queue began to build, we could feel a carnival atmosphere developing. Drivers, initially keen to talk Porsche, soon explained that the mood of anticipation hanging in the air arose ahead of the evening's crucial football match against Spain. The game was going to be shown live on big screens on the boat, but we needed to board quickly to catch the start. Loading started, involving some complicated reversing up steep ramps.

Early next morning we visited the Targa Florio museum in Campofelice, and spoke with the curator, Antonino Ventarella, whose passion for the race was infectious. Armed with his tips and maps, we spent several days locating and navigating the 1973 circuit, virtually all of which is still accessible to drive. We followed it up corkscrewing roads that









seemed to defy every known rule of road building, with unprotected crumbling edges and sheer vertical drops, around countless hairpin bends and over blind humps then through winding cobbled villages, before dropping back to sea level for a blast along the coast road. The potholes might have moved, but other than that the circuit remained exactly as it was 40 years ago. The route is literally breathtaking – for its overwhelming natural beauty and the sobering fact that Targa drivers regularly reached 200mph. The accident statistics among both drivers and spectators, which ultimately sealed the Targa's fate, suddenly made sense.

Many sections were a joy to drive. As the road from Cerda crests the peak and begins the long run down the mountain to Caltavuturo, there are clear views of the road for miles ahead and – if it is empty – a safe and fast run down the twists and

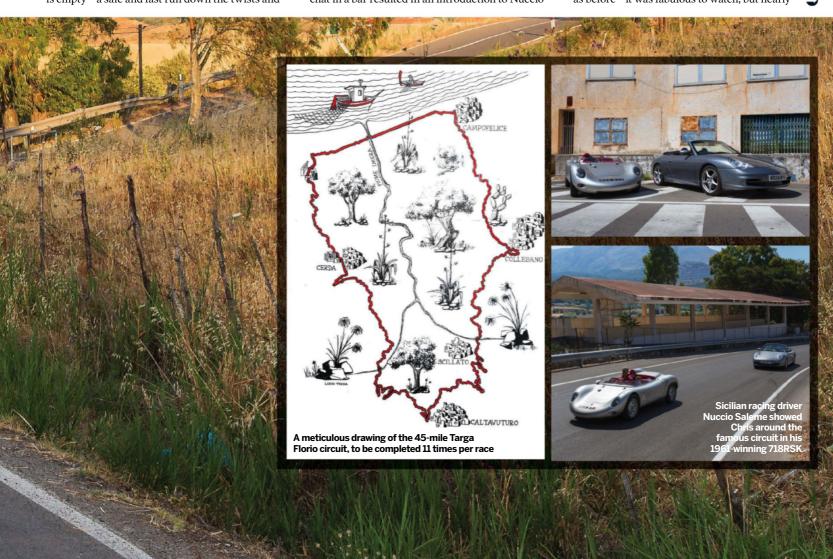
turns is guaranteed, barring suicidal wild goats. The section from the start with its crumbling pits at Floriopolis, winding up to Cerda, is another delight; short open straights followed by second, or even first, gear hairpins that take you zig-zagging up the mountain. Expect miles per gallon in single figures. In reality, the whole circuit is delightful. Every town on the route has emotive memories of the race, from the beautiful hand-painted tile depictions of race scenes at the roadside to fading graffiti – 'Viva Vacarella' – recalling the legendary Sicilian Targa winner.

The Targa Florio holds a special place in Sicilian hearts. Their usual state may be passionate and extroverted, but mentioning the Targa brings an extra cry of joy or an emotional tear to the eye. If you love the Targa, you are a friend for life. A chat in a bar resulted in an introduction to Nuccio

Salemi, a Sicilian racing driver. He owns, among other cars, the Porsche 718 RSK in which Graham Hill and Jo Bonnier won the 1961 Targa Florio, and invited us to join him on the Targa circuit the next day. I wanted to get some great car-to-car pictures, so I also arranged for local photographer Nino Sapienza to come along.

We were using Nuccio's 718 RSK as the photographer's car for pictures of my 911, and instructed Nuccio on what was required – keep it slow and steady. Nuccio, however, is a racing driver, and had other ideas. We set off with a screech of tyres, a long black slick left on the road and the back of his car fish-tailing furiously. Nino briefly tried taking pictures, but quickly gave up.

We explained it to Nuccio again. "Si, sil" he responded earnestly, before setting off exactly as before – it was fabulous to watch, but nearly











impossible for Nino to get photographs. With gritted teeth, he set the fastest shutter speed possible and hung on with one hand while shooting with the other, meaning that we appear to be moving at about 10mph when we were actually travelling several times that, with me three metres behind the 718. All I could think at that speed was that Graham Hill managed to get the same car round the island dozens of times without getting a scratch on it, but if Nuccio braked I was going to write off his £500,000 baby. Luckily, he didn't brake. We spent the day hopping from car to car, doing circuit after circuit. It was so hot that we must have sweated kilos, but it was one of the most memorable days of my life. It ended when Nuccio got airborne over a crest and sheared off an exhaust on landing. The RSK sounded sadly agricultural as we trailed home through the mountain villages at the end of the day. As an aside, Nuccio agreed with me that he would take any Total 911 readers around the course in his 718 too, so long as his costs were covered.

That day was an ideal climax to our time in Sicily. As is so often the case, the journey back was quiet, giving us ample time to reflect on the places we had been, the things we had done and the people we had met. We mused over why the Targa Florio and its 70 years of history had been allowed to die. It's too easy to say the cars outgrew the course, and it's too easy too to blame the politicians who promised the money to upgrade the course but failed to deliver. Maybe everything has a natural lifespan.

Predictably, Euro rain soon replaced Sicilian sun. We arrived back in Britain with 3,500 extra miles on the clock, a lot of new friendships and having had some of the best food and drink of our lives. So, is it worth sacrificing two weeks on a trip like this? Without a doubt. For a racing fan it's a dream destination, and even if you aren't, the scenery, the history, and the people – not to mention the food, wine and beaches – make it pretty hard to beat. Go on – dig out the maps, get the 911 shining and relive the incredible Targa Florio 40 years on.

Further information

After you have fully investigated the Targa circuit, we recommend exploring the rest of the island. We did a loop of about 600 miles around Sicily. Half the fun of a Targa Florio holiday will be the people you meet and the food you eat. Avoid bland tourist hotels; stay in affordable traditional agri-tourism accommodation eating food and drinking wine grown by your hosts. If you really do want to revisit the Targa Florio for yourself, here are some contacts you may find useful: Ferry: For ferry information, advice and bookings. www.aferry.co.uk

Sunvil: For agri-tourism accommodation information advice and bookings. **www.sunvil.co.uk**

Antonino Venturella: The Targa Florio Museum in Campofelice, for absolutely anything to do with the TF venturellaantonino@alice.it

Nuccio Saleme: The Targa Florio Museum in Termini Imerese, for TF information, and to drool over, or maybe even arrange a drive in, his 718RSK. info@targaflorio.it

Chris Dearden: for comment, advice, or further information: chris.dearden@gmail.com



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ANICONOFICONS

Among Porsche race cars, the 935 enjoys legendary status. But this car, a Kremer K3 that won the 1979 24 Hours of Le Mans, remains the Holy Grail of the 935 series

Written and photographed by Richard Truesdell



ruce Meyer is an automotive
Renaissance man. The affable
California real estate investor and
entrepreneur is best known as the
founding chairman and motivating
force in making the Petersen Automotive Museum
in Los Angeles the must-visit destination it has
become. Associated with the museum is its support
group of patrons, The Checkered Flag 200, also
founded by Meyer.

Meyer is also the chairman of the annual Rodeo Drive Concours d'Elegance, which has evolved into one of the greatest car shows on the planet. But if Meyer is known for anything, it's the fabulous car collection he's assembled over the past 40 years. This includes a 1929 Duesenberg Model J, a 1932 Ford Hi-Boy Coupe, a 1936 Bugatti Type 57 and a 1957 Ferrari 250 TRC Testarossa. There are also several Porsches, such as his silver 356 'Outlaw' and this one, the #41 1979 Porsche 935 K3 of Kremer Racing, the very car that won at Le Mans in 1979.

The 935 was a by-product of its era in which the rules, such as they existed, were stretched and ultimately broken. In the case of the 935, introduced in 1976, it was built to compete under the FIA-Group 5 rules. This was a classification that required the production-based cars utilising doors and windows in their original stock position. But beyond that, just about everything else was left open to a very liberal interpretation of the rules.

One of the issues that the 935 presented was how to get the car to handle properly. A reported 500,000 Deutschmarks (£220,000) was spent

developing the rear spoiler, but the increased drag was a liability when it came to straight-line speed. Here, Porsche designer Norbert Singer saw a loophole in the Group 5 rules. While the doors and glass were required to be in the stock position, no mention was made of the bodywork. This allowed for the replacement of the stock-appearing 911 front clip with flat-style bodywork, which would become the visual trademark of the 935 and work in harmony with the rear spoiler. Next, enter the Kremer brothers, Manfred and Erwin.

Starting in 1977, Porsche offered the 935 to non-works teams to compete in series such as the World Championship for Makes, the IMSA GT Championship, as well as the Deutsche Rennsport Meisterchaft (DRM). For the 1978 season Kremer built the K2, which enjoyed a degree of success even when competing against the Porsche factory race cars. But it was the transition of the K2 to the K3 for the 1979 racing season that turned the Kremer brothers' creation into a world-beater.

Weight is the enemy in any race car, and Manfred was relentless in eliminating every ounce. In race trim, the K3's twin-turbo 3.0-litre flat six was capable of output in excess of 750 horsepower, and for 1979 was fitted with an air-to-air intercooler, replacing the original water-to-air intercooler. This allowed the K3 to run with higher boost pressure for longer runs, reducing the possibility of overheating the engine's charge air.

This power was transmitted to the tarmac via a four-speed manual gearbox with a locking differential. One of the innovations the Kremer

was known for was ease of repair during races. In the case of the 935, the engine and transmission mounting system was modified, replacing the rear cross member with a bolt-on alloy tube frame. This also increased chassis stiffness while reducing weight. Other innovations included an access port in the front of the gearbox to facilitate the process of changing gears – an advantage when conditions changed during the course of competition.

Chassis number 009 0015 was entered by Kremer Racing in the 1979 24 Hours of Le Mans, with its primary driver being Klaus Ludwig, the gifted then 30-year-old star who had already made his mark on the DRM series with Ford. His co-drivers were Don and Bill Whittington of Florida, who had rapidly risen through the ranks in top-tier racing.

On the day before the 1979 Le Mans race, car owner Erwin Kremer announced that Ludwig would drive the car at the start of the race. This didn't sit too well with the Whittington brothers, who had a private discussion with Erwin, and after 'showing him the money', purchased the car. This seemingly relegated Ludwig to a supporting role, but fate, it seemed, was still to intervene.

Ludwig qualified in third as the best-placed 935 ahead of many of the purpose-built race cars entered that year. After the start of the race, with Bill Whittington at the wheel, the weather turned. While both Whittington brothers, now the car's owners, were competent drivers, they realised that in the wet they were not in the same class as Ludwig. By Sunday morning the team was in total command of the race, more than two hours ahead









of the second-place 935 driven by Rolf Stommelen, team owner Dick Barbour and actor Paul Newman.

During this seemingly insurmountable lead with Bill Whittington at the wheel, the car's injector belt broke on the course. This required some quick thinking from Erwin, who advised Bill via the radio on how to install the spare belt, but it too failed. Kremer received permission to send Whittington a sandwich which, instead of deli meat and cheese

The court case of the K3 935

Students of Porsche 935 lore will already know that chassis number 009 0015 has quite a colourful history. The Whittington brothers indulged in a number of extra-curricular activities that included racing vintage war planes in the Seventies, as well as owning the Road Atlanta race track in the Eighties.

It seems that in order to finance their racing activities they were involved in a series of illegal activies in the United States. This attracted the attention of the US Government, and both Don and Bill were convicted of a variety of charges that involved drug smuggling, tax evasion and money laundering. The brothers donated the car to the Indianapolis Hall of Fame Museum instead of forfeiting it to the IRS.

After his release, Don saw that 935s were trading in excess of \$500,000, and attempted to claim that he only 'loaned' the car. In a well-publicised court case in 2009, the court ruled in favour of the museum. Details of the legal battle can be found at bit.ly/WvsIHOFM.

between the slices of bread, contained an injector drive belt, hence the infamous 'injector drive belt sandwich' of Le Mans racing lore. Ultimately this belt failed as well, but Whittington limped back to the pits using the alternator belt in its place. Completing 307 laps compared to the Stommelen/Barbour/Newman 299, the Ludwig/Whittington/Whittington 009 0015 car was the winner of the 47th running of the 24 Hours of Le Mans.

Campaigned in 1980 by the Whittington brothers, its Le Mans run would remain the 009 0015's high point in competition. It was disqualified at the 1980 24 Hours of Daytona, was a non-finisher at Le Mans, and finished ninth at Watkins Glen. In three races in 1981 its only finish was fifth at the six-hour race at Watkins Glen again. The 12-hour race at Sebring was its only race in 1982, finishing in 27th place.

How Meyer came to acquire the 935 is an interesting story. Contrary to other reports, it wasn't just a simple exchange. "For many years I owned the 1952 Indianapolis 500-winning car, driven by Troy Ruttman," says Meyer. "It was one of the few significant Indy winners that didn't reside in the Indy museum, and they wanted the car. It was a very complicated transaction involving several cars, the 935 being just one of them.

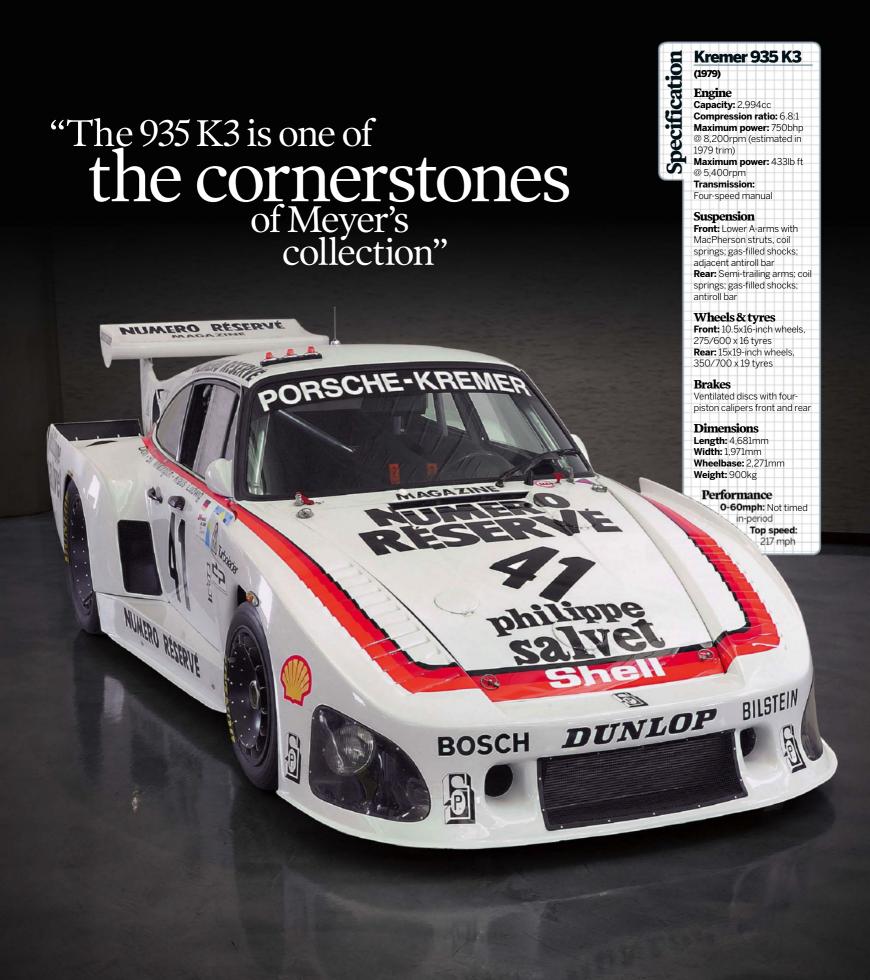
"After I acquired the 935, the car was lightly cosmetically restored by Canepa Design in Scotts Valley. Most of the work was on putting it in race-

ready condition, and that's where Canepa spent most of the time, engine rebuilding along with tracking down the original engine parts that were missing from the car. This included the injection pump, boost gauge and ultra-rare titanium half-shafts. Thankfully, we were able to acquire some of the parts from members of the Whittington brothers' original crew. The restoration of the car was accomplished by Canepa's crew in just 92 days."

The 935 K3 is one of the cornerstones of Meyer's collection – one that includes rare racing cars as well as Pebble Beach award winners. One element that each of his cars share in common is that Meyer drives his cars whenever possible, and that doesn't mean driving them from a trailer to a position on a concours d'elegance fairway. They get run in major tours as well as at vintage racing events.

While the 935's racing days are clearly behind it, Meyer has exercised the car on the street, and will put it on the track this autumn. What little time he has spent behind the wheel was a lesson in restraint – a departure from his Bonneville days, when he lived by his motto: never lift. Meyer says that with 800 horsepower on the boost it has explosive power – a driving experience never to be forgotten.

Even under the most favourable of conditions – in the dry on a very wide tarmac – this 935 deserves the utmost respect when it comes to the progressive application of any driver's right foot.





Total 911 were granted access all areas as reigning champions Oman Air Motorbase brought their 997 GT3R to the picturesque Brands Hatch circuit for Round 5 of the 2013 British GT season

Written and photographed by Will Belcher

hen you're competing at the top end of national-level motor racing competition, you can expect nothing but the best in preparation and performance come a typical race weekend. In the case of Oman Air Motorbase, the current champions of the series are at the top of the game, and there is a reason that even with a penalised

car through a heavy weight in the back they are the only team in the entire paddock to score points in every single round. Due to the driver grading system in the British GT, The Motorbase 911 GT3 R is running each race with 130KG of ballast – that's the equivalent of an extra-large passenger sat in the back. It's also 75KG heavier than the other 911 GT3's, which has a highly undesirable effect on the handling and characteristics of the car.

This year, the extra weight has had a huge effect on Motorbase's overall standing in the championship too, but how exactly does a high-end team in British endurance racing go about trying to defend their title? Away from the television cameras following the 'front of house' action on the track, Total 911 spent an entire weekend pitside with the team at Brands Hatch to find out exactly what goes in to successfully competing in a Porsche 911...













Arrival, practice & qualifying

The Motorbase lorry arrives early to the circuit on Friday morning, even though the first practice session doesn't start until 10am on Saturday. Nevertheless, the team have lots of preparations to complete before the Oman Air 997 can even turn a wheel on track: team facilities such as the garage area are set up on Friday while the car is unloaded from the transporter. Before preliminary scrutineering checks, some basic setup procedures are carried out on the car by a throng of team mechanics, attaching bodywork stored during transit, plus a quick geometry check in preparation for Saturday free practice.

Saturday morning sees all the cars out on track bright and early for the first practice session. It's the first chance the teams have had to really stretch the legs of their cars around the circuit, so now is the time for data gathering and analysis of how the new weight penalty will affect the Oman Air 911. The topic is a cause for concern as Michael Caine, who partners

Ahmad Al Harthy at the wheel of the Porsche, explains, "The officials are trying to slow down the 911s from the Trackspeed team so they have given them weight penalties – and because they have 911s and we have a 911, we somehow get the weight penalty as well!"

Free practice two sees Ahmed suffer a puncture whilst out on track. As tensions run high in the pits, Michael said of the mid-practice puncture, "We can only take it that the extra weight isn't helping and we are the heaviest car out there by a country mile. We've had a tyre failure and out the back you are fairly committed over the humps and bumps, it's the only way you can get the car round the circuit. The tyres weren't designed to be on the back of a Porsche and then have all that weight thrown at them."

Before qualifying (or in fact any track time) the geometry on the car is checked again, using the tested and proven method of hanging some fishing line around the wheels on an aluminium rig.

The constant change in weight in the car during a race weekend makes this a vital procedure. Both Ahmed and Caine then took the GT3 R for flying laps around the Kent circuit, but the extra weight was proving difficult and the team managed to secure a disappointing 20th position, 20 seconds off the pace of a field being led by Porsche works driver Nick Tandy who was making a guest appearance for a rival team. Talking to Ahmed after the session, he remarked "P20 is a very difficult position to start but we have a very strong race pace and hopefully that will come into effect tomorrow. Talking to Michael there is definitely more pace in the car, there is something for us to learn from the data and use in the race tomorrow." The data gathered from the car during all sessions can help the team save hundredths of seconds during the race, and as the sun sets, the Oman Air team get back to the hotel to assess the data and begin plotting a game plan for the two-hour race the next day.







Pre race

Before the green lights are shown to the 30-strong GT cars on Sunday, there is an immeasurable amount of man hours carried out preparing the car and its consumables. Any final checks and tweaks on the car have to be carried out then scrutinized by the race series officials. The car has the fuel system purged and the geometry double-checked. VIP guests have to be wined and dined in the hospitality area and spectators begin to filter into the circuit grandstands, but before that, the drivers, mechanics and even the team boss need to be fed and watered. The whole team will also be called into the meeting room tucked away at the back of the Motorbase transporter for a

final meeting, which for obvious reasons is all behind closed doors. The mentality of the driver is also crucial ahead of the race, and Ahmad talks us through his own personal preparation: "Although I don't have any pre-race rituals, I like getting suited up early and always like talking to my race engineer as it helps during the wait. Also with the endurance races this year I've been training harder back in Oman and with our summer temperatures it helps mimic the cockpit conditions."

With interviews and lunch out of the way, teams prepare to grid up. All of the teams bring their GT racing machines out of the comfort of the garages and out on to the start straight. The grid is a hive of activity

in the events leading up to the warm up lap with cars, tyre racks, mechanics and drivers everywhere. Ahmad clambered into the Motorbase 911 and made himself at home ready for his stint as first driver. After the final radio check it was time to close the doors and leave the drivers in the cars, ready to form the grid. In memory of the late British GT driver Allan Simonsen, who tragically succumbed to his injuries sustained during an accident whilst racing at Le Mans this year, all teams run a small tribute on their number boards. There's also a minute's noise on the grid just before the start of the race, a beautiful reminder of the family element of racing - even at the highest level.







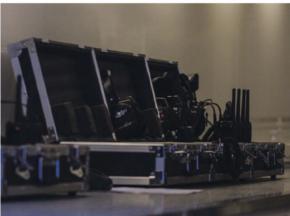
During the race

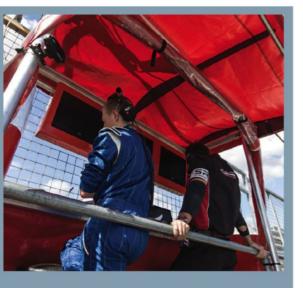
Ahmad started well in the 997 and gained a couple of extra places early on in the race. The new tyres and better race pace clearly worked to the advantage of the Oman Air GT3R, which provided an early boost for the team and momentum they would look to build on during the course of the race.

Ahmad was making slow but steady progress through the field and was looking very solid

stint, culminating in a small fire just behind the rear wheel arch. The team decided to pit the car whilst running P5, extinguish the fire and get Michael in the 911. The team remained composed and professional with a very technical pit stop required. With a singed but otherwise perfectly working car, Caine headed back out onto the track. As a racing driver, Ahmad always prefers being in the car, but a driver's duty is not over once he climbs out of the cocknit and the not over once he climbs out of the cockpit and the







It soon became clear that Caine was struggling inside the car, the mix of carbon monoxide from the exhaust leak and earlier fumes from the small fire were creating an environment no driver wants to be in. David constantly monitored Caine's lap times and was constantly on the radio checking with Michael to make sure he was ok to continue. Having made their way from P20 to P7, Cain was determined not to break his team's record of being the only car to score points in every single round so far this year and get the car to the finish

Post race

After the race, Michael was relieved his dramatic stint in the 911 was over: "It was sort of different really, when we came in for the driver change the rear bumper had caught alight through the rear back box and it was melting the bumper. This meant there was carbon monoxide coming into the cabin for the whole race. It was horrible; I struggled in the car in all fairness. The stench, the smell and the resonance inside my head was incredible. There was 22 minutes to go and I'd had enough. I can't really tell you much about the rest of the race because I can't really remember it!"

Team boss David Bartrum was delighted to come away from the weekend in 7th place: "When you consider we started P20 and there was no safety car I thought P7 was a good job today by the team. Ahmad came in on fire, we put that out but the split opened up during Michael's stint and towards the end that led to some fume inhalation, not a good thing. I was monitoring the times to see if he dropped

off and kept talking to him. He said he was ok but you have to be careful of drivers, they tend to tell you they're ok when they're not. Michael got to the end, got out of the car and you could see he was in trouble. We got some fluid into him and the doctors took a look at him and other than that, we're very happy with the position. Both Ahmad and Michael drove fantastic stints despite our adversities, so all in all it wasn't a bad weekend!"

Standing around watching the team break down the garage almost seemed a little anti-climactic given what had been happening only 30 minutes previously. The garage was once again a hive of activity but this time the team were clearing down advertising boards, tool boxes, tyre warming tents and fuel rigs, not getting ready for the next pit stop. The transporter was then filled with the contents of the Motorbase garage and then of course the 911 ready for its next outing at Round 6 of the British GT at Zandvoort in the Netherlands.



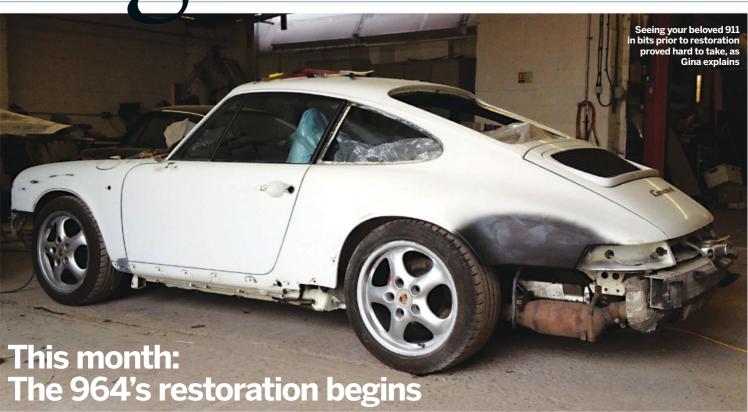






Legend Living the Control of the Co

Each month, we get to know our band of reporters as they share their real-life experiences with their 911s





Date acquired: September 2004 Last report: Issue 96 Total miles: 119,602 Costs:

£10,000

he stress! I didn't expect it at all. The day was coming when I was to leave Wolfi to the tender mercies of hammers, power tools and welding torches. I can only liken it to either taking an elderly relative to hospital or dropping off your child outside the school gates for the first time.

Leading up to that, the body shop selection process had been easy. There were two companies in the frame, and both came with stellar reputations via word-of-mouth from Porsche friends. The first were ex-McLaren Automotive paint guys, who were recommended to me by the owner of a recently unveiled and spectacular Targa Florio RSR replica, replete with the most stunning paint job imaginable. They were offering a type of finish that was very hightech and used a fancy layer of lacquer, even over solid paint. This was, I felt, a touch too

space-age for my humble Wolfi, so I had an initial discussion with the other company in the frame, Riviera Autobody, to see if we were on the same conceptual wavelength and budget. The owner was incredibly enthusiastic and Porsche-savvy, having done his apprenticeship in the Porsche dealer network. He loves the 911 and had recently restored a couple of 964s.

You like to feel that you are giving the work to people who you feel 'at home' with. I'd first seen the handiwork of Tyrone Fuller in the lustrous depth of paint on a friend's black '74 911 Targa a couple of years ago. The owner, Craig Moore, was RO for my local TIPEC group. Craig lived and breathed Porsche and loved his Targa. There was no gentler, caring or more generous soul you could wish to meet. He sadly passed away early this year, and is sorely missed.

Among our TIPEC group, another mutual friend, Nick, was having his 993 Turbo put through a painstaking and costly rebuild into full GT2 spec. He had no hesitation in giving the body conversion and paintwork to Tyrone, so I too had no qualms about following suit with my humble C4. Craig would have been tickled pink to know that Wolfi was going

through the same hands as his car. Wolfi was left at Riviera, with a rough estimate of five or six weeks turnaround... or longer, as Tyrone saw fit to judge when everything was perfect. That was music to my ears.

In my previous updates I'd been at pains to mention Wolfi's poor appearance, yet a lot of Porsche pals had repeatedly told me that his bodywork and paint weren't beyond redemption. I always had visions of new panels and back-to-bare-metal expense. Tyrone assured me that the body wasn't that bad; a lot of the existing paint would provide the base 'key' for all the work to come. In fact, the structure of the car was very sound. The only panel that needed to be stripped bare was the front bonnet/hood due to microblistering. Then followed the first of many visits to Reading. The aforementioned stress was centred on how I might react upon seeing my beloved car in bits.

As it turned out, my fears were unfounded – Wolfi was in expert hands. The first tasks were partial stripping down, blowing out accumulated dirt and initial passes at finding all the dents and depressions. Wolfi looked a bit like a sad, empty-eyed Cyberman from *Doctor Who*, shorn of headlights, side mirrors











and bumpers. It soon became apparent, however, that the car had been in an accident down the driver's side some time in the past; the driver's door was sitting proud of the front wing/fender, and had picked up some damage and corrosion on its leading edge, but all these little secrets were being systematically discovered and dispatched. The panels were realigned by John, the bodywork expert, but to my untrained eye Wolfi resembled something out of Mad Max. The rust I'd imagined lurking behind the driver's side sill moulding (which had been pop-riveted to the rear wing/fender!) didn't exist. The panel was in near-perfect condition. The rivet hole was metal-filled and ground, and the sill moulding filled and repaired. Another horror neutralised.

A week later, my car looked derelict! The front, rear and side screens were out, and the worst of the corrosion was revealed. The usual suspects were present in the form of bad rusting in the bottom corners - and across the leading edge – of the front screen scuttle panel and the rear screen surround in the lower corners. The worst of the visible corrosion on the driver's side 'A' pillar, a four-centimetre-long open wound, had been

repaired, and John was busy rebuilding the scuttle when I turned up. He was artfully curving a piece of metal that was to replace the inner lip of the nearside lower screen aperture. It was fascinating to watch his 50 years worth of experience being applied.

Other rusted areas on the lower rear wings/fenders had been removed, with new metal let in. A few days later the bonnet/ hood was removed together with all its paint. My budget couldn't stretch to include a new bonnet/hood at £1,200, so the decision was made to repair it. Someone must have used it during rehearsals for Strictly Come Dancing in the past - it was full of dents and depressions! The front bumper had the useless headlight washers deleted and smoothed over, with the crack in the centre of the rear spoiler receiving repairs.

Another week on, and attention was being paid to the door shuts and sills, with the removal of the engine lid and further refining of the bodywork also being undertaken. The only panel on the car that hadn't needed any remedial work was the roof, but things were, I was assured, about to change for the better. Wolfi was on his way back, one step - or Lupine lope - at a time.

This month's

updates from our Living the Legend contributors



Ben Przekop

Date acquired: November 2011 Total miles: 51,862

Costs this month: £140

Lowlights: Moisture in the speedometer required removal and resealing. I also replaced the odometer gears at same time.

Highlights: After 40 straight days of thunderstorms, the last week of July finally brought some dry and sunny weather.



Ioel Newman

Costs this month: £1,250

Lowlights: After fitting the new brakes I decided to add up my spending over the past 12 months. I won't be doing that again!

Highlights: New brakes all round have made a world of difference; it feels like I own the greatest go-kart ever built!



Maxie Islam

2006 997 Carrera 4S

Date acquired: August 2010 Total miles: 3

Costs this month: £170

Lowlights: Finding out that this car would be better with an X51 third radiator, despite fitting a lowtemperature thermostat.

Highlights: Driving to Brighton for breakfast with 911uk on a sunny Sunday morning. It's the simple pleasures..



Chris Wallbank

Costs this month: £130

Lowlights: I want to sell my 997 and buy a 997 Turbo! But I definitely can't afford one - not for a while anyway...

Highlights: Taking a trip over to the Nürburgring in the Peron Automotive 600bhp 997.1 Turbo what an animal! A great road trip!



Kris Clewell

Date acquired: November 2012 Total miles: 0 this month

Costs this month: £4,350

Lowlights: Not being able to drive while I wait for money to be able to purchase the parts I want. I have no patience.

Highlights: The experience of waiting will hopefully teach me to develop some patience in the process.



Maurice Tillaard 1972 911T/RS Hot Rod Date acquired: February 2012 Total miles: 5,000

Cost this month: A lot of fuel

Lowlights: None

Highlights: Drove the car a lot at the Oldtimer GP and Bug Show at Spa. We even went on the old Spa



Ben James

96 GT3

Total miles: 50,450

Costs this month: Nothing

Lowlights: Despite the amazing weather, the car has barely been used because of the bad suspension knocking noise.

Highlights: The visit to Center Gravity is booked up. It will be very interesting to see all the chassis and suspension components.



Date acquired: 1999

Last report: New Entry Total miles: 500 Costs:

£50 + Fuel

I Mirage Lake is a dry lake bed in the Mojave Desert of San Bernardino County, California.
The lake is located about nine miles west-northwest of the town of Adelanto and ten miles north of Highway 18, also in San Bernardino County. That's 95 miles from DTLA.

The EL Mirage dry lake bed has been home to land speed racing for more than half a century, and the Southern California Timing Association (SCTA) has been there for the past 61 years holding speed events on the silt and sand.

I was lucky to be invited along last month by some great friends, Tamir Moscovici and Anthony Arendt, who just happened to be

filming there. Some of you may remember
Tamir as the Canadian guy who is responsible
for making my short documentary, *Urban Outlaw*, while Anthony is the guy who made it
look so good.

I am not too sure how many Porsches have been on the lake bed, but either way I was up for it. After all, how bad could it be? So naturally I said yes, and I hopped into my 42-year old go-to fun: adventure car #277. The thing I love most about it is how comfortable I am in it, having owned it since 1999. I have also covered the most miles of any car both on and off track, so I am not worried about any cosmetic issues.

Naturally, #277 was the perfect choice for my upcoming adventure. I left downtown Los Angeles at around 3.30pm on a Wednesday afternoon, having anticipated that the 95-mile drive would take no more than an hour and a half. Well, the LA traffic had other ideas, as the first 50 miles or so were spent alternating between first and second gear while I crawled painfully along the 10FWY east towards the 15 North (visitors to LA may recognise this as the road to Vegas).

Much to my frustration, the 15 North was not much better for the first 15 miles or so. Finally, I exited just south of Victorville at Mojave drive. After navigating a few miles of dusty, barren roads, I finally arrived at the nondescript El Mirage Dry Lake at the Off-Highway Vehicle Recreation Area, run by the US Dept of Interior Bureau of Land Management.

I had done a little homework on the official website before firing up my 42-year old 911 just to see what I was in for. There was a lot of info on the site about permits, staying hydrated etc. Luckily for me, no one was at the main office to check my permit or see if I was on the list, so I just cruised in past the front gate.

A few miles off into the distance I could see the base camp set up at the edge of the dry lake bed. My favourite '71 911 #277 has been lowered quite a bit, so I proceeded down the bumpy dirt entrance road at a careful pace .

Once on the dry cracked silty lake bed things seemed a little strange at first. It takes a few minutes to get acclimatised to the vast landscape; it is almost like being snowblinded. Driving at speed is also strange





for a first-timer such as myself, as there are no reference points and a lot of dust. It is a little surreal to say the least, and the perception of speed is irrelevant, with the grip on my Hoosier tyres being limited.

After a few practice test runs I was ready to take advantage of a small window of opportunity during a break in filming. Tamir had a spare few minutes with the camera crew, and rigged up a truck with the big arm. We did a few runs down the lake bed followed by the camera truck swooping in close for a future upcoming short video piece.

It was proving hard to figure out exactly where the camera rig was, as my Hoosiers were kicking up lots of dust, which was getting everywhere, including inside the car. This was not something I was too worried about at the time, however, as I often like to say, "Dirt don't slow ya down." Well, in all too short a moment my time was up,

and I waited for the sun to go down over the Mojave Desert.

Now back to that dust. My car never gets above 210mph – not even on the track with two front oil coolers – it's always cool no matter how hard I drive it. At around 8.30/9pm it was starting to cool down as I headed out of the lake bed and down the now dark and dusty roads towards I 15 south. At cruising speeds I was starting to run a little bit hotter by ten degrees or so than I even saw at the track. Damn that dust and silt.

Overall, the round trip clocked in at about 200 miles, and made for an unforgettable experience. The next day the car was on four jack stands with its wheels removed. A few hours of dust removal and cleaning later, along with a 12-quart Brad Penn oil change and new oil filter, and the car was back to normal. Dirt may not slow you down, but it will make you run a little hotter.







Ray Chandler •London,UK

2003 996 Turbo

Date acquired: August 2011 Last report: Issue 103 Total miles:

270 Costs: £200

ust a few weekends ago, my 996 Turbo was powering its way around Silverstone. The safety marshal's briefing that morning echoed in my head as I approached the first corner: "Do not bunch up!" and, as advised, I flicked an eye across the temperature and pressure gauges. The car behaved perfectly, turning in nicely on the corners despite some late braking, and I produced a reasonably good lap time, being overtaken only once.

If my time of 19 minutes 27.0178 seconds fails to impress you, may I advise you that it did include a mid-circuit stop for about ten minutes so that I could take some photos. Of what, you may well ask? Well for a start, the two Spitfires that were flying overhead, executing barrel rolls and other awesome manoeuvres above my and the other 1,207 Porsche 911s that were participating in the Parade Lap, which was being held jointly by Porsche GB, PCGB and Silverstone Classics to commemorate 50 years of 911 production. They had aimed for 911 911s, but actually managed to get 1,208, all being led around at 15mph by Mark Porsche, the son of 911 designer Ferdinand and accompanied by three Porsche racing legends: Derek Bell MBE, John Fitzpatrick and Richard Attwood.

It was quite surreal standing in the middle of the circuit with hundreds of car owners, all there to celebrate a 50-year old car which for a short time was largely forgotten as we all watched another veteran icon. Much has been written about how the 911s opposed flat six engine sounds, but on that day the Merlin seemed to silence all the 911 engines present.

With the air show over, off we went again on the Parade lap. The rules stated that there was to be no slowing up and then 'sprinting'; no overtaking whatsoever, and to keep four abreast and aligned on corners to the vehicle on the inside while maintaining two car lengths from the vehicle in front. And it all went really well. It was a magnificent sight, especially when looking across the corners to see wall-to-wall 911s from every year, model derivative and colour imaginable.

As ever, PCGB organised this well. Instructions, stickers, maps, sign-on sheets and identity bracelets were provided, with staff on hand to administer and answer questions. It seemed as if the clock had been turned back to July last year during the Olympics when, filled with common interest and purpose, we all seemed to be able to

speak spontaneously to total strangers. And speak we did, swapping stories, advice and tips. One recurring question was about insurance for the event, for as members we were all 'advised' by PCGB in the weeks running up to it to notify our insurance company about the Parade lap. PCGB said, "Most insurers we have spoken to already do not charge for making note of this Parade - however, they do appreciate having been advised of this 'risk'.'

EFG A Intern

The Silverstone Classic: even better than advertised

x 91

After four days of communication with our insurers, a spokesperson told my wife that they would under no circumstances insure us for the Parade lap, as it was considered a trackday, and that we were welcome to take our insurance cover elsewhere if we wished. That, from the company that recently slipped in a renewal request inviting us to do nothing as they had our bank card details to hand, for £200 more than we could get the same insurance for from their own website, did not go down too well. However, Moris Insurance stepped into the breach with insurance for the day for just £38.

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n the Eighties, electronics had limited application and tuning, especially on 'popular' cars like the smaller Fords and Vauxhalls, which were still involved in the time-honoured techniques of skimming cylinder heads, polishing and porting to improve gas flow and fitting performance air filters and exhausts. None of this is particularly scientific compared with the sophisticated software analysis at the heart of much of today's engine upgrade work.

The evolution of Chris Stewart's career mirrors this. A Vauxhall dealer apprentice with an

engineering background and strong independent streak, at 23 he struck out alone – or rather with wife Karen – to set up his own enterprise. "First I did servicing from a van, then we were able to afford a rented workshop and I started with one ramp, and before long I was up to four, by which time we'd run out of space so we moved to premises in Shirley, which we occupied for l1 years."

It was at this suburban high street location that Chris gained his reputation as a Vauxhall tuner at a time when the GM subsidiary was basking in the sunshine of numerous touring car victories by John Cleland, ultimately being tempted further into the sport with its Super Touring V6 Vectra challenge. Although tuning still involved accessories like higher-pressure fuel regulators and deeper plenums, the key to extracting more power was the ability to interpret and manipulate the engine's ECU. This is where Regal has developed its particular expertise, and while hot Vauxhalls and other marques continue to emerge from Regal's workshops, the lion's share of the business is claimed by Porsches.

Chris explains how this came about: "Effectively we had maxed out the Vauxhall market, which was





Under Chris'
stewardship,
Regal Autosport
has grown from
working out of a van
into a successful
enterprise with
business worldwide





changing anyway. We started offering BMW and VW supercharger kits and got into the VW Cup in 2007. The logical next step was to build a car for the Porsche Cup. 2008 was the last season before the recession hit, and with ex-Touring car driver Tony Gilham we scored second at our first attempt! It's a big commitment: with ten weekends of two races per weekend, racing is too tiring and we've scaled back our involvement, but that's how we got into the Porsche aftermarket – you have to grow into it."

In 2005, Regal acquired its own premises on a semi-derelict site a mile or two away at Portswood.

Chris was at last able to configure the kind of operation he wanted. "It's perfect – it's only five minutes from home, and being next door to a dual carriageway I can make as much noise as I want."

Regal's business comes from both advertising and recommendation. Racing the Cup 9ll put the firm in contact with several big names in the Porsche aftermarket business, especially in California, from where Regal has always supplied parts. Here, Chris was able to see how companies like Evolution Motorsport – Regal's impressive four-wheel dynamometer is the same model used by Evolution

- and GIAC (Garrett Integrated Automotive Corp) worked. He built up, as Chris puts it, an arsenal of software. He was especially taken with SharkWerks of Los Angeles - there are 50 Porsche dealerships within driving distance of their workshops, he says. Chris has drawn a lot on SharkWerks' expertise too. "These are all well-known names internationally, and working with them gives us credibility: people trust us to work on their cars. It's all about creating a profile. We've always sold a lot of parts, but we're equally interested in getting customers to use our workshop as well."



"We can make the shift speed faster and lift the change point. People really appreciate it, especially on the track"

He gives an example of the kind of tuning he offers: "If you can get the data off the car and verify that it's good, then you can modify the ECU. But you have to be able to get through the manufacturer's security." He holds up the ECU from a Turbo Tiptronic 996: "Mercedes supplies the Tiptro to Porsche, and normally you can't get into it, but thanks to GIAC's backdating software we can make the shift speed faster and lift the change point. It enhances the Turbo and people really appreciate it, especially on the track."

Chris' knowledge of the 911 is impressive, and he's not afraid to put his money where his mouth is, owning a Genl 997 GT3 with EVOMSit software and Wavetrack differential, as featured in Issue 94 of **Total 911**. Word certainly gets around, and although Regal don't usually work on cars within their guarantee period, a Swiss customer was recently referred to Chris by a Midlands OPC because the dealers' remit does not allow the OPC to carry out non-factory modifications.

As a rule, Regal confines itself to water-cooled Porsches. "The earlier cars often need structural work. We're not set up for that, and they tend to leak oil everywhere!" jokes Chris. Regal does no mechanical rebuilds itself, instead subcontracting this locally. It would need a separate workshop, and Chris wants to keep the focus on software work, but Regal also does routine maintenance and runs his own MoT bay to offer a complete service.

How does Chris see the next five years? "Lower emissions and better fuel consumption will mean more emphasis on smaller turbocharged petrol engines. I see more hybrid work: Panamera hybrids have been on the market since 2011, and both diesel and petrol versions are tuneable. The challenge will be cracking ECU security codes. I think there will also be a market for retro stuff like Singer, carbs to throttle bodies, beautifully machined parts and electronic ignition. But at the moment there's plenty of work rejuvenating 996s. I get more enjoyment from taking a tired 996, doing the suspension,

Company profile

- Owner: Chris Stewart
- Location: Portswood, Southampton, UK
- Founded: 1988
- Most commonly fettled 911: 996 Turbo
- Most popular product: EVOMSit software
- Most unusual assignment: Sorting a Martini replica 997 Turbo that had GT2 panels and was a real 'bitsa' of aftermarket mods. Regal nevertheless got it running smoothly, dynoing at 700bhp.

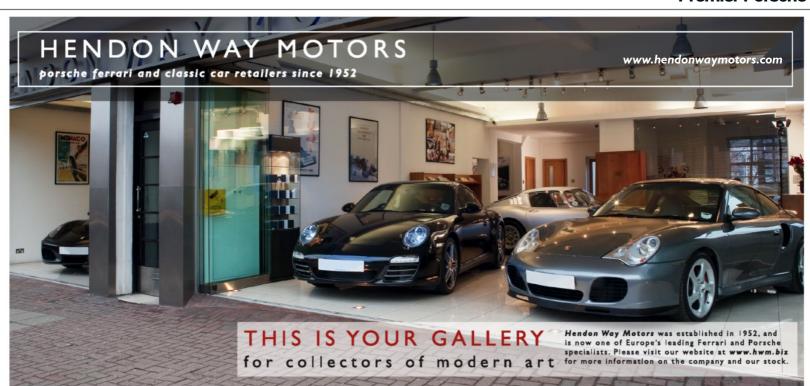
Contact

Website: www.regal-shop.co.uk/porsche
Telephone: 02380 558636



brakes and exhaust and making it rev properly. It doesn't cost much and you get a tight, responsive car with 300bhp – enough to have fun with."

Regal is a classic family firm: behind the reception desk are Karen and younger son Ashley. Ash's older brother has already departed to set up his own tuning business in London. Chris has built an attractive niche operation in which the 911 is now his main activity. "Since getting into Porsches, I haven't looked back. It's been fantastic fun."



PORSCHE 997 - TURBO, C4S, C2S, C2

2008 - 997 TURBO COUPE TIP (BASALT BLACK) 29,000 Miles Full Black Leather Interior, PASM, PSM, PCM, Sat Nav, BOSE, White Dials, Xenon Headlights, 19" Turbo Alloy Wheels, Full Porsche Service History.

2008/57 – 997 TURBO CAB MAN (BASALT BLACK) 24,000 Miles Full Black Leather Interior, Sports Chrono With Sports Mode, PASM, PSM, PCM, Sat Nav, BOSE Sound System, White Dials, 19*Turbo Alloy Wheels, Full Porsche Service History, One Year Porsche Extended Warranty Included, Just Passed The Porsche 111 Point Inspection.

2009/58 - 997 GEN II C2S COUPE MAN (GT SILVER) 31,000 Miles Metropole Blue Leather Interior, PSM, PASM, PCM, Sat Nay, Universal Audio Interface, BOSE Sound System, White Dials, Chrono Pack, Xenon Headlights, 19" Carrera Sport Wheels, Full Porsche Service History.

2006 - 997 C4S COUPE MANUAL (ATLAS GREY) - 38,000 Miles Black Leather Interior, Sports Chrono, PSM, PCM, Sat Nav, BOSE Sound System Xenon Headlights, 19" Alloy Wheels, Full Service History.

2005/54 - 997 C2S COUPE MANUAL (ARCTIC SILVER) 42,000 Miles Metropole Blue Leather Interior, PSM, PCM, Sat Nav, BOSE, CD Changer, Switchable Sports Exhaust, 19" Carrera S Alloy Wheels, Full Service History.

2005/54 – 997 C2S COUPE TIP (ARCTIC SILVER) 59,000 Miles Grey Leather Interior, PSM, PCM, BOSE Sound System, CD Changer, Sunro Carrera S Alloy Wheels, Rear Park Assist, Full Service History.

2007 - 997 C2 COUPE MANUAL (SEAL GREY) 37,000 Miles Full Black Leather Interior, PSM, PCM, Sat Nav, White Dials, Tracker, 19" Carrera Alloy Wheels, Only 2 Owners, Full Porsche Service History.

PORSCHE 996 - GT2, GT3, TURBO, C4S

2003 - 996 GT2 (BASALT BLACK) 20,000 Miles Full Black Leather Interior, Electric Windows, Rear Roll Cage, Porsche Radio with CD Player, 18" GT3 Alloy Wheels, Full Service History.

2004 - 996 GT3 (ATLAS GREY) 29,000 Miles
Comfort Specification, Full Black Leather Interior, Porsche Crested Sport Bucket
Seats, 18" GT3 Alloy Wheels, Original GT3 Rear Spoiler and Front Splitter, Only
Two Owners From New, Recently Fitted Tyres, Full Porsche Service History.

2004/54 - 996 TURBO 'S' MANUAL (BASALT BLACK) 19,000 Miles Full Black Leather Interior, Billstein PSS10 Lowered Suspension, Performance Friction 350mm Brakes, Porsche GT3 Nomes Bucket Seats with 5 Point Seat Belts By Williems, Full Engine Rebuild, Standard K24 Turbos, Only One Previous Owner.

2004 - 996 TURBO CABRIOLET TIP (BASALT BLACK) 49,000 Miles Full Black Leather Interior, PSM, PCM, Sat Nav, BOSE Sound System, Xenon Headlights, 19" 997 Turbo Diamond Cut Alloy Wheels, New Tyres, Full Porsche Service History.

2003 - 996 TURBO COUPE MANUAL (BASALT BLACK) 45,000 Miles Black Leather Interior, PSM, PCM, Sat Nav, Telephone, On-Board Computer, BOSE, CD Changer, Cruise Control, Heated Sports Seats, Alcantar Headlining, Sunroof, Xenon Headlights, Rear Wiper, Rain Sensor, Full Porsche Service History.

2003 - 996 TURBO COUPE TIPTRONIC (COBALT BLUE) 33,000 Miles Stone Grey Leather Interior, PSM, PCM, Sat Nav, BOSE, Porsche Aerokit Rear Spoiler, Xenon Headlights, Only 2 Previous Owners, Full Porsche Service History.

2002 - 996 TURBO COUPE MANUAL (MERIDIAN SILVER) 44,000 Miles Mid Grey Leather Interior, PCM, PSM, Sat Nav, BOSE, White Dials, Comp Climate Control, Xenon Headlights, 18" Turbo Alloys, OPC Service History.

2002 - 996 C4S COUPE (MIDNIGHT BLUE) 48,000 Miles Full Black Leather Interior, Fully Electric Memory Seats, BOSE, Clima PSM, PCM, Sat Nav, Telephone, Full Service History. nate Control.

PORSCHE 993 - TURBO, C2S, C2, TARGA

1998 - 993 TURBO S COUPE MANUAL (SPEED YELLOW) 60,000 Miles Black Leather/Carbon Fibre Interior, Electric Sports Seats, Porsche Radio and Cl Changer, Yellow Dials, Seat Belts and Callipers, Sunroof, Litronic Headlights, 18" Turbo S Alloy Wheels, Full Service History.

1998 - 993 TURBO COUPE MANUAL (FOREST GREEN) 34,000 Miles Cashmere Beige Leather Interior, Only 1 Owner, Porsche Exclusive Carbon and Cashmere Beige Leather Interior, Only 1 Owner, Porsche Exclusive Carbon a Aluminium Pack, White Dials, Sport Seats, Turbo Crests On Back Seats, Alpi Upgraded Stereo, AC, Sport Classic 18" Wheels, Full Porsche Service History

1995 - 993 TURBO COUPE MANUAL (ARENA RED) 31,000 Miles Grey Leather Interior, Wood Package, Cruise Control, Uprated Becker CD Player Bluetooth, Speakers, Sat Nav Compatibility, Climate Control, 18" Turbo Alloys, Official Porsche Centre Service History.

1996 - 993 C2 COUPE TIPTRONIC 'VARIORAM' (IRIS BLUE) 73,000 Miles Black Leather Interior, On-Board Computer, Upgraded Stereo and ĆD Ćhanger, Climate Control, 16" Carrera Alloy Wheels, Official Porsche Centre and Specialist

1996 - 993 C2 TARGA TIPTRONIC (TURQUOISE) 83,000 Miles Marble Grey Leather Interior, Varioram, Electric Glass Targa Roo Computer, 17" Targa Alloy Wheels, Full Specialist Service History

1995 - 993 C2 COUPE MANUAL (GRAND PRIX WHITE) 92,000 Miles Dark Grey Full Leather Interior, 6 Speed Manual, Uprated Kenwood Soundsystem, External Audio Connector (iPod, MP3 etc), Sunroof, 17" Targa Alloy Wheels, New Tyres Fitted, Full Porsche and Specialist Service History.

1994 - 993 CARRERA TIPTRONIC COUPE (BLACK) 92,000 Miles Black Leather Interior, Uprated Becker Radio System, Sunroof, Central Lockin with Immobiliser, 17" Alloy Wheels, Extremely Comprehensive Service History (Spare Key, Old MOTs and Tax Discs, Original Manuals).

1994 - 993 CARRERA COUPE TIPTRONIC (BLACK) 99,000 Miles Porsche and Specialist Service History with Recent Se

1989 - 911 CARRERA 3.2 CABRIOLET (G50 GEARBOX) 124,000 Miles lris Blue Metallic, Full Beige Interior, Manual, Matching Numbers Example, Matching Dark Blue Hood, Fully Electric Soft Top, Period Correct Fuchs Alloy Wheels, Comprehensive Service History, 10 Years With The Same Owner.

1989 - 911 CARRERA 3.2 CABRIOLET (G50 GEARBOX) 92,000 Miles Black Metallic, Full Black Interior, Manual, Matching Numbers Example, Matching Black Hood, Fully Electric Soft Top, Electric Windows and Mirrors, Period Correct Fuchs Holy Wheels, 21 Years With The Same Owner, Full Service History.

PORSCHE BOXSTER S

2005 - 987 24V S MANUAL (SEAL GREY) 52,000 Miles 3.2L S Specification, Unmarked Grey Leather Interior, BOSE Sound System, Original Porsche Stereo, Xenon Headlights, Recent Set of Tyres, Recently Serviced, Only One Previous Owner, Extremely Well Kept Example, Official Porsche and Porsche Specialist Service History.

FERRARI - MODELS FROM 1967 +

2002 FERRARI 360 MODENA (MANUAL) TDF BLU 25,000 Miles eather Interior, Stainless Steel Gated Shifter, Scuderia Shields, Challenge Grill, Stainless Steel Entry Door Guards, CD/DVD Player, Ferrari Crested 8" Modena Alloys with Ferrari Crests, Full Detailed Service History.

1998 - F550 MARANELLO COUPE MANUAL (SILVER) 53,000 Miles Navy Leather Interior, Sat Nav with DVD, ASR Sports Mode, Electric Seats, Upgraded Radio and 6 CD Changer, Climate Control, Ferrari Service History.

1996 - 456 MANUAL (TDF BLUE) 51,000 Miles
Two Tone Blue And Black Interior, Adjustable Suspension, Original Ferrari Stereo,
Stainless Steel Gated Shifter And Entry Door Guards, Remote Central Locking,
ABS, Xenon Headlights, Full Ferrari Service History.

1996 - FERRARI F355 SPIDER GIALLO MODENA 28,000 Miles Giallo Modena Yellow, Manual, Full Nero Black Interior, Optional Sports Mode Tonnau Cover, 18" Ferrari 355 Alloys, Original Toolkit, Full Service History, Recently Serviced. Known to us for a period of 5 years.

1973 - DAYTONA 365 GTB 4 RHD (ROSSO RED) 38,000 Miles Black/Red Leather Interior, Red Carpets, Climate Control, "Ferrari Classiche" Full Continuous History, Superb Provenance, 3 Owners From New.

1967 - 275 GTB 4 MANUAL LHD (ARGENTO SILVER) 59,000 Miles Full Black Leather Interior, Detailed Restoration History, Original Build Sheets, Sales Invoice, Tool Kit, Wallet, Hand Books, Numerous Concourse and Awards Winner, Engine Rebuilt By Ferrari 26,000 KMS Ago, Comprehensive Photos Showing The Repaint and Work Done By Ferrari.

CLASSICS - AC, PORSCHE, JAGUAR, BENTLEY, LAMBORGHINI, MINI

1991 - AC COBRA LIGHTWEIGHT (BLACK METALLIC) 5,000 Miles 1 of 26 RHD Lightweights, Black Metallic with White Stripes, Full Black Leather Interior, Full Weather Equipment, Absolutely Stunning Condition.

1978 - PORSCHE 911 TURBO 3.3L (GUARDS RED) Approx. 50,000 Miles Full Black Leather Interior, Original Blaupunkt Stereo, Original 16" Fuchs Alloys and Toolkit, Original Turbo Spoiler, Comprehensive Service History.

1962 - JAGUAR 3.8 MARK II AUTOMATIC LHD (BLACK) 16,478 Miles Black Coachwork, Red Leather Interior, Power Assisted Steering, Wire Wheels, Recent Restoration To Virtually Concours Standard.

1936 - BENTLEY 4 1/4 PILLARLESS COUPE (MIDNIGHT BLUE) Gurney Nutting Coachwork, 40 Years Extensive History, A True Classic, Original Throughout, Exhibited At Louis Vuitton Concours D'Elegance in Paris 2003. Full Mid-Grey Leather Interior, Sunroof.

1935 - BENTLEY DERBY 3.8L SALOON
A true classic. Completely original throughout and with a very well dor history. 3792cc, Petrol, 2-Avle Rigid Body, Chassis Frame no: B51EJ, Engine no: P3BP, Date of First Registration: 30.08.1935.

1964 - PORSCHE 356 SUPER 90 COUPE LHD (SIGNAL RED) 1600cc, Soft Beige Leather Interior, 4 Speed Manual, Recent Restoration To Concours Standard, Eligible For Many European Events.

2010 - PGO BUGGY BR-500 RCN PGO BUGRACER (WHITE) 700 Miles Original PGO Buggy, Powered by a 500cc Motorbike Engine, St Right Hand Drive, Locking Differential, Hand Brake Reverse.

2008/57 - LAMBORGHINI GALLARDO SPYDER 21,000 Miles ZUUW7 - LAMBUHGHINI GALLARDU SPYDER 21,000 Miles
Nero Black, Interior in Nero Leather with Yellow Sitching, Sat Nav, Aluminium Dash
Dials and Fascia Trims, Paddle-shift Gearbox (Automatic), Bi-Xenon Headlights,
19° Lamborghini Crested Alloy Wheels With Yellow Callipers, Recently Serviced,
New Lamborghini Continental Tyres Fitted, An Immaculate Example,
Full Official Lamborghini Service History.

2011 - LAMBORGHINI GALLARDO (YELLOW) 7,700 Miles Interior in Nero Leather, Paddle-shift Gearbox (Automatic), Sat Nav, Aluminium Dash Dials and Fasica Trims, Bi-Xenon Headlights, 19" Lamborghini Crested Alloy Wheels With Yellow Callipers, Recently Serviced, New Lamborghini Prelli Tyres Fitted, An Immaculate Example, Full Official Lamborghini Service History.

2002 - MINI COOPER MANUAL (BLACK) 43,000 Miles
1.6L Cooper Specification, Black Coachwork With White Roof And Mirrors,
Factory-fitted Alarm System, 16" Alloy Wheels, One Previous Keeper Only
Full Service History.



PORSCHE

[NEW FOR 2013] **Pata file**

Definitive facts and figures for every 911 model from 1963 – present

Welcome to the Total 911 data file. the definitive verdict to assist you in the world of 911s. All data here has been compiled, where possible, from Porsche's own figures. The cars are organised in rows according to release date beginning with the very first model, the 901 in 1963, right up to today's latest 991. Many models were available in Coupe, Targa and Cabriolet forms, with the option of automatic transmission. Data here has been provided from the Coupe variants, unless stated.

Ratings: ***

Each model is rated according to performance, handling, appearance and desirability. Do you agree? Tell us your thoughts: editorial@total911.com.



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An ideal first 911 - affordable and largely trouble-free.

Sales debate: Are air-cooled Turbo prices set to fall?



The 991 Turbo's September release heralds the apparent end of manual gearboxes on these most glamorous of Porsche 911s. But does this mean enthusiasts will likely be pushed towards the thrill of the more mechanically minded air-cooled generation of blown 911?

PDK's arrival on Porsche's highperformance offerings could mean some of the essence will be lost from the 911 experience, with no more heel-and-toe downshifts to be seen. Therefore, the 'purer' air-cooled cars could provide a reasonable alternative for those looking for the most natural 911 driving experience.

Paul Stephens, proprietor of renowned Porsche specialist PS AutoArt, has seen this effect on the GT3 market and believes there could be a similar fate for early Turbos. "The release of the 991 GT3 with PDK has had a definite impact on the early GT3 and air-cooled market, as people are looking towards the hardcore driving experience of the earlier cars.

"[With the 991 Turbo also PDKonly] I suspect if more people want something to drive properly, with a stick, it will have a definite impact on the Turbo market". So, the air-cooled Turbo's popularity looks set to rise with their residual values.

911 2.0-litre

Capacity: 1.991cc

Length: 4.163mm

Weight: 1.075kg

0-60mph: 7.9 sec

Top speed: 152mph



to eventually replace the $3\overline{5}6$, the 911 was an all-new design that was undoubtedly a

Brakes: Front: 282mm discs; Rear: 290mm discs

Wheels & tyres: Front: 15x4.5.J. 165HR (15x5.5.J.

better all-round drive than its predecessor.

Compression ratio: 9.8:1 Maximum power: 130bhp @ 6,100rpm

Maximum torque: 149Nm @ 5 200rpm

185HR from 1967); Rear: 15x4.5J, 165HR

he 911 that started it all off

exactly 50 years ago when the prototype appeared in 1963,

his is the car that set the style or all 911s to follow. Developed

(O series 1963-67

911S

(O and A series) 1966-68

Porsche soon started off something that would continue to be popular throughout the 911's history: producing more powerful variants. The first of these was

the 911S (for Super), which had a higher compression engine and twin Weber 40IDS carburettors.

Length: 4.163mm Weight: 1.075kg 0-60mph: 7.9 sec

Capacity: 1.991cc Compression ratio: 9.8:1 Maximum power: 160bhp @ 6,800rpm Maximum torque: 180Nm @ 5 200rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x4.5.J. 165HR (15x5.5.J. 185HR from 1967); Rear: 15x4.5J, 165HR **RATING:**

Top speed: 152mph

911E

1969-71



The C series saw an increase engine capacity to 2,195cc Other minor improvements made to the engine included revised cylinder heads, larger valves and stronger connecting

RATING:

rods. In 1970 the D series cars had hot-zinc coated undersides and other minor changes

Capacity: 2.195cc Compression ratio: 9.1:1 Maximum power: 155bhp @ 6.200rpm Maximum torque: 191Nm @ 4,500rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185VR; Rear: 15x6J, 185VR Length: 4,163mm Width: 1.610mm

Weight: 1,020kg 0-60mph: 7.5 sec Top speed: 137mph

RATING:

911S

1969-71



An upgrade in engine size from 1,991cc to 2,195 gave the 911S a useful 10bhp hike in power to 180bhp. Unlike the 911E, though, the S didn't gain such an improvement in low-down

power and torque, so you had to keep the revs up to get the full benefit of the extra horsepower

Capacity: 2.195cc Compression ratio: 9.8:1 Maximum power: 180bhp @ 6.500rpm Maximum torque: 199Nm@5,200rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185HR; Rear: 15x6J, Length: 4,163mm Width 1.610mm Weight: 1,020kg **RATING:** 0-60mph: 6.6 sec Top speed: 155mph

911S



For the F series, the 190bhp 911S followed the same upgrades as the 911E, the most significant being the deletion of the external oil-

filler flap in the right-hand rear wing. It also adopted black trim around the front and rear lights and black front quarter grilles.

Capacity: 2,341cc Compression ratio: 8.5:1 Maximum power: 190bhp @ 6,500rpm Maximum torque: 216Nm @ 5.200rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185VR; Rear: 15x6J, Length: 4.163mm Width: 1,610mm Weight: 1.050kg 0-60mph: 6.6 sec

RATING:

911T

(F series) 1973



US-bound F series 911Ts were the first 911s to have Bosch K-Jetronic fuel injection. This was fundamentálly mechanical with some electronic sensors. It gave precise injections of fuel as

required, in the process keeping emissions down and improving economy

Capacity: 2,341cc Compression ratio: 8.0:1 Maximum power: 165bhp @ 6,200rpm Maximum torque: 206Nm @ 4,500rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185VR; Rear: 15x6J, Length: 4,163mm Width: 1,610mm Weight: 1,050kg 0-60mph: 7.0 sec (est) **RATING:** Top speed: 140 mph (est)

911 Carrera

Top speed: 144mph

(G & H series 1974-75



From 1974, Porsche used the topping 911. The 911 Carrera used essentially the same 2.7-litre, 210bhp engine as

the previous year's RS for all markets except the USA. In 1975 it was available with an optional new whaletail spoiler

Capacity: 2.687cc Compression ratio: 8.5:1 Maximum power: 210bhp @ 6,300rpm Maximum torque: 255Nm @ 5,100rpm Brakes: Front: 282mm discs: Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185VR; Rear: 15x7J, 215VR

Length: 4,291mm Width: 1,610mm Weight: 1,075kg 0-60mph: 6.1 sec Top speed: 149mph

RATING:

911 Carrera 3.0

(I & J series) 1976-77



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

engine, with the addition of some minor changes, continued to power the 911 until 1989.

Capacity: 2.994cc Compression ratio: 8.5:1 Maximum power: 200bhp @ 6,000rpm Maximum torque: 255Nm@ 4,200rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J; Rear: 15x7J, 215VR

Length: 4,291mm Width: 1,610mm Weight: 1,093kg 0-62mph: 6.3 sec Top speed: 145mph



911L

(A series) 1967-68



known as the 911L (Lux) and sat alongside the high-performance 911S and the entry-level 911T

Capacity: 1.991cc Compression ratio: 9.0:1 Maximum power: 130bhp @ 6,100rpm Maximum torque: 173Nm @ 4 200rpm

Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x5.5J, 185HR; Rear 15x5.5J, 185HR

Length: 4.163mm Weight: 1,075kg 0-60mph: 8.4 sec Top speed: 132mph

RATING:

911T

(A & B series) 1967-68



The entry-level 911T had a 110bhp engine that, to save money, used cast-iron cylinder neads (as opposed to the Biral aluminium/iron items which gave more efficient cooling)

and carburettors instead of fuel injection. The interior specification was similar to that of the 912

Capacity: 1.991cc Compression ratio: 8.6:1 Maximum power: 110bhp @ 5,800rpm Maximum torque: 156Nm @ 4 200rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x5.5J, 165HR; Rear: 15x5.5J, 165HR Length: 4.163mm

RATING:

911E

(B series) 1968-69



n 1968 the 911 received its first significant update, enabling it o evolve into what is known as the B series. Central to the new model line-up was the 911E, which replaced the 911L as the

standard' car. The 'E' stood for 'Einspritz', which is German for injection

Capacity: 1.991cc Compression ratio: 9.1:1 Maximum power: 140bhp @ 6,500rpm Maximum torque: 175Nm @ 4 500rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185VR; Rear: 15x6J, 185VR Length: 4,163mm Width 1,610mm

Weight: 1,020kg 0-60mph: 7.6 sec Top speed: 130mph

RATING:

1972

911S

(B series) 1968-69



The 911S was updated to B s specification in line with the 911E. Like the E, the more sporty S gained a fuel injection, boosting power to a useful 170bhp. To help cope with the

extra demands this put on the engine, an additional oil cooler was fitted in the front right-hand wing

Capacity: 1.991cc Compression ratio: 9.9:1 Maximum power: 170bhp@6,800rpm Maximum torque: 183Nm @ 5 500rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185HR; Rear: 15x6J, Length: 4.163mm

Width: 1,610mm Weight: 995kg 0-60mph: 6.6 sec Top speed: 155mph

RATING:

911T

(C & D series) 1969-71



When the 911E and 911S ncreased their engine capacity to 2.2 litres, their little brother followed suit. Like the 911E, the torque curve was now flatter. in the process making the car

more driveable. Ventilated discs from the S were fitted and a five-speed gearbox became standard.

Capacity: 2.195cc Compression ratio: 8.6:1 Maximum power: 125bhp @ 5.800rpm Maximum torque: 177Nm@ 4,200rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x5.5J, 165HR; Rear: 15x5.5J, 165HR Length: 4,163mm Width: 1.610mm Weight: 1,020kg 0-60mph: 7.0 sec (est)



911E

1972



Weight: 1,020kg 0-60mph: 8.8 sec (est)

Top speed: 124mph

An increase in engine capacity to 2,341cc was achieved by increasing the stroke from 66mm to 70.4mm while at the same time leaving the oore unchanged. The new 915 transmission was a stronger

unit, making it better suited to the extra power

Capacity: 2.341cc Compression ratio: 8.0:1 Maximum power: 165bhp @ 6,200rpm Maximum torque: 206Nm@ 4,500rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185VR; Rear: 15x6J, 185VR Length: 4,163mm

Width: 1.610mm Weight: 1,050kg 0-60mph: 7.5 sec Top speed: 137mph

RATING:

(G, H, I, J series)

1974-77

911T



The entry-level 911T received a boost in engine size to 2,341cc in 1972 to compensate for its ncreased power. However, a lower compression ratio and the inclusion of Zenith 40 TIN

triple-choke carburettors led to the relatively lower power output of 130bhp

Capacity: 2.341cc Compression ratio: 7.5:1 Maximum power: 130bhp @ 6.200rpm Maximum torque: 196Nm@ 4,000rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x5.5J, 165VR; Rear 15x5.5J, 165VR Length: 4,163mm Width: 1.610mm Weight: 1,050kg 0-60mph: 7.6 sec

RATING:

911E

1973



After a number of incidents in which people filled E series 911s with petrol via the external oil-filler, the filler returned to under the engine compartment lid. The 911E

was fitted with a new type of ATS cast-aluminium wheels and had the front spoiler of the 911S

Capacity: 2.341cc Compression ratio: 7.5:1 Maximum power: 130bhp @ 6,200rpm Maximum torque: 196Nm@ 4,000rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x5.5J, 165VR; Rear: 15x5.5J, 165VR Length: 4,163mm Width: 1.610mm Weight: 1,050kg 0-60mph: 7.6 sec (est) **RATING:** Top speed: 140mph (est)

911

(G, H, I, J series) 1974-77



Top speed: 123mph

For 1974, the entry-level car was badged '911' and fitted with a 2.7-litre engine. Bumpers were added to conform to US regulations, and from 1976 all 911s were hot-dip

coated and fitted with 'elephant ear' mirrors

Capacity: 2,687cc Compression ratio: 8.0:1 Maximum power: 150bhp @ 5,700rpm (165bhp @ 5,800 from 1,976) Maximum torque: 235Nm@ 3,800rpm(235Nm@ 4,000rpm from '76)

Brakes: Front: 282mm discs: Rear: 290mm discs Wheels & tyres: Front: 15x6J; Rear: 15x6J, 185VR Length: 4.291mm

Width: 1,610mm Weight: 1,075kg 0-60mph: 8.5 sec Top speed: 130mph

RATING:

911S



For 1974, Porsche realigned its model line-up, and the 911S was no longer the range topping car, but rather a mid-range model comparable to

the previous 911E. It had the same body changes as the base model, and came as standard with 15-inch ATS 'cookie cutter' wheels

Capacity: 2.687cc Compression ratio: 8.5:1 Maximum power: 175bhp @ 5,800rpm Maximum torque: 235Nm @ 4 000rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185VR; Rear: 15x6J, Length: 4.291mm Width: 1,610mm



1978-83

ULTRA-RARE MODEL

Top speed: 128mph



1972-73 **Carrera 2.7 RS**

The RS had a 2,681cc engine that developed 210bhp The body was lightened and fitted with flared rea arches and an optional ducktail spoiler. The RS Sport was an ultra-light model, while the Touring car retained some creature comforts.

Capacity: 2,681cc Compression ratio: 8.5:1 Maximum power: 210bhp @ 6,300rpm Maximum torque: 255Nm @ 5,100rpm Brakes: Front: 282mm discs; Rear: 290mm discs Wheels & tyres: Front: 15x6J, 185VR; Rear: 15x7J, 215VR Length: 4,163mm

Width: 1,610mm Weight: 975kg (Sport) 0-60mph: 5.6 sec Top speed: 153mph

RATING:



930 3.0

0-62mph: 5.3 sec

Top speed: 168mph

1975-77



Fitted with a KKK turbocharger, this was the world's first production car to be turbocharged. Flared arches and a whaletail spoiler created a look that would

become legendary. Brakes weren't good on early Turbos, and the four-speed gearbox was standard

Capacity: 2.994cc Compression ratio: 8.5:1 Maximum power: 260bhp @ 5,500rpm Maximum torque: 343Nm @ 4,000rpm Brakes: Front: 282mm discs: Rear: 290mm discs Wheels & tyres: Front: 15x7J, 185/70VR; Rear: 15x8J, 215/60VR Length: 4,291mm Width: 1,610mm Weight: 1,195kg **RATING:**

930 3.3



Weight: 1,300kg

0-62mph: 5.0 sec

Top speed: 160mph

Weight: 1,075kg

0-60mph: 7.0 sec

Top speed: 142mph

A larger engine led to an extra 40bhp of power, and an intercooler on top of the ngine led to the adoption of a new 'teatray' spoiler.

The brakes were upgraded with 917 racecar-based items, larger discs and four piston calipers.

Capacity: 3,299cc Compression ratio: 7.0:1 Maximum power: 300bhp @ 5,500rpm Maximum torque: 343Nm@4,000rpm
Brakes: Front: 304mm discs; Rear: 309mm discs Wheels & tyres: Front: 15x7J, 185/70VR; Rear: 15x8J, 215/60VR Length: 4,491mm Width: 1,775mm

RATING:

911 SC



1978-83



From 1978, the SC was the only normally aspirated 911 It was a development of the Carrera 3.0, but the engine produced less power to suit all markets. A Sport option

RATING:

allowed for the inclusion of front and rear spoilers, 16inch Fuchs alloy wheels, sports seats and dampers.

Capacity: 2.994cc Compression ratio: 8.5:1/8.6:1/9.8:1 Maximum power: 180/188/204bhp @ 5.500rpm Maximum torque: 265/265/267Nm @ 4,300rpm Brakes: Front: 287mm discs; Rear: 295mm discs. **Wheels & tyres**: Front: 15x6J, 185/70VR; Rear: 15x7J, 215/60VR (16-inch optional) Length: 4,291mm Width: 1.626mm

Weight: 1,160kg (1978 Coupe)

0-62mph: 6.5 sec

Top speed: 141mph

930 3.3

1984-89



Top speed: 173mph

A revised engine added more power and torque in 1984, while in 1987 Motronic engine management improved efficiency and emissions when the car returned to the

US market. Perforated brake discs later appeared in 1988, while a five-speed gearbox arrived in 1989.

Capacity: 3,299cc Compression ratio: 7.0:1 Maximum power: 300bhp @ 5,500rpm Maximum torque: 432Nm@4,000rpm
Brakes: Front: 304mm discs; Rear: 309mm discs Wheels & tyres: Front: 16x7J, 205/55VR; Rear: 16x9J, 245/45VR Length: 4,491mm Width: 1,775mm Weight: 1,335kg 0-62mph: 4.8 sec







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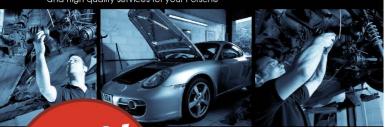




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Carrera 3.2 Km



1984-89



The Carrera 3.2 had almost the same galvanised body as the SC. The engine was claimed by Porsche to be 80 per cent new, and was the first production 911 motor

to feature an ECU to control the ignition and fuel systems. The Getrag G50 gearbox appeared in 1987.

Capacity: 3,164cc Compression ratio: 10.3:1 Maximum power: 231bhp @ 5,900rpm Maximum torque: 284Nm @ 4,800rpm Brakes: Front: 304mm discs; Rear: 309mm discs. Wheels & tyres: Front: 15x7J, 195/65VR; Rear: 15x8J, 215/60VR (16 inches for 1989) Length: 4,291mm Width: 1650mm Weight: 1,210kg

RATING:

930 LE WW



1989



Essentially an SE without a slantnose front, the LE had the same engine, front spoiler, sill extensions and rear air intakes. The fully specced interior and 'Limited Edition' status meant

the LE was initially thought by many to be the last ever 911 Turbo. Of course, that wasn't the case...

Capacity: 3,299cc Compression ratio: 7.0:1 Maximum power: 330bhp @ 5,500rpm Maximum torque: 432Nm @ 4,000rpm Brakes: Front: 304mm discs: Rear: 309mm discs Wheels & tyres: Front: 16x7J, 205/55VR; Rear: 16x9.1.245/45VR Length: 4,491mm Width: 1775mm Weight: 1,335kg 0-62mph: 4.6 sec Top speed: 173mph



964 Carrera 2

0-62mph: 5.6 sec

Top speed: 148mph

1990-93



Not everyone wanted four wheel drive. Reflecting this attitude, the rear-drive Carrera 2 offered an emphatically more traditional 911 experience and was 100kg lighter, but

looked identical to the Carrera 4. Tiptronic automatic transmission was a new option.

Capacity: 3,600cc Compression ratio: 10.3:1 Maximum power: 250bhp @ 6,100rpm Maximum torque: 310Nm @ 4,800rpm Brakes: Front: 298mm discs; Rear: 299mm discs Wheels & tyres: Front: 16x6J, 205/55ZR16: Rear: 16x8J, 225/50ZR16 (17-inch rims optional) Length: 4,250mm Width: 1.650mm Weight: 1.350kg 0-62mph: 5.5 sec



964 Turbo

1990-92



This used the revised 964 body shell, extended arches and 'teatray' spoiler. The engine was essentially the 3.3-litre unit rom the previous model, but updated to give more power.

Brakes were ABS-equipped. 17-inch Cup wheels were a new design, as were the 'teardrop' door mirrors.

Capacity: 3,299cc Compression ratio: 7.0:1 Maximum power: 320bhp@5,750rpm Maximum torque: 450Nm@4,500rpm Brakes: Front: 322mm discs; Rear: 299mm discs Wheels & tyres: Front: 17x7J, 205/50ZR17: Rear: 17x9J, 255/45ZR17 Length: 4,250mm Width: 1.775mm Weight: 1.470kg **RATING:** 0-62mph: 5.0 sec Top speed: 169mph

964 Turbo 3.6 1993-94



Top speed: 164mph

The Turbo received an engine based on the 3.6-litre 964 unit, albeit one that had been modified. Distinctive 18-inch split-rim Speedline wheels

covered the big-red brake calipers. Suspension was lowered by 20mm (not in the US) and a front strut-brace was fitted.

Capacity: 3,600cc Compression ratio: 7.5:1 Maximum power: 360bhp@5,500rpm Maximum torque: 520Nm@4,200rpm Brakes: Front: 322mm discs; Rear: 299mm discs. Wheels & tyres: Front: 18x8J with 225/40ZR18 tyres: Rear: 18x10J with 265/35ZR18 tyres Length: 4,250mm Width: 1 775mm Weight: 1,470kg

RATING:

964 3.8 RS

1993



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

Suspension was RS-derived, while brakes were a mix of RS and Turbo 3.6 items.

Capacity: 3,746cc Compression ratio: 11.6:1 Maximum power: 300bhp@6,500rpm Maximum torque: 359Nm@5,250rpm Brakes: Front: 322mm discs; Rear: 299mm discs. Wheels & tyres: Front: 18x9J, 235/40ZR; Rear: 18x11J. 285/35ZR Length: 4,250mm Width: 1,775mm Weight: 1,210kg 0-62mph: 4.9 sec



993 Turbo

0-62mph: 4.8 sec

Top speed: 174mph

1996-98



Top speed: 180mph

18-inch wheels.

Compression ratio: 8.0:1 Maximum power: 408bhp @ 5,750rpm Maximum torque: 540Nm @ 4,500rpm Brakes: Front: 322mm discs; Rear: 322mm discs Wheels & tyres: Front: 18x8J, 225/40ZR18; Rear: 18x10J, 285/30ZR18 Length: 4,245mm Width: 1,795mm



993 GT2

Top speed: 169mph

1995-96



Capacity: 3,600cc Weight: 1,575kg 0-62mph: 4.3 sec





Basically a 911 Turbo, but with reduced equipment. It also included rear-wheel-drive, making it a better track car. The massive front and rear spoilers and bolt-on wheel-

arch extensions give it a distinctive appearance.

Capacity: 3,600cc Compression ratio: 8.0:1 Maximum power: 430bhp @ 5,750rpm Maximum torque: 540Nm@ 4,500rpm Brakes: Front: 322mm discs; Rear: 322mm discs Wheels & tyres: Front: 18x9J, 235/40ZR18; Rear: 18x11J. 285/35ZR18

Length: 4,245mm Width: 1.855mm Weight: 1,290kg 0-62mph: 3.9 sec Top speed: 189mph



930 SE W



1986-89



Slantnosed and based on that of the 935 racecars, with popup headlamps. The front spoiler was made deeper in order to accommodate the extra oil cooler, while intakes in the rear

ngs fed air to the brakes. The larger turbocharger and four-outlet exhaust gave 30bhp of extra power

Capacity: 3,299cc Compression ratio: 7.0:1

Maximum power: 330bhp@5,500rpm Maximum torque: 432Nm@4,000rpm Brakes: Front: 304mm discs: Rear: 309mm discs Wheels & tyres: Front: 16x7J, 205/55VR; Rear:

16x9.J. 245/45VR Length: 4,491mm Width: 1 775mm Weight: 1,335kg 0-62mph: 4.6 sec Top speed: 173mph



3.2 Clubsport





Removing the 'luxuries' from he Carrera 3.2 sliced around 40kg off the car's weight. Revised engine management gave a higher rev limit of 6,840rpm, but Porsche never

claimed there was any increase in power. Suspension uprated and limited-slip differential standard.

Capacity: 3,164cc Compression ratio: 10.3:1

Maximum power: 231bhp @ 5,900rpm Maximum torque: 284Nm @ 4,800rpm Brakes: Front: 304mm discs: Rear: 309mm discs Wheels & tyres: Front: 15x6J, 195/65VR; Rear: 15x7.J. 215/60VR

Length: 4,291mm Width: 1.650mm Weight: 1,170kg 0-60mph: 5.1 sec Top speed: 151mph



Speedster

1989



Essentially a Carrera 3.2 with a chopped, more steeply racked windscreen and hood and stripped-out interior. Most had wide Turbo bodies Porsche insisted that the

simple hood was not designed to be 100 per cent watertight. 2,065 examples of this model were built.

Capacity: 3,164cc Compression ratio: 10.3:1 Maximum power: 231bhp @ 5,900rpm Maximum torque: 284Nm @ 4,800rpm Brakes: Front: 304mm discs: Rear: 309mm discs. Wheels & tyres: Front: 15x7J, 195/65VR; Rear: 15x8.J. 215/60VR

Length: 4,291mm Width: 1650mm Weight: 1,210kg 0-60mph: 5.6 sec Top speed: 148mph

RATING:

964 Carrera 4

1989-93



Heavily revised bodywork, deformable bumpers over coil-spring suspension and four-wheel-drive marked this radical overhaul of the 911, which Porsche claimed was 87

per cent new. The 3.6-litre engine featured two spark plugs per cylinder and ceramic exhaust port liners.

Capacity: 3,600cc Compression ratio: 10.3:1

Maximum power: 250bhp @ 6,100rpm Maximum torque: 310Nm @ 4,800rpm Brakes: Front: 298mm discs; Rear: 299mm discs Wheels & tyres: Front: 16x6J, 205/55ZR16; Rear: 16x8J, 225/50ZR16 (17-inch rims optional)

Length: 4,250mm Width: 1.650mm Weight: 1,450kg 0-62mph: 5.7 sec Top speed: 162mph

RATING:

964 RS

1991-92



Around 120kg was lost by deleting 'luxuries' and fitting magnesium Cup wheel: Power was boosted by 10bhp and fed through a flywheel and uprated clutch. Suspension

was lowered by 40mm and uprated, as were the brakes. Sport and Touring versions were also offered

Capacity: 3,600cc Compression ratio: 10.3:1

Maximum power: 260bhp @ 6,100rpm Maximum torque: 310Nm @ 4,800rpm Brakes: Front: 322mm discs; Rear: 299mm discs Wheels & tyres: Front: 17x7.5J, 205/50ZR17; Rear:

17x9 | 255/407R17 Length: 4,250mm Width: 1.650mm Weight: 1,230kg (Sport) **0-62mph**: 5.2 se Top speed: 162mph



964 C2 Speedster 1993-94



This combined the 964 bodyshell with the hood and vindscreen of the Carrera 3.2 Speedster plus the RS interior It is thought that Porsche planned to build around 3,000,

but only 936 were made, many in bright colours such as vellow or red with colour-coded wheels

Capacity: 3,600cc Compression ratio: 10.3:1 Maximum power: 250bhp @ 6,100rpm Maximum torque: 310Nm @ 4,800rpm Brakes: Front: 298mm discs; Rear: 299mm discs Wheels & tyres: Front: 16x6J, 205/55ZR16: Rear: 16x8J, 225/50ZR16 (17-inch rims optional) **Length**: 4,250mm Width: 1.650mm Weight: 1,340kg

RATING:

ULTRA RARE MODEL WIR

1992-93 **964 Turbo S**

Essentially a 911 Turbo, but with 180kg of weigh saved. Intakes in the rear arches funnelled air to the brakes, while the engine power was boosted by 61bhp thanks to the larger turbocharger, bigger valves and revised engine management, with the suspension uprated as per the RS. Just 80 examples were built.

Capacity: 3,299cc Compression ratio: 7.0:1 Maximum power: 381bhp @ 6,000rpm Maximum torque: 490Nm @ 4,800rpm Brakes: Front: 322mm discs; Rear: 299mm discs Wheels & tyres: Front: 18x8J, 235/40ZR18; Rear: 18x89J, 265/35ZR18

Length: 4,250mm Width: 1,775mm ght: 1,290kg 0-62mph: 4.6 sec Top speed: 180mph





993 Carrera

1993-97



Restyled bodywork had sweptback headlamps, curvaceous wings and blended-in bumpers. The engine was evised with hydraulic tappets and hot-film airflow sensor.

plus VarioRam from 1996. All-new multilink rear suspension gave improved handling.

Capacity: 3,600cc Compression ratio: 11.3:1 Maximum power: 272bhp @ 6,000rpm Maximum torque: 330Nm @ 5,000rpm Brakes: Front: 304mm discs; Rear: 299mm discs **Wheels & tyres**: Front: 16x7J, 205/55ZR16; Rear: 16x9J, 245/45ZR16 (17-inch rims optional) Length: 4,245mm

Width: 1,735mm Weight: 1,370kg (Coupe) **0-62mph**: 5.6 sec Top speed: 168mph



993 Carrera 4

1994-97



0-62mph: 5.5 sec

Top speed: 164mph

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

drive-esque feel. Automatic Brake Differential (ABD) compensated for wheelspin.

Capacity: 3,600cc Compression ratio: 11.3:1 Maximum power: 272bhp @ 6,000rpm Maximum torque: 330Nm @ 5,000rpm Brakes: Front: 304mm discs; Rear: 299mm discs Wheels & tyres: Front: 16x7J, 205/55ZR16: Rear: 16x9J, 245/45ZR16 (17-inch rims optional) Length: 4,245mm Width: 1,735mm Weight: 1,420kg

RATING:

993 Carrera RS

1995-96



Had a lightweight body as pe RS tradition, but teamed with 3.8-litre engine, VarioRam ntake system and remapped ECU to create 200bhp, fed to the rear wheels only, with

suspension and brakes all uprated. It is recognisable by the fixed rear whaletail and large front spoiler.

Capacity: 3,746cc Compression ratio: 11.5:1 Maximum power: 300bhp @ 6,000rpm Maximum torque: 355Nm @ 5,400rpm Brakes: Front: 322mm discs; Rear: 299mm discs Wheels & tyres: Front: 18x8J, 225/40ZR18; Rear: 18x10J. 265/35ZR18 **Length**: 4,245mm Width: 1,735mm Weight: 1,279kg

RATING:

993 Carrera 4S

1995-96



The 4S was effectively a Carrera 4 with a Turbo wide bodyshell (albeit lacking a fixed rear spoiler). It also ooasted Turbo brakes and suspension, and the 18-inch

were aesthetically similar to the equivalent Turbo items.

Capacity: 3,600cc Compression ratio: 11.3:1 Maximum power: 285bhp @ 6,100rpm Maximum torque: 340Nm @ 5,250rpm Brakes: Front: 322mm discs; Rear: 322mm discs Wheels & tyres: Front: 18x8J. 225/40ZR18: Rear: 18x10J, 285/30ZR18 Length: 4,245mm Width 1795mm Weight: 1,520kg

RATING:

993 Carrera S

1997-98



The features that come with the Carrera S are similar to the Carrera 4S's, only in rear wheel-drive. Sought after for its superb handling and looks, the split engine cover lid and

wide body give it a distinctive appearance. Capacity: 3,600cc Compression ratio: 11.3:1

Maximum power: 285bhp@6,100rpm Maximum torque: 340Nm@5,250rpm Brakes: Front: 322mm discs; Rear: 322mm discs Wheels & tyres: Front: 18x8J, 225/40ZR18; Rear: 18x10J. 285/30ZR18

Length: 4,245mm Width: 1.795mm Weight: 1,450kg 0-62mph: 5.4 sec Top speed: 168mph



993 Turbo S

0-62mph: 5.8 sec

Top speed: 166mph

The 993 Turbo S was a fitting final hurrah to the last air-cooled 911. With 450bhp for UK models, it was the fastest and most luxurious road going model Stuttgart had

ever produced. Manual only as Tiptronic had not been develop to manage the abundance of torque.

Capacity: 3,600cc Compression ratio: 8.0:1 Maximum power: 450bhp @ 5,750rpm Maximum torque: 585Nm@4,500rpm Brakes: Front: 320mm discs; Rear: 322mm discs Wheels & tyres: Front: 18x8J, 225/40/18; Rear: 18x10J, 285/30/18 Length: 4,245mm Width: 1,795mm Weight: 1,583kg **RATING:** 0-62mph: 4.1sec Top speed: 186mph

996 Carrera WW

0-62mph: 5.0 sec

Top speed: 172mph



1998-2001



0-62mph: 5.2 sec

Top speed: 174mphy

An all-new 911 with larger. restyled bodywork and a 3.4-litre water-cooled engine. The interior was redesigned in order to enable better ergonomic efficiency and allow

for more room. The Carrera was a rear-wheel-drive, entry-level model, ideal for first-time Porsche drivers.

Capacity: 3,387cc Compression ratio: 11.3:1 Maximum power: 300bhp @ 6,800rpm Maximum torque: 350Nm@4,600rpm Brakes: Front: 318mm discs; Rear: 299mm discs **Wheels & tyres**: Front: 17x7J, 205/50ZR17; Rear: 17x9J, 255/40ZR17 (18-inch rims optional) Length: 4,430mm Width: 1,765mm Weight: 1,320kg

RATING:

996 Carrera 4

0-62mph: 5.3 sec

Top speed: 168mph

1998-2001



Top speed: 174mph

our-wheel-drive transmission fed only five per cent of power to front in normal driving, increasing to up to 40 per cent when required. Porsche Stability Management

combined traction control, anti-slip control and Automatic Braking Differential.

Capacity: 3,387cc Compression ratio: 11.3:1 Maximum power: 300bhp @ 6,800rpm Maximum torque: 350Nm@4,600rpm Brakes: Front: 318mm discs; Rear: 299mm discs **Wheels & tyres**: Front: 17x7J, 205/50ZR17; Rear: 17x9J, 255/40ZR17 (18-inch rims optional) Length: 4,430mm Width: 1,765mm Weight: 1,375kg 0-62mph: 5.2 sec



911s under the hammer

Two Targas and a 911T made it to the auction block during this year's Silverstone Classic. We take a look at these three special 911s that were sold by Silverstone Auctions

1968 **911 T 2.0**

Where: Silverstone Classic 2013 **Auctioneer: Silverstone Auctions**

After the initial launch of the 911 in 1963, the updated range followed in 1968. This range was known as the B series. The 2.3 inches-longer wheelbase of the B series addressed some of the previous A series' tal-happy nature. The 2.0-litre flat-six engine was retained for the B series, but for the T (Touring) model Porsche made a few

modifications to the engine with the aim of offering the most affordable car in the range The detuned engine meant less thermal stress, while less power and a lower rotating speed helped with the decreased bearing load. Interestingly, it was this less luxurious model that was the lightest of the three 911s on offer.

This left-hand-drive example features its original Oxford blue patina and the iconic Fuchs wheels. It also still has its original engine and gearbox - a major appeal for serious collectors. In a time when many of these cars are converted or customised, it is refreshing to see an example that has not been changed.



1971 **911E Targa 2.4**

Mileage: Not specified Sold for: £40,250

Where: Silverstone Classic 2013 **Auctioneer: Silverstone Auctions**

Porsche first introduced the 911 Targa in August 1967. However, come 1971 Porsche launched the 2.4-litre flat-six mechanical fuel injection engine. This was offered in three different states of tune: the entry-level T, followed by the E and the top-specification S.

This 911E Targa engine delivered 165bhp at 6,200rpm, which is not as high as the S's 190bhp at

6,500rpm, but offers a welcoming amount more than the T's 130bhp at 5,600rpm.

The bright yellow paintwork is a clea reminder of the colourful offerings from this era, and really helps the Targa's signature roll-over hoop stand out

This model was imported to the UK in 1990 and has seen seven owners. Having said that, the car has been fully restored and the restoration documented with photographs with work particularly noticeable in th and neat engine bay. Since convertible 911s only arrived at a later stage, these Targas set about providing the perfect middle ground.



1974 **Targa 2.7**

Mileage: Not specified Sold for: £40,250

Where: Silverstone Classic 2013 **Auctioneer: Silverstone Auctions**

This is possibly one of the rarest and most unique 911 Targas. Using the same running gear as the sought-after 1973 Carrera RS, this Targa has the 2.7-litre engine under that original and perky ducktail. Developing 210bhp at 6,300rpm and 188lb ft at 5,100rpm, this Targa's acceleration won't be far off the Carrera RS's acceleration times. This car is also quite exceptional in the sense that since these 2.7-litre Targas, Porsche has never a put its top RS specification engine in a Cabriolet or Targa.

Delivered in January 1974 to its first UK owner, the car didn't change hands much one of the previous owners had the car for 23 vears. Sold in 2011, it underwent exterior and interior restoration involving rejuvenating the Grand Prix white paint, retrimming the seats and rebuilding the matching number engine. Other aspects of the sale included a full history file with a service book, owner's manual and

MoT certificates that date back to 1982. Analysing the values of 2.7 Carrera RS models and standard Carreras of the same year, its owner has certainly got a bargain.



996 GT3

1998-2000



Capacity: 3,600cc

Commonly called the Gen1 GT3, this was a lightweight 996 with a 3.6-litre engine driving the rear wheels. Suspension was lowered by 30mm and brakes uprated.

Available in Clubsport and Comfort guises, 1,890 were built, of which 103 were right-hand-drive

Compression ratio: 11.7:1 Maximum power: 360bhp @ 6,300rpm Maximum torque: 370Nm @ 5,100rpm Brakes: Front: 330mm discs; Rear: 330mm discs Wheels & tyres: Front: 18x8J, 225/40ZR18; Rear: 18x10J, 285/30ZR18 Length: 4,430mm

Width: 1765mm Weight: 1,350kg 0-62mph: 4.8 sec Top speed: 188mph

RATING:

996 Turbo

2000-05



Distinguished by wide rear arches, air intakes and a deep front spoiler, plus part-fixed, part-retractable rear spoiler. The 3.6-litre engine is different to the naturally aspirated 996

unit and fitted with twin KKK K17 turbochargers and VarioCam Plus. PSM is standard.

Capacity: 3.600cc Compression ratio: 9.4:1 Maximum power: 420bhp @ 6,000rpm Maximum torque: 560Nm @ 2,700 to 4,600rpm Brakes: Front: 330mm discs; Rear: 330mm discs Wheels & tyres: Front: 18x8J, 225/40ZR18; Rear: 18x11J. 295/30ZR18 Length: 4,435mm

Width 1 830mm Weight: 1,540kg 0-62mph: 4.2 sec Top speed: 189mph



2001-04

996 GT2

2001-03



while brakes had ceramic discs. Revised ECU later gave extra 21bhp and came with PCCB as standard.

Capacity: 3,600cc Compression ratio: 9.4:1 Maximum power: 462bhp @ 5,700rpm Maximum torque: 620Nm @ 3,500 to 4,500rpm Brakes: Front: 350mm discs: Rear: 350mm discs Wheels & tyres: Front: 18x8.5J, 235/40ZR18; Rear: 18x12.J. 315/30ZR18 Length: 4,435mm Width 1 830mm Weight: 1,440kg 0-62mph: 4.1 sec **RATING:** Top speed: 195mph



Gen2 996 C2



Face-lifted with Turbo-style headlamps and revised front and rear bumpers. Fitted with the more powerful 3.6-litre engine, VarioCam Plus and other refinements, Manual

and Tiptronic transmission was also improved on. Moreover, the cabin received minor updates

Capacity: 3,596cc Compression ratio: 11.3:1 Maximum power: 320bhp @ 6,800rpm Maximum torque: 370Nm @ 4,250rpm Brakes: Front: 318mm discs; Rear: 299mm discs Wheels & tyres: Front: 17x7J, 205/50ZR17; Rear: 17x9J, 255/40ZR17 (18-inch rims optional)

Length: 4,430mm Width: 1765mm Weight: 1,345kg 0-62mph: 5.0 sec Top speed: 178mph



996 GT3 RS

2004-05



Same 3,600cc engine as in GT3, but with excessive veight saving, offering 280bhp per ton - an improvement of four per cent over the Clubsport version of the 996

GT3. Moreover, it also came with PCCB included as standard. White with side inscriptions in blue or red.

Capacity: 3,600cc Compression ratio: 11.7:1 Maximum power: 381bhp @ 7,400rpm Maximum torque: 385Nm @ 3,500 to 5,000rpm Brakes: Six piston calipers front, four piston rear Wheels & tyres: Front: 18x8.5J, 235/40ZR18; Rear: 18x11 | 295/307R18 Length: 4,435mm Width: 1770mm Weight: 1,360kg 0-62mph: 4.4 sec Top speed: 190mph



996 Turbo S



A 911 Turbo with the previously optional 30bhp power upgrade, consisting of larger turbochargers, uprated intercoolers and revised ECU. The ceramic brakes were

2004-05

standard, and 18-inch alloys finished in GT Metallic Silver paint, in addition to the highly specced interior

Capacity: 3,600cc Compression ratio: 9.4:1 Maximum power: 450bhp @ 5,000rpm Maximum torque: 620Nm @ 3,500 to 4,400rpm Brakes: Front: 350mm discs; Rear: 350mm discs Wheels & tyres: Front: 18x8J, 225/40ZR18; Rear: 18x11 | 295/307R18 Length: 4,435mm Width: 1.830mm Weight: 1,590kg 0-62mph: 4.1 sec Top speed: 191mph



2005-08

997 Carrera 4

2005-08



The Carrera 4 was much like the 997 Carrera, but with drive to all four wheels via a multi-disc viscous coupling that transferred between five and 40 per cent of traction to

the front wheels. It was 44mm wider at the rear than the Carrera in order to allow for wider wheels.

Capacity: 3,596cc Compression ratio: 11.8:1 Maximum power: 325bhp @ 6,800rpm Maximum torque: 370Nm @ 4,250rpm Brakes: Front: 318mm discs; Rear: 299mm discs Wheels & tyres: Front: 18x8J, 235/40ZR18; Rear: 18x11J. 295/35ZR18 Length: 4,427mm Width: 1.852mm Weight: 1,495kg 0-62mph: 5.1 sec Top speed: 174mph



997 Carrera 4S

The same 3.8-litre, 355bhp engine as the Carrera S. but coupled with the four-wheeldrive system on the Carrera 4. It also had 44mm wider rear arches to compensate

for the 11-inch wider wheels and helped give a more aggressive look.

Capacity: 3,824cc Compression ratio: 11.8:1 Maximum power: 355bhp @ 6,800rpm Maximum torque: 400Nm @ 4,250rpm Brakes: Front: 330mm discs; Rear: 330mm discs Wheels & tyres: Front: 19x8J, 235/35ZR19; Rear: 19x11J. 295/30ZR19 Length: 4,427mm

Width: 1.852mm Weight: 1,550kg 0-62mph: 4.8 sec Top speed: 179mph





GREAT VALUE GREAT

2001-2005 **996 Carrera 4S**

Basically a Carrera 4 with the Turbo bodyshell, without rear air intakes, and with a full-width rear reflector panel The suspension and brakes were similar to the Turbo. while wheels were 18-inch items. The interior spec was higher than that of conventional Carrera 4

Capacity: 3,596cc Compression ratio: 11.3:1 Maximum power: 320bhp @ 6,800rpm Maximum torque: 370Nm@4,250rpm Brakes: Front: 330mm discs; Rear: 330mm discs Wheels & tyres: Front: 18x8J, 225/40ZR18; Rear: 18x11J, 295/30ZR18 Length: 4.435mm

Width: 1,830mm Weight: 1,495kg Top speed: 175mph





Gen2 996 C4

2001-04

RATING:



Face-lifted in line with the rear-drive Carrera, this was the four-wheel-drive incarnation of the aforementioned earlier model. For most people who have experienced it, it drove

a lot like the Carrera and, indeed, there is very little to choose from between them

Capacity: 3,596cc Compression ratio: 11.3:1

Maximum power: 320bhp @ 6,800rpm Maximum torque: 370Nm @ 4,250rpm Brakes: Front: 318mm discs; Rear: 299mm discs Wheels & tyres: Front: 17x7J, 205/50ZR17; Rear: 17x9J, 255/40ZR17 (18-inch rims optional)

Length: 4,430mm Wirth: 1.765mm Weight: 1,405kg 0-62mph: 5.3 sec Top speed: 175mph



Gen2 996 GT3

2003-05



Also known as the GT3 Gen2, it was based on the facelifted 996 Carrera, but with new spoilers. The 3.6-litre engine produced 381bhp. Suspension was lowered and

uprated and ceramic brakes optional. The interior was full-spec unless you opted for the Clubsport.

Capacity: 3,600cc Compression ratio: 11.7:1

Maximum power: 381bhp @ 7,400rpm Maximum torque: 385Nm @ 5,000rpm

Brakes: Front: 350mm discs: Rear: 330mm discs Wheels & tyres: Front: 18x8.5J, 235/40ZR18; Rear:

18x11J. 295/30ZR18 Length: 4,435mm Width: 1770mm Weight: 1,380kg 0-62mph: 4.5 sec Top speed: 190mph



997 Carrera

2004-08



Fully revised 911 with 993 influenced bodywork and a new interior. The 3.6-litre engine was like the 996, out refined for more power Additionally, twin exhaust

tailpipes were coupled with rear-wheel drive via sixspeed Tiptronic transmission.

Capacity: 3,596cc Compression ratio: 11.8:1 Maximum power: 325bhp @ 6,800rpm Maximum torque: 370Nm @ 4,250rpm Brakes: Front: 318mm discs; Rear: 299mm discs Wheels & tyres: Front: 18x8J, 235/40ZR18; Rear: 18x10J. 265/40ZR18 Length: 4,427mm

Width: 1.808mm Weight: 1,395kg 0-62mph: 5.0 sec Top speed: 177mph



997 Carrera S

2004-08



As per the 997 Carrera but with the more powerful 3.8-litre engine and PASM. 19-inch wheels came as standard, with larger 330mm ventilated discs. It had Ouad

exhaust tailpipes, and was available as rear-wheeldrive only.

Capacity: 3,824cc Compression ratio: 11.8:1 Maximum power: 355bhp @ 6,800rpm Maximum torque: 400Nm @ 4,600rpm Brakes: Front: 330mm discs; Rear: 330mm discs Wheels & tyres: Front: 18x8J, 235/40ZR18; Rear:

18x10J. 265/40ZR18 Length: 4,427mm Width: 1.808mm Weight: 1,495kg 0-62mph: 4.7 sec Top speed: 182mph



997 Turbo

2005-10



Similar to the 997 Carrera 4S body, but with extra intakes at the front and sides. It essentially had the 996 Turbo engine, but with all-new twin turbos, Variable Turbine

Geometry (VTG) that effectively gave the best of both small and large turbochargers.

Capacity: 3,600cc Compression ratio: 9.0:1 Maximum power: 480bhp @ 6,000rpm Maximum torque: 620Nm@ 2,100-4,000rpm Brakes: Front: 350mm discs; Rear: 350mm discs Wheels & tyres: Front: 8.5Jx19, 235/35/ZR19; Rear: 11Jx19, 305/30/ZR19 Length: 4,450mm

Width: 1,852mm Weight: 1.585kg 0-62mph: 3.9 sec Top speed: 193mph



997 GT3

2006-07



0-62mph: 4.3sec

Top speed: 192mph

Track-focused car based on narrow-bodied Carrera and with reworked 996 GT3 engine. PASM was standard, but reworked to suit the sporting traits. Revs to

8,400rpm, 200rpm higher than 996 GT3. VarioCam was used on the 997 GT3 to improve torque.

Capacity: 3,600cc Compression ratio: 12.0:1 Maximum power: 415bhp @ 7,600rpm Maximum torque: 405Nm @ 5,500rpm Brakes: Front: 380mm discs; Rear: 340mm discs Wheels & tyres: Front: 19x8.5J, 235/35ZR19; Rear: 19x12J, 305/30ZR19 Length: 4,445mm Width: 1.808mm Weight: 1.395kg





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997 GT3 RS

2006-07

2007-08

The RS was similar to GT3, but with the inclusion of the vider rear bodyshell of the Carrera S. 20kg of weight was saved from the original model thanks to carbon fibre engine

cover and rear wing and plastic rear window, not to mention the relatively lightweight interior.

Capacity: 3,600cc Compression ratio: 12.0:1 Maximum power: 415bhp @ 7,600rpm Maximum torque: 405Nm @ 5,500rpm Brakes: Front: 380mm discs; Rear: 340mm discs Wheels & tyres: Front: 19x8.5J, 235/35ZR19; Rear: 19x12J, 305/30ZR19 Length: 4.445mm Width: 1,852mm

Weight: 1,375kg **RATING:** 0-62mph: 4.2 sec Top speed: 187mph



997 GT2

Essentially the 997 Turbo, but with rear-wheel-drive only Also enjoyed a more trackorientated suspension and rake setup, with GT3-style interior and extra power at

523bhp. Porsche Stability Management and Porsche Active Suspension Management used.

Capacity: 3,600cc Compression ratio: 9.0:1 Maximum power: 530bhp @ 6,500rpm Maximum torque: 680Nm @ 2,200-4,500rpm Brakes: Front: 380mm discs; Rear: 350mm discs Wheels & tyres: Front: 8.5.Jx19, 235/35/ZR19: Rear: 11Jx19, 305/30/ZR19 Length: 4.469mm Width: 1,852mm

Weight: 1,440kg 0-62mph: 3.7 sec Top speed: 204mph



Gen2 997 GT3

2009-2012



This was updated as per the Carrera, but with a unique front spoiler and rear wing revised PASM, centre-lock wheels and better brakes. An already great car made better

Problems with rear hubs led to a recall for model year

Capacity: 3.800cc Compression ratio: 12.2.:1 Maximum power: 435bhp@7,900rpm Maximum torque: 430Nm@3250rpm Brakes: Front: 380mm discs: Rear: 350mm discs Wheels & tyres: Front: 8.5x19J 235/35 ZR 19 Rear: 12x19J305/30ZR19 Length: 4,460mm Width: 1808mm Weight: 1,395kg 0-62mph: 4.1sec **RATING:** Top speed: 194mph



Gen2 997 Turbo

2009-13



Basically the same as the original 997 Turbo, but with new LED taillights and driver lights up front. Features arger tailpipes, plus a larger 3.8-litre engine with direct

fuel injection. PDK transmission is optional. Fuel consumption cut by 16 per cent.

Canacity: 3 800cc Compression ratio: 9.8:1 Maximum power: 500bhp @ 6,000rpm Maximum torque: 650Nm@1,950-500rpm Brakes: Front: 350mm discs; Rear: 350mm discs Wheels & tyres: Front: 8.5Jx19, 235/35/ZR19; Rear: 11Jx19. 305/30/ZR19 Length: 4,450mm Width: 1.852mm

Weight: 1,570kg 0-62mph: 3.4 sec Top speed: 194mph

RATING:

997 C4 GTS

2010-



As Carrera 2997 GTS but slightly heavier with four-whee drive. In either C2 or C4 form, the 997 GTS represented a great saving over optioning up a 997 Carrera counternart

Capacity: 3,800cc Compression ratio: 12.5:1 Maximum power: 402bhp @7,300rpm Maximum torque: 420Nm Brakes: Front: 330mm discs; rear: 330mm discs Wheels & tyres: Front: 8.5.1x19. 235/35/7R19: Rear: 11Jx19,305/30/ZR19 Length: 4.435mm Width: 1,852mm Weight: 1.555kg 0-62mph: 4.6 sec Top speed: 188mph



997 GT2 RS

2010-



The GT2 went back to its roots, with an RS-style lightweight body and interior, plus extra power (620bhp), Instantly recognisable over standard GT2 thanks to lashings of

Capacity: 3,600cc

Compression ratio: 9.0:1 Maximum power: 620bhp Maximum torque: 700Nm Brakes: Front: 380mm discs; Rear: 350mm discs Wheels & tyres: Front: 9Jx19,245/35ZR19; Rear: 12.Jx19.325/30ZR19 Length: 4,460mm Width: 1.852mm Weight: 1,370kg 0-62mph: 3.5 sec Top speed: 205mph **RATING:**

2012-



major telltale sign that tells it apart from the Carrera 2 is the connecting rear tale light that

comes as standard. Also features a torque distribution indicator, which keeps you informed on where the car

Compression ratio: 12.5:1 Maximum power: 350bhp Maximum torque: 390Nm Wheels & tyres: 8.5Jx19 235/40 ZR 19 Rear: 11Jx19 295/35 ZR 19 Length: 4,491mm

Width: 1,852mm Weight: 1,450kg 0-62mph: 4.9sec Top speed: 177mph

Capacity: 3,436cc



991 Carrera 4S

2012-



0-62mph: 4.5sec

Top speed: 185mph

Has the same wider body styling as the Carrera 4, with a rear connecting tail light coupled to 3.8-litre 400bhp flat six engine. Also features six-piston brake callipers at

front as opposed to four. Seven speed manual or PDK gearbox option available. Bigger wheels than C4 and

Capacity: 3,800cc Compression ratio: 12.5:1 Maximum power: 400bhp Maximum torque: 440Nm Wheels & tyres: Front: 8.5Jx20,245/35 ZR 20; Rear: 11Jx20, 305/30 ZR 20 Length: 4,491mm Width: 1,852mm Weight: 1,450kg



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2008-12

Gen2 997 C2

2008-12



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

direct-fuel injection to give much-improved economy. Seven-speed PDK transmission was a new option.

Capacity: 3,614cc Compression ratio: 12.5:1 Maximum power: 345bhp @ 6,500rpm

Maximum torque: 390Nm@4.400rpm Brakes: Front: 330mm discs; Rear: 330mm discs Wheels & tyres: Front: 18x8.J. 235/40ZR18: Rear:

18x10.5J, 265/40ZR18 Length: 4.435mm Width: 1,808mm Weight: 1,490kg 0-62mph: 4.9 sec Top speed: 180mph



Gen2 997 C2 S

2008-12



Revised as per the Carrera, but with larger 3.8-litre engine again using fewer components and Direct Fuel Injection. The ngine stroke was reduced from 82.8mm to 77.5mm, while

the bore went up by 3mm to 102mm, in the process reducing the capacity to exactly 3,800cc.

Capacity: 3,800cc Compression ratio: 12.5:1

Maximum power: 385bhp @ 6,500rpm Maximum torque: 420Nm@4.400rpm Brakes: Front: 330mm discs; Rear: 330mm discs

Wheels & tyres: Front: 19x8.J. 235/35ZR19: Rear: 19x11J, 295/30ZR19 Length: 4.435mm

Width: 1,808mm Weight: 1,500kg 0-62mph: 4.7 sec Top speed: 188mph



Gen2 997 C4

2008-12



There were numerous engine and body changes as per the Carrera, but with a wider rear end plus the welcome return of the full-width rear reflector, situated between the light

lusters. The new all-wheel drive was appropr from the 997 Turbo.

Capacity: 3,614cc Compression ratio: 12.5:1

Maximum power: 345bhp @ 6,500rpm Maximum torque: 390Nm @ 4.400rpm

Brakes: Front: 330mm discs; Rear: 330mm discs Wheels & tyres: Front: 18x8.J. 235/40ZR18: Rear: 18x10.5J, 265/40ZR18

Length: 4.435mm Width: 1,852mm Weight: 1,545kg 0-62mph: 5.0 sec Top speed: 176mph

RATING:

2010

Gen2 997 C4S

The bodywork was as per the Carrera 4, but with the arger 3.8-litre engine. Utilised the 997 Turbo's four-wheeldrive, and Porsche Traction Management, Viscous

coupling gives way to electromagnetically controlled multi-plate clutch.

Capacity: 3,800cc Compression ratio: 12.5:1

Maximum power: 385bhp @ 6,500rpm Maximum torque: 420Nm @ 4,400rpm Brakes: Front: 330mm discs; Rear: 330mm discs

Wheels & tyres: Front: 235/30ZR19 Rear: 19x11J, 295/30ZR19 Length: 4.435mm

Width: 1,852mm Weight: 1,555kg 0-62mph: 4.7 sec Top speed: 185mph

RATING:

Gen2 997 GT3 RS

2009-



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

the lap record for road models at the Nürburgring.

Capacity: 3,800cc Compression ratio: 12 2:1 Maximum power: 450bhp Maximum torque: 430-

Brakes: Front: 380mm discs; Rear: 380mm discs **Wheels & tyres**: Front: 9Jx19, 245/35ZR19; Rear: 12Jx19, 325/30ZR19

Length: 4.460mm Width: 1,852mm Weight: 1.370kg 0-62mph: 4.0sec Top speed: 192mph



997 Turbo S

2011-13



As standard 997 Turbo, but with face-lifted body, more power (530bhp) and higher levels of standard equipment, including PCCB centrelock wheels and ceramic brakes to go with

unique two-tone interior and Sport Chrono Plus.

Capacity: 3,800cc Compression ratio 9 8:1 Maximum power: 530bhp Maximum torque: 700Nm Brakes: Front: 380mm discs; Rear: 350mm discs Wheels & tyres: Front: 8.5Jx19, 235/35ZR19; Rear:

11Jx19 on 305/30ZR19 Length: 4.435mm Width: 1,852mm

Weight: 1,585kg

0-62mph: 3.3sec

Top speed: 195mph

RATING:

997 Sport Classic



Based on a 3.8-litre, rear wheel-drive Carrera S, but with 44mm wider rear arches Several instances of retro styling including iconic ducktail poiler and large Fuchs wheels.

Only 250 examples have been sold worldwide.

Capacity: 3,800cc Compression ratio 12 5:1 Maximum power: 408bhp Maximum torque: 420Nm

Brakes: Front: 350mm discs; Rear: 350mm discs Wheels & tyres: Front: 19x8.5J, 235; Rear:

19x11J,305 Length: 4.435mm Width: 1,852mm Weight: 1.425kg 0-62mph: 4.1sec Top speed: 194mph

991 Carrera

RATING:

2011

997 C2 GTS

2010-



eatures the C4's wider rear body and is powered by the 3.8-litre Carrera Sengine with a powerkit producing 25bhp extra The GTS is laden with Porsche options, including

PASM, sports exhaust and centre-locking alloys

Capacity: 3,800cc Compression ratio 12 5:1 Maximum power: Maximum torque:

Brakes: Front: 330mm discs: Rear: 330mm discs **Wheels & tyres**: Front: 8.5x19, 235/35/19 Rear: 11x19, 305/30/19

Length: 4.435mm Width: 1,852mm Weight: 1.420kg 0-60mph: 4.6 sec Top speed: 190mph

RATING:

ULTRA RARE MODEL



2010 **997 GT3 RS 4.0**

The pinnacle of 997 ownership, just 600 unit were produced. The engine was upgraded and

Maximum power: 493bhp @ 8,250rpm Maximum torque: 460Nm @ 5,750rpm Brakes: Front: 380mm discs; Rear: 380mm discs Wheels & tyres: Front: 9Jx19,245/35ZR19; Rear: 12Jx19, 325/30ZR19 Length: 4,460mm Width: 1.852mm Weight: 1,360kg 0-62mph: 3.5 sec

Capacity: 3,996cc Compression ratio:12.6:1







he first 911 of the newest and latest seventh generation, the Carrera features a 350bhp 3.4-litre engine and takes styling hues from the 993. Completely redesigned

chassis, with lengthened wheelbase reducing overhang of engine weight. Panamera-esque interior Capacity: 3,436cc

Maximum power: 350bhp Maximum torque: 390Nm Brakes: Front: 330mm discs; rear: 330mm discs Wheels & tyres: Front: 8.5.Jx19, 235/40ZR19 Rear: 11Jx19, 285/35ZR19 Length: 4.491mm Width: 1,808mm Weight: 1,380kg 0-62mph: 4.8sed

Top speed: 179.6mph

Compression ratio: 12.5:1



2013-

991 Carrera S

2011-



Capacity: 3,800cc

Same as Carrera, including seven-speed manual box, but itilising 400bhp from a bigger 3.8-litre engine. Slightly larger front brakes than the standard

Carrera (10mm bigger discs), with MacPherson front axle and multi-link suspension at the rear. Distinctive 'S' badging on rear bumper.

Compression ratio: 12.5:1 Maximum power: 400bhp Maximum torque: n/a Brakes: Front: 340mm discs; rear: 330mm discs Wheels & tyres: Front: 8.5Jx20, 245/35ZR20. Rear: 8.5Jx20, 245/35ZR20 Length: 4.491mm Width: 1,808mm Weight: 1,395kg 0-62mph: 4.5sec

RATING:

991 GT3

Top speed: 193mph





Capacity: 3,800cc

Weight: 1,430kg

0-62mph: 3.5sec

Top speed: 196mph

Compression ratio: 12.9:1

Electric power steerir and wide body shell from 91 Carrera 4 was use or the first time jere. PDK ransmission only, no manual option. Mezger engine from

previous GT3s replaced with revamped version of direct injection 991 Carrera Sengine. First deliveries

Maximum power: 475PS Maximum torque: 440Nm Wheels & tyres: Front: 9Jx20,245/35 ZR 20; Rear: 12Jx20, 305/30 ZR 20 Length: 4,545mm Width: 1,852mm



991 Turbo



The new Turbo marks the ntroduction of electric and ear axle steering, plus PDKonly transmission to forced nduction 991 models. With a 100mm longer wheelbase

2013-

than the 997 Turbo and rear fenders being 28mm wider than even the 991 Carrera 4, this is the longest and widest Turbo model yet

Capacity: 3.800cc Compression ratio: 9.8:1 Maximum power: 520hp Maximum torque: 660Nm Wheels & tyres: Front: 8.5x20-inch, 245/35/ZR20 tyres Rear: 11x20-inch, 305/30/ZR20 tyres Length: 4,506mm Width: 1,880mm Weight: 1,595kg **RATING:** 0-62mph: 3.4sec Top speed: 195mph

991 Turbo S



Top speed: 197mph

ame dimensions as 991 Turbo, but with a tweaked map to provide an extra 40hp. Turbo S also benefits rom usual Turbo options as standard including centre lock

wheels and PCCB, with Porsche Dynamic chassis Control (PDCC) offered standard for the first time. PTM is all new on both Turbo and Turbo S

Capacity: 3.800cc Compression ratio: 9.8:1 Maximum power: 560hp Maximum torque: 700Nm Wheels & tyres: Front: 9x20-inch, 245/35/ZR20 tyres Rear: 11x20-inch, 305/30/ZR20 tyres Length: 4,506mm Width: 1,880mm Weight: 1,605kg 0-62mph: 3.1sec **RATING:**

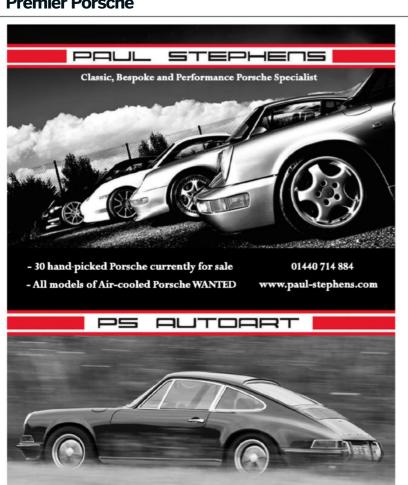
991 50 Jahre

Top speed: 188.9mph

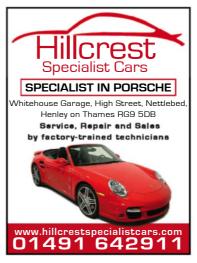
2013-



RATING:







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911 Carrera 2 (987 GEN II, PDK) 7-Speed PDK • Arctic Silver • Black Leather Sports Seats • 19" Carrera S II Wheels • Touchscreen Satellite Navigation • 22,000 miles • 2008 (58)



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limate Control	SatNav &	Sports Chrono	19" Carrera
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Wheel

1998 996 CARRERA TIPTRONIC £11,995

Ocean Blue metallic with Grey Leather interior 54,000 milés

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nfort Seats	AirCon &	Sunroof	18" Carrera

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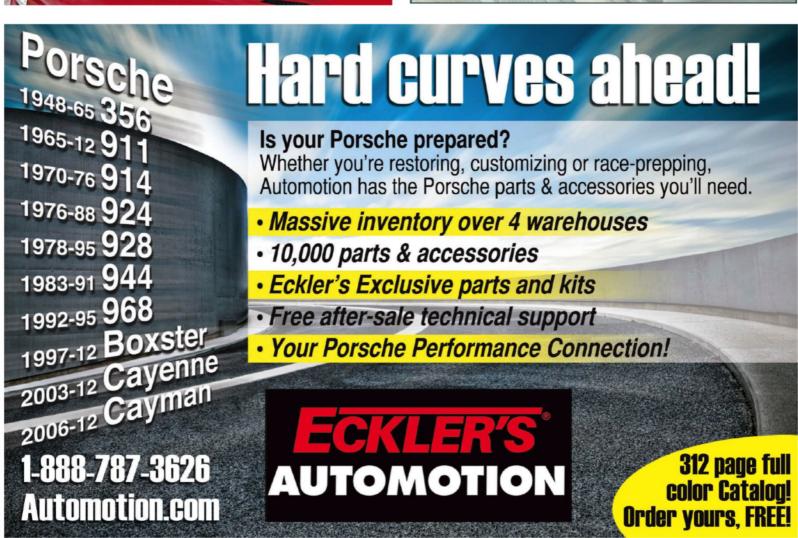
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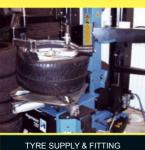
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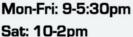




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MATTHIAS MUELLER

The president and CEO talks to us on the history and evolution of the 911



993 RS V 997 GT3 RS

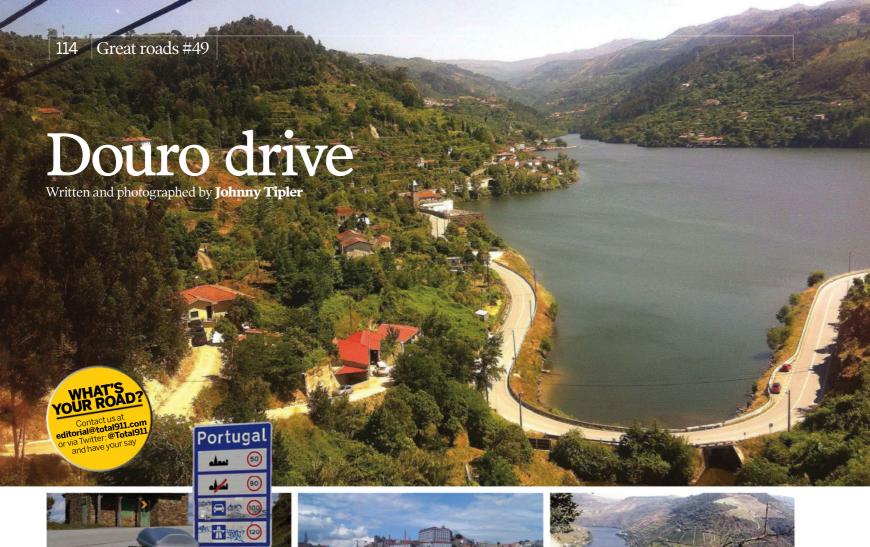
How does the last aircooled RS compare to the latest water-cooled variant?



GT1 EVO

The incredible story on the return to track of this GT1 after a 15-year hiatus

Issue 106 in shops and online from 9 October 2013



Essential info

LOCATION: Porto-Pinhão, River Douro, Portugal LATITUDE: 41.1621 N, 8.5833 W -41.191N, 7.5462



LENGTH OF DRIVE: 90 miles via N108 or N222

POINTS OF INTEREST:

 Quinta de La Rosa, Pinhão (port tasting, B&B) www.quintadelarosa.com

FOOD:

DOC Restaurant, Folgosa www.ruipaula.com

ACCOMMODATION:

Douro Palace, Arégos, Santa Cruz do Douro www.douropalace.com

The Douro is one of Portugal's major waterways, flowing between hillsides from the Spanish border to Porto on the Atlantic coast

elcome to the serras of northern Portugal: high, inhospitable moorland, punctuated by wind farms and plunging down to the green Douro river. Lower down there are riverside towns, villages and hamlets: Lamego, Régua, Resende, loosely interconnected by myriad highways and byways, ranging from fabulous new autoestradas that stride imperiously through the landscape, right down to cobbled mule tracks. In between are taxing stretches of twolane roads. In other words, there's something for everyone.

Rising in Spain as the Rio Duero and changing its name at the border, the Douro is bisected by five enormous hydro-electric barrages before it reaches Porto, 557 miles from east to west, and the stretches between locks can plunge to depths of 100 feet. At 35 metres, Carapatello is the deepest lock in Europe.

Accessing the Douro valley means driving down from Spain, either from Santander or Bilbao if you've come by sea, or via San Sebastian and Burgos if you've driven from France. Drop into Portugal from Zamora and head for Miranda do Douro in the foreboding Serra de Mogadouro.

12 miles south-west is the first of the big dams, the Barragem de Bemposta. The Douro is the national country border for 112 kilometres along here, and border outposts don't come much more remote. Set your compass north-west for Mirandella, a seemingly endless tangle of rural roads. Now, via Alijó, get to the riverside port-wine town of Pinhão and cross the Bailey bridge to the south bank. We're now on the fast N222 flanking the Douro all the

way to Peso da Régua. It's smooth with some long straights, and all the time the river is close by on the right.

Régua is home to the Museum of Port Wine, cruise ships and any number of churrascaria cafés. From here you can follow the N102 all the way to Porto, or the equally serpentine N222 southside. Higher up the hillsides the roads track the contours, weaving in and out of the folds and secondary valleys. It's an invitation to swing a 911 around the innumerable twists that follow the terrain on both sides of the river.

Once in the city the ancient quayside Ribeira holds fascinating architectural gems like the Sé and Torre de Clerigos, while seaside Foz is where they stage the biennial Porto Historic Grand Prix – plus Foz Car, the Official Porsche Centre (www.fozcar. pt) if your 911 needs some TLC.



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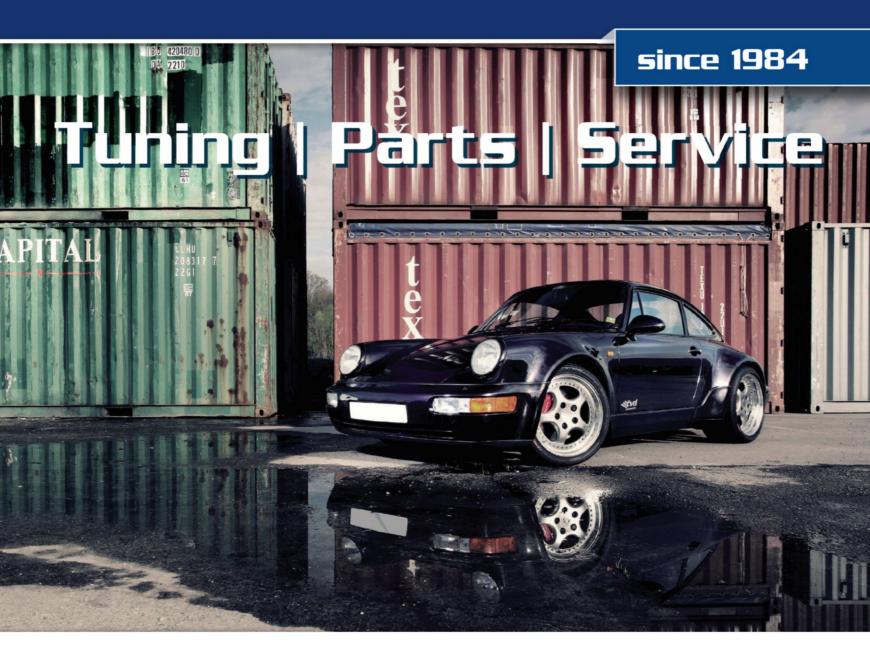
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