PORSCHE 911S \* 996 C2 \* CAYMAN 987/981 \* BOXSTER 986 \* CARRERA 3.2

# 918 Porsche MAGAZINE







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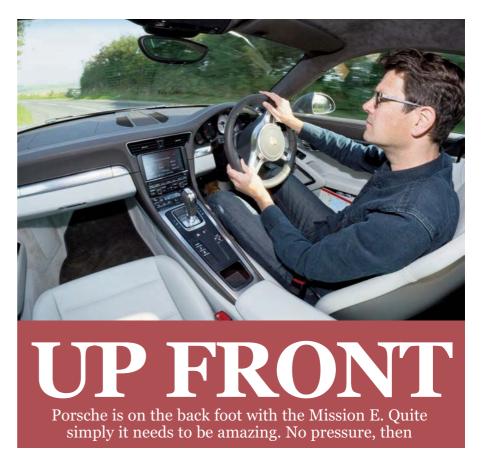
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C'mon, Porsche, get on with it. The much vaunted Mission E can't come soon enough for our favourite manufacturer. Late 2019 is the launch date, which means that deliveries will be in 2020 and by then who knows what the likes of Tesla will have come up with. I mean, forget Earth bound electric cars. The ever so slightly bonkers Elon Musk (he believes that we might all be just pawns in a virtual reality game, after all) has put an electric car into space, launched from his very own rocket, which kind of puts everything into perspective, really.

Quite how Musk managed to get the jump on the world's mighty motor manufacturers I don't quite understand, but he and Tesla are way ahead in the electric car game, not to mention the space race. Sure,



### Tesla is way ahead in the electric car game, not to electric car game, not to mention the space race



there's a lot to be said for being one of the richest men in the known universe, but with no background in this kind of stuff you've still got to know your onions when it comes to recruiting the brains and the boffins. The Tesla in its various forms is already astonishing and it seems to have the range thing cracked, too. The Mission E needs to be even more astonishing, then. Nothing else, really, will do and Porsche must be sweating a bit. It's playing catch-up here, when it's used to having the upper hand, with class leading, innovative and dynamically excellent products.

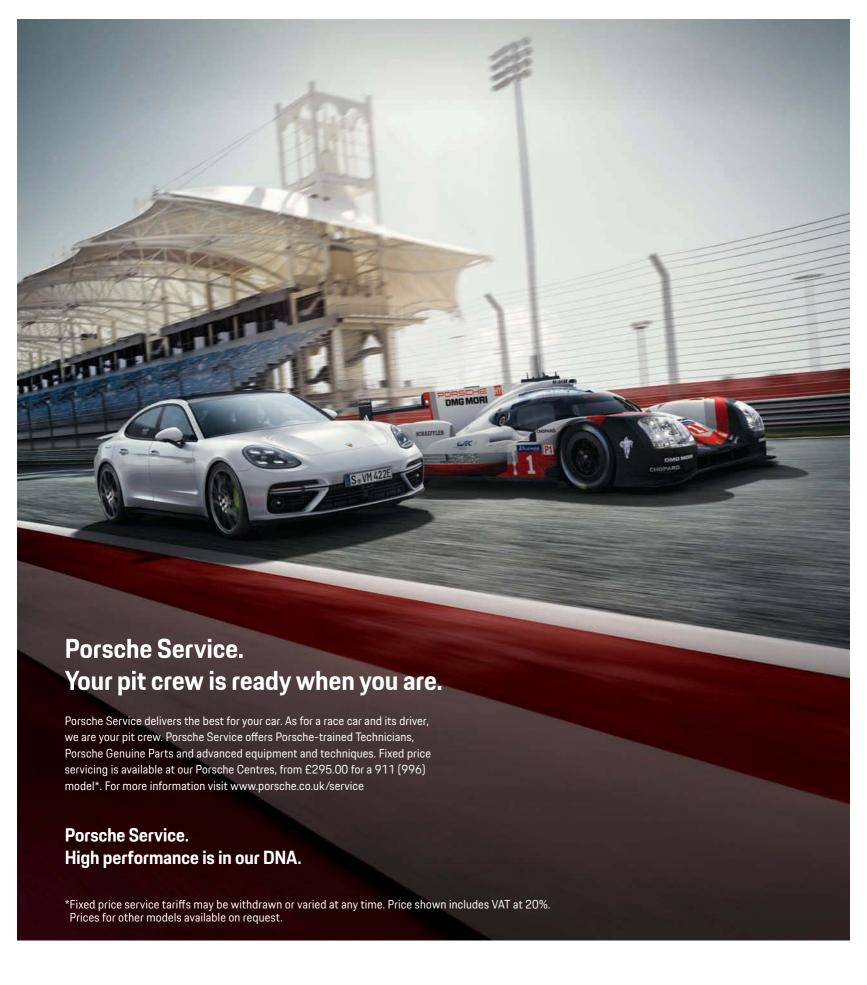
In many respects, the Mission E could well be Porsche's most important car yet, and to coin and to mangle a well known Porsche quote/saying: 'Excellence will be expected.' However, if Elon is right about the virtual reality game thing, it might not matter much in the end!

> STEVE BEND PORSCHEWORLD@CHPLTD.COM













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## AWESOME NEW GT3 RS REVEALED

Is this 520bhp beast Porsche's naturally aspirated swansong?

Porsche hasn't blown it. Contrary to rumour, the latest 911 GT3 RS is remaining resolutely naturally aspirated. It retains its 4.0-litre capacity, too. So, there goes another rumour – that the new RS would swell to 4.2-litres.

The power output, however, has crept up in typical RS fashion. There's now 520 metric horsepower from the 4.0-litre flatsix, the 20hp gain over the latest 911 GT3's 500hp a result of tweaks to the intake system and increased ram air effect, as well as an RS-specific exhaust system and changes to the electrical systems.

That's enough to allow the GT3 RS to reach 62mph in 3.2 seconds and

194mph all out. Yes, the top speed is the same as before, the 0-62mph sprint down by just 0.1 seconds. But it is, as ever, in the details that the RS shines. The rear wing sits marginally higher, allowing the new car to generate marginally more downforce than the gen 1 Type-991 911 GT3 RS and yet with less drag. Airflow is managed better thanks to both a new rear diffuser and the NACA ducts in the bonnet, the latter pinched from the latest GT2 RS. Those ducts, just to jog your memory, have the dual effect of generating cooling air for the brakes and also smoothing the airflow up and over the car to that higher rear wing.

Meanwhile, torque output has increased marginally, up by around 10Nm to 460Nm with the gain, in GT boss Andreas Preuninger's words, "starting at around 4500rpm". Like its vanilla 911 GT3 sibling, the new RS now revs to 9000rpm, some 200rpm up on the previous generation car. Internally, the engine remains identical to the GT3's, though the final drive on the rear axle is different due to the 21-inch rear wheel and tyre package. The PDK transmission also features bigger bearings and has been recalibrated to further exploit the RS's attributes.

Porsche insiders say the new RS isn't about power. There's the GT2 RS for that.

Porsche chose
Finland to show off
the new 991 GT3 RS
and you have to say
the vivid green does
pop off the white
background. As ever
gains are of the
marginal variety, with
an extra 20bhp from
the engine, a beefier
gearbox, some aero
tweaks and
lighweight
magnesium wheels.
As ever demand will
outstrip supply







Instead, the RS delivers even greater precision. Indeed, it borrows heavily here from its turbocharged relation. The suspension system is all but identical to the GT2 RS, with rose-jointed connections throughout. The rear-wheel steering, like every other element of the RS's specification, has been worked to increase its speed and accuracy, the wheelbase stretching by 2mm thanks to the revisions with the suspension geometry.

Weight, so key to an RS, has yet to be quoted officially. However, changes to the homologation process will probably dictate a final quoted figure close to that of the previous RS. Porsche can no longer homologate the GT3 RS with every possible weight saving option.

For the weight obsessives there will, as with the GT2 RS, be an optional Weissach Package with the same magnesium wheels and carbon roof and bonnet body parts for a combined weight saving of 29 kilos. High

demand for Weissach kit elsewhere means early GT3 RS orders won't be able to have the full package. Add in production delays with the magnesium wheels and the result is Porsche is offering it as a two stage pack. The wheels, incidentally, account for 12.5kg of the weight savings the Weissach pack brings. Still, the standard aluminium alloy wheels are a touch lighter than those of the gen 1 car.

Officially due to be unveiled at the Geneva show in March, these details of the new RS were revealed at a sneak preview event at Porsche's Experience Centre in Finland. The show car will wear the same Lizard Green paint of this early reveal car, while this generation RS sees a return of Porsche's overt graphics down its flanks. The new RS is notionally available to order now and will be priced from £141,346 with deliveries beginning early summer. But if you haven't already got an allocation, your chances aren't great.

### WHEREFORE ART THOU, GT4? What's happened to the follow up to Porsche's

What's happened to the follow up to Porsche's first mid-engine GT car?

It was precisely three years ago that Porsche presented both a new GT3 RS and the then new Cayman GT4. As we go to press, and unless Porsche pulls a last-moment fast one on us, this time it looks like the new RS will be a launch loaner. So what's the status of the next GT4?

Webfora and rumour websites are full of speculation. Nothing is certain, but development mules with a combination of 718 styling and GT4 cues – including an aggressive front end and large rear wing – have been photographed at various Porsche facilities. However, perhaps the best indication that there is another GT4 coming comes in the form of comments made by Porsche's GT division boss, Frank Walliser.

To cut a long story short, Walliser told website Sportscar365.com that a new GT4 racer would arrive in early 2019 will a little more engine power and better aero. The critical bit? That the fine details on both of those points depend on what the 'street car' version of the new GT4 will bring. As for the precise nature of that engine, Walliser has previously gone on record saying the GT division would not do a four-cylinder car. So a flat-four GT4 isn't on the cards. Whatever the final spec, the good news is that a new GT4 is coming. It's just a matter of when.





#### **BOXSTER AND CAYMAN COULD BE CANCELLED**

#### Porsche reportedly thinking the unthinkable as auto industry trends conspire against mid-engined sports car line

The current 718 Boxster and Cayman could be the last of their kind. Porsche may not replace its mid-engine sports car line with new models. So says senior industry observer Georg Kacher in the latest edition of *Automobile* magazine.

With sales of compact sports cars reportedly in sharp decline worldwide, Porsche has been forced to think the unthinkable and consider cancelling the midengine pairing at the end of its current life cycle. Other options include releasing an update of the current car, a new pure-electric sports car derived from Mission E technology or pairing with sister brand Audi to spread the cost of developing an all-new model.

From the beginning, of course, the Boxster has been closely related to the 911, sharing much of its platform, body, interior and engine architecture with its more illustrious sibling. As subsequent generations have emerged, Porsche has invested ever more effort in distancing the two model lines with bespoke body and cabin parts. With the latest 718 generation, the gap grew even

larger as the mid-engine pairing adopted its own four-cylinder engine in place of the M96, M97 and MA1 flat-six motors that were previously shared across all of Porsche's mainstream sports cars.

However, even the 718 sits on the same platform and shares much of its core architecture with the current second-generation Type-991 911. That makes the 718 a relatively expensive car for Porsche to produce given that it sells at a much lower price point than the 911. Meanwhile, Porsche is also expected to be forced, eventually, to move the 911 onto a shared VW Group architecture, the aim being economies-of-scale benefits alongside premium large sports cars from other group brands including Audi.

At that point, the physical connection between the Cayster and the 911 would be severed and the mid-engine model would become dramatically less viable as a standalone product line. Factor in dwindling demand for compact sports cars and it's

not hard to see why Porsche would be giving serious thought to cancelling the

Boxster and Cavman altogether.

Doubts over the Cayster's future come as the challenges to Porsche's broader sports car business continue to mount. Meeting upcoming requirements for particulate filters and reducing NOx emissions to comply with new real-world emissions tests pose a serious problem if Porsche is to continue to improve performance. New noise regulations will likewise only mean it will be harder for Porsche to make its sports cars ever more dynamic and emotional while maintaining compliance with regulations.

At the same time, the car industry generally is gearing up for a major shift towards electrification and self-driving technology. Add in the aforementioned new emissions regime that has emerged in response to the so-called Dieselgate scandal that afflicted the VW Group, along with the meteoric rise in popularity of SUVs and crossovers, and what seems like a drastic measure – cancelling the Boxster and Cayman – may be a bit of a no brainer, at least in hard nosed commercial terms.

Internal and external factors are conspiring against Porsche's mid-engined sportscar duo, that could spell their demise

#### **OUR TAKE**

#### PORSCHE'S PRODUCT REVOLUTION

Forget air-cooled or water-cooled. Don't worry about compulsory turbos or the great manual versus PDK debate. All of those controversies are positively piffling compared to the monumental upheaval Porsche will experience in the next five to 10 years.

We've reported previously on Porsche plans to launch its first all-electric car, a production version of the Mission E concept. This month comes firm news that Porsche is doubling down on Mission E by doubling up on its plans to invest in electrification to the total tune of a cool six billions euros. We now also learn that Porsche is also said to be considering the notion of not replacing the 718 Boxster and Cayman twins at the end of the current cycle.

All this is taking place against the backdrop of the VW emissions scandal, the prospect of much tougher real-world emissions tests and the advent of driverless car technology. In short, the entire auto industry is in a state of unprecedented flux as product planners attempt to divine which way the market will turn and how fast technologies will develop.

Indeed Porsche has recently been caught a little flat footed by unexpected demand for the hybrid versions of its new Panamera. Porsche's battery supplier is struggling to keep up with the influx of orders leading to longer delivery times of customer cars of

three to four months. That surprise success, not to mention knowledge of the raft of new electric cars planned by sister companies in the VW Group and competing brands like BMW, Mercedes and Jaguar Land Rover, is no doubt implicated in Porsche's decision to dramatically up its investment in electromobility.

But the main takeaway from all of this is that what you might call enthusiast concerns – for instance, whether the next GT3 has a manual gearbox or turbocharging or the comparison between the 718's flat four and the Cayster's old flat six – look rather quaint in the context of the huge upheaval and monumental investment and technical effort Porsche will be putting in over the coming years. Odds are, a decade from now Porsche's product portfolio will be virtually unrecognisable.











#### PORSCHE'S SIX-BILLION-EURO PLUG-IN MASTERPLAN

#### Porsche plots serious progress in electric cars by 2022

Porsche has announced plans to invest no less than six billion euros into developing pure-electric and plug-in hybrid cars by 2022. The plan represents a doubling of Porsche's existing commitment to so-called electromobility.

"We are doubling our expenditure on electromobility from around three billion euro to more than six billion euro", explains Oliver Blume, Chairman of the Executive Board of Porsche AG. "Alongside development of our models with combustion engines, we are setting an important course for the future with this decision."

The money will be split roughly equally between plant and infrastructure on the one hand and developing new car models on the other. Of the circa three billion additional euros earmarked in the new plan, Porsche says 500 million will fund the production version of the Mission E pure-electric cars and variants of that model, one billion euros will be spent on electrifying and hybridising existing models and 700 million will go on new

technologies including charging stations.

Part of that is a proposed new charging network. Porsche and Audi are representing the VW Group in Ionity, a joint venture with the BMW Group, Daimler AG and Ford Motor Company. The aim is to construct 400 powerful rapid charging stations along the major European traffic routes by 2020. Construction began back in 2017. The Porsche dealer network is also set to become part of this rapid charging infrastructure.

At Porsche's Zuffenhausen plant, meanwhile, a new paint shop, dedicated assembly area and a conveyor bridge for transporting the painted bodies and drive units to the final assembly area are currently being constructed. The existing engine plant is being expanded to manufacture electric drives and the body shop will also be developed. Investment is also planned for the Weissach Development Centre. Overall, the Mission E project has created approximately 1200 new jobs and looks set to dictate the character and shape of Porsche and its product portfolio.

Porsche is doubling its investment in pure-electric and plug-in hybrid cars from three billion to six billion euros

#### **OBITUARY: DAN GURNEY**

#### Our tribute to the all-round motorsport maestro

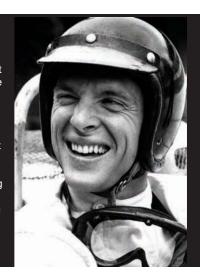
Iconic racing driver and Formula 1 veteran Dan Gurney has passed away. Gurney died on January 14, 2018 at the age of 86. As it happens, Porsche owes its only success as a vehicle manufacturer in the Formula 1 World Championship to Gurney, who won the 1962 French Grand Prix in Rouen in an eight-cylinder Porsche 804.

Driving appearances for Porsche in 1961 and 1962 would leave lasting memories. As Gurney once reflected, "it was with Porsche that I really learned how to drive, because they gave me cars that didn't constantly break down and I could lay down the kilometres faster than ever before."

Gurney was considered to be an all-round talent in the field of motorsport. The American enjoyed significant success throughout his career and was the first driver to win races in Formula 1, NASCAR and the IndyCar Series, as well as sports car races, including with his own team.

Gurney is also known for the eponymous aero appendage or 'Gurney flap', a small tab on the trailing edge of an aerofoil or wing that both improves downforce and reduces drag. It was Gurney that innovated the flap and first fitted it to a race car in 1971. By then Gurney had graduated to team owner and car designer. Gurney is also said to be the first race driver to spray champagne on the podium, inadvertently starting a tradition that is now imitated all around the world.

Porsche also helped Gurney find lifelong happiness in his private life in the 1960s when he married his wife Evi, the former German motor sports journalist and secretary to the Porsche Racing Manager Huschke von Hanstein.



#### WINTER FUN IN FINLAND

#### Finnish Porsche parts specialist 9xx opens service unit

With the ongoing cold snap here in the UK comes some timely inspiration from colder climes. Much colder climes. Over in Finland, summer only lasts a few months and they have the sort of proper corpsestiffening winters that make the odd flurry in the UK look like a balmy Caribbean shower. But that doesn't stop the Fins from having fun with their Porsches.

Finnish Porsche parts specialist 9xx-Parts has recently branched out into servicing and maintenance with its new 9xx-Garage venture based in Hankasuontie 5, Helsinki. 9xx says the long winter months provide plenty of time for tinkering, tuning and maintenance. The aim is top level of care and prep aimed at both road and track use.

What's more, with the sister parts outfit on the same site, there's ample access to parts and indeed access to 9xx-Parts' in-house product designers

should custom parts be required. The net result is a one-stop-shop for Finnish Porsche fans. The parts arm, meanwhile, can ship its extensive range of parts for almost every Porsche ever produced worldwide

As it happens and lest you forget, the Porsche connection with Finland is rather robust. Porsche also had Boxsters and Caymans manufactured under licence in Finland by Valmet from 1997 through 2011, an arrangement that sired no fewer than 227,890 Porsches before production was brought back to Germany. Anyway, to find out more about both the garage and parts operations head for 9xx-garage.com and 9xx-parts.com.





## ROAD & TRACK SUSPENSION FOR PORSCHE 997 GT3 RS, 991 GT3, 991 GT3 RS AND 981 CAYMAN GT4

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# DESIGN 911 Centre for Porsche





#### NEW PORSCHE SPECIALIST FOR THE SURREY HILLS AREA

#### Renaissance Classics Sports Cars is go

Attention Porsche fans in the Surrey Hills environs. A new sales and servicing specialist outfit has set up shop just outside Ripley. Renaissance Classics Sports Cars has moved into the former home of international Porsche race team Trackspeed.

Directors Keith and James Sohl say it was their dream to operate a 'one stop shop' for classic and sports car enthusiasts. That dream has become a reality. Renaissance Classics Sports Cars has been in full swing since May last year.

Renaissance says it offers a full range of services for Porsche aficionados, including sales, maintenance, restoration, tuning, engine-rebuilding and finance. They also reckon exceptional customer service is at the heart of everything they do. "We will not sell anyone a car that we wouldn't be happy to own and drive ourselves," they say.

What's more, they trade in a wide range of Porsche sports cars, from the earliest air-cooled 911s through to late Type-997 911s.

Renaissance also reckons it has a thorough knowledge of Boxsters and Caymans as well as classic four and eight-cylinder transaxle models. All vehicles are said to go through a 131-point inspection and are fully serviced and presented with a six-month comprehensive warranty as standard. An option to extend the warranty is available.

Extensive parking and a rather spiffing 10-bay "stable block" garage rounds out Renaissance's facilities. Renaissance says its doors are always open and they encourage all and one to pop down any time to grab a coffee, check out the new showroom, have a sniff around the workshop and shoot the breeze on all things Porsche. Even better, readers of 911 & Porsche World are invited for a free 50-point Health Check and an introductory 25% off any labour undertaken by their engineers. For more info head for **renaissance-classics.co.uk** or turn to page 120 for an overview of Renaissance in this month's Dealer Talk.

Renaissance Classics has recently opened its doors just outside Ripley in the Surrey Hills. All Porsches will be catered for in terms of sales and servicing

#### RARE PARTS FIND

#### Hoard of rare air-cooled 911 parts rescued from France

One of the UK's foremost independent Porsche specialists, BS Motorsport of Westcott in Buckinghamshire, has acquired a substantial quantity of rare and highly desirable used spares from a former collector and enthusiast based in the south of France. And the vast majority are now up for sale to help give life to other projects and restorations.

The hoard – so extensive that it took more than two dozen large wooden crates and an articulated lorry to bring them the nearly 1000 miles to southern England – spans the air-cooled 911 period from around the late 1960s through to the mid-1990s.

Many of the crates have yet to be fully unpacked, says proprietor Neil Bainbridge, but among the visible treasures are body panels, interior trim and seats, suspension and steering systems, brake calipers and cylinders, engine barrels and pistons, oil-coolers, crankcases, MFI pumps, oil and fuel tanks, instruments, exhausts, steering wheels, door cards, and not least a number of crack-free dashboard tops – although unsurprisingly all of those appear to be for left-hand-drive vehicles.

There are numerous sets of Fuchs and cookie-cutter wheels, plus some later 964 and 993 rims and a number of French-made racing curiosities, and around 25–30 more or less complete engines. Those include several 911S units – identifiable by their red-coloured cooling shrouds – and at least one for a 2.7 RS. Some dozen or so gearboxes were among the collection, too. There is also a 32-valve engine for a 928, together with its own almost equally massive automatic transmission.

'We have already made a start on identifying and cataloguing the engines and gearboxes,' says Bainbridge, 'and the relevant information, including variant and serial numbers, is up on our website. I'll be using a few for in-house projects, but the remainder are available either as they stand or, for extra cost, rebuilt to the customer's requirements.' The same goes for the transmissions, adds Neil, and unsurprisingly also the MFI pumps in which he now

has a particularly keen interest – and ability, let it be said.

Condition of the items, as you would expect of a collection amassed over many years, and from countless different vehicles, is best described as 'variable', but there can be no doubt that all have a considerable value. A dirty or even damaged speedometer, suitable for professional refurbishment, has to be a vastly better proposition than no speedometer at all. And an original seat, however down-at-heel it may be today, is in the right hands one of the finishing touches of any top-quality restoration.

Worldwide shipping is available for those not within reach of Westcott. For more details, and high-resolution photos of much of the collection, go to the BS Motorsport website at **bsmotorsport.co.uk**. There you will also find details of the company's other activities, including remanufactured engine and transmission parts, dyno testing, car storage, pre-purchase inspections, and even a forensic-level VIN-checking service.

Just one of a lorry load of crates, packed with classic Porsche parts and spares, rescued from France by BS Motorsport





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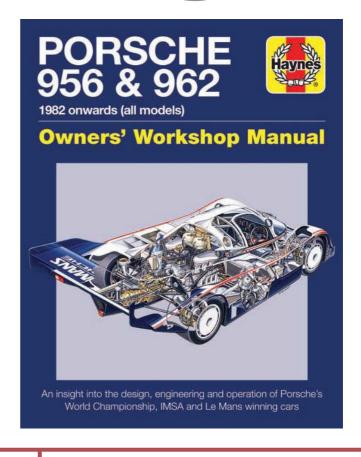
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The tempting trinkets that enhance Porsche ownership

#### **BIG TIME BANGERNOMICS**

Bit of a bugger getting that 956 or 962 through the old MOT, isn't it? The workshop bills can really add up. Thankfully, there's now a solution in the form of the new Haynes Porsche 956 and 962 Owners' Workshop Manual. In all seriousness, the book probably isn't meant as a serious dissertation on rebuilding Porsche's iconic Group C sports car racer. You know, the one that won Le Mans on its 1982 debut and went on to win six more times in various guises. It's more a history of the chassis, a techno deep dive and a guide to the remaining examples. The book features a wealth of archive photography and detailed images of the cars' anatomy, plus interviews with drivers and engineers who worked on them. The manual is available now from haynes.com for £18.95.



#### TOE THE LINE

Power, they say, is nothing without control. That can be a problem with modern Porsches and chassis modifications. The factory suspension arms only allow so much adjustment. That's fine for a standard chassis, but can introduce limitations on modified cars and especially with Porsche's mid-engine models and their relatively simple strut rear suspension. That's where Tarett Engineering's Motorsport toe links come in. They widen up the window of adjustment and do so courtesy of several snazzy features. That includes pinch-style locking for easy adjustment, optimisations to reduce bump steer and tweaks to help with wheel clearance for models like the 981 GT4. The links are available for every modern Porsche sports car including 986, 996, 987, 997, 981 and 991. Prices start at \$285 or around £200 plus taxes and shipping. Find out more from **tarett.com**.



#### **AIR-COOLED TUNES**

Heads up owners of 964 Carrera, RS and Cup models. Apart from being lucky enough to own a bona fide modern classic the likes of which we'll never see again, you can now up your P&J's aural ante with Cargraphic's new sport centre silencer. Fashioned from T-304L lightweight stainless steel, the new exhaust features innovative 'pressureless' exhaust flaps. The upshot is low-noise start up in contrast to systems that rely on vacuum pressure to close internal flaps and can generate an unwanted din. On the move, the system opens up to unleash a fuller range of flat-six sounds than the factory silencer. Cargraphic says the silencer also offers reduced back pressure and thus releases a little extra power and torque. Prices vary according to precise application, but the starting pre-tax sticker is €2,374. Find out more from cargraphicts.com.





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#### **FANCY FLUID**

Old and made by Porsche? Everybody wants a piece, including Porsche itself. Air-cooled cars really are all the rage. In response, Porsche is getting heavily into classics, including specialist service centres to look after its back catalogue of cars and customers. You can now also buy official Porsche brake fluid which Porsche says is specially formulated for classic models. The fluid is suitable for everything from a 356, 914 and 944 to a 928, 911 G/F bodies, the newer 964 and 993 bodies, the 986 Boxster and even the 959 and Carrera GT supercars. Cynics might wonder just how you go about 'specially' formulating a single fluid for such a disparate range of cars. But it comes in nice Porsche-branded tins, so what the heck. Available for around £20 or \$20 plus taxes and shipping from various retailers including design911.co.uk in the UK and stoddard.com Stateside.



#### **DIFFERENTIAL DIAGNOSIS**

Arguably it won't be worn out oily bits that eventually kills off many modern classics. It'll be electronic issues. But never mind, because Porsche electronics specialist BergvillFX is kicking that particular can down the road with its fully refurbished Bosch KTS 301 diagnostic tool, complete with a new NiMh battery, charger and OBD cable. Reportedly, the latest official PIWIS III tool does not support 944, 968, 964 and 993 models. A gap has thus opened up for a classic OBD tool with back-catalogue compatibility. BergvillFX says it has even sold sold several KTS 301 Hammers to official Porsche Classic service centres. For the record, there are some provisos concerning compatibility with certain 993 model years, so head for bergvillfx.com for more details. Pricing is \$1290 plus tax and shipping, so roughly a grand in old money.



#### AIR-COOLED WARMTH

The original 911 is famous for its old school air-cooled character. That's great, but what about keeping warm? In a water-cooled car, that comes courtesy of a heater matrix fed by the engine coolant. Happily, that's located and under the dash and well protected from wear, tear and weather. In an air-cooled car? That'll be the heat exchangers built into the exhaust and exposed to the elements. What's more, due to repeated heating and cooling of the air contained within the exchangers, condensation forms and in turn rust eats them from the inside out. Enter Heritage Parts Centre based in West Sussex. Their solution is a range of corrosion-cancelling stainless steel exchangers for 911 models from 1969 right up to 1989 and starting from £390. You can find out more by pointing your browser at heritagepartscentre.com or calling 01273 444044.



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Gtechniq, it is said, is the largest manufacturer of high-end paint protection products. Certainly, it's known for its hard-wearing ceramic coatings. Now Gtechniq has come up with a new hydrophobic formula for car fabric protection. Gtechniq says the new formula is even more hydrophobic than its predecessor. I1 Smart Fabric V2 leaves no remnants of a spillage and moisture is said to simply fall off a coated surface. Laboratory testing reveals that I1 V2 repels water to the highest standard set by the American Association of Textile Chemists and Colorists (AATCC) – ISO 5. It can be used to prevent soaking, swelling or rotting on any fabric and is optionally available with added Biocote antimicrobial technology which kills 99.9% of bacteria. I1 Smart Fabric V2 is available now from **gtechniq.com** in 250ml bottles for £11.99.



#### CONTROVERSY ON A SMALL SCALE

Way back in 1963, 356 aficionados viewed the arriviste new 911 with suspicion if not contempt. Since then, pretty much every major update of Porsche's most iconic model has put noses out of joint, be that the addition of impact bumpers, water cooling, electric steering assist and latterly compulsory turbocharging. You could say, therefore, that the Boxster and Cayman pairing have finally come of age with the 718 update. After all, the unceremonious defenestration of the naturally aspirated flat six in favour of a turbocharged flat four has unleashed an awfully familiar wailing and gnashing of teeth. On the other hand, Porsche has recently announced that sales of the 718 are up for 2017 at around 25,000 units. Somebody sure likes 'em. If you indeed do, why not grab this detailed 1:43 scale model from **porsche.com** for £65?



#### **COOLER RUNNING**

New from our favourite purveyors of aftermarket, high-performance cooling products, CSF, comes this 911/930 Turbo oil cooler, which is available in both RS and RSR styles and a perfect fit for RS/RSR and IROC style front bumpers with no modifications or cutting.

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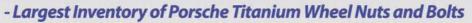












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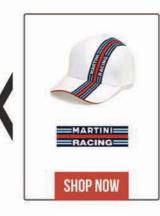


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#### YOU WRITE, WE READ

# LETTERS

Got something to say? Need to express an opinion on the Porsche world? E-mail us on porscheworld@chpltd.com

#### PORSCHE 997 - THE PRAGMATIC APPROACH

I have built a few interesting Porsches in the past, some transaxle, some air-cooled and a few of them have been featured in magazines

What I have now is a 997.1 C2S, which I feel might be of interest in terms of the 997's perceived value and risk, particularly with the earlier cars. The car is nothing special as such, but perhaps represents a safe, if unconventional way of buying a 997

safe, if unconventional, way of buying a 997.

Instead of looking for the 'Virgin Mary's' 16,000-mile, never driven in the wet 997, which all other buyers seem to look for, I went for a high-mileage car in the spec and colour that I wanted. Why? Because in my experience, the 997 platform doesn not really 'wear out' with miles. These things are solid, the chassis stays tight, rust is non-existent and I was not looking for an investment, just a 911 I could use everyday as Porsche intended and with no worry of adding miles. We know about M97 engine issues, and even the lowest mileage cars can be affected by scored bores (every car I checked in fact) and IMS issues.

So all three of the lower budget 3.8 997s I looked at had the familiar tapping sound and all three vendors assured me it was just a hydraulic lifter. I didn't bother to argue. I knew it was piston slap and I had budgeted for a rebuild anyway. Not only that, I fully intended to rebuild the motor myself, whichever 997 I bought, fitting six liners and an uprated IMS, as well as a few other upgrades.

I eventually bought an early Basalt Black manual C2S, with Sports Chrono, Sports seats, cruise, in fact everything bar a sun roof. With 123,000-miles on the clock, it was £10k less than most on the market, due to people avoiding well-travelled gen 1 997 3.8s like the plague.

I set to with the rebuild and discovered the IMS bearing was in perfect order, but true to form, the no6 cylinder bore was scored and the piston was scrap. All the bores were slightly oval, too. However, I went in with my eyes open and now 3000-miles and three months on with my rebuilt engine, I have achieved a bullet proof 997 DIY bargain.

Of further interest, I have used iron liners as opposed to steel. I plan to document the condition of the liners at each oil change, and put out some facts about how they last and if they are a worthwhile repair. **Gavin Arnold via email** 



£50k hits the 997 sweetspot for reader Ross Clark (below), while Gavin Arnold (left) has a different take on 997 ownership

#### 50K 911S

Perhaps you should have used me as a case study for your £50k 911 story in the latest 911&PW (March 2018). That was my budget exactly and although I had my sights on a 997, I was surprised to see early 991s within – or at least very close – to my budget. Naturally the 991 was added to my shopping list.

While I have had a 997 before a few years ago, I had never driven a 991, but

While I have had a 997 before a few years ago, I had never driven a 991, but had taken on board the various opinions, which seem to revolve around its relative size and the fact that it's perhaps more of a GT than a sports car. Time to find out.

If I was going to have a 991, it had to be a manual. Try finding one of those! Eventually I tracked down a 991 C2, with a manual 'box. Certainly it's a bigger car on the inside, which is a good thing in some respects, but not a real driver for me. More of an issue was the external dimensions and width. All of of a sudden the

911's real-world useability and size has been compromised. Add to that the lacking in torque 3.4-litre engine and disappointing gearbox and my mind was made up. The 991 wasn't for me, which is perhaps why values are dropping. It's just not a sports car anymore. Having said that, I must admit, the 911 T has piqued my interest a little, but I fear it's too little too late, given that the 991 is due for replacement, and the new 911 is unlikely to get any smaller or any less GT like.

So, in my humble opinion, the reason that 997 prices are holding is because folk are coming to realise that it's actually the last of the real enthusiast 911s. I spent my £50k wisely and ended up with a late C2S, with a manual gearbox and just the right amount of options for my needs. I love it and above all it's the perfect size for our roads. Anything bigger is just not viable.

Ross Clark via email

#### **EMPEROR'S NEW CLOTHES**

Many thanks for printing my letter last month (*Selling out*, March 2018). Obviously when I tapped it out on my keyboard, I had no idea that classic Porsche stalwart, Seume, had jumped to the darkside. The accompanying picture of him standing in between El Chucho and his new Cayman came as a quite a shock. Indeed, I felt let down. As I said in my missive, 'have we not all shared this journey with the man?' and now he repays us with this, a modern, water-cooled Porsche. Hell, it's not even a 911.

OK, my tongue is slightly in cheek. Like I said, I'm an inveterate tinkerer and projecteer and I've been following Keith's antics for years, not just in Porsche mags, but VW mags, too (I'm not a stalker, honest). But, after the shock of it all, maybe he's right. The time, the money, the effort and for what? I'm questioning my project motivation and it's all your fault, Seume. I haven't been in the garage for weeks now. Sure it's cold in there and I'm waiting for some parts, but the doubt has set in.

So, what I'm hoping is that this is all just a dalliance, a flash in the pan, the Emperor's new clothes and that you'll soon get bored with modern Porsche motoring, flog the Cayman and get back in the garage. Deep down, though, I fear that you may be right...

Henry Allan, via email







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#### 911&PW WRITERS ON MATTERS PORSCHE OR OTHERWISE

# THE USUAL SUSPECTS

It's a small world, says Chris Horton, ruminating on shared automotive and aeronautical interests, and a chance meeting with a fellow *911&PW* contributor in the wilds of north Wales. Plus: never mind Big Brother; who will be recording your Porsche's peregrinations today? And why abandoning the old-fashioned tax disc may not have been such a great idea



CHRIS HORTON 911&PW's consultant editor

#### WISH YOU WERE HERE?

Life often seems to be full of the most intriguing co-incidences, especially when you add classic cars to the equation. Those of you who are also Porsche Club GB members might recall that from early 2014 to around the middle of 2017 I did some work on that organisation's monthly magazine, *Porsche Post*.

One of my most enjoyable assignments during that period was visiting John Arnold in Staffordshire, to hear the remarkable story of how he had repatriated his late uncle's 1962-model, right-hand-drive 356B from the wilds of rural Oregon, in the far north-western corner of the United States, and was then in the early stages of restoring it. (Said uncle was none other than Arthur Sheffield, one of the founding members of Porsche Club GB.) During our conversation, we discovered – via Concorde jet engines, and then the Rover Company-built APUs, or Auxiliary Power Units, fitted to Vulcan bombers – a shared interest in early Rover 2000s. And, thanks to yet another co-incidence, that each of us owns one such car, with an 'XC'-suffix registration number, that once belonged to our respective late fathers – John's dad, Edward (Ted), having been a Rover employee at Solihull from 1958 to 1983.

My car, GXC 186C, bought brand-new by my parents in 1965, has been off the road for the greater part of its now 53-year life, but having been stored under cover – in at least three different places – it is in surprisingly good structural condition. It was, in theory, going to be made fully sound again by a welder friend of mine here in Oxfordshire, but around 18 months ago it appeared that he was about to lose his workshop, and so the project ground to a halt. I mentioned my predicament to John one day, and to cut a longish story short a few weeks later he very kindly drove down and towed my car back to the safe haven of his own extensive workshop – and where it now stands right next to AXC 179B. (They probably had quite a lot to talk about...)

The plan, since AXC unsurprisingly has much the same (relatively minor) rust issues as GXC, is to have both vehicles welded more or less simultaneously, by the same welder and fabricator. Who, by a further coincidence, is on the same rural site near Kenilworth in Warwickshire, barely a dozen miles from Solihull, where the cars were built, as independent Porsche specialist and dismantler Paul Woollard. And which site, before I had even heard of Paul, I had on several occasions visited through my part-time job delivering farm supplies on a lorry. Honestly, I'm not making this up.

Anyway, the point of all this is partly to record for posterity my huge indebtedness and gratitude to John Arnold for his continuing support, but also to serve as an introduction to the accompanying images – showing the front and back of a postcard sent from Baden-Baden (in what was then West Germany) by Arthur Sheffield to John in May 1963. John showed me the card the last time I went up to see him, and generously granted my request to borrow it to share with a wider audience. That means you!

Whether Arthur was there on Porsche Club business or in connection with his job is unclear (it could also have been to take his 356 back to Zuffenhausen for its first service), but either way he seems to have been remarkably close to what you might call the 'inner circle', including Huschke von Hanstein and Edgar Barth – and perhaps even Ferry Porsche himself. And it is by any standard a fascinating glimpse back into a more genteel and civilised world that has gone for ever. Read the text – which I trust will have been reproduced large enough – and I think you will see what I mean.



Arthur Sheffield's postcard to nephew John Arnold is captioned Wiesbaden bei Nacht, but seems to have been posted in Baden-Baden, some way further south. Either way, it's an appealing image of some long-forgotten German 'tin'. The text offers a fascinating glimpse back into a lost world, too. Pic below shows Horton and John in 2015, discussing restoration of Arthur's – and now John's - 356



Talking of coincidences, by the way, how about this? Last New Year's Eve, Mrs Horton and I did a spur-of-the-moment, 400-mile daytrip to north Wales, for a ride on the famous narrow-gauge Ffestiniog Railway. Choosing a carriage at random for the return journey from Porthmadog up to Blaenau Ffestiniog, I was busily

wiping the near-biblical rain off my camera with a sodden handkerchief when I heard a familiar voice say, 'It's Mr Horton, isn't it!' And there stood none other than Paul Davies, 911 Carrera 3.2 owner of this parish, and a contributor to 911 & Porsche World since I first used some of his work way back in the early 2000s – and whom I hadn't seen for perhaps three years. He and Mrs Davies and some friends were, perhaps more sensibly, making a weekend of it, and staying in a nearby hotel. It is, indeed, a small world!





Say what you like about them, but 911 & Porsche World's elite squad of journalists and Porschephiles have opinions aplenty on all manner of automotive matters. And this is where they get their two-pages' worth



DANTRENT



STEVE BENNETT



BRETT FRASER









UME JOHNNYTIPLER .

#### WE KNOW WHERE YOU'RE GOING...AND WHERE YOU'VE BEEN. TOO!

It's all very well having a dash-cam – and frankly it's becoming so dangerous out there on the roads that I'm thinking seriously of buying one for each of my regularly used cars, especially as the devices become ever more affordable and competent. But the obvious corollary is that one becomes oneself the subject of someone else's footage. Or more likely, as the devices proliferate, many other people's footage. I have no problem with that – if you are behaving yourself, why would you? – but, even so, it was rather sobering to see an e-mail in my in-box headed 'This morning's drive on the M40'. What on earth is this all about, then...?

Turned out it was from 911 & Porsche World reader and fellow-944 owner Paul Barker who, driving to work in his Mercedes-Benz CLS, had spotted me in my 924S, on my way to Porsche-Torque in Uxbridge for the February issue's how-to story. Attached were a couple of clips of the 'S' from his dash-cam, and which Paul kindly thought I might enjoy seeing as much as he obviously had watching another transaxle car in action. (And yes, I did. Thanks, Paul!) Naturally I can't share them with you here in a print magazine, but I think a screen grab, reproduced here with Paul's permission, does show the car off to quite good effect - notwithstanding the red rear bumper that I fitted a few months back. And as I noted in my reply to Paul, 'I'm glad I have the wider tele-dial wheels with the different offset - I think they look so much better than the standard 924S rims, which always appear a bit awkward to me.

What made me smile even more, though, was the fact that the second clip, a couple of

miles or so further on, where the two lanes for the M25 start to peel off, showed some gofaster Audi or other cutting up both me (then in what was effectively lane three) and, to a lesser extent, Paul (who was in lane two), as Mr Important darted across from lane four to lane one. I had no idea at the time that this was being recorded from the vehicle right next to me, of course, but I clearly remembered that minor incident which, even if hardly the motoring misdemeanour of the century, was both inconsiderate and potentially hazardous. And completely unnecessary, too, because even at my steady rate of progress I could easily and safely have placed myself in either of the two M25 exit lanes way beyond where the Audi ended up, baulked by slower traffic.

We seem, incidentally, to have become ever more cautious about showing number plates in any kind of public arena or medium, notwithstanding the perhaps blindingly obvious fact that their entirely reasonable purpose is to enable any given vehicle to be identified by any one at any time – or that our

every movement is in any case being recorded by probably hundreds, if not thousands, of ANPR and other cameras over the course of a week. TV is the worst offender, with even news and current affairs programmes blurring most – but bizarrely not all – plates that might be in shot, presumably on the basis of some data-protection nonsense or other. I have

even seen clips of ambulances and marked police cars with their plates hidden. Seriously? (And on a similar note, you do have to question why uniformed – as opposed to plain-clothes – police officers might have their faces blurred. Are all those who encounter them in real life – remember that? – later taken aside and 'neuralised', like in those wonderful *Men in Black* movies?)

I have even begun to wonder whether I ought to blur the plates of my cars in any of my own pictures that I now post on Facebook, and for a split-second I even thought about doing the same with the image shown here. But then sanity prevailed, when I remembered that for that to have any purpose or effect I would have to track down everyone who has ever seen any of my *Our cars* reports these last 20 years, and neuralise them, as well. As Mark Twain is widely believed to have observed (and so probably did not), if you always tell the truth, you never have to remember what you said. Or, in a modern context, where you were, and when and why.



Still image from reader's dash-cam footage of Horton's 924S on the M40 in December shows off later-type tele-dial wheels to good effect. Whose hard drive will *your* Porsche appear on today?

#### YOU COULDN'T MAKE THIS STUFF UP IF YOU TRIED

Exactly three years ago as I write these words – to the very day – I was putting the finishing touches to my submission to this column for the January 2015 edition of the magazine.

Central to my rant back then was the recent abolition of the paper 'tax disc' (right), which since 1921 had served as a simple, convenient and actually pretty efficient way of proving to anyone who cared to look that you had paid your road fund licence – or, as it has come to be known (on the grounds that no one ever fixes the roads these days), Vehicle Excise Duty. The process would save our technology-obsessed government around £10 million a year, we were told, for a one-off 'conversion' cost of around £1 million (really?), and thanks to modern ANPR systems it would be far more difficult, if not impossible, to cheat the system. Result. Kerchinggg.

But guess what? Figures no doubt reluctantly released by the Department for Transport show that in 2013, before the abolition of the good, old-fashioned paper disc, some 0.6 per cent of vehicles were unlicensed at any given moment. Apparently,

this has now risen to 1.8 per cent, or around 755,000 vehicles. Cost to HM Treasury? And thus, of course, to we taxpayers? Oh, only about (cough and say it quickly...) £107 million. And which figure surely casts further doubt on those projected benefits and costs.

Part of this shortfall is ascribed to confusion and/or so-called honest mistakes - and. indeed, one of the threads of my argument three years ago was that the system was becoming unnecessarily complicated. Certainly, it is quick and easy now to tax your car on-line, rather than having to queue up in some dismal Post Office. But you can no longer transfer any current tax when you sell a vehicle, instead having to rely on an automatic refund of any full months' tax remaining, after you submit the seller's portion of the V5 registration document. Which means, of course, that if you sell your car during the middle part of any given month, then the Chancellor will effectively trouser two lots of tax for the period in question. And still these halfwits manage to lose money... God help us if they ever have anything important to do. Like negotiate a Brexit deal, perhaps? Even so, I seriously doubt that there are

too many people out there who haven't yet got their heads round the system - my 90-year-old mother, still a keen driver, is well aware of it, for instance - and given the all too obvious morals of a disappointingly large proportion of the British population I am willing to bet that many others reckon it's worth just taking a chance. Winging it, basically. I have seen presumably untaxed cars wheel-clamped - as it happens, one only yesterday - and I expect there is plenty of low-hanging fruit for the enforcement teams in many inner-city boroughs, but out here in rural Oxfordshire we don't even have on-street parking wardens any more. And you are more likely to see Lord Lucan than a police officer pounding the

beat. As we sow, we reap the whirlwind. PW

Ditching the familiar 'tax disc' was meant to save government – that's us, ultimately – £10m a year, but guess what? So far, it has cost £107 million



































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#### YOU AND YOURS: ASH SOAN

## THE BEAT GOES ON

In his early years, star drummer Ash Soan transported his kit to gigs in his 2.4 Targa, and now, back in a 997 C4, he tells fellow skins-pounder Tipler how he plans to replay those halcyon days

Words: Johnny Tipler Photography: Johnny Tipler/Ash Soan

here's a good chance you'll have heard Ash Soan performing on some of the music you've listened to over the past 20 years. As a seasoned session drummer, he's played with and backed a vast range of musical superstars, including Van Morrison (at the Albert Hall), Marianne Faithfull (New York) and Rick Wakeman (Havana, Cuba). Too old school for you? How's about Will Young, Adele or James Morrison? He's also drummed for Squeeze, Del Amitri, Nellie Furtado and dozens of others. You can even see him live without leaving the comfort of your sitting room: for sheer versatility, check out the backing band on ITV's The Voice UK: there's your man, in his fourth season as house drummer on the show, laying down the beat for the benefit of the wannabees. More pertinent to us, though, Ash is a 911 buff too. Just as he prefers to work exclusively with legendary percussive makes like Gretsch and Zildjian, so he adores Porsches, and 911s in particular. He's just snared his second one: a black 997 C4, with just 31K on the clock, acquired from Williams Crawford at Saltash, Cornwall.

Ash traces the moment when Porsches first appeared on his radar as a schoolboy in the 1980s: 'I remember having a white Matchbox 930 whale-tail Turbo, and I used to draw them and I loved that shape and everything about it. But when I actually bought my first one it was a Boxster 986 in 2003, just a 2.7 - and that was it, I was totally hooked.' We know, some of us, that a normal five-piece drum kit and hardware can be accommodated, without too many compromises, in a 911. But what about a Boxster? 'I never attempted that; it would have been considerably trickier, with the bass drum on the front seat, toms in the back and front luggage boots, but the ergonomics are quite different to a 911. But it's no problem in a 911-shaped car."

Parlaying the paradiddles for the Porsche, it wasn't long before Ash got his second one, a 1974 911T Targa, in 2005. He was doing pretty well on the music scene by now, and bought his father a Rolls Royce Silver Shadow around the same time. 'I found this cheap 2.4 Targa for £13 grand, and I loved it. I used to bomb around front, snare and toms in the back and stands underneath the bonnet. It's

shallower, but there's more space there than modern 911s. Stands right up against the bulkhead panelling, cymbals, snare drum in the foot-well, bass drum on the seat and toms in the back. My kit is still a standard five-piece – I've never really ever gone for those enormous kits, never felt that I needed to do that.' That's lucky, because anything bigger would seriously challenge the 911's ergonomics.

Ash got his first drum set aged 11, and a musical scholarship to Salford Tech kickstarted his journey up the percussive pathway. As resident big-band drummer at college he also played for a number of Manchester bands before moving to London in 1991. It wasn't that easy to begin with: like many an aspirational musician he spent a year or two on the pub and club circuit. His luck changed in '93 when, performing in a Greenwich pub, Ash was spotted by Massive Attack's bass-player and hired on the spot for the Tom Robinson Band. A year later he auditioned for Scottish rock band Del Amitri, and spent the next three years as their drummer. In quick succession, he was drafted into Faithless and then Squeeze, before touring with Belinda Carlisle, Marianne Faithfull, Sinead

Happy customer: Ash Soan (foreground right) collecting his 997 C4 from Williams Crawford, with Adrian Crawford (left) and Richard Williams (right)



O'Connor, Sheryl Crow, Robbie Williams, James Morrison, Will Young, The Waterboys, Trevor Horn and Seal, Ronnie Wood, Dionne Warwick - and many more. He backed Mike Oldfield at the opening ceremony of the 2012 Olympics, too. See ashsoan.com for the full Monty. He also lays down drum tracks and gives lessons at his Windmill studio in Norfolk, 'Actually, my career has mainly been involved with the recording industry,' says Ash, 'and over the past 20 years or so I've recorded on fiftyone Top 20 albums for artists including Cher, Seal, Robbie Williams, Billy Idol, Adele, Dionne Warwick and Rumer, James Morrison, Cee Lo, Celine Dion and Ronan Keating. And 45 of those albums reached the Top Ten. My discography also includes 21 Top Ten singles, and I've recorded 18 Number One albums and 11 Number One singles which have featured on various pop and rock charts around the world."

You have to remind yourself that, all the while, this rhythm-master is also lusting after his next 911. 'Yeah, I used to bomb around in the Targa, doing gigs, and I used to get the car serviced by Chris Turner, bless him, and he was overjoyed that I was trailing around my kit in that car. But then, a couple of years later, quite by coincidence, the day after I found out my wife and I were going to be having a baby, a chap pulled up alongside me at some traffic lights and offered to buy it on the spot. So, the deal literally fell in my lap, and I said yeah, ripped his arm off!'

A decade on, the fire still burned, and Ash's two children are still small enough to fit in the back of a 911. The inevitable purchase would happen, and I was able to help. Over the past couple of years, I found myself increasingly on the receiving end of messages from Ash, soliciting my opinion about cars he'd spotted for sale. They were, almost without exception, 997 C2Ss or C4Ss, and I focussed him on those gracing the forecourts and showrooms of reputable dealers of our acquaintance. His home is up a track, so a C4 could be a blessing in disguise. 'We knew that there would be issues around getting up the drive, in any car, let alone a Porsche! But I always knew that I'd get another one at some point. In the business that I'm working in, I'm seeing them all the time at venues and in studio car parks, which was quite frustrating because I didn't own one. Anyway, I'm back in the club now, so I feel good!'

He regularly tours the world with bands and artistes, so the prospect of a trip from Norfolk to Cornwall was not daunting. He'd noticed a 997 C4 on Williams Crawford's website and engaged in a dialogue with Adrian Crawford. It seemed perfect: just over 30K miles from new, an all-wheel drive C4 to get up his track, black with black. We flew from Norwich to Exeter, 40 minutes in the air, and were met at the airport and driven the 60 miles to Saltash. I mention this because of the ease and swiftness of the buying spree: three hours, give or take, from Norwich to Saltash (Plymouth). Ash thoroughly enjoyed his buying experience. 'Obviously you and I talked about it a lot, and when that car came up and I discussed it with Adrian (Crawford) I realised that he is genuinely passionate about the cars, and you can feel it from him. It's not just a business, it's something that's in his heart,

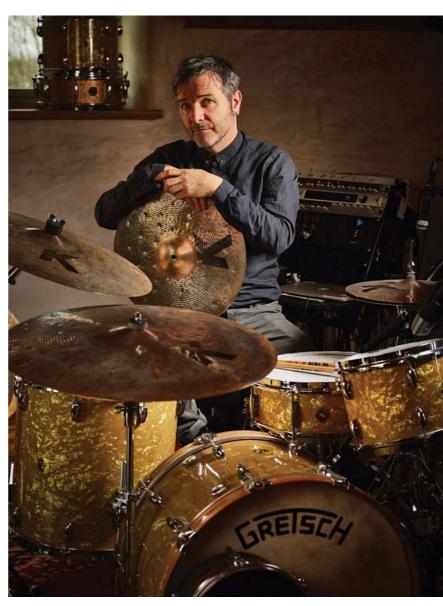
Fill her up. Somehow you never seem to begrudge topping up the tank of a new Porsche with Shell V-Power!



66

You have to remind yourself, this rhythm master is also lusting after his next 911





Pro drummer, Ash Soans, and vintage Gretsch kit. Name a star, or a record and he's quite likely played with them, or on it



#### HISTORY

Believe it or not, 2018 marks 30years of the fourwheel drive 911, starting with the launch of the 964 Carrera 4 in 1988 (albeit for the 1989 model year).

The concept has been a huge success for Porsche, turning the 911 into an all weather supercar par excellence. Over the years, the four-wheel drive system has become ever more sophisticated, with the technology usually launched on the 911 Turbo filtering down to the 911 food chain.

Purists tend to prefer the 911 C2, but there is something very reasuring about a Carrera 4.

definitely. I really enjoy his social media stuff as well. And then our brilliant journey down there was quite exciting, and the whole Williams Crawford thing has been really cool. And then it was like, I can't wait to get in it and drive home! And driving back was a pleasant trip; I was staggered, actually. A six-hour run, and we just stepped out the other end, feeling fresh as a daisy.' It was indeed an intriguing journey. As we

everyday car standard, because really that communication system is pretty much defunct, but for £300 it seems you can get it to like your iPhone, or an android phone will integrate with it in a modern way. You can buy it online and fit it yourself, and there's a hundred guys around the world who'll show you how to connect it, and I'm up for doing that as long as it doesn't invalidate the warranty. That's where the forums are

too, and I absolutely love them. I know they've changed the design ever so slightly, but it's still a five-spoke, although seeing these in the metal on my car, they have grown on me, and they're not so unappealing to me when I see them up close. Either I'll learn to live with them or advertise them as a straight swap for the Carrera five-spokes.'

Having previously enjoyed lengthy runs, four-up, to Portugal in 3.2 Carrera and 964, complete with top-box, I remind Ash that a 911 can also provide domestic pleasure, too. So, will there be a Soan family holiday in this car? 'Potentially, very much so! We've got to go and see my dad soon over in Shropshire, and we've had both the kids in the back. My daughter's five and she fits perfectly, my son is nine, and he's over the moon that the centre of the back seat is like a nice little wall between him and his sister! I asked them, "do you think you could do a long journey in this?" and they seemed pretty enthusiastic. The leg room for me and my wife is perfect, there's plenty for us in the front and enough in the back for the kids."

So, family car and band transport – for his kit, at least. Head out on the highway: that'll be Ash, drumming up a storm in his new wheels. **PW** 

# Motoring up the motorway, we basked in the 997's ease and solidity

motored northeast up the motorway network we basked in the 997's ease and solidity, Ash regaling me with tales of jaw-dropping scuttlebutt concerning members of the top-line rock star firmament. If I told you, he'd have to kill me.

Now back home, will the kids get treated to the school run? Inevitably! The 997 gets the thumbs up from the whole family. The only upgrades Ash is contemplating is a Bluetooth indulgence: 'I'll be finding out what I can do to get it up to a modern

great, because you know that what you're thinking about doing, someone's already done it, and there are people that do genuinely know what to do and they're sharing information.' The other aspect of his new 997 that Ash might take a look at is the wheels. He did ask Williams Crawford about having a set of five-spoke Carrera wheels fitted, but they didn't have a set available to swap with the ones on his car. 'I really like the wheels you have on your Boxster,' he tells me; 'they're what I had on my Boxster,





Left: Ash's 911 Targa, which he picked up for £13k in 2005 and used to bomb between gigs and rehearsals, with a full drum kit on board





#### 911 Carrera RS (964)

Maritime Blue • Tri-Tone Leather Bucket Seats • Manual Gearbox • 17" Magnesium Cup Wheels • 93,753 km (58,595 miles) • 1992 (J)

£209,995



911 Carrera 2 (993)

Amethyst Metallic • Marble Grey Leather Seats · Manual Gearbox · 17" Alloy Wheels • Electric Sunroof • 77,087 miles 1996 (N)

£65,995



911 Turbo (996)

Basalt Black • Black Leather Seats Tiptronic S Gearbox • Satellite Navigation Factory Hardtop • 55,346 miles • 2003

£54,995



911 GT2 (996)

Polar Silver • Black Leather Sport Seats Manual Gearbox • Porsche Ceramic Composite Brakes • 18" GT2 Wheels 21,725 miles • 2003 (03)

£149,995



911 SC

Guards Red • Tan Pascha Seats Manual Gearbox • 15" Fuchs Wheels Electric Sunroof • Porsche Certificate of Authenticity • 69,879 miles • 1982 (X)

£64.995



**Cayman S (981)** 

Carrara White • Black Leather Seats PDK Gearbox • 19" Cayman S Wheels Full Leather Interior • 5,386 miles • 2015

£46,995



911 Carrera 4 (993)

Metallic Black • Marble Grey Leather Sport Seats · Manual Gearbox 18" Turbo Technology Wheels • Air Conditioning • 24,689 miles • 1997 (R)

£99,995



911 Carrera

Grand Prix White • Black Leather Sport Seats • Manual Gearbox • 16" Fuchs Wheels • Cruise Control • 89,869 miles 1988 (F)

£64,995



Boxster S (987)

Guards Red • Black Leather Seats Manual Gearbox • 18" Boxster S II Wheels Satellite Navigation • 15,592 miles • 2007

£23,995



911 Turbo (997 GEN 1.5)

Basalt Black • Black Leather Sport Seats Tiptronic S Gearbox • Touchscreen
Satellite Navigation • Sport Chrono Pack Plus • 36,089 miles • 2008 (58)

£67,995



911 Carrera 2 S (991)

Basalt Black • Black Leather Sport Seats PDK Gearbox • Touchscreen Satellite Navigation • Switchable Sports Exhaust 55,178 miles • 2013 (13)

£62.995



Cayman S (987)

Arctic Silver • Black Leather Seats Manual Gearbox • 18" Cayman S Wheels Heated Seats · Porsche Sound Package 59,032 miles • 2006 (55)

£20,995

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911 (991) "4S" 3.8 pdk cab (63 - 2013) Sapphire blue with black leather



**911 (997) Turbo 3.8 pdk (59 - 2009)** Basalt black with grey leather £68,000



911 (997) "4S" 3.8 pdk (60 - 2011) Dark blue with sand leather



**911 (997) "45" 3.8 pdk (59 - 2009)** Basalt black with black leather



**911 (997) "45" 3.8 pdk (60 - 2010)** White with black leather



911 (997) "2S" 3.8 pdk cab (09 - 2009) Basalt black with black leather 29,000 miles



**911 (997) "45" 3.8 pdk (10 - 2010)** Meteor grey with ocean blue leather



**911 (997) "2S" 3.8 pdk (60 - 2010)** Atlas grey with black leather 49,000 miles.



**911 (997) "45" 3.8 (09 - 2009)** Basalt black with tan leather 48,000 miles.



911 (997) "4S" 3.8 pdk (09 - 2009) Basalt black with black leather 62.000 miles



911 (997) "2S" 3.8 pdk (09 - 2009) Silver with black leather 50.000 miles £43.000



911 (997) "2S" 3.8 pdk (09 - 2009) Silver with black leather 59.000 miles £41.000



911 (997) "C2" 3.6 pdk (09 - 2009) Red with black leather 46.000 miles £39.000



Basalt black with black leather 42.000 miles



911 (997) turbo 3.6 tip (57 - 2007) Silver with black leather



**911 (997) "45" 3.8 tip cab (08 - 2008)**Basalt black with black leather



**911 (997) "45" tip 3.8 cab (57 - 2007)**Midnight blue with ocean blue leather



**911 (997) "4S" 3.8 (07 - 2007)** Basalt black with black leather 45,000 miles



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Silver with ocean blue leather 51.000 miles



911 (997) "2S" 3.8 tip (57 - 2007) Silver with black leather 53,000 miles



911 (997) "25" 3.8 (57 - 2008) Silver with black leather



**911 (997) "25" 3.8 tip cab (07 - 2007)** Basalt black with black leather 62,000 miles .£33,000



**911 (997) "2S" 3.8 tip cab (55 - 2005)** Atlas grey with black leather 50,000 miles



40,000 miles

911 (997) "2S" 3.8 tip (56 - 2006) Silver with ocean blue leather 57,000 miles



Midnight blue with ocean blue leather £29,000 19,000 miles ..



Boxster 2.7 pdk (14 - 2014) Basalt black with black leather







57,000 miles.





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here's an all-too-common thread running through the world of classic cars – that the most interesting things frequently turn up in the most unlikely places. A truth that, as the lights in Workshop 5001's timber-framed roof blink into life over the laboratory-clean workspace below, rings as true as ever. Within the sun-baked concrete shell of this unassuming former factory in an industrial corner of Los Angeles, decades-matured attention to detail is turning classic Porsches into works of art.

Located at the heart of the Californian Porsche scene, as much a home to racebred styling and patchwork-coloured panels as it is concours-spec restorations, this is a business marching to a different beat. A style embodied by its first end-to-end project car; this 44-year-old 911T, a hot-rod hiding elegantly beneath steel wheels, narrow arches and Nardo Grey paint. The perfect preservation of the original 911's hard-wearing, sharp-driving simplicity, yet with some very modern tricks up its sleeve.

"Too many people are building big fender, stickered-up hot-rods," shop owner, Marlon Goldberg explains, firing the race-prepped engine to bring the coupe into the daylight. "We wanted a wolf in sheep's clothing with this car – something that could blend in when necessary. It stands out to enthusiasts, but to normal people it's just an old grey Porsche."

Unsurprisingly, that eye for style comes from a long-developed affection with the marque. Growing up in Bridgehampton, a coastal town on Long Island, New York, Porsches were an ever-present part of his adolescence. Not only did his dad own a 911, but Bridgehampton Raceway used to host Porsche club events, before it was turned into a golf course. The cars brought out by those track days were weekend toys – sand and stone-weathered streetlegal part-time racers, built to the sport purpose recipe book, rather than pristine status symbols.

It laid some strong foundations. When the world of work beckoned, that childhood love of Porsches steered the way to an apprenticeship at Andial, working





alongside the technicians behind Stuttgart's North American motorsport efforts. Experience which in turn led him to become part of the team at Singer Vehicle Design as it got off the ground, before eventually branching out on his own. Workshop 5001, named after the address of the factory in which it's housed, opened its doors in 2014 after a nine-month refurbishment process, and the '73 T emerging into the LA sunshine is a hint of what they can offer. Expertise that's already attracting some rare and extensive rebuilds.

"It was pretty ratty when the client brought it to me," says Marlon, stepping out out of the cabin. "It had been painted silver at some point, and it was already a bit of a hot-rod with a 3.2 motor from an '86 911. Though it was rough to look at, we could tell that it was a good starting point."

Of course, it's always wise to be cautious. As with all of the team's projects, the shell was stripped back to bare metal, uncovering 40 years of mechanically sympathetic ownership and no serious rot or damage to worry about. Behind the protective coating and underneath the Nardo Grey paint - the only job not carried out in-house - the body was strengthened, stitch-welded and fitted with a half roll cage to give it rigidity that 1973's pre-CAD engineering could never have allowed. Make no mistake, this might be built to concours-high standards, but it's built to be just as capable of carving a path through California's canyon roads and race tracks as it is winning trophies.

It's a mix of talents that you get a real

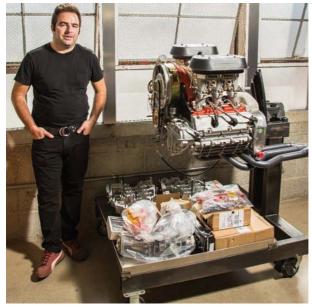
sense for once you lift the decklid. What's in the back of the 911 is still based on the 3.2-litre engine the car arrived with, but only loosely. Fully rebuilt with Carillo rods, CP pistons and Mahle sleeves, it's now displacing 3.4-litres and running a twin-plug setup and Jenvey throttle bodies, controlled by a MoTeC M84 ECU. Dyno tested before being reunited with the body, the engine makes 305bhp at 7300rpm and 250lb ft torque, delivered with the unmistakeable warm-blooded bark of an early 911 racer on every brush of the throttle.

This would have put it far beyond the abilities of the original chassis setup.

Marlon matched the stiffened bodyshell with a three-way adjustable KW coilover kit, built to hillclimb spec, with Tarett RSR-style swaybars and droplinks, taking out a little of

Nardo Grey, right down to the steel wheels, gives this 911 hot-rod a 'primer/battleship' look

Left: Marlon Goldberg is ex-Singer and knows a bit about building custom Porsches. Engine is a 3.4-litre custom build, with Jenvey throttle bodies and MoTec ECU. Power is 305bhp











Original factory colour was Royal Purple and the purple tints in the tartan trim are a homage to that

CA 90016

workshop5001

the roll and arch gap in the process. There's still a 915 gearbox at the back, but strengthened to cope with the extra power and fitted with a limited-slip differential to put it it use. Those body-coloured steel wheels, wrapped in period-style Avon CR6ZZ track tyres, also hide a set of 'S' brake calipers – an early upgrade similar to the 908's endurance racing setup – which are plenty to bring its roughly one-ton mass to a stop when needed.

Sure, you can push the power further with a turbocharger, but for Marlon there's nothing quite like that naturally-aspirated muscle in an early 911: "It's awesome to drive – the chassis and engine updates we've made give it a perfect blend of modern and vintage," he says. "I wish I had more time to drive it, and I'm sure the client feels the same way. We've not taken it on track yet, but we might at some point so we can make changes to alignment, sway bars etc and test it in a controlled environment."

That it can mix that usability with impeccably good looks makes it even more

enviable. Half-leather, half-tartan bucket seats with a Momo three-spoke wheel merge sport purpose with a hint of luxury, while helping to keep the weight down. The flat paint job and hubcap-free wheels would have made an abundance of chrome look incongruous – most bare metal parts here wear a brush finish, matched across engine

Nardo Grey looks awesome – it's a bit like primer or a battleship. The original colour inspired the tartan inside – our cars have some similarities from one to the next, but our builds allow more creative freedom for the clients than anything else on the market. They all sort of evolve during the build, as ideas pop up and changes are made."



#### They all sort of evolve during the build, as ideas pop up



and trim pieces. It's an adjustment over what could have been a very different look, had the client gone back to its less understated factory hue.

"When we stripped the paint, we discovered that it was originally Royal Purple," Marlon tells me. "We couldn't convince the client to return it to that, but the Not that you'd know it. Every detail, every part of this 911 works so perfectly together it could almost have been crafted out of an obsessive pre-build plan. A little like the workshop where it was reborn, there's so much more here than a quick glance can pick out. In both cases, it's amazing what you find when you dig a little deeper. **PW** 







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## NUMBER OF THE

The numbers say it all: 993, 520 horses, two turbos and one driver hanging on for dear life. Nineteen years ago, a German tuning company flew its mechanics to Dubai to convert a 993 Carrera 4S into a 996 Turbo-hunter. Almost two decades on, you can't fail to be impressed by its performance – but treat it with respect, or you'll be sorry...



o you remember when you were a little child (come on, you can if you try)? You would lust after a special toy sat in the local shop window, something so special that you couldn't live without it. Something that was maybe too costly just to be a regular birthday or Christmas gift from a loving aunt, or doting parent. It might have been a new Scalextric set, with your heroes' cars emblazoned across the box lid, or one of those big 1/8-scale model kits of a legendary race car.

You'd tell yourself to be patient, save your pocket money, or hard-earned wages from the paper round. Then came the day when you realised you could at last walk into the shop and say 'l'd like to buy that, please!', pointing at your object of desire with a huge smile on your face. But what if you were then told 'Sorry, it's just an empty box. They've stopped making them. But we can sell you the new model...'.

And such was the position some Porsche

customers found themselves in when the much-loved and revered 993 range was consigned to history in 1998. This marked the end of the air-cooled era, for all that lay ahead were the new water-cooled Boxsters and 996s.

From Porsche's point of view, this move was filed under the heading 'Progress', but from the hardcore enthusiast's standpoint, it was to be filed under 'The last straw'.

Porsche had been struggling, off and on, for many years, with sales not as buoyant as they once were, production costs escalating to the point where something had to give. The front-engined 968 and 928s were a thing of the past, leaving the 993 as the sole product in the dealer line-up.

It was quite a responsibility, and a lesser car would have wilted under the strain, so to speak. That Porsche survived this period of transition is a measure of what a great car the 993 was.

The 996 and 986 Boxster were built using new advanced production line techniques,

sharing many components in an effort to keep costs to a minimum. Water-cooling the engine used in the new ranges was a necessary step towards making the new models compliant with increasingly stringent emissions and noise regulations – something an air-cooled motor would struggle with. It was a major (truly major!) step as far as Porsche was concerned, but a step too far in the minds of many longstanding customers.

The 993 had been seen as being the ultimate 911 by many, and still is to this day. Work began on this replacement for the stop-gap 964 as far back as 1989, in parallel with the front-engined 968, the ill-fated 989 and the rather bizarre Panamericana styling exercise (itself a birthday gift to a somewhat unimpressed Ferry Porsche...). Its styling was the work of Harm Lagaay, Director of Style Porsche (the official name for the styling studio) who confessed in a contemporary interview that 1989 had been one of the busiest in his career: 'Our studio





designed more models in that year than in the previous five. We were up to our eyeballs in work, but there was tremendous motivation, willingness and momentum present in the team, and the management were very encouraging in their backing of the projects and our visions'.

The 964 had retained the same bodywork above the bumper line as its Carrera 3.2 predecessor, the major changes occurring beneath the skin in the form of a new drivetrain (four-wheel drive was offered for the first time, alongside the more conventional rear-wheel drive layout) and heavily revised suspension, with MacPherson struts at the front and coil-sprung semi-trailing arms at the rear. Porsche's favoured torsion bars were now a thing of the past.

The result was a taught, well-handling 911 but one which lacked sophistication, the new rear suspension in particular held responsible for transmitting road and mechanical noise to the cabin.

The 993, on the other hand, was in another league. Rather than being a rather hasty revision of an existing model, it was a ground-up redesign, taking the best points of the old

and combining them with fresh new ideas. The styling was slick and modern, retaining the essential qualities of the traditional 911 profile, but with greater attention paid to aerodynamic efficiency. Under the skin, though, what made (and still makes) the 993 such a great car to cover the miles in was the new rear suspension.

A coil-sprung multi-link design, it was leap years ahead of that of the 964, as it was a largely self-contained unit revolving round a cast-aluminium subframe, itself mounted to the main body structure using rubber bushes. The drivetrain was improved in every quarter, too, with a much improved four-wheel drive system and six-speed transmission (a four-speed Tiptronic, as used on the 964, was also available).

Throughout its life, the 993 range grew like the proverbial Topsy, starting at the bottom with a 272bhp 3.6-litre normally aspirated two-wheel drive Carrera, before expanding to include such delights as the 300bhp 993 Carrera RS and mighty 408bhp Turbo. King of the hill was the 450bhp Turbo S, a product of Porsche's 'Exclusiv' programme which, at DM 252,300, cost some 14 per cent more than

the regular Turbo. Both versions were fourwheeled ballistic missiles in their day, capable of hitting 60mph in well under four seconds, before topping out at well over 180mph – the Turbo S was pushed to 188mph by *Car & Driver* magazine.

With their all-wheel drive, larger brakes, biturbo engines and wide-body styling, it's no wonder the 993 Turbo and Turbo S were so revered throughout their all too short life – the Turbo S was only offered for one year (1997) and just 183 examples were built. Their demise marked the end of the line for the aircooled turbocharged Porsches.

The 996 Turbo which followed was undoubtedly a fine car in every respect – today it is held in high regard, not only for its breathtaking performance but also the fact that its engine proved immune to many of the problems that are known to beset the normally-aspirated M96 powerplants. The 996 Turbo is as bulletproof as any car can be and currently represents incredible value on the used market, although be aware that prices are rising as we speak...

But it  $\bar{i}sn't$  a 993 Turbo, and thereby lay the problem for the original owner of the car you

Out for a relaxing drive on Dartmoor, or holding on like grim death? This car is a real Jekyll and Hyde – nail the throttle at 2500rpm and above and you'd better hold on tight

The all too short session with the car left us wanting more. It would take a brave man, though, to explore the upper reaches of the available power





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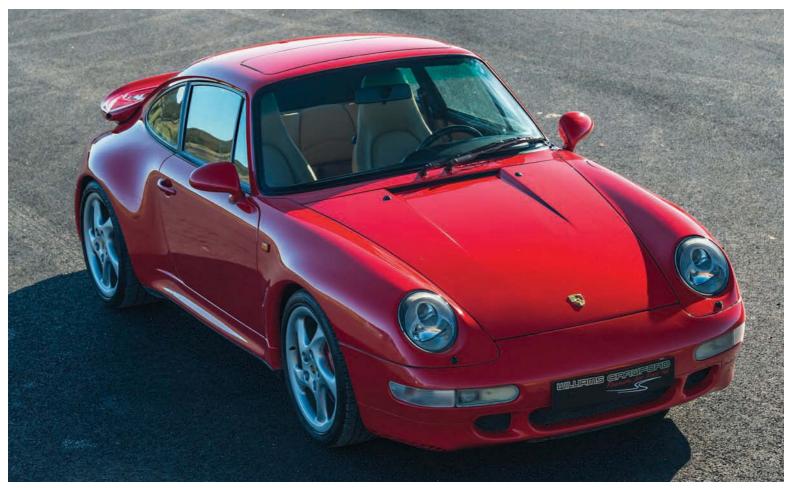
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see here. In 1998, Italian Porsche enthusiast Francesco Della Barba decided time was right to buy a new car, but looking at what was on offer, he couldn't bring himself to get excited about the new 996 range of Porsches. He wanted a Turbo, and although the 996 Turbo promised to be a rocketship, he wasn't impressed by the styling. So, what to do?

Instead, he opted to buy one of the last 993s available, in this case a Carrera 4S, with its wide-body styling, Turbo brakes and suspension and all-wheel drive. In effect, it was a Turbo without a turbo. Francesco's position as a director with clothing manufacturer Benetton took him to Dubai, with the 993 following obediently behind. The C4S is a heck of a car, and one of the most sought after of the model range, but it lacked the punch of a Turbo which the owner

desired. Once more, what was a man to do?

About a year later, Della Barba met Willy Brombacher, owner of the FVD Brombacher Porsche tuning establishment in Germany, who was on a visit to Dubai to promote the race car side of his business. In the course of a discussion between the two, Brombacher suggested to Della Barba that, as he could no longer buy a factory-built car to meet his requirements, why not have FVD Brombacher convert his current normally-aspirated 993 C4S into a 996 Turbo beater? With the added temptation of a 'special' price, the deal was done.

Brombacher arranged to ship the necessary components out to House of Cars, one of the principal exotic car dealerships in Dubai (which, we learn, has just ceased trading), along with his mechanics to oversee

the rebuild. Over the next 15 days, the team took what was already a pretty impressive automotive package and created a masterpiece. As far as we can ascertain, a total of 25 cars were converted by House of Cars, with this being the first of the line.

The C4S's original 3.6-litre engine was good for 285bhp, resulting in a 0–100kph time of 5.5 seconds, and top speed of just over 160mph. However, the 996 Turbo's 420bhp knocked that into a cocked hat with a 5.0-second 0–100pkh dash, before heading on to max out at around 190mph. That was quite a gap to close, but FVD Brombacher did more than just allow the 993 to hang on to the 996's coat tails, they made sure the 'old' Porsche would blow it into the weeds...

There is no existing record of precisely what was done to the engine internally, but

Guards Red looks great and shows off the 993's lines perfectly. Allied with a tan interior and you have a real headturning Porsche

FVD Brombacher engine conversion included the addition of a pair of turbochargers, a large intercooler and twinplug ignition









Tan interior is spotless, a credit to the car's two former owners. Dashboard will be familiar to anyone who's owned an earlier 911. Six-speed gearbox is slick and offentless.

Thanks to the

upgraded coilover

handles well, with

four-wheel drive

allowing you to

suspension, the 993

exploit the available

power (with care...)

what we do know is that the normally-aspirated 3.6-litre 'six' was treated to a pair of turbochargers, matched to a custom FVD-made intercooler that just squeezes under the rear lid. The factory Turbo engines were equipped with single-plug ignition, but Brombacher chose to upgrade this to a twin-plug system in the search for a better 'burn'.

Along with changes to the exhaust system, these modifications see the power output boosted (no pun intended...well, OK, maybe just a little one) to a massive 520+bhp, or not far short of double the original figure. That ought to be enough to wake things up – and it surely is.

The car found its way to the UK having spent six years back in Italy followed by another six or so with a new owner in Germany, and is now sitting seductively in Williams Crawford's impressive showroom at Saltash, Cornwall. The car looks, at first sight, fairly unassuming – if you can call a C4S 'unassuming' – until you take in the modified Turbo spoiler and the discreet 'Turbo' badging. Little details, like the extra tiny inlet ducts either side of the spoiler, suggest this is something special, but quite how special won't be clear until you drive it.

It sits slightly closer to the ground than a stock C4S or Turbo, thanks to being equipped with FVD's own coilover

suspension kit, but the wheels are regular 18-inch diameter C4S items, shod here with 225/40 and 285/30 Pirelli P-Zero low profile rubber. If anything dates the car, it's those 18-inch wheels, but that's what you got back in the 1990s, in the days before brake discs resembled dinner plates...

I have to admit that I'm not a massive fan

Unlike many other highly-modified cars of whatever marque, the FVD Brombacher-converted 993 fires up and idles like a stocker, with a deep and very purposeful exhaust note that hints at something special to come. The six-speed transmission is slick, the clutch heavy and, as it transpires, due to be replaced prior to sale. You could probably

**520BHP** 



## This is a car which deserves to be treated as something special...



of red cars, but the Guards Red suits the 993's curves perfectly. But what really makes this example stand out is the immaculate tan interior, which is as clean as they come, only showing the merest signs of wear – I guess 'patina' is the word everyone would use today.

The 993's interior will look familiar to anyone who's driven an earlier 911, the familiar five-dial dashboard with its random scattering of switchgear having changed little since the 1970s. To add to the period feel, there's even the original Porsche stereo head unit still in place, ready to accept your latest cassette tape.

drive this car as your daily transport, if that is what floats your boat, but to be honest, this is a car which deserves to be treated as something special, which it truly is.

Heading out onto the A38 towards
Plymouth, en route to a rendezvous with
snapper Fraser up on Dartmoor, the
temptation to give the throttle a little tickle
away from the toll booths on the Devon end of
the Tamar Bridge was too hard to resist. The
roads were still damp after one of the recent
downpours, but the sun was shining and the
birds were probably singing. All was right with
the world and as the tacho swung round to





2500rpm in second gear, I nailed it. Holy Mackerel, this thing is fast!

The trade numberplate placed on top of the dashboard, wedged against the windscreen, shot over my right shoulder at the velocity of a rifle bullet, the tacho needle climbing towards the red line at an equally impressive speed. Grabbing third gear, the rate of acceleration showed no sign of abating. If my licence was to survive the day, I needled to lift off and grab some brakes – fast. OK, so that's how it's going to be, eh? This is a beast which needed taming, but clearly the public roads in the UK are not the place for that.

Heading off the A38 and onto the road which leads, eventually, to Tavistock, we hit Plymouth's infamous roadworks. It must be hell for drivers having to contend on a regular basis with the road construction that's going on right now, for it was only a matter of yards before traffic was reduced to a crawl and the 993 – bi-turbos and all – was forced to follow suit. In the role of a commuter, it felt like a greyhound straining at the leash.

Over Dartmoor's strictly limited switchback roads (40mph, thank you), the Brombacher 993 felt composed, the suspension soaking up the lumps and bumps with aplomb.

Outside the restricted area, and given if not free rein then at least a little more freedom.

the car hugged the bends like a train on rails. Hit the throttle a little too early and the P-Zeroes would scrabble and slip, but the four-wheel-drive drivetrain helps keep you on the straight and narrow.

Some people knock the Carrera 4, muttering things like 'real Porsches are rearwheel-drive', but they miss the point. Without drive to the front wheels, a car like this would be all but undrivable on damp country roads in the UK. You'd spend all your time feathering the throttle or pretending you're Walter Rohrl, wrestling with the steering as the tail wants to swap ends accelerating out of a tight bend. Even with four-wheel-drive, those 520+ horses still make the biturbo 993 a handful and a car that needs to be treated with respect.

It's fair to say that the brakes are probably near their limits for the available performance, and I'd be tempted to look at some form of upgrade to take advantage of more modern technology. There's nothing inadequate about them, but I just get the feeling they could be improved upon, especially if taking the car on a trackday is your thing. And if you did venture onto the circuits with this beast, be aware that corners come up very, very fast. Let your concentration slip and you'll be visiting the gravel traps sooner than you'd like.

But the one abiding memory of this car, aside from its truly astonishing rate of acceleration, is the amount of torque the engine produces in the mid range. Lots of similarly-converted cars tend to be a little flaccid low down the rev range, but not this. From 1500rpm upwards, you can feel something happening, by 2500rpm you'd better be holding on tight. You don't need to get the turbos spooled right up to have fun, but when you do, savour the 'waffle' as the wastegates open while you frantically try to grab another gear.

As a complete package, back in 1999, the twin-turbo FVD Brombacher conversion must have been without peer. Heaven only knows what its top speed is, but it's reckoned to be close to 200mph, and we have no reason to disbelieve it.

Quite how stable it would be at that speed, I have no idea, and don't wish to find out. There's no two ways about it, this is a hell of a car and even today, 19 years since it was built, I doubt there are many which could stay with it given the right conditions – and the right driver...

As Adrian Crawford says, 'FVD assembled a package of parts and set to to make this not just a bi-turbo, but a bi-turbo on steroids!' And he's not wrong. **PW** 

If it was ours, we'd remove the 'Turbo' badge and leave people guessing. This car is little short of being a ballistic missile on wheels...

CONTACT Williams Crawford Tel: 01752 840307 williamscrawford .co.uk

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Turbo brakes came as standard on the Carrera 4S. Turbo rear spoiler has extra ducts added to feed air to the intercooler and engine bay









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911 GT2 / RS	Left	7056	7056	7069	
	Right	7055	7055	7070	
	Center	7053	7053	7068	
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	Center/CUP	7057 7053	7053	7068	
Boxster	Left	7044	7047	7066	
	Right	7044	7048	7067	
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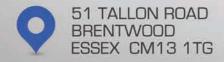


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ooking at the crazed six-figure prices currently commanded by anything air-cooled and RS-badged the idea of using them as intended seems a distant dream. Now very much in the realm of investment trinkets, their lucky owners can covet them as best-in-breed examples of rare 911s and spend their days tracking the upward curve of their values.

All very well. But wouldn't it be more fun to have them out on a track and being driven as they were built to be driven? You don't have to look too far back to a time when values were such owners of 964 and 993 RS models were swapping stories on forums about their latest track day outing,

leaving tyres down to the canvas and big grins on their faces without a thought to returns on investment. They may not have bagged the big bucks when buying or selling their cars but they arguably had more fun with them.

So what's the Porsche enthusiast with a craving for a track-ready 993 to do now? Money no object you could still buy an original RS and drive the wheels off it, for which you'd get the undying respect of everyone other than your financial advisor. If you've got the money there's no reason not to though, even if the reality is most will now be residing under dust sheets speculating to accumulate.

But the reality is that if you want to drive an RS as an RS should be driven you may

have to bite the bullet and build your own from a regular 993, two suitably colourful examples of this philosophy assembled here for our entertainment on a cold winter's day by our friends at Specialist Cars of Malton. Both could pass as an example of a Clubsport-spec 993 RS but both started life as standard Carreras, the question of how far you'd be willing to go with such a conversion something to be explored on a windswept Blakey Ridge in due course.

There remains a degree of soulsearching when it comes to replicas of course. Sympathy for those lucky enough to own a genuine 2.7 RS will be measured but if you've invested in an original it must be galling to be constantly asked





if it's real or a rep. Given how far values have gone it's an inevitable result of supply and demand though, the supposed stigma of dressing a 911 up as something it's not (or wasn't when it was first built) lessened as the values of the real ones disappear out of reach. That the same is now happening to later RS models is

dreams of using it on track.

Returning to the question of how far you're willing to go to live the RS dream. Dressing a regular Carrera up in Aerokit options or RS-style wings is all very well. But you run the risk of looking like one of those people who self-consciously turns up at the pub in their gym kit in an attempt to

in dressing your regular 993 up in a track suit than purists might think...

And that was the approach taken by a former owner of the yellow car you see here. A classifieds listing printed and preserved in its history folder reveals that a decade ago it outwardly looked pretty much as it does now, complete with the full aero kit included with the properly pared-back Clubsport package and fitted as an option to some 'regular' 993 RSs to replace the standard whale-tail. The majority of the 1200 built were in this configuration, sometimes mistakenly referred to as 'comfort' models when no official distinction was made. Consensus has it a little over a hundred buvers went for the full Clubsport package, which removed most of the interior, added a roll cage, swapped the standard dual-mass flywheel for a single-mass item and effectively left you with as close to a road-legal RSR as has ever been offered. Sometimes referred to as RSRs, these true Clubsports are now

Despite stripped interior, the yellow RS clone is the more civilised of the two. Dan is smiling because it's just stopped snowing. Well, it is North Yorkshire in January



## John makes the point that a genuine 993 RS could be £350,000 plus

perhaps inevitable, Malton's John Hawkins making the simple point that a genuine 993 RS would be anything from £350,000 up. Values of regular 993s are hardly scraping the floor but even at current levels a pre-modified RS-alike represents a significant saving, especially if you've got

prove their sporting credentials. Wearing the clobber is one thing. Having the talent to do it justice another. There's also the reality that roll cages, harnesses and similar circuit trimmings can make a car a real pain to live with when you're anything other than maximum attack. Maybe there's less shame

Attack of the clones. Yellow car retains a largely standard engine, while orange machine has a very highly tweaked 3.8litre engine





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highly coveted, though not every 993 RS with a big wing is necessarily among their number, the presence of interior trim being the main giveaway.

Back then this car was very much the sheep in wolf's clothing though, the big wing and TechArt wheels a skin-deep expression of the owner's desire to look the part while enjoying the leather-lined luxury afforded to drivers of regular 993 Carreras. The credibility of such a makeover is less stretched than it would be now, the onpaper difference between the 270ps/266bhp Carrera 2 3.6 this car started out as and the modest-sounding 300ps/296bhp of a proper 3.8 RS seemingly not that huge.

There is, of course, a lot more to a real

RS than that, the 1270kg kerbweight leaner to the tune of at least 100kg thanks to the removal of everything from airbags to headlight washers, while torque increased from 243lb ft to 262lb ft in the RS, 0–62mph slashed by over half a second to 4.9 and top speed increasing from 168mph to 172mph. Numbers remain only half the story, though, the slammed suspension (lowered 30mm front, 40mm rear) with its stiffer springs, anti-roll bars and damping and the fatter tyres on multipiece 18-inch rims all make the RS a much sharper driving machine and worthy of its exalted badge.

All the same, our man will have pottered around in his Speed Yellow RSalike safe in

the knowledge that, in raw numbers terms, his car wasn't actually too far off the pace of the real thing. What happened next was a much more concerted and committed effort to live up to the looks, the subsequent makeover best described as going full Clubsport with the removal of most of the interior, the addition of a welded in cage and a full package of harnesses and other track-ready trimmings.

As it now stands the car is a convincing visual representation of a full Clubsport spec car, hunkered down on its correct 18-inch RS wheels on H&R coilovers and more in keeping with its billing as a homage, rather than mere pastiche.

So it's a bit of a shock to hear how

If you're the owner of a standard Speed Yellow 993 C2, then you are almost duty bound to turn it into an RS replica









Engine is largely standard, which makes it something of a blank canvas for the next owner

You would soon tire of clambering over

the welded in full

cage if you were to

use this purely as a road car. Save the

road stuff for the

drive to the track

civilised it feels to drive. Seemingly bar a Cargraphic induction kit the powertrain is standard. Obviously it'll have had some weight stripped out of it compared with a standard Carrera 2, and in bald terms its power to weight ratio probably isn't too far off the real thing. And what's not to like about a lighter, track-prepped Carrera.

What it lacks is the angry, chuntering tickover of a true RS and the raw intent of a proper homologation 911. For all the extremes of the exterior looks and track trappings of the interior this one is nearly as civilised to drive as any 993 Carrera, which works rather well for the road. At least if the way the orange car up ahead is riding the bumps is anything to go by.

At low revs the 3.6 fades almost into the background, asserting itself more vigorously as the needle on the rev counter passes

4000rpm in the way all naturally-aspirated 911s do. For all the ground-hugging stance it rides the bumps well, the smaller threespoke RS wheel writhing gently rather than kicking back harshly. This combination of civilised driving manners and shouty looks

careful what you wish for...

Racing car for the road is a much overused description. But one you could use literally in the case of this particular 993 RS homage, or so it feels when strapping yourself in. If the yellow car is a regular guy

993 RS CLONE



#### Racing car for the road is a much overused description

does seem a little incongruous but actually works rather nicely. There are times when you wonder if a little more rawness might be appropriate, though. A quick run in the orange car perhaps suggests you should be in fancy running shoes this feels like a proper athlete of a car, gnarled, wiry and fizzing with competitive spirit.

Even without reading the technical spec it's clear this conversion has been carried





out with a great deal more seriousness than the yellow car. The surround remains but the dials have been replaced with a digital display and the other switchgear has been swapped for basic toggles or buttons, their location and labelling seemingly applied

it requires flicking a battery isolator and a button push rather than the fiddly road car immobiliser and key of the yellow car.

The engine was rebuilt by Paragon Porsche two years ago as part of the car's evolution from roadgoing Carrera and into

alone nudging on five figures. And it sounds angry. Really, really angry.

For all their superficial resemblance these are two completely different cars in character. The orange car feels harsh, stiff and unyielding, skipping this way and that over the bumpy moorland roads but commendably well damped considering. It's busy, certainly, and there's limited wheel travel meaning it gets airborne over even modest lumps. But it feels well set up and so, so exciting to drive.

Whereas the yellow car is happy to mooch the orange car is at maximum attack, all the time. It just demands it, every control tighter, more responsive and more dialled in. The short-shift gearbox switches ratios quickly, the clutch is assertive and the brake pedal barely moves, which would be fantastic on a dry track with warm tyres but without ABS demands planning and

The orange clone is a much more exciting proposition, but then even less of a civilised road car



## The yellow car is happy to mooch, the orange car is at maximum

with race car functionality rather than aesthetics in mind. A metal lock-out hinges over the handbrake to keep it in place and beside it is a brake bias lever with basic instructions on its operation - one click forward for dry, two for wet - while starting track-ready RS clone, capacity increased to 3.8 litres with various RS-spec parts and an extensive beefing up of all internal componentry. There's a Motec ECU controlling it all and RS gear linkage to finish the job, the final bill for the engine











The 3.8-litre engine is very much the part, with RS internals and a sizeable build invoice. Interior is full on race

Racer for the road

is the noise and

occasion of the

driving experience

probably feels faster

than it really is, such

concentration on a wet moorland road. Lock-ups are easy to provoke, meaning it's better to be conservative with your braking points and give yourself wriggle room, control inputs quickly blurring into a frenzy as you tense against the harnesses and grip the dished, Alcantara-rimmed wheel, knuckles whitening with every mile covered.

It genuinely drives like a racing car, which makes it feel just ever so slightly naughty out here on the public road. Saying that, for all the drama the speeds aren't actually ridiculous, this being a classic case of sensation coming first. You could waft along at the same speed in a modern executive car and not break a sweat. Or you could do the same in this one and arrive at the same destination wired on adrenaline, ears ringing and looking ever so slightly manic. Which is kind of what you want from a bright orange 911 with racing seats and a

roll cage - right?

What both these cars prove is that with the prices of real RS models all but unattainable a replica is a more credible alternative, especially if you have dreams of taking to the track and driving it hard. They also demonstrate that within ostensibly numberplates for the occasional illicit road blast. While the yellow one has all the hard work done on the aesthetic mods and is a few relatively straightforward engine tweaks away from being a delightful track-biased 911 with more than enough RS flavour to make it a faithful celebration. It's too far



## For all the drama the speeds aren't actually ridiculous

22

similar clothing a 993 can look the part while retaining its fundamental usability. Or be turned into something genuinely wild. Having tried both extremes the orange one would be best kept as a track car with

down the road to be painted silver and restored to road trim after all — why not finish the job and have some real fun with it, free of the golden handcuffs investment values of the real thing now represent.  ${\bf PW}$ 



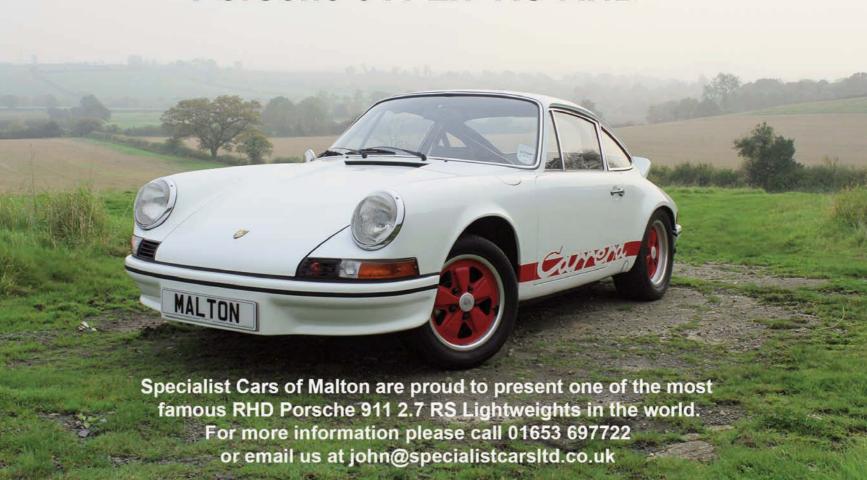


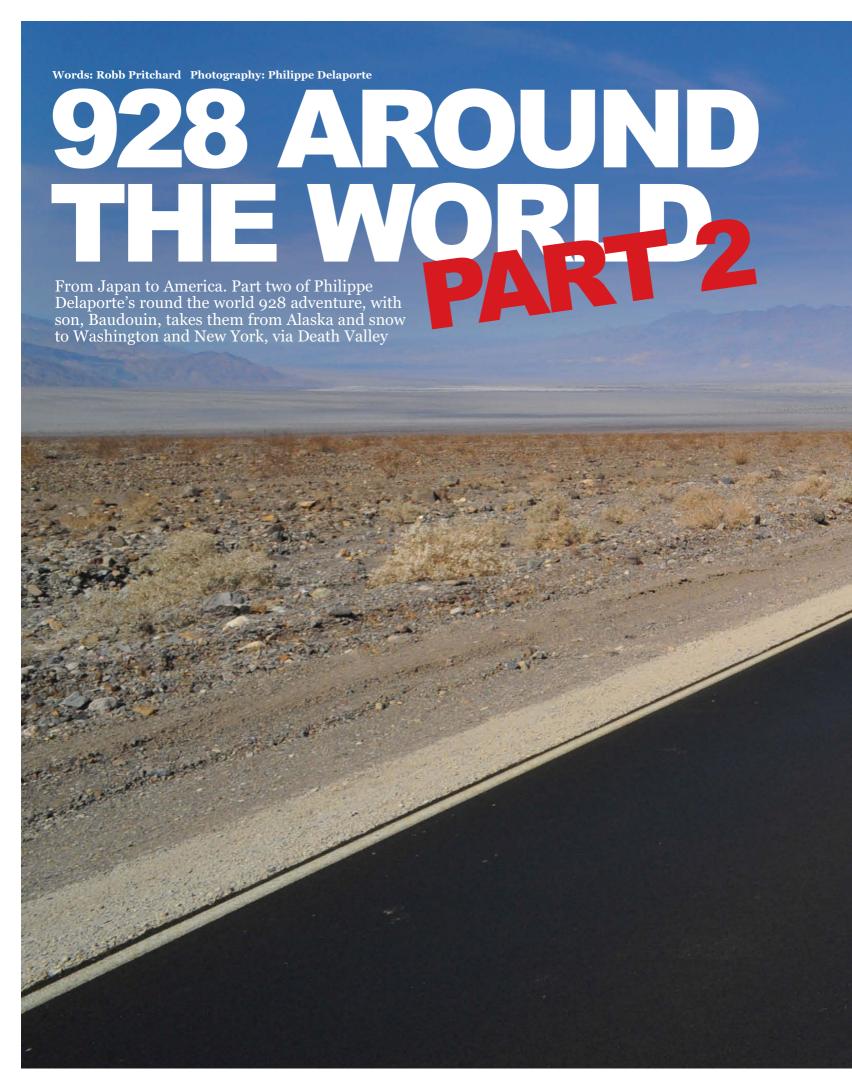




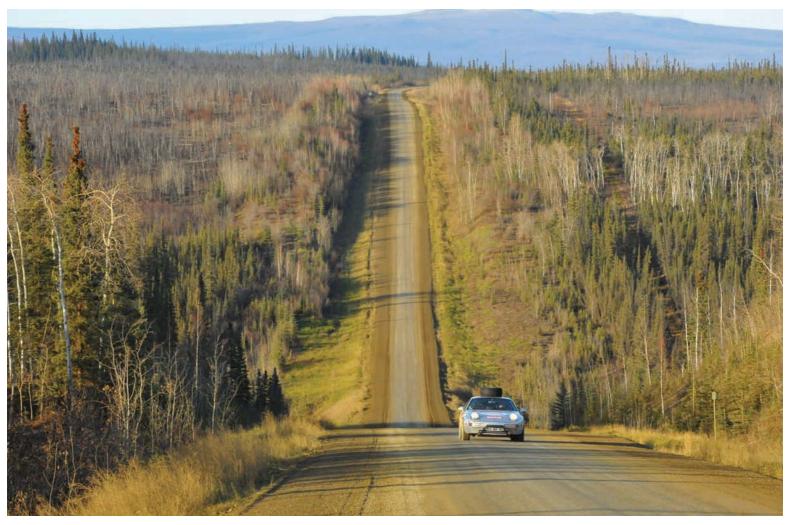
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#### Porsche 911 2.7 RS RHD









ith the father and son team of Philippe and Thibault Delaporte having completed the first part of the journey through Europe to Russia, and with the 1989 928 GT on a container ship heading from Japan to Seattle, they would have been forgiven for thinking that the hardest part was done. Actually, the hardest part was about to begin...and they were close to losing the Porsche.

Back in France, with a month to wait for the Pacific crossing Philippe and second son Baudouin applied for what they thought was a straight forward visa-free service for America. It was far from that, though. Because of the visit to Iran five years ago in the 928 they had to go to the embassy for a special appointment. That should have been simple enough except that there was a twenty day waiting list and then, because the embassy put the passports in the post,

trying to find where it was, finally locating it in a random sorting office. They wouldn't just hand it over, though, and had to put it back in the system all over again.

But while all of that was going on the

On the Dalton Highway, the mainly dirt highway which leads to the Arctic Circle



## The US customs had taken an interest in the strange looking Porsche

Baudouin's got lost. Bureaucracy, eh? So, close to departure, if he had to get a new passport the trip would have had to have been cancelled, so Philippe spent days

Seattle-based handling company had some even worse news. The US customs had taken an interest in the strange looking Porsche and wanted to do a full document

Big bears and big trucks. Right: Snow is no place for a 928, but the Pirelli allweather tyres got them through





check on it and so Philippe needed to produce all the paperwork two weeks before the inspection. Because of the passport palaver, and not knowing exactly when the ship would arrive in dock, Philippe didn't quite have all the paperwork as he didn't have flight tickets back to Europe. The handler explained that if he didn't have the tickets in the

afterwards that apparently the officials were just curious about it because it looked so different.

The initial plan to get the car to Alaska was to put it on another ship heading north, but the customs delay meant that they missed it. Even more money lost, but now the main concern was that the wait for the next one would have put them

a plan, though, so blowing the budget calculations Philippe simply put the car on a truck and had it driven up to Anchorage. "Paperwork and bureaucracy are all part and parcel of taking a car on an international trip and if driving around the world was easy everybody would do it," he says philosophically.

Finally, they flew out and picked the car up. But instead of heading straight down south as fast as they could to beat the snows Philippe immediately took a big detour and drove north on the Dalton Highway, a 280km dirt road up to the Arctic Circle. "Baudouin said I was crazy to go off-roading for hundreds of kilometres out of the way, especially as it was starting to snow and was about zero degrees. He was sure we'd break the car on the rough road or get stuck in the mud, but I didn't want to just drive for miles and miles, I wanted to travel to see the world."

The dirt road is wide but is so seldom



## If driving around the world was easy, everyone would do it

77

next couple of hours the car would automatically fail the inspection, be confiscated and sold at auction! Philippe bought some flights, which was another 1300 euros added to the budget, but the car passed. The handler said in Alaska towards the end of October. It may be a good catch phrase for Game of Thrones but 'winter is coming' is not great news when you are heading so far north with a two-wheel drive Porsche.

Postponing the trip until the spring wasn't





used that only the middle of it is smooth... and it's also the domain of truck drivers who speed along at breakneck speed expecting that anything smaller coming the other way will just swerve out of the way. It wasn't too much of a relaxing drive. Another consideration was that if something went wrong, such as a breakdown, or even something as simple as getting stuck in a truck's wheel tracks in the soft verge, then the minimum charge for calling out assistance is \$1700. The Koni springs and shocks did what they were supposed to do and, apart from being covered in mud, the car was no worse for wear. The Arctic Circle is now one more point of interest in the world that the car has been to.

Back 2400km south at the Canadian-

American border the guards were dumbfounded to see the mud and frozen slush covered 928 pull up in the queue of equally dirty SUVs and 4x4s. Then began the long drive south. They stopped in

alternative Porsche legend was amazed to learn of their story and couldn't believe that they were driving so far with absolutely no support whatsoever. A new friend was made here. Also, some local Porsche enthusiasts

Alt Porsche legend, Magnus Walker, greeted Phillipe (right) and Baudouin in San Francisco



## The alternative Porsche legend was amazed to learn of their story

Seattle and San Francisco, cities that they both loved, and then got to somewhere they'd been looking forward to for a while; the garage of Magnus Walker. The

who'd seen the website and were following their progress contacted them to arrange a meeting, and so another highlight of the trip was an amazing evening being driven

Below left: A pit stop at renowned Porsche specialist, Parkhaus 1, in Miami. Below: The unmistakable streets of San Francisco









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around San Diego in a collection of 356s. Philippe loved the time in the States. "America is an amazing country for driving Africa, in America there is no risk at all." Another highlight was in the spectacular Monument Valley where, with a bit of



#### For a nominal \$10 you can drive on the sands of Daytona beach



in. For me, I especially loved the deserts like Death Valley. It's just as spectacular as the Sahara but unlike driving off-road for days on end to terribly remote places in

friendly haggling with the local natives manning the ticket booth, Philippe managed to inch the 928 onto John Wayne Point for one really breathtakiing shot. A show or two

in Las Vegas then it was on to Houston, New Orleans, Louisiana and Miami where another slight detour took them to Key West, the southernmost point of mainland USA. Parkhaus 1 was another Porsche dedicated highlight stop.

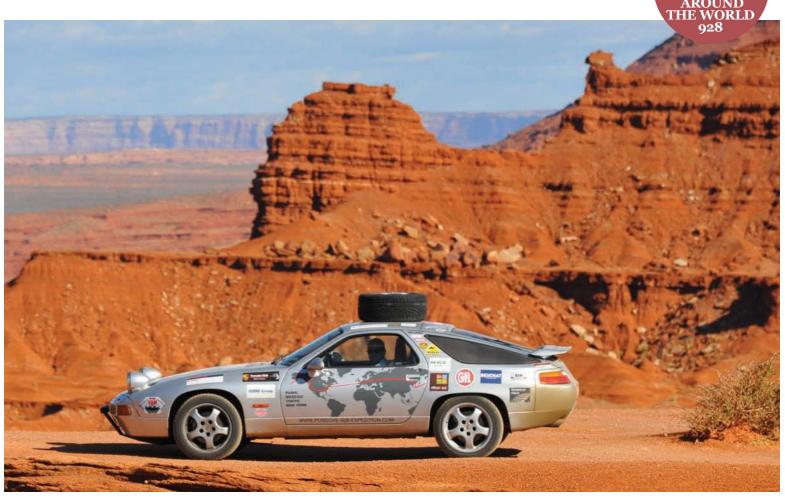
For a nominal fee of \$10 you can drive on the sands of Daytona Beach, scene of the famous racetrack and numerous land speed records and of course Philippe couldn't resist. But here was the only time on all of the world trip that they got stopped by the police for a full document check. The officers couldn't believe that the number plates were really French and that the spare wheel was really securely

Driving in America is spectacular, but never too remote as to be dangerous should anything go wrong

Below left: Route 66. Well, you've got to, haven't you? Below: Death Valley







The 928 on the spectacular John Wayne Point, Monument Valley

Below: Daytona

Beach. Right: Big

yellow taxi – has to be New York mounted on the roof. Satisfied that they were indeed driving around the world, and that the wheel hadn't been left there by accident, they were free to continue.

Washington and New York were the last points of call before taking the car to the port to be wheeled into a container and tethered down, and it was another few weeks before it arrived back at Le Havre. The condition of the roads in the USA had completely worn out the Pirelli M/S tyres so Philippe drove carefully and wasn't even concerned with the notoriously bad Parisian traffic.

After 34,714km, 4500-litres of petrol and thirteen countries traversed the 928 has now entered Porsche legend as the only car from Stuttgart to ever undertake such a journey, and obviously HQ wanted to use the car in brand promotions. Philippe was of course happy to oblige and was basically

granted celebrity status as he was invited to take part in the Silveretta Classic rally in Austria, with the well-travelled 928 as an official Porsche Classic entrant! It was an amazing experience but not as amazing as being invited by Porsche Stuttgart again to

and announced to everyone that Philippe was a hero for doing what he did. That was another highlight. Never mind a trip highlight, that was a life highlight!

The car is now retired and its long distance driving days are over, and if you happened



## After 34,714km and 13 countries, the 928 has entered Porsche legend

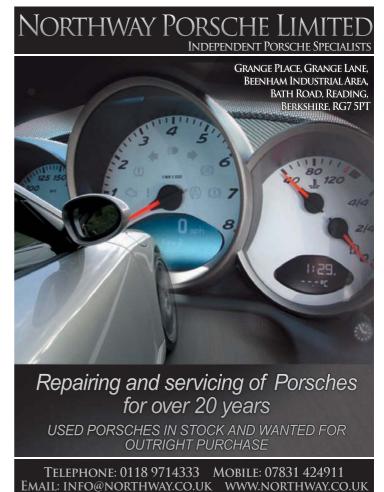
**)** 

the Nürburgring for the 40th anniversary of the 928. Porsche trailered the car over from Paris and flew Philippe up from his holiday and in front of a thousand Porsche VIPs Magnus Walker took the microphone to spot the odd looking 928 on its travels, on raised springs, protected lights, covered in stickers and the spare wheel mounted on the roof, now you know just how amazing its story is. **PW** 









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how me a man and I'll show you any number of hobbies and interests bordering on the obsessive. We're all guilty. It's why you've picked up this magazine, because your interest in Porsches goes beyond the casual ownership experience. You want to know more and do more and read about other folk who are bitten by the Porsche bug, people like Roger Bracewell and his Porsche 924S.

Roger, you see, has got a thing about weight. Not his weight, you understand (although he is undoubtedly lean), but the weight of his 924. It didn't start like that, but then it never does. It started with the purchase of a really nice, clean machine back in 2012, when 924S prices were where they'd always been, which is to say good and low.

This wasn't Roger's first front-engined, water-cooled Porsche, but the latest in a

longish line of 944s and a 968 that he'd owned. But, like many, he was attracted to the 924S by its purity of shape and relative light weight in modern terms. How heavy? Well, just 1260kg. Nothing much to write home about in the mid '80s, when a Golf GTI weighed in at about 1000kg, but the 924 was always a rather more substantial car. Whatever, the weight thing kept playing on Roger's mind and he resolved to start making it lighter and lighter and, er, lighter.

We've been keenly following Roger's project from the outset looking forward to the time when we could bring you the full story. That time is now. As a fellow front-engined Porsche fan, with 944 ownership running into double figures, Roger's emailed updates, with detailed pictures, were always a treat to receive. And, of course, like all projects, this one took way longer than anticipated, but that's because Roger has pushed the boundaries of 924 mods and general geekiness to new levels, we're sure

you will agree. But then that's what happens when a project takes hold. There's no rhyme or reason, except for the sheer satisfaction of the build and the journey.

And the build and journey has to start somewhere, and in this case it was with an innocent wheel refurb. Roger is also 'The Wheel Restorer', with Porsche wheels a speciality. No surprise, then, that the 924's 'Teledial' wheels just happened to find their way into production at Roger's Wrexham base and finished off with a set of new Michelins. Naturally, new boots made a big improvement to the 924's general demeanour and got Roger thinking about wheels, tyres and unsprung weight in general. Being a 'wheel' man he knows about these things and knows how bloomin' heavy a set of wheels and tyres can be, even alloy ones. So he began to experiment with different tyre/wheel combinations from the Porsche range to make the 924 that bit lighter on its Michelins.





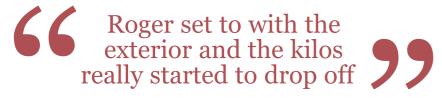
He concluded that 16in Cup wheels as fitted to the 944 Cabriolet and 968 would make the best starting point, weighing as they did 17kg (fully 2kg lighter than a Teledial). But that's not all. Figuring that they had enough meat on them, and bearing in mind the weight of the 924 compared to a 944 or a 968, he figured that he'd be able to machine the face

All this makes a big difference to dynamics. Less unsprung weight equals faster acceleration and agility, improved braking and cornering. Further wheels were sourced. Another set of Cup wheels, this time shod with Toyo 888s for track days, and finally yet another set, but this time the rare 6J x 16in Cup wheel, which Roger attacked, machining

standard belts. Beige carpets were replaced with racier black numbers, the door cards stripped and painted black, and Roger fabricated a rather wonderful custom aluminium roll cage, with rose jointed tubes, and clever brackets, which avoid welding in mounting plates and which fills the void in the back, where the rear seats once lived.

Roger, clearly on a roll, set to with the exterior and the kilos really started to fall off. Starting at the top, the electric sunroof was ditched with a total weight saving of close to 13kg and, of course, taking weight out here improves the centre of gravity, too. Halesowen based Club Autosport supplied a glassfibre bonnet (9kg v 20kg for the steel bonnet) and front wings, plus a 924 Carrera GT style front valance, to which Roger fitted the appropriate Hella lights, which weigh in at 3kg the pair compared to the mighty 15kg of the standard pop up lights, with motor and connecting bar.

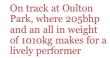
Glass is heavy and the 924's all glass rear hatch is horribly heavy. A Lexan version, with a neat bridge style wing from Carlton Motorsport in Barnsley took yet more weight away from the upper half of the car, while Roger also attacked the doors. Glassfibre Roger Bracewell at the wheel of his superlight 924S track car. Fortunately he's quite lean himself



of the wheel flat to shed more weight, without compromising strength. He added some holes for more weight saving and aesthetics and fitted 205/55x16in Michelin Pilot Sport 3 tyres to achieve a wheel and tyre weight combination of 16kg each and a weight saving of 25kg in total compared to a typical 17in Cup wheel/tyre set-up popular as an alternative fitment to front-engined 924s/944s/968s.

the face and fitted with Michelin Energy tyres for road use to achieve a total weight of 15.5kg for wheel and tyre.

It could have ended there, but by chance a set of Cobra Kevlar race seats landed in Roger's workshop. Out came the heavy standard seats and in went the Cobras and the weight saving started in earnest as Roger started to monitor what was coming out. Naturally the rear seats went, too, plus the





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doors are available, but never fit well, so Roger picked up a pair from a race car and modified them further by taking weight out of the door frame, adding a cross brace for strength and replacing most of the steel skin with aluminium (a saving of 20kg for both doors). Further weight loss was found by replacing the rear bumper and heavy 'flag' style electric mirrors (3kg each) with 500g race mirrors, and removing the front driving lights (1.5kg the pair).

Needless to say, while all this weight shedding was going on, Roger was plotting further modifications. After all, why stop at weight? Indeed, with such weight reduction, the standard suspension would be at a loss, with the stock springs and dampers completely out of kilter with the new, lighter demands placed upon them.

Roger is a man after my own heart, and something of a suspension obsessive. Initial dalliances with various strut inserts and spring combos from Spax and Bilstein weren't getting Roger anywhere, so he decided on something rather more bespoke. To be honest, there isn't enough space here to go into what would make a feature or possibly two in its own right. Regular readers will appreciate that from my own 996 suspension saga. For the full suspension lowdown check out Roger's excellent project website (details at the end of this feature), but in the meantime here are the highlights.

Star of the suspension show is a full custom coilover system, with remote reservoirs, from Dutch suspension experts, Intrax. I will spare Roger's blushes by not revealing how much, but we're talking quality here with a capital 'Q'. As well as a massive range of adjustability they incorporate Intrax's patented ARC (Anti-roll Control) system which stiffens the suspension under cornering, yet retains ride comfort and compliance in the straight ahead. Clearly a benefit on UK roads.

Being a coilover set-up height adjustability is a given, but in order to take advantage of this, Roger needed to make the rest of the suspension fully adjustable, too, creating his own top mounts and modifying some 944 spec aluminium lower wishbones – in conjunction with FP Engineering in Wales – to accept adjustable male rose joints, which attach to strengthened 924 stub axles and adjustable tie rods. Every variable in terms of ride height, camber and caster can now be catered for.

At the rear the torsion bars are retained albeit 27mm thick, hollow, height adjustable jobs from Elephant Racing, with the original spring plates refurbed with Poly Bronze bearings again from Elephant Racing. The torsion bars work in conjunction with the Intrax coilover damper units, or should that be to say that the dampers/springs take the strain in the corners. The coilover units have an additional helper spring, which

Intrax coilovers, with a vast range of adjustment, plus Toyo R888 track tyres offer handling and grip to match the power





Just some of the parts from this epic build. Starting point was a nice, clean 924S. Lightweight balance shafts make for an eager engine as does lightened, knifeedged crank and lightweight pistons and rods. Note clever, adjustable suspension arms, plus lightweight doors and fabulous Intrax suspension

works with the torsion bars in unloaded/straight ahead situations, but under conering, braking and acceleration quickly load up to let the main spring take over. Incidentally, the helper spring set-up is what Porsche used on the last of the line 997 4-litre GT3 RS to take the sting out of the suspension compared to the previous 3.8 GT3 RS. It worked, too.

In terms of braking, Roger found a way to lose more weight and improve stopping power by ditching the heavy iron single-pot calipers in favour of Wilwood Dynalite six-pot calipers front and four-pot rear, with Stop Tech discs, all ably assisted by the fitment of a 968 brake master cylinder.

So now you want to know about the engine, don't you? I must admit Roger's regular missives were of particular interest to me with regards the power unit because

I was busy modifying my own 944 8-valve engine at the time. Roger, though, decided to take a rather different path and create something in the shape of a 2.7-litre 8-valve. Sure, Porsche created its own 2.7-litre engine for the run-out 944 8-valve Lux, but Roger's 2.7 is nothing like that.

The short engine is made up of a combination of a 944 S2 3-litre block, a 2.5-litre 944 Turbo crank lightened (another 3kg gone) and knife edged to cut through the oil, turning 968 forged con rods, which in turn punch lightweight Wossner pistons. This combination creates a 2.7-litre configuration and was supplied by US 944 gurus Lindsey Racing. Roger also sent his 8-valve cylinder head to Lyndsey Racing to be worked and gas-flowed, and a custom camshaft with increased duration came from US based Web Camshafts. And sticking with the good old US

of A, Broadfoot Racing supplied lightweight balance shafts, still required to keep the big four pot spinning smoothly.

The build of the engine was entrusted to Paul Livesey at Preston based Race & Classics, a fledgling outfit born out of Summit Preparation. Paul has a history of building race winning Porsche engines and was a class winner in the CSCC Modern Classics Championship in his 968 in 2017. Paul maintained that the standard injection set-up, with its primitive air-flow meter and near clockwork Bosch ECU would be capable of delivering enough air and fuel mixture to make the most of the components Roger had collected. I confess that I was dubious, but proved very wrong.

Roger further detailed the engine with a lightweight alternator, which allowed him to lighten the alternator bracket. The exhaust







system was given a Zircotec coating to keep the heat in and under bonnet temps down. The inlet manifold was shortened for a straighter flow of air from the standard throttle body and internally polished to speed up the airflow into the engine.

The result of this careful parts pick and mix, plus expert build by Paul Livesey, was finally realised on the rolling road, when ECU and chip tuning guru, Wayne Scholfield of Chip Wizards set about fine tuning the old Bosch ECU. Not many folk know how to get the best from these in the 21st century, but he proved Livesey perfectly correct and after eight hours of 'live' tuning a headline figure of 205bhp at 5700rpm and 205lb ft at 4500rpm was achieved. That, you'll agree, is pretty good going from an 8-valve, four cylinder engine and isn't far off a 3-litre 944 S2 engine. What's that you say? Why not just stick a 944 S2 engine in? Oh, really, where's the fun in that?

Oh, and sticking with the running gear, Roger naturally went all out with the transmission and commissioned Paul to fully rebuild the transaxle gearbox and fit a Wavetrac limited slip diff.

So that is pretty much the build as started with the purchase of the car in 2012. Given that Roger's motivation started with dumping kilos, just how much weight has he managed to lose? Well, if this was Weight Watchers a loss of 210kg would presumably be worthy of some sort of award. To save you the calculation, that brings the 924 in at 1010kg and tantalisingly close to a sub 1000kg figure.

And the big question now? Well, what's it like to drive? We can't wait to find out, which is why we're now at Oulton Park in early December 2017 for a track day courtesy of Javelin. The day is bright, the track is drying out and Roger's 924 in the metal looks absolutely stunning and a testimony to all his

hard work and attention to detail, which manifests itself in the fit and finish of both the new components and all the lovingly restored, painted and powder coated parts, too. Roger, by his own admission, gets a bit carried away with this sort of thing, but when you've got the skills and the equipment, then why not?

Roger has put a few thousand miles under the wheels now, but is conflicted as to the future role of the car, but it looks like the 750 Motor Club's Club Enduro series is calling, where he will share driving duties with Porsche enthusiast friend, Lee. As a former 125cc, geared kart racer, he's got the ability. Indeed, that's more than apparent after strapping myself into the passenger seat for a few laps, with Roger at the wheel.

It's been a long time since I've driven at Oulton Park. It's not what I would call one of my favourite tracks, but that's more out of lack of familiarity with its rolling terrain. Frankly, I'm Engine bay is a thing of beauty as Roger cannot resist applying his skills to the aesthetics. The 2.7litre engine, built by Paul Livesey from a pick 'n mix of parts, produces 205bhp

Below left: Quick fuel stop at Oulton Park. Just look at the size of the Ferrari compared to the compact 924







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Below right: Taking light weight to the maximum. Roger machined the face off a couple of sets of Cup wheels, saving 25kg in the process

mym3.co.uk/audi Paul Livesev

07970 475004

glad that I'm going to be at the wheel of something that is clearly going to be user friendly and not bite back if clumsily provoked.

Comfort counts and I fit just fine, the deep dished wheel doesn't trap my knees and the modified shift lever is now where Porsche should have put it. It sounds racy in that typically stripped out sort of way, as various panels buzz and zizz. Trundling down the pitlane and blending onto the live track, I tuck in to the right and let a gaggle of hard-driven hot hatches slice past and then take my line, with track clear in front and behind.

First impressions? The engine does not feel like an 8-valve, four-cylinder 924/944 unit that I've ever experienced. The lack of rotating mass is keenly felt in the super sharp throttle response, helped along by a lightweight flywheel, too. The engine pulls and pulls, with power across the board, and revs cleanly to 6000rpm. Roger's carefully curated pick 'n' mix of parts and collected wisdom from both sides of the pond has created something quite special. I wonder what it would achieve with throttle bodies? As it stands with 205bhp and weighing just 1010kg the power-to-weight ratio is pretty good as it is, and that's before

you get to its braking, cornering and general handling abilities.

Of course, balance is a given in any 924, with the famed transaxle layout, but with such weight loss and much of it low down in the car, Roger's 924 takes on a different kind of agility. With the Toyos up to temp it responds to measured driving inputs, rather than just by slinging it around. It's not a

talking of turning, the steering is fantastic, with a dab of negative camber to ease what can be a slow manual rack.

I could happily drive Roger's 924 around Oulton Park all afternoon, but I hand it back for the final few sessions of the day. Roger is pondering suspension settings and, given the massive range of adjustability, there's much to ponder. Out on track he makes short work of



#### I could happily drive Roger's 924 around Oulton Park all day

"

sideways machine as such, the weight distribution is too even for that. Like any transaxle car thrown into a corner too fast, it just gets scruffy, unless you're deliberately provoking it to slide, in which case the weight of the transaxle will oblige. Better to take advantage of the low weight and brake late, turn in smoothly and use the transaxle grip to get out of the corner efficiently. Oh, and

much more exotic machinery, in a car that he's fastidiously built and created himself, devoid of any sort of compromise. Yes, things may have got a little out of hand and he probably wouldn't want to add it all up in terms of expenditure (who does?), and he might not want to go through it all again, but credit where credit is due, it's an inspirational build. **PW** 







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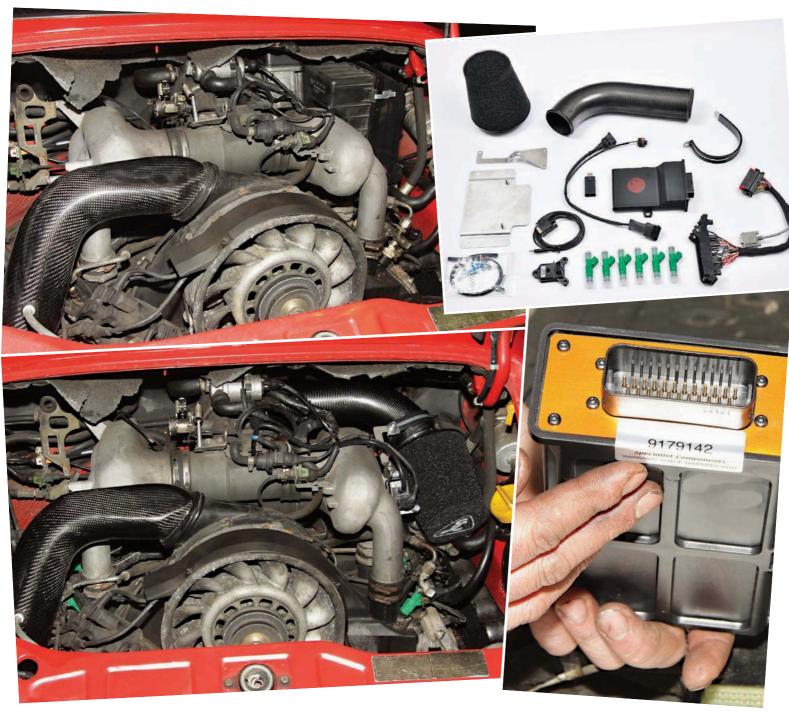
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## TECH: HOW TO

## **FUTURE PERFECT**

It is a rare tuning package that delivers not only increased power, torque and possibly fuel-efficiency, but also a welcome simplification and future-proofing of your engine's wear-prone peripheral systems. Chris Horton follows the installation of an ingenious 964 induction and management set-up that does precisely that. Step-by-step photographs by the author; image of the kit (below) by Matt Woods



e have all heard that age-old engineering aphorism: if it ain't broke, don't fix it. It is generally very sound advice, too, but occasionally – to use another rather hackneyed expression – to accumulate you have to speculate.

This 964 Targa, despite its 130,000 miles and somewhat care-worn appearance, was still running beautifully. We know, because we drove it. The engine pulled smoothly

and strongly throughout the mid-range, and on a quiet and open 'B'-road the car was in its element – loping along in third gear at an easy 65–70mph, and effortlessly sprinting to 80 or more when the opportunity safely presented itself. But for how long might that desirable state of affairs persist? Given regular oil changes and an empathetic driving style there is no reason to suppose that the heart of the power unit – the pistons, the barrels, the valvegear and the crankshaft – would give trouble any time

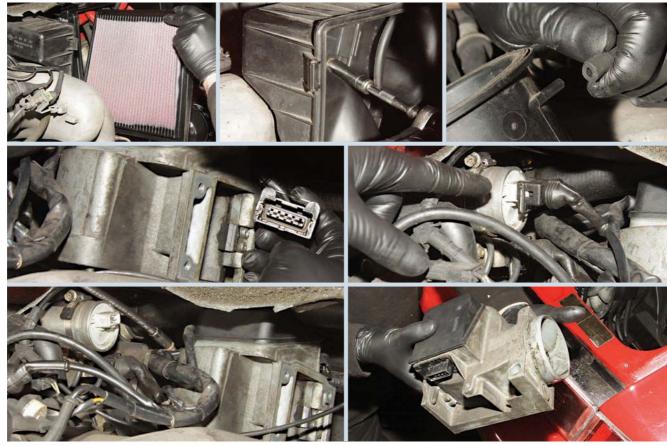
soon. But experience has shown that it is already quite a different story with the ancillary but no less important items such as the now distinctly old-fashioned mechanical airflow meter, the fuel injectors, and not least the Bosch Motronic ECU.

All are increasingly well-known weaknesses in any of the engines of the period that run this relatively primitive electronic management system – and expensive to rectify, too. A new airflow meter will set you back over £660 including VAT,

Before-and-after views show minimal (and fully reversible) changes to engine-bay layout, previously modified by removal of heater blower. New injectors add a subtle touch of colour. Kit (top) comes with all necessary hardware; ECU is Specialist Components' generic Typhoon unit



This car had also been fitted with an after-market air filter inside the modified Porsche casing. All of that will go during the conversion, to be replaced by a new cone-type filter incorporating a temperature sensor. In simple terms it is this, plus the MAP (or manifold-airpressure) sensor that enables the new ECU to calculate the fuelling – hence the heavy and inherently rather cumbersome mechanical airflow meter is removed and discarded. All very straightforward stuff

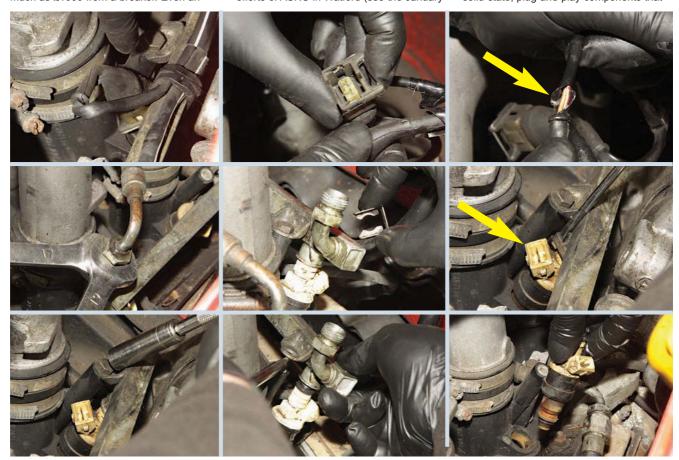


Mechanically speaking, the heart of the conversion is the set of brand-new uprated Bosch fuel injectors, which themselves account for a good proportion of the cost – and obviously its overall effectiveness. The original items can usually be cleaned and overhauled by Watford-based ASNU or one of its many agents - as we have shown several times in the magazine over the last few years – but the fact is that at this age and likely mileage that is not always going to be entirely successful, and like-for-like new replacements are no longer available. (Beware Chinesemade copies, urges ASNU's proprietor, Phil Ellisdon.) Yet another good reason for taking the PIE Performance route: an overhaul and upgrade in one costeffective package. Removing the old injectors is again fairly easy, but take note of the position of the various clips, and that injector number six (middle row, far right) is swivelled inward such that electrical connector misses steering pump. Note also fractured cable sheathing (top right);

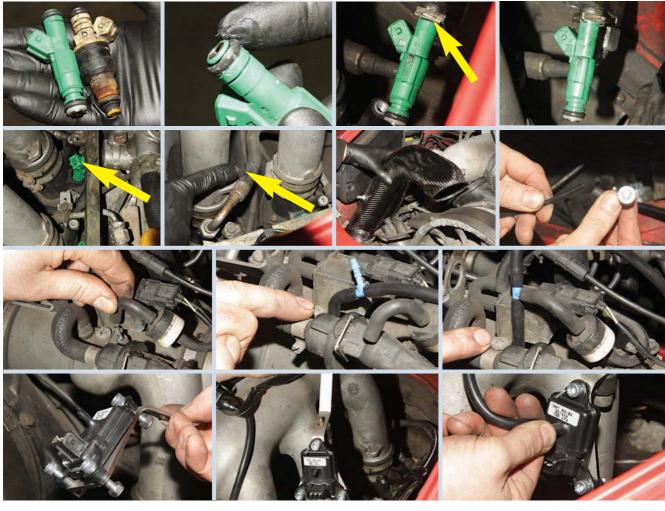
at the very least that will need wrapping with suitable tape. Watch out for brittle pintle caps breaking as you remove the injectors, and the fragments falling into the inlet ports and even a second-hand item – likely to have, or else soon to develop, the same problems – around £250–£300. An ECU? A staggering £4000 from Porsche, we are told, and for that reason alone perhaps as much as £1000 from a breaker. Even an

overhaul of your existing device might cost several hundred pounds, and once again offering no real guarantee of longevity. Certainly the injectors are now easy to overhaul or even to replace, thanks to the efforts of ASNU in Watford (see the January 2013 edition, and/or go to asnu.co.uk), but even that basic cleaning process costs around £180 plus VAT for a set of six.

Wouldn't it be nice, then, to ditch the entire system, and replace it with modern, solid-state, plug-and-play components that



## TECH: HOW TO



identical to original items, and thus fit perfectly between the ports and the two fuel rails. Lightly lube the 'O'-rings, to allow easy insertion, and again make sure that number six is turned to allow connector to be attached. Doublecheck that the clips securing the injectors to the fuel rails are correctly located; if not, you may have dangerous highpressure fuel leaks. Make sure, too, that the feed hose to the right-hand fuel rail is routed correctly, and then the union is tightened such that the rubber hose is not in danger of chafing against the inlet manifold. Vacuumpipe connections are all easily made; full details are in the kit's instruction sheet. Manifold-airpressure sensor is attached to its mounting bracket with the supplied fasteners, and that assembly secured to stud on manifold. All pleasingly quick and easy

The new injectors are dimensionally

offer not only modern standards of reliability, but also modern standards of adjustability – or 'mapability' – and not least more power and torque to start with? The maker of this kit, Suffolk-based PIE Performance, claims a gain of 48bhp, and a commensurate rise in torque, and although we have no proof of

that, other than driving the same 964 after its conversion to the system shown here, we have no reason to doubt it. There is also a modest but worthwhile reduction in weight – an original Bosch airflow meter weighs around 2kg; its replacement just a few grams – and, last but by no means least,

fitting is a genuinely DIY process that is also entirely reversible. No drilling or cutting, in other words. That alone sounds like a classic win-win situation to us. Factor in the modest cost of the kit – comfortably less than £3000 if you install it yourself – and it is surely an equally classic no-brainer. **PW** 



There is a new moulded intake pipe that sits between the air filter and the throttle body, fixed to the MAP sensor's bracket with a large rubber-lined 'P'-clip; as ever in such circumstances, leave all fixings just a little loose until everything is in position and correctly aligned. Don't forget simple plug-in wiring connection to the temperature sensor; it's ĥard to get at when filter is located on the new pipe. All wiring is supplied, and ready - almost literally – to plug and play

The final major benefit of installing the PIE system is eliminating the original Bosch ECU, the like-for-like replacement cost of which (if ever it becomes necessary) possibly calling into question the viability of even a 964. Accessing it requires removing the lefthand front seat which can be a bit of a mission if, as in this car, someone has previously butchered the fixings – but it's all an excellent opportunity to carry out some related improvements to what is at the very least a 26-year-old vehicle. Detach the old ECU from its mounting bracket and twist to allow the multi-pin connector to be unhooked: note stainless-steel 'safety catch'. Fix the new adaptor plate supplied to the floor, and the new Typhoon ECU to that, with its own connector facing to the rear. Typhoon and the car's existing wiring are linked with a short cable, each end fitted with the required connector. Again, very simple. ECU is supplied with mapping to suit the specified car – and this engine fired immediately 'out of the box' – but any changes required are made possible by this serial-port lead (arrowed) built in to the ECU connector, and to which, via another lead, can be attached a special USB stick on which has been loaded the relevant PC file. Final photo shows just how much old-fashioned hardware you will have removed. effectively saving both money and weight, as well as offering a worthwhile power, performance and perhaps even fuel-efficiency boost. A brief run in the converted car was most encouraging, and we shall be back at PIE Performance soon for a longer testdrive. More on that in the next edition, or the one after that

#### THE KNOWLEDGE

THE KNOWLEDGE

First conceived by PIE Performance Tuning's co-proprietor, Chris Lansbury, the kit shown here – marketed as the PPT 964/A – is designed for the basic rear-drive, manualtransmission 964 Carrera. So there is no C4 or Tiptronic option, in other words. It will also become available, in time, for the pre-Varioram 993, but that will require different intake pipework, and not unreasonably Chris wants to establish it in the 964 arena before moving on to other things.

At the heart of the system, developed for PIE by Wymondham, Norfolk-based Specialist Components, is the latter's generic Typhoon ECU, here tailored to the needs of the Porsche engine, but interestingly also adaptable to numerous other non-Porsche applications. This mounts via an adaptor plate in the standard position under the left-hand front seat, and hooks up to the vehicle's existing wiring via a specially made short cable with the familiar three-row multi-pin socket at its far end. This cable also features a short 'flying' lead fitted with a nine-pin serial-port plug via which, together with a USB stick and a further lead, the ECU can be reprogrammed.

Perhaps the cleverest part of the set-up, however, is the deletion of the heavy, cumbersome and inherently restrictive – and now increasingly problematic – moving-flap analogue airflow meter. Its task is instead

carried out by a tiny air-temperature sensor pre-installed inside the cone-shaped oiled-foam air filter, and an almost equally small MAP, or manifold-air-pressure sensor, mounted on a bracket immediately adjacent to the filter. All these devices require to function are the relevant electrical leads, and then linking to the inlet manifold by means of some small-bore vacuum tubing and a couple of connectors – all supplied in the kit.

Also supplied is a specially designed carbon-fibre intake pipe, to fit between the air filter and the throttle body (where the old airflow meter used to be), and a set of six brand-new Bosch injectors, each capable of flowing up to 440cc of fuel per minute. The result is, in simple terms, more fuel and more air in the combustion chambers – which itself is going to raise both power and torque – but crucially, thanks to that revised ECU, the more efficient burning of said mixture.

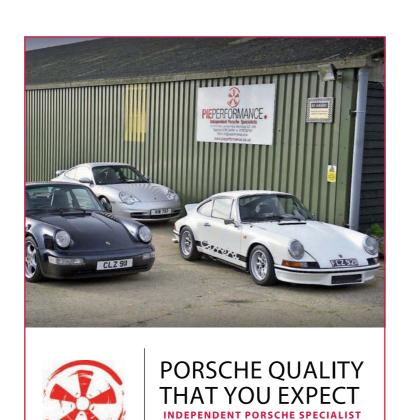
And that, remarkably, is pretty much it. Fitting takes around four hours – with the larger part of that time accounted for by removing and replacing the six injectors, and as we saw for ourselves is definitely a plug-and-play job, well within the scope of even a relative beginner to automotive DIY. The car shown here subsequently fired first turn of the key, but any minor discrepancy between the ECU map as supplied (and

naturally you need to specify the vehicle's precise model, year and market) and what the engine ultimately requires can quickly be addressed via a file download to the USB stick. The same principle also allows for easy remapping to cater for future mechanical modifications, such as a capacity increase, or an exhaust or camshaft upgrade.

Impressive? You bet it is. So much so that, with a non-running E28-model BMW M535i that has much the same Motronic set-up as a typical 964 (and is now a non-starter, almost certainly thanks to an ECU and/or airflow-meter fault), I am seriously considering asking PIE and/or Specialist Components to put together a similar system for that. My E28 BMW 525e has to be a strong candidate for conversion, too, never mind the 924S and the 944, both of which now have famously 'creaky' ECUs — and the same potentially problematic airflow meters. Suddenly their future looks a whole lot brighter than it did just a week ago.

Price for the 964 kit shown here is £2295 plus VAT (£2754 inclusive) or, if installed by PIE Performance itself, £2595 plus VAT (£3114 including VAT). Full details from PIE Performance on 01787 249924, or go to pieperformance.co.uk. Otherwise, reckon on about four hours' labour at your own chosen specialist's current rate — or have even more fun, and simply do it yourself!



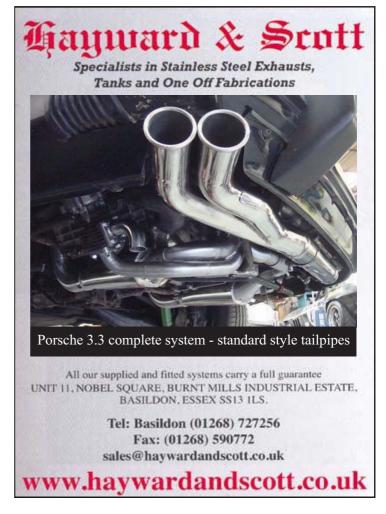


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## TECH: SPECIALIST

## **SHOCK TACTICS**

Exeter-based Exe-TC Competition Suspension produces coil-over damper sets for some of the world's leading race and rally teams – and they just happen to specialise in Porsches, too

Words and photography: Johnny Tipler, Gio Peart



hen such luminaries of the international rally stage as Tuthill Porsche, Prodrive and Citroën WRC have used your products, you're obviously doing something right, and that is very much the case with Exe-TC Competition Suspension systems.

Shades of "we're only making plans for Nigel...," but no, it's not *that* XTC – rather, Exe-TC, on account of they're based in Exeter and they're Technological Consultants. And, presumably, the product is so good it generates an ecstatic emotion on the part of users who, in this case, range from François Delecour to Stig Blomqvist and Sebastian Loeb, top calibre drivers who are accustomed to only the best.

Exe-TC was founded by Graham Gleeson in 1994, a Kiwi motorbike-and-sidecar racer, who sadly died in 2013. Two Devonian mechanical engineering graduates, brothers Rob and Ed Biggs, took over all technical

responsibility for the development of Exe-TC dampers, introducing new designs as well as improving and upgrading existing ones. I'd met the Biggs brothers some 15 years ago when they were building an elaborate indoor BMX track in their friend Nicky Offord's barn, and they were also making BMX bike frames, racing karts and stripping down Land Rovers. Clearly, they had a great future in mechanical engineering. Rob joined Exe-TC around eight years ago, and as he says of Graham Gleeson's inspiration, 'when you're at one with your motorbike, the suspension is very apparent to you, because, if it's wrong, you feel it, and if it's right, you feel it too. Graham Gleeson progressed into rally suspension at a time when the modern shock absorber wasn't up to the job, and car builders simply flipped them upside down and hoped for the best.' Gleeson started off cooperating with suspension experts, mainly based in Holland, and started producing dampers, venturing into IndyCar and F1 before moving into the WRC with Prodrive and then Citroën.

Gleeson's radical and enthusiastic approach to suspension enabled the business to grow swiftly. One of their first commissions was designing and manufacturing the roller-bearing damper system for Citroën's series of Xsara T4 WRC cars, and Rob demonstrates one for me. 'Usually, a rally suspension damper consists of a tube within a tube, and obviously there's friction involved with that, and the more friction you have the less your damper gets to work, so this is a revolutionary design with cages housing these rollers; effectively you're reducing the friction to nearly nothing. So, we started supplying Citroën WRC with the roller-bearing dampers, and seven of Sebastian Loeb's World Rally Championship wins were achieved using our suspension.

And at this point we veer into Porsche territory: 'Tuthill's fit our suspension on their 911s in historic rallying and circuit racing,' states Rob. 'The collaboration with Tuthill's led to the creation of the Classic Safari Damper which, on the East African Safari

As well as creating the dampers for various WRC rally teams, Exe-TC also came up with the dampers for Tuthill's R-GT WRC Class GT3. A gravel spec R-GT GT3 was on the cards, but the FIA scuppered that idea. Shame



Right:Component parts. Everything is made and machined on site at Exe-TC's Exeter base. Far right: French rally legend, Francois Delecour won the 2015 FIA RGT rally championship in a Tuthill prepared and Exe-TC equipped CTA





Rally, is designed to work flat-out over 1000kms of very rough terrain over a period of just under two weeks.' With six Tuthill-prepared 911s entered in the 2017 East African Safari Rally, using Exe-TC suspension, that's as daunting a prospect as ever there was. It's also a hell of an endorsement for the dampers. 'We're also working on road-going applications with Richard Tuthill,' continues Rob, 'and he regularly calls us up with his opinions and gives us a lot of feedback with actual numbers as to what's happening with the damping, as it's got to be absolutely spot on. You need to know the weight of the car, with or without fuel, and the weight balance front to rear, and with the wheels and tyres fitted, and from that you can assess spring rates and damping rates and get very close to where you need to be.'

The proof of the puddin, as they say, and former World Rally Champion Stig Blomqvist won the East African Safari Rally in 2015 in a Tuthill 911 armed with Exe-TC shocks, and there's no more formidable challenge than that. Or maybe there is. Prodrive's Subaru WRX STI equipped with original (refurbished) Exe-TC Roller-Bearing Dampers and helmed by Mark Higgins holds the lap record for cars

around the Isle of Man's Snaefell course, covering the 37.7-mile route in 17m 3s in 2016. 'That was great for us in terms of exposure and getting our name out there, because obviously winning world championships and breaking records is something we're very proud of, and as far as the mechanical side of it is concerned, the

can quite often be flying past other people who are struggling.'

So, what constitutes Exe-TC competition suspension? It's not a large operation, considering their success. Based in a modern two-storey building on an industrial estate near Exeter Airport, close to the M5 and A30 junction, the damper units are designed and



#### Six Tuthill 911s entered the 2017 Safari Rally, using Exe-TC suspension



WRC is asking as much of your dampers as you're ever going to ask them.'

A large part of their business is the sale of dampers for modern Porsches for road, rally or track use: 'In Spain and Mexico especially, there are a number of 997 GT3 Cup cars and a lot of them are running our suspension. Over in the States we have Gavin Riches, who races a gen 1 996 GT3 RS, and he regularly competes at his local track, Sebring, where our background of rallying pays off brilliantly because it's a rough circuit, and he

manufactured in-house. Rob and Ed work upstairs, along with Luke Gleeson (Graham's son) who's responsible for marketing and sales, and Julia Gleeson (Graham's widow) who's the managing director. Vanessa, the office manager, handles the complex process of ordering parts and raw materials. Downstairs, three technicians build the dampers and prepare the component parts, and two experienced machine operators manage a mill and CNC lathe in the machine shop, fabricating the parts out of solid billet.



Ed Biggs outside Exe-TC's Exeter production unit. What suspension do you think his Cayman is running?

## TECH: SPECIALIST



Tough stuff. If your dampers can survive the East African Safari Classic Rally, then they're fit for most applications

The rest of the componentry is made by trusted local machine shops.

The damper tubes and internal items are stored on shelves and in drawers, and selected on a 'Kanban' basis by the technicians, who construct the units on workshop benches in the assembly rooms. There's a chamber into which a car can be

the test by subjecting them to any number of compressions at varying speeds. Rob describes this mesmerising function: 'That's the actual plunging motion that you're looking for in suspension; these rollers are guiding the top tube, and within the damper itself there are more rollers inside the tubes and the two together give you a very nice moving

we use for every damper that we produce. We always check them when we rebuild them, and it covers everything that we've ever done, so we can compare and check that what we're making today is the same as 10 years ago.' In a sense it's a production line, and there's only a wait for products if there's new design work involved: 'worst case is four to six weeks,' Ed tells me.

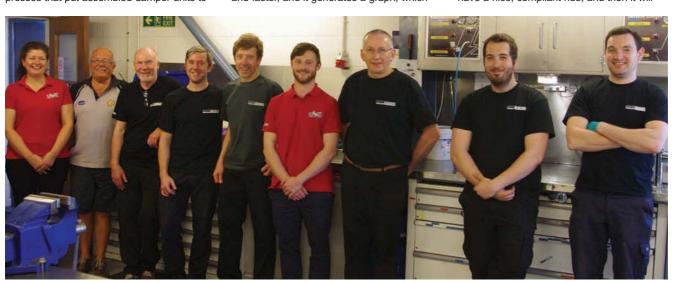
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## Internals for the shocks are produced in the machine shop

"

driven to have dampers fitted, though Exe-TC's output is mainly dispatched direct to customers. Internals for the shocks are produced in the machine shop using liquidcooled lathes and drills, and there are presses that put assembled damper units to package, which you feel the friction of when you've got the weight in the car. It's mainly a tool to check that everything is consistent in what we're producing, and it will flag up any errors. It goes up in increments, getting faster and faster, and it generates a graph, which

Two pairs of coil-over damper units sit on the office table, and Rob delivers the science. 'Those with the orange springs are for a 997 Cup Car, so obviously the settings are designed for that application. They've got progressive spring rates, and the coils are evenly spread, so that gives you linear load, and as you increase the load, it's progressive, so the more you compress the spring the stiffer it's getting, so it will give you a very different feel. But often that can give you the best of both worlds, because you can have a nice, compliant ride, and then it will



Team Exe-TC. Without whose expertise Sebastian Loeb might not have won quite so many World Rally Championship titles



Brothers Rob (left) and Ed Biggs are the technical driving force at Exe-TC. Right: Coilover units for classic Porsche applications. Note Exe-TC designed forged upright, with triangulated strengthening





stiffen up before the damper closes completely; because, if you start to run springs which are too soft, obviously there's nothing to stop the wheel going up and you can start to bottom out; if they're nice and soft and you're going over speed bumps, let's say, the wheel will just come straight up, and then anything can happen.

Dampers are complex items: as well as the basic function, there's the oil reservoir, adjusters, liners to dissipate heat and keep the oil cool, especially in the proximity of the engine, plus a breather system. 'Every conventional damper — apart from some very modern technology — displaces oil as it plunges so you have a reservoir here which is basically a tank that the oil goes into, but you need that displaced oil because it passes through the adjusters, and that's what gives you the control through the damper. That works on the front dampers, and the rears' would just be internal to the dampers.'

We look at another pair of shocks, in grey this time. 'These are for a classic Porsche,' says Rob. 'They're our own new design, including an insert for the front ones to retain the original hardware, but this upright is our own forging. This is a circuit racing application, but the same set up with different springs can also be used for Tarmac or gravel rallying, and that's the main reason for

doing our own forging because, compared to a standard one, it's much stronger, while still retaining the original appearance. Broadly, the dimensions are the same, but it's a more formidable piece of kit. Notice the way it's got triangulated bracing off the damper itself. There's a lot of twisting going on; think of the gravel car – a 997 GT3 – which unfortunately never raced, due to FIA regulations, but the Tarmac version was very successful, with François Delecour winning the R-GT class of the FIA World Rally Championship in 2015.'

As for springs, they are generally bought in. 'We have three or four main suppliers for our

66

#### We made suspension for a gravel car - a 997 GT3 - which never raced

"

weight of the corner of your car — hence the bracing. They don't have the external adjusters because that's dictated by the regulations. That makes it much more tricky to design, and also gives you a smaller window of adjustment, though you do have a range of adjustment, but it's nowhere near as big a range as you would have on the threeway adjuster, which can be set up for rough, wet Tarmac. or smooth. hot Tarmac.'

While Tuthill's exemplifies Exe-TC's suspension in rallying and historic racing, the applications extend to modern rallying, too. 'Richard Tuthill had always wanted to take a modern Porsche 911 and go rallying with it in the gravel, so we made suspension for a

springs; some are off the shelf, which anybody can buy, but we also have our own designs for a specific car application, and they do get used in various different incarnations. It can just happen that weights end up being the same, so it might be in the rear of a Porsche or in the front of a Subaru.'

So, things are going well for Exe-TC. I don't want to put a damper on it, but Rob tells me they are working on an exciting project that's due to be released later this year, but it's embargoed for now by an NDA. Hint: think of a song by Elkie Brooks and, no, it's not a sewing machine. Whatever, it will undoubtedly be a shock announcement: hope springs eternal. (*That's enough puns. Ed*). **PW** 

Right: Damper for more contemporary applications, featuring Exe-TC's roller bearing system

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## TECH: PROJECTS

#### **PROJECTS**

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THE TEAM

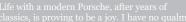
#### STEVE BENNETT





#### KEITH SEUME

#### CAYMAN 981





#### **CHRIS HORTON**

#### 924S, 944





#### PETER SIMPSON

#### 356C





#### BRETT FRASER

#### BOXSTER 3.2S





#### **JOHNNY TIPLER**

#### BOXSTER 3.2S



#### JEREMY LAIRD





#### **PROJECT PETE**

Pete's trying to look forward, but it's a struggle. Here's hoping for a productive 2018, where he can finally get to work on the 911 projects and get them back on the road



**Porsches:** 911 3.4 Carrera, 911 2.7, 256C 2.7, 356C
Mods/options:
Not much yet.
Going down the
standard look
unless I get bored,
then it's outlaw all

pete@chpltd.com
This month:
Collection of the
356. It's now
relocated at home

PETER **SIMPSON** 

356C Occupation: Studio Manager, CHPublications **Previous Porsches**: 996 C4,

or a start, this year needs no more projects! My new name is Project Pete. You may only see three Porsches here but I have a few other so called projects: Three Mk1 Golfs and three VW T25 vans, so if my projects always seem slow (you could say that! Ed) that's due to the amount of work I have to do to get anywhere. My priority this year is to get my garage built so I can house the Porsches, and to

cars and not nine! It's going to be an uphill struggle and I hope by the summer the garage will be in place ready for some much needed tlc on the cars. Yes, I know I have three air-cooled cars and I will get round to them I promise,

relieve myself of some of the other cars.

to give me time to focus on maybe three

and as Paul Davies will tell you in a few pages' time, he has the only (UK-based) road legal air-cooled runner. So this has given me something to work towards seeing all the water running through these pages (although the 3.4 does run, it's just not 'road legal' as they say).

I'm looking to push on with Project Backdate as that has the least amount of work to do, although I will be removing the coilovers and going back to torsion bars as I just can't get them to work and the grief is just too much. I can't see any gains over the torsion bars, apart from, maybe, the ride height, but I'll look into that.

I'll also get my brother to work on the 356C. He needs to start welding in the floor and fixing up some of the bad welds. It's (potentially) all go. PW



Top: Safe to say it's unlikely that the 356 will be finished in 2018. Left: Project Backdate (the one not under tarpaulin) might, though, as it's the closest thing to a runner. And lurking under the tarpaulin is the 2.7 Targa. Plans and completion date? Who knows...

#### THE BIG CHOICES

With only a finite budget and some difficult choices to be made, Bennett has to decide whether to further mechanically improve his 996 C2, or tackle the rather nasty bodywork issues for 2018





efore looking forward, I think a bit of self congratulatory looking back is called for as I enter my 4th year of 996 ownership and my 996 enters its 20th year. Twenty years? Yes, I know, makes me feel old, too, but built on the 8th of June 1998, this is a pretty early example. I didn't really think about this when I bought it, but in retrospect I now rather like the idea. There are benefits from this, too. Being an early car, it has a throttle that's connected with a cable and it barely has any electronic interference gizmos, which gives it a certain purity that you can really feel. It's light, too, lighter even than a GT3 of the same era. Again, that's something to covet. Oh, and it's rare as well. A silver manual 996 C2 rare? Really? Oh, yes. As a colleague who's looking to buy one recently discovered, once you've discounted the C4, the Tiptronics, the Cabs, the Targas and the C4Ss, you are left with just a small handful of 996 C2s.

Most 20-year-old cars went to the scrap yard some time ago, or they currently look as if they're on their way. Everyday cars rarely escape the downward spiral, but of course a Porsche is not an everyday car, and benefits from caring and enthusiastic ownership, particularly now that it's becoming a classic. However, taking my self-congratulatory, rose-tinted ownership specs off for a moment, the 996 was built to a similar standard to the contemporary, aforementioned everyday cars of 20-years ago and it shows. As every year

passes, the 996 is entering uncharted territory, but well documented engine issues aside, you can expect at this sort of age to be looking at a complete suspension refresh (regardless of mileage), including dampers, new rads at the front, a clutch or two and a good few sets of discs and pads, plus other ancillaries like exhausts and coil packs, which has certainly been my experience. There is nothing on a 996 that is hugely expensive in isolation, but accumulatively it all adds up.

So my car has fully refreshed suspension, which I've bored everyone enough here, without a dodgy bush or creaking coffin arm to spoil things. It's had new engine mounts, too, plus lovely new Michelins and radiators for water and air con. New discs front and rear, plus new pads. New coil packs and other bits and bobs like a new ignition switch and window regulator, oh, and a couple of services, one major and one minor.

All sounds pretty comprehensive does it not, yet at the start of 2018 I'm at a crossroads. Do I sort out further mechanical issues, or do I tackle the elephant in the room, which is the bodywork?

Mechanically the engine needs to be dropped so that the IMS bearing can be sorted and the clutch changed. According to Robin McKenzie at Auto Umbau, the IMS is at 'stage 2,' which means it's visibly weeping. When it starts dripping, it's time to change it. The clutch is heavy and it's spoiling my enjoyment of driving the car. It needs to be done and the two jobs go hand-in-hand.

Whilst the engine is out, I'll probably look at replacing the exhaust, too.

And the bodywork? Well, this is painful but I need to 'fess up. When I bought the car I clocked some paintwork on the nearside rear wing, but I didn't know what it was hiding. Unfortunately I do now. It's taken a whack. Not a car bending one, but a whack none-theless and the repair has been badly done and the evidence is now clear to see, with filler starting to lift and, horror of horrors, rust entering the equation. Like some horrible growth I want it gone, cut out.

Robin at Auto Umbau – my preferred repairer, knowing the quality of their work – reckons that I should get a whole new rear quarter, and I'm inclined to agree. It's not going to be cheap. In fact it's probably going to be horribly expensive, which is why I'm debating mechanical work first and leaving the bodywork until next year on the basis that it's relatively contained and isn't going to spread beyond the rear. And who knows, with the gun loaded up and a rear quarter to paint, there's a strong argument for doing the whole car... Did I really just say that?

Finally, while the interior is in pretty good shape, the driver's seat is suffering a bit from wear to the bolsters, with some evident cracking. I've got a neat kit from leather specialists, Colourlock, to effect a repair/overhaul, which includes a specific leather dye to match the Space Grey leather of the interior. When the weather picks up a bit, I'll remove the seat and give it a go. **PW** 

#### STEVE BENNETT

#### 996 C2

Occupation:
Editor,
911 & Porsche
World
Previous
Porsches: 911
Carrera 3.2, plus
numerous 9448
Current
Porsches:
996 C2
Mods/options:
Ohlins R&T
coilover
suspension/RPM
Eibach adjustable
suspension arms,
Dansk exhaust
Contact:
porscheworld@chp
ltd.com
This month:
Not a lot as such,
just speculation as
to what work takes
priority for 2018

Above left: Bennett's 996 in for a service at Auto Umbau. Above: The horrible truth: Rust, and that's not all of it. It's a bodywork repair gone bad. A new wing is required. Far left: Robin at Auto Umbau inspects. Middle: Colourlock leather repair kit should fix leather cracking on seat bolster (right)

CONTACT Auto Umbau autoumbauporsche

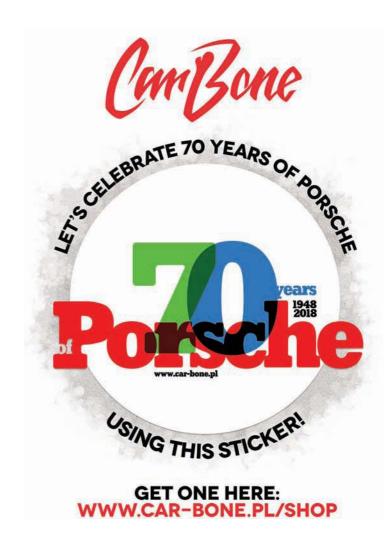
Colourlock colourlock.com

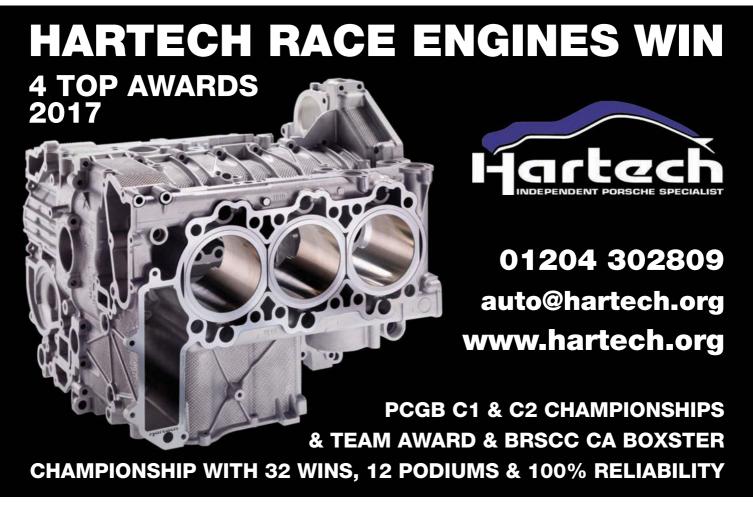














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## TECH: PROJECTS

## TIGHT SQUEEZE!

It's a first world problem, granted, but trying to park the Cayman in a lock-up garage designed to accommodate the average 1970s family hatchback proved how much bigger cars are these days. Thank heavens (or not) for parking sensors...



t's been less than a month since I collected the keys for my 981 Cayman - in fact, as I write this, barely three weeks have passed. And I'm still in love, despite the hints from on-line 'friends' that I'll get bored, or have lost my mind. After all, in this day and age of appreciating values, who in their right minds swaps a 1966 Porsche for one 48 years younger?

One immediate problem which reared its ugly head was the not so insignificant matter of garaging my new toy. I don't have a garage at my home and have to rent a lockup from the local housing association. That's fine, as the garage is about 10 minutes' walk from home (I need the exercise), secure and inexpensive. Recently re-roofed, too. El Chucho was perfectly at home there, sharing space with an accumulation of car-related detritus (it's amazing what you have left over after a five-year project) and my roll-along tool cabinet. It was a snug fit, but a piece of foam alongside the door ensured no damage was done as I entered or exited the vehicle.

Fine, but for one thing: the Cayman is both longer (by about nine inches) and wider (by a slightly lesser amount) than its predecessor. That may not sound like a lot, but it meant that the Cayman wouldn't fit in the garage without my emptying it first. That was a day's work, and I'm still stuck with the problem of where to store the tools and spare parts. Oh well, I guess that's rather a first world problem and one which will sort itself out somehow.

But squeezing the Cayman into the garage for the first time was something of a nerve-wracking experience, the parking sensors going into overdrive, screaming at me that I was about to crash and die a fiery death if I dared try to drive any further. With the nose barely between the door posts, I jumped out and took a look. No problem. Fold the mirrors back (a push of a button took care of that), breathe in and ignore the sensors. It fitted! I guess it'll be less stressful the more times I garage the car, but right now I still wake up in a sweat at the prospect of hearing that sickening sound as doorpost meets door panel...

But for the first two weeks of ownership, the Cayman sat quite literally outside our front door. I'm not supposed to park there as it's private ground, but the owners were understanding of my plight, being more concerned that their son would damage the car with his football. The fact that the Cavman sat in plain sight every time we opened the front door meant that the temptation to use it for all the journeys that would normally have been the task of my Audi daily driver was too strong to resist.

Pop out to the local superstore? No problem. Raining cats and dogs? Who cares! It was all in complete contrast to ownership of El Chucho, which frequently remained resolutely in its garage except for those 'special occasions' when classic cars are dragged from their slumbers and put to use on days when there was little chance of salt on the roads, or floods around every corner. I started to realise what I'd been missing.

Now don't get me wrong - I was never precious about the old car, and had no problem about getting it dirty. But salty roads

and seemingly incessant rain did take the fun out of driving. I really didn't want a 'fair weather' car, but early Porsches and salt don't mix well, while torrential rain highlighted the deficiencies of the wipers and door seals. But the Cayman, with all its mod cons, was perfectly at home being treated like a daily driver and I loved it for the fact that I could just jump in it and not have to worry about anything.

Maybe I am getting soft in my old age certainly some have suggested as such but I'm still a hot-rodder at heart and would have another loud and leery old 911 if I could afford one to go alongside the Cayman. Alongside, not in place of. Well, not yet, anyway. Maybe I'll change my mind again in a year's time. Who knows.

But what plans are there for the future? I pretty much love the Cayman as it sits, but I have had it suggested to me by the boss that it would look even better lowered slightly - even with PASM fitted, which drops the suspension a little, according to him there's still room for aesthetic improvement. I might (only might) be tempted to swap to 19in rims for a slightly more forgiving ride on Cornish roads, which then opens up the matter of what wheels (and tyres) to use. Whisper it quietly, but I quite like the modern Fuchs rims...

I've not really looked into performance upgrades yet, but knowing me, I will. But that's a potential story for another day. In the meantime I'll practice my garaging skills and look into disconnecting the parking sensors - and drive the Cayman every chance I get. PW

#### KEITH **SEUME**

#### 2014 CAYMAN

Occupation:
Editor,
Classic Porsche
Previous
Porsches: Carrera 2.7; 928; 912; 914/6; Junior Tractor; 912/6 hot-rod Porsche: 981 Cayman Mods/options: classicporsche @chpltd.com This month: Squeezing a quart into a pint pot as Seume garages the Cayman...

You'd think he could manage a smile but our man Seume is still recovering from the trauma of fitting the 981 Cayman in the same garage that accommodated his 1966 912 with ease...

#### LAST MAN STANDING

Paul Davies reckons he's got something in common with the frenetic piano-playing rocker Jerry Lee Lewis. There's also a bit about his Carrera 3.2, just in case you thought he was losing the plot





swapping. Power flows seemingly endlessly and you can easily forget you're driving a car that's at least thirty years old. The power output is modest by modern Porsche

Three: Control

Yes, there's no power steering with a 3.2, and parking can sometimes be a bit of a wrestling match, but once you're rolling you're in another world. No assistance required, most certainly not of the electrical kind. It's so precise.

standards but it could be a lot more.

Four: Cockpit

The Recaro seats hold firm, no 'numb bum' even on the longest journey. The dials are right in front, rev counter not speedo to the centre, The perfect driving position was invented in 1963. Note with satisfaction how the tacho and speedo needles are in harmony in top gear.

Five: Gearshift

No need to look for the lever knob, it's just where it should be. Spring-loading moves the hand intuitively from one cog to another. The G50 'box is lightest, but the earlier 915 can be a revelation when properly sorted.

Six: Smile.

Leave the daily-driver behind. Fire up the Porsche and head for the open road. Whatever a day it's been, you'll be smiling.

I know, it all sounds idyllic and we know there's a traffic queue around the next corner. But with the coat of arms of Stuttgart on that front lid and air-cooled precision hanging out in the tail, there's no better place to be. Yours, with a blast of cooling air, Paul. PW

ear Steve

Thanks for that email to contributors requesting words about their cars for the next issue. You commented that there might not be much to report on account of winter's grip but, perhaps, we could outline

Despair set in, was there anything to say? The Carrera 3.2 has been sitting in the, unfortunately not heated, motor house since early December wrapped up in its rather faded soft cover (a Christmas present for the 912 over 15 years ago) with the Battery Fighter plugged in maintaining a healthy charge. The odometer reveals that since this time last year an embarrassingly few miles have rolled away under the Avons.

No fast trips on holiday to France or Spain or scenic runs through the Welsh mountains to liven Porsche motoring in 2017; just some regular short trips to blow away the cobwebs, a service at Jaz Porsche and a replacement silencer. In all a somewhat mundane year for my pride and joy.

Then, Steve, I opened last issue and realised just how vital my car had become to everybody's favourite Porsche publication. Just like the old rocker, Jerry Lee Lewis himself, we were The Last Man Standing (Please excuse the grammar there but referring to a person and a car as 'Last Men' doesn't sound right in this situation - I'm trying to get a point over.)

Keith Seume's the reason for all this. The Classic Porsche editor confessed he's

ditched El Chucho in favour of a Cayman. Keith's sell-out to water means, unless someone changes vehicle pretty quickly or Peter Simpson finishes his 356, that Yours Truly now has the only operational air-cooled Porsche on the fleet (In the UK at least, Paul. There's still 911&PW's North American Correspondent, Matt Stone, with his Carrera 3.2 in LA. Ed). Just like Jerry Lee I'm in a very special place.

For our younger readers, Jerry Lee Lewis has the distinction of being the only remaining member of the original Sun Studios recording giants, Elvis Presley, Carl Perkins, Roy Orbison and Johnny Cash, In 2006 'The Killer' as he was also known produced an album titled 'Last Man Standing' along with a host of more modern stars.

Now back to Porsche. Sorry, Steve, I can't reveal plans for 2018 but with the Carrera 3.2 now standing alone I think it right to remind everyone just why I love mine. To quote another but younger than Jerry Lee rocker, lan Dury, they're my 'Reasons to be Cheerful'

#### One: Sound

Select third gear in the Carrera, floor the throttle and wait for the noise to sink in as speed climbs to the legal limit and beyond. A friend once described it as kicking a dustbin over. Sounds unkind, but I know what he means. No other car delivers that six-pot, horizontally opposed, crescendo.

#### Two: Driveability

Still in third gear, take any 'fun' road and you'll find there's little need to do much cog-





Left: Plenty of water under this Porsche. Bluebird launch site in the Lake District

#### PAUL DAVIES CARRERA 3.2 TARGA

Occupation: Previous Porsches: One Current Porsche: Carrera 3.2 Targa **Mods/options:** This month: Air-cooled Porsches

Wrapped up for the winter. Move over: air-cooling rules





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2012 911 (991) 3.4 Carrera Convertible PDK Silver, 2012/12, Automatic, 23,800 miles, Yachting Blue Leather, PCM - Sat Nav with Bluetooth, Heated Seats, Sport Design Steering Wheel, Automatic Bi-Xenon Lights, 20" Carrera S Alloys with Porsche Crests. £56,900



2011 Porsche 911 (997) 3.6 Carrera Coupe PDK Gen II. Basalt Black, 2011/11, Automatic, 55,500 miles, PCM 3 - Touchscreen Sat Nav, Bluetooth, Sport Chrono Pack Plus, BOSE, Sports Steering Wheel with Paddleshift, Xenon Lights with Wash, 19" Turbo II Alloys with Porsche Crests. £39,900



2012 Porsche Boxster (981) 2.7 PDK Guards Red, 2012/62, Automatic, 50,300 miles, Black Leather, PCM 3 - Touchscreen Sat Nav, BOSE, Sports Chrono Pack Plus, Automatic Bi-Xenon Lights with Wash, 20" Carrera Classic II Alloys with Porsche Crests. £28,900

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## TECH: PROJECTS

#### **LABOUR MANIFESTO**

Two Porsches – and numerous other vehicles – between them ensure that Chris Horton is always busy with one task or another, but his resolution for 2018 is to concentrate, as time and funds allow, on those aspects that will really make a difference to the cars' survival



he round-robin e-mail from the editor was brief and to the point. 'Morning, chaps. I'd like to get something into the next issue from each of you about your project cars. What you've been doing lately, but also what you intend to do soon.'

OK, Steve, how long have you got...? My to-do list grows ever longer, but these days I'm trying to be a little more focused than I have in the past. To concentrate on those areas that have a direct bearing on the cars' longevity and/or their day-to-day driveability.

Taking the 924S first – because that's the one in use at the moment – that will mean imminent replacement of the camshaft and balance-shaft drive-belts. It's six years since I bought the car, and while in mileage terms I am probably within the belts' likely lifespan, I have no idea when they were last changed.

Anyway, the car is provisionally booked in to BS Motorsport, and I'm planning on making one of my how-to stories out of it. I would do the work myself – as I did on the 944 – but it's a pain to have to keep stopping to take the pictures. We shall also be replacing the various rollers, and ideally the water pump, although given the likelihood of one of its M6 securing screws or studs breaking, as happened when I tackled the 944, that's not something I'm hugely looking forward to.

Next item on the agenda will be the body. There are a couple of rust holes that need attention to prevent them becoming worse – and, rightly or wrongly, the car is a keeper as far as I am concerned. The most obvious is at the base of the right-hand front wing, where mud has accumulated (oddly, the other side seems fine), but there is also a small crusty area behind the left-hand rear wheel.

A few days before Christmas I called in at Greatworth Classics near Banbury in Oxfordshire, to see what they reckoned about the job, and proprietor Angus Watt and his body man came up with a list of all the other issues it would make sense to tackle at the same time. Since then, sadly, I have been hit with some rather large domestic bills, so I'm hoping they might be able to do the wing(s) and that other small hole in isolation.

Inside the cabin I am increasingly frustrated by the cracks in the top of the fascia. This is such a common problem that I am convinced Porsche could justifiably add it to its growing list of remanufactured parts. You used to be able to buy quite convincing stick-on moulded plastic covers to hide the damage, so perhaps that will be the answer. It will be the ideal time to replace the speedometer, too, which again like so many has a non-functioning odometer.

The seats, as you can see (below), are little short of wrecked. Unsurprisingly a number of people have suggested a full retrim, but I'm wary of that, again because of the likely cost. I have no trackday aspirations for the car – although I do know how much fun these transaxle models can be out on the circuit – but I think I might go for a pair of the most comfortable and affordable race-style buckets I can find. And they might have the added benefit of improving the driving position.

I want to do something about the door cards, too – yet another disaster area, thanks in part to 33-year-old materials that were never that good to start with, but also to what must have been several ham-fisted removals and replacements over that period. In an aircooled 911 it's easy – the flat inner face of the door makes a perfect mount for a simple piece of RS-style trimmed hardboard – but

here the shape of the panel is such that the only answer would be to mould something in GRP and then perhaps cover it with a suitable fabric. Anyone got any helpful suggestions?

I continue to be impressed by the little Blaupunkt radio I fitted two years ago. I don't use it a lot, but sometimes it's useful to listen to traffic reports, or even the so-called news. I had a few reception issues with the wingmounted aerial – another item scheduled for replacement – and the tiny built-in speakers are hardly the last word in hi-fi, but they cope well with the overall racket you have to expect from any car of this type and vintage, and I'm thinking of buying another unit for the 944.

But by far the most dramatic improvement I have made recently cost me nothing. During a trip in December the windscreen washers stopped working. My first thought was to refill the reservoir, but it turned out that the main feed pipe up the right-hand side of the engine compartment – that horrible, hard-plastic stuff reinforced with criss-cross threads – had fatigue-fractured where it bends each time you open and close the bonnet.

My first repair was with some silicon tubing bought via Amazon, but this didn't address the long-standing issue of the inevitable delay between operating the washers and any liquid emerging from the jets (and during which time the wipers are dragging themselves across a dry windscreen). The solution came from a derelict Ford Fiesta, from which I snipped the similarly flexible pipework, complete with a couple of tiny non-return valves. Sorted.

As for the 944...well, that's been resting over at Auto Umbau these past months, and the MOT has now lapsed, so I'm expecting a few issues with that, as winter turns into spring. I'll let you know, anyway. **PW** 

#### CHRIS HORTON

924S, 944

Occupation
Consultant editor,
911 & Porsche
World
Previous
Porsches 924S
Current
Porsches
924S, 944
Mods/options
Both cars standard,
apart from wider
tele-dial wheels
for the 924S, and
throttle cams
Contact
porscheman1956
@yahoo.co.uk
This month
Taking a long, hard
look at the 924S to
decide which are
the priority jobs,
and which can wait
for a while. Next

Oddly, it's the driver's side front wing that has a hole in front of the sill; usually it's the kerb side that goes first. Seats - or the driver's, anyway are in terrible condition. Likely cost of a decent-quality retrim is pushing Horton towards a pair of after-market buckets: suggestions welcomed. Blaupunkt Casablanca radio, seemingly designed for construction machinery and municipal vehicles, has proved to be an excellent buy. Built-in speakers are necessarily small and so a little bit 'tinny' but OK for occasional use. Less than £100 on Amazon, too. Fiesta washer pipe with integral one-way valves came free from a scrapper. Result!



#### NORMAL SERVICE RESUMED

While the rest of the 911&PW crew shiver through another northern European winter, US contributor, Matt Stone, basks in the LA sunshine with his Carrera 3.2. It's all right for some, eh?



he beginning and end of each year for many people brings reflections on the recent past and often resolutions for the future. It does for me, too, and always includes an annual service for the Carrera. Plus a couple of other things that popped up on my list. So that meant another visit to my go-to guy, Tony Callas, and his rather fabulous team at Callas Rennsport. On the dockets were a full lube, oil and filter service, brake system flush and bleed. plus the replacement of the wonderful working, but completely wrong looking, Alpine AM/FM/CD head residing in the dash. Tony had sourced for me a period and model correct used Blaupunkt Reno AM/FM/Cassette unit that would fit back in the aperture, and look right. Work right? Who knew? I for sure wanted a working radio, but didn't much care if the cassette player played or not, because, I'm not sure I still own any playable tapes.

Another issue that had popped up in the latter half of the year was the perishing or disappearance of at least one of the bushings that centres the steering wheel shaft in the column; I'd secured the pair of them just to have in my pocket in case Tony didn't carry them, but he said "keep them or return them, I have a metal bushing replacement that is much more precise, lasts forever, and isn't expensive.

Once at Callas, the car went up on the rack for technician Mike's detailed once-over inspection. Fortunately, no new problems had cropped up since the last service, although

we are now keeping a good eye on a couple of minor oil leaks from this fitting or that. No need or time to address this now, but on the list for this year for sure.

Mike drained both oil tanks, and swapped in a new Porsche Purolator "Red" filter, then refilling the entire system with high zinc Joe Gibbs Racing 20/50 conventional oil. Standard opps here.

Tony's particularly mindful of moisture levels in the brake fluid, not wanting to see that go above one per cent, so it's checked each time my car's there. It had been about a year since its last brake flush, and the water level had just hit the one per cent threshold. so for sure it was time to flush and bleed the system. Which Mike did using a power flusher/bleeder tank. This ensures complete system fluid replacement, which on my 1989 example also includes the clutch master cylinder. Even then, just to ensure there's no air in the system, the brakes are re-bled manually using the old school pump and hold method, ensuring a solid, firm pedal.

The radio head swap was also relatively straightforward. Sierra Madre sourced replacement main and speaker cables, since the bonehead that installed the Alpine had cut the Porsche factory plug and play cables, and spliced in the wires for the Alpine, It took a bit of wiring magic for Mike to cut, clean, strip and reconnect the wires to make it all fit and work again, but he did it, and the Blaupunkt dropped cleanly back into the original hole in the dashboard. Now reconnected, it once again looks properly 1989.

The last item remained the replacement of the steering column bushes that centre the steering rod within the column; as it was the steering wheel would clunk up and down within the column at least a half inch in any direction, and the steering had become heavy and imprecise. Tony has developed a machined metal bearing/bushing that replaces the factory piece; the idea is that being metal it's unlikely to ever perish again in the future, and solves all slop and rattling problems. The steering wheel came off, and the new bush was pressed into place on the steering shaft, everything buttoned up, and that problem confidently, and likely permanently, solved.

Something Callas likes to do is drive each customer's car with the owner in the passenger seat to discuss in real time any issues he may discover while at the wheel, or anything the owner is unsure or uncomfortable with. Tony took the wheel, explaining to me how to best manage the clutch for maximum life and minimal wear. We went over all the system controls on the dash and instrument panel, and he tested them to make sure everything worked, and that I fully understood all the operation. He evaluated the steering, brakes and other systems to again ensure things were up to snuff or not. Fortunately, other than things we knew about or were already addressing, my car passed Tony's pernickety hands-on test in fine fashion, and I learned a few things along the way. A good process which I recommend you undertake with a trusted service advisor. PW

#### MATT STONE CARRERA 3.2

Occupation: Freelance motoring writer/broadcaster **Previous Porsches**: One Current Porsche: **Mods/options:** Standard **Contact:** Γhis month: General service and the return of the factory Blaupunkt radio/cassette

No winter blues for Matt Stone and his Carrera 3.2, given that he lives in LA. Here it is receiving its annual service at Callas Rennsport



CONTACT Callas Rennsport callasrennsport.com

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**PARTS**HFAVEN

## TECH: PROJECTS

#### **CAYMAN 2.9: GINGER CAT AND BLACK CROC**

Who would have thought it, but running a cat is clearly more expensive than running a Porsche, as our man Fennelly discovers, with just moderate expenditure over his four-year dalliance with the Cayman





Porsches: One Current Porsche: Cayman Mods/options: Standard Contact: kieronfen@talktalk. net This month: Air con radiator takes a hit, which means a £700 bill for yours truly...

KIERON FENNELLY

CAYMAN 2.9

Occupation: Freelance writer Previous

n early January the insurance renewal for the Cayman fell through the letter box. Looking out the previous year's documents, I found myself leafing through several years of Cayman service invoices. Over fifty months and 33,000 miles I added up that, excluding insurance, RFL and MOTs, I had spent a grand total of £2756 on the junior Porsche. Considering that included two services, two intermediate oil changes, three tyres and £300 odd for a wing mirror and housing it struck me once again that Porsche motoring does not have to be expensive. That's a third of the rate of expenditure on my 993 which, admittedly, was a far older car requiring more intensive servicing. However, a recent poke around while the Croc was on the ramps showed that the (second) water cooled generation is not immune to the vicissitudes of ageing: corrosion around some of the exhaust pipework is now visible and, if not yet lifeexpired, some of the clips will need renewal in the next couple of years. There was happily no sign of oil seepage anywhere and the rear brake discs won't go much beyond the next MOT, but otherwise I seemed to be in the clear. Then at the front, a dark patch on one of the a/c condensers revealed itself: these front radiator assemblies are very exposed and if allowed to fill with detritus which then retains moisture, corrosion sets it. Regularly cleaning out these crannies, though fiddly, has avoided the latter, but alas a stone has evidently punctured the matrix. The upshot is that suddenly I am looking at a bill of

about £700 for two new a/c radiators ("We normally renew both sides when we do these, sir"), their various pipes and clips, labour and increasingly costly a/c gas.

After four years I thought such expenditure was par for the course, but then a larger and totally unrelated domestic bill materialised: our ginger cat suddenly shot through his catflap with such speed that the flap disintegrated, landing several yards away. It was pure Tom & Jerry except that he was trailing blood everywhere. Someone, possibly a fox, had had a serious go at his tail. Several visits to the vet later including amputation of his previously rather splendid tail and we were staring at invoices amounting to £1100. This was quite a shock: our hitherto low-maintenance mog has required only love, food and a sofa or preferably lap to sleep on. It certainly put the cost of running the Croc into perspective.

I must have been preoccupied by this distressing episode when I climbed into the Cayman not having used it for a fortnight or so. After ten minutes, I realised I my gloom was beginning to lift and it took a moment to realise this was the well-known Porsche dopamine effect. The response of the steering, the engine, the precision of the shift and the control weights, the ergonomics - that combination of dynamic virtues you miss driving other cars and a reminder of why I always take the Cayman in preference. I was interested to read recently in the Autocar that Andrew Frankel could find only one 'substantive' criticism of the 991, namely that, satisfying though it is, "you have to be pushing (very) hard before it

will do what it does best." You could say that of all modern Porsches, but at least with a Cayman, there is plenty of excitement to be had lower down the register. Although it is clearly not in the Exige class, it does feel like a sports car at quite legal speeds, an experience I indulged fully again the other week cutting across Lambourn Downs en route for Gloucester rather than the conventional M4-A417. It took longer and the roads were intermittently mucky, but you can't put a price on the joy of tackling such a variety of bends, hills, dips and short and long straights with almost no other traffic. Going the longer way doesn't always work, but more often than not, with the Cayman I have fun.

The intentions for 2018 will as ever be just that, necessary travels, but making something of the journey, too: Alsace on the routes départementales before Easter and southern Germany in the summer, plus a couple of track days to name the major fixtures. The only development that could bring a fifth happy year with this Croc to a premature end is 981-itis, which I have had for some time: this worsened considerably after an afternoon in a Cayman 2.7 981. Although it looks so similar to the 987, response, engine and cabin finish are in another class; then Mr Seume did what I had done in 2013 and swapped his air cooled El Chucho for a Cayman 981. Once again I was scrutinising the classifieds to see just what I'd have to spend. Perhaps though I'd better wait to see what Mr Mog's insurance premium is going to cost next time round... PW

Over four years and counting. Life with a Cayman 987 has been remarkably frugal, with just routine

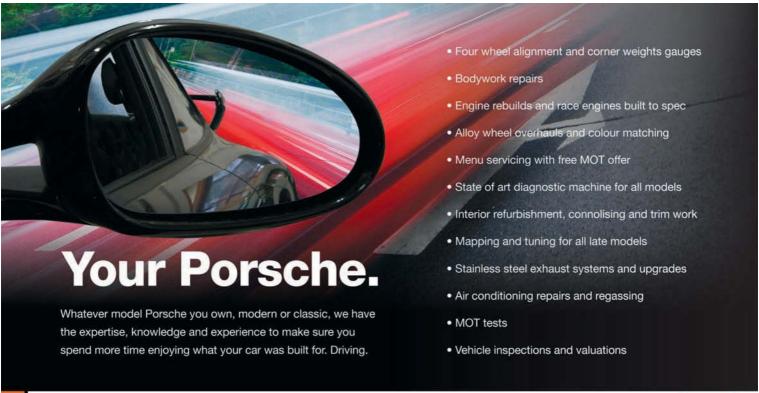
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# TECH: PROJECTS

## **BOXSTER HITS 100,000-MILES**

True, 100,000-miles isn't the milestone that it once was for a car, but it's still a relatively big deal for any car owner and a number that not many Boxsters will see, given that most are second cars. Brett is celebrating with even more miles





inter is cruel to the Boxster. Its outdoor lifestyle exposes it to the worst of nature's seasonal nastiness, and I can't remember the last time that the hood actually felt dry. As a consequence mould and lichen have taken hold once more – mohair seems to make for fertile growing conditions – despite regular cleaning. Well, regular until the seemingly ceaseless rain and drizzle made washing the Boxster seem futile, at which stage the green menace put on a growth spurt.

Acting on advice I'd seen on the 986 forums - and because my local hardware store had it in stock - I bought a nonautomotive algae and mould cleaner that's really for your garden path. But just before I was about to apply it I read the instructions and discovered a few obstacles: it works best when left on for 36 hours and temperatures are above 10°C, and conditions need to be dry. Guess I'll have to chuck the bottle in the cupboard for a couple of months and then tackle the patio. Meanwhile I've been back in touch with Furniture Clinic whose hood restoration kit I used three years or so ago the mould remover in the kit was the best I've come across, and I should just have ordered some online in the first place.

Although I may well have thought the same thing at the start of several previous years, I'm hoping to sort out more of the Boxster's manifold woes during 2018. Editor Bennett's enthusiasm for the CSF radiators

he imported from the States has inspired me to look in that direction for a replacement for my leaking centre radiator, though Mr B recommends I should do the job properly and replace all three. He may have a point. Once the radiator issue is sorted I'm up for trying Evans Coolants' waterless coolant, which is expensive stuff but very highly regarded in the specialist motor trade.

As well as being a dispenser of sound advice, Mr B is also a collector of redundant Porsche parts, most usefully, from my perspective, suspension components that will fit the Boxster. With remarkable largesse, he's invited me to plunder his stash, so I need to find the Depressingly Long List of Jobs to be Done that PIE Performance prepared for me, and identify which suspension parts require replacement. I just hope I haven't binned the list: out of sight, out of mind, and all that.

Not in any way essential, but I'm also considering a wheel change. A couple of years ago Jonathan Sage of Group 4 Wheels got in touch with news of deep dish Fuchs replicas he was developing for fitment on the likes of the Boxster and 996. I thought that the Boxster would look brilliant on a set of Fuchs and was getting excited about seeing the first prototype wheel when all went quiet from Jonathan. Turns out he was dealing with some major health issues, but now that he's fully recovered he's back on the case – he recently sent me some photographs of a batch of pre-production wheels and by the time you read this should be in possession of

some fully finished items. Which has triggered in me a terrible case of 'want' when I should be concentrating on 'need' items.

A few weeks back the Boxster's odometer flicked past 100,000 miles. Not a huge mileage by Porsche standards, but I still saw it as a bit of a milestone, so to speak. Psychologically 100,000 miles is a big deal, because you start to think that if ever you want to sell your car – not that I do – then a six-figure mileage will be off-putting to potential purchasers. So I'd found myself restricting trips in the Boxster in a bid to delay the inevitable. However, now that we've got there it's a relief: I no longer care what the mileage is and am back in the habit of taking the car out at every opportunity.

One of my other jobs is as editor of 911&PW's sister title, Total MX-5, and I've discovered that a surprising number of people have owned both a Boxster and an MX-5. Some of them are in the process of moving up from the talented little Mazda to the quicker, more sophisticated Porsche: others are heading in the other direction, preferring the MX-5's low-speed agility and zest to the aloofness of the Boxster in everyday driving. With regards to that latter point, I understand what the Boxster doubters mean, but I'd argue that at modest pace the rewards of a 986 come from conducting it in a smooth, fluid fashion that makes you appreciate its chassis balance and grip. Okay, it's not hugely thrilling to drive that way, but you do have to work to get it just-so, and there's plenty of satisfaction in that. PW

## BRETT FRASER

## BOXSTER 986 S

Occupation:
Freelance writer,
Dep Ed, 911&PW
Previous
Porsches:
None
Current Porsche:
Boxster 986 S
Mods/options:
Eibach springs and
anti-roll bars,
Pipercross air filter
Contact:
brett@brettfraser.
co.uk
This month:
General driving
duties and a hood
clean, but there is
work on the horizon

It's a tough life being Brett's Boxster, but despite its hardy outdoor lifestyle it's racked up 100,000miles with seemingly little bother

Left: Deep dish Fuchs replicas from Group 4 wheels will be landing soon. How will they look an a Boxster? Pretty good we reckon

## **CONTACT**Pie Performance

CSF Radiators

Group 4 Wheels group4wheels.com











## PRACTICAL PORSCHE

# TECH TOPICS

With 911 & Porsche World's consultant editor, Chris Horton



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## PERFORMING SEALS

A reader asked me recently how to extract the thermostat from his 944S2. The 150,000mile engine was showing signs of overheating, he said, and he wanted to determine if a new one would make any difference before going down the obviously rather more expensive and inconvenient routes of either a partially blocked radiator and/or a failed cylinder-head gasket. (And the former all too often leads quickly to the latter, of course.) So I sent him these photos, taken perhaps 10 years ago, when I was getting to grips with some of the mechanical issues in my

first – and in this respect identical – 924S, and I hope they might help anyone else now in a similar situation.

The thermostat is located on the return side of the water pump, just inside the stub to which attaches the large-diameter hose from the bottom (ie the cooler part) of the radiator. It is pretty much impossible to see the thermostat when the pump is in situ, however, and certainly so to photograph, hence this somewhat staged set-up. Although provided you have suitable circlip pliers, as here, vou should none the less be able to extract the thermostat

without taking off the water pump. (Which, as I later discovered, can itself be a whole world of pain, thanks to broken securing screws. See pages 126–127 in the October 2015 issue.) A small mirror will help you to see what you are doing.

Whether, with the pump still in the car, you would also be able to replace the inner seal – a steel ring coated with rubber, and pressed tightly into the recess inside the pump – is quite another question, but I show it here for the sake of completeness. This one was obviously pretty 'tired', even before I levered it

out with a screwdriver and effectively destroyed it, but I suspect it would have to be virtually non-existent to have any significant adverse effect on the flow of coolant. And, even then, any leakage past it would arguably lead to overcooling rather than to overheating. Check, too, that the thermostat's thin rubber perimeter seal is intact, and fit a new one if necessary.

All the parts are available from Porsche. The thermostat costs £20.18, the perimeter seal £2.34, and the smaller metal/rubber ring £8.06. All of those figures include VAT. You can, of course, test the

old thermostat by immersing it in a pan of boiling water on the kitchen cooker - you should see it decisively open as the temperature nears 100 degrees Celsius - and that may confirm your diagnosis. Unfortunately, however, the chances of a failure are slim, and the unpalatable fact is that any 'overheating' is more likely to be the result of a partially blocked radiator, or even a faulty head-gasket allowing the cooling system to become excessively pressurised. Naturally it is well worth exhausting all the other possibilities beforehand, though.



944 thermostat is secured inside the return port of the water pump by a circlip. Access is necessarily limited when the pump is installed in the car – hence it's shown here removed – but angled circlip pliers ought to be sufficient to extract it. Behind the circlip is a thin stainless-steel washer or shim, and around the outer edge of the thermostat itself a rubber sealing ring. Behind the thermostat is essentially a rubber-coated metal sealing ring, pressed into the smaller-diameter port within the water-pump body, and that can be renewed, too, if necessary – although the pump will almost certainly have to be removed to do so. To remove the old ring, gently collapse it with a screwdriver blade or a suitable chisel. To fit the new one, drive it home with an appropriately sized socket to act as a mandrel















# TECH TOPICS

With 911 & Porsche World's consultant editor, Chris Horton





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## FEEL THE FORCE

I had originally planned to include what follows here as an informative and hopefully interesting sidebar in last month's how-to story about Porsche's Centerlock wheels, as fitted to 997s and 991s. As usual, though, I ran out of space, so rather than abandon the piece I thought I would hold it over for this section of the magazine. Waste not, want not, and all that.

Central (no pun intended) to that how-to story was the very high torque figure – 600Nm – to which each wheel's single retaining nut has to be tightened. And that, unsurprisingly, begs the question: just what is torque? And more to the point, how do you apply a specific 'amount' of it? To answer the second question: a torque wrench is a

means of applying a precise and consistent turning force to a threaded fastener in order to tighten it. This will – or should, anyway – prevent it coming undone, or even breaking due to over-tightening.

Several types of torque wrench are available - modern ones are set electronically, and simply beep when the required level is then reached - but the old-fashioned kind, which you wind up against an internal spring, and which click decisively at the appropriate moment, are just as effective. Make sure you buy one that will tighten to a figure well beyond the 600Nm required of these Centerlock wheels. or use a lower-rated unit and a so-called torque multiplier. (More on those in that how-to story.) Always return your

torque wrench to zero after use to preserve its accuracy – and don't ever use it to undo tight fixings. Avoid, too, the temptation to give the fastener one more click, or even a little extra tweak on the wrench, 'for luck'. That will achieve nothing but to risk breaking something.

As for the first part of the question, torque figures have been - and all too frequently still are - quoted in a number of confusingly different formats over the years. But Porsche, being both German and thoroughly logical, uses the International System of Unitsderived Newton metre, which is usually - although not, strictly speaking, entirely correctly - abbreviated to Nm. One Newton metre is equal to the torque resulting from a force of one Newton applied

perpendicularly to a moment arm (that is to say a lever) which is one metre long.

And Newton, of course, refers to the 17th-century English physicist and

mathematician, Sir Isaac Newton, and is in this context defined as the force needed to accelerate a mass of 1kg at the rate of one metre per second squared.



## IT'S EASY WHEN YOU KNOW HOW – AND WHERE TO LOOK

This was an interesting and unusual fault in an early but still tidy 996 – if 'interesting' is the right word in this context. 'Maddening' might be nearer the mark – and it certainly would have been so for me. Electrics are definitely not my strong point.

Neither of the car's rear number-plate lights was working. Not exactly disastrous, but unsurprisingly an annual MOT-test failure. Not unreasonably the independent-specialist technician charged with the pre-test inspection first checked and replaced the fuse – which had blown – and then, when that didn't make any difference, examined the bulbs. Finding that both of those had blown he fitted new ones, quite justifiably expecting that to be that,

but still neither lit up.

Next step was to remove the rear apron, and to check for a supply at the plug-and-socket connection behind it. (The connection is the same kind of secure but rather devious device that I showed in a recent how-to story, so I have repeated the relevant pictures for clarity.) Nothing doing there, and no obvious continuity or short-circuit

issues, either, so the most likely suspect had to be the main light switch on the fascia. These are known to cause problems with the instrument-panel lights and, sure enough, a new one – £114.46 plus VAT from Porsche – did the trick.

It pays never to jump to conclusions, and thus to end up diagnosing by substitution. It is entirely feasible that, as here, and over a period of up

to a year between MOT tests, or even your own routine inspections, both bulbs might, indeed, have blown. So always check those and/or the fuse first. If you find yourself in the same position, though, it might be worth your while spreading the net a bit wider. If you want an independent to replace the switch for you, by the way, reckon on around an hour's labour.









You'll come across this kind of plug-and-socket electrical connection in all manner of modern VAG vehicles. The two halves can be separated by pressing in the right place with a screwdriver blade, but sometimes limited access makes that difficult, if not impossible. In which case you need one of these handy tools. Laser's '6547' is available for around £15 on Amazon – well worth it, in our opinion. Meanwhile 996's non-functioning rear number-plate lamps were eventually traced to a faulty main switch on the fascia





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## **BUYERS' GUIDE: SECOND GENERATION CAYENNE**

# CAYENNE EVOLUTION

By the time the second generation Cayenne arrived on the scene in 2010, the shock of a Porsche-built SUV had largely subsided. Indeed, to most it seemed like a perfectly sensible idea, and Porsche's copycat rivals clearly agreed. The gen 2 Cayenne raised the performance and luxury bar yet higher. Here's how to buy one

ome Porsche enthusiasts will never forgive Zuffenhausen for launching the Cayenne in 2002, and may like the idea even less now that it, and its smaller Macan brother, account for the majority of the marque's sales. But it must be acknowledged that Porsche's first SUV was a master class in engineering, raising the bar in a luxury sector defined at the time by the Range Rover, BMW X5 and Mercedes-Benz ML.

The original Cayenne was dynamically impressive: refined V8 performance and the most car-like handling of any SUV. But it was no oil painting, a wide and high blob wearing a Porsche badge.

Eight years later Porsche unveiled the second generation Cayenne, slightly better looking it's generally agreed, and as many years on again this has become an affordable proposition, with prices as low as £18,000. That's a lot of 4x4 for the money, so are we looking at the ultimate bargain Porsche of recent years, or is there simply too much tech packed in to allow it to be reliable and with sensible running costs?

## **DESIGN, EVOLUTION**

Although slightly bigger than the original, the new model was 180kg lighter and gave up to 23 per cent better fuel consumption. And with the carmaker greening up its image it was no surprise that the range not only included a hybrid model, but one that went on sale with the rest of the line-up in the UK in May 2010. Despite £3500–£5900 price hikes over equivalent outgoing Cayennes in the UK, Porsche took 16,000 orders worldwide within a month, 1000 in the UK alone, generating a four-month delivery wait.

With wheelbase and length increased 40mm and 64mm, the new Cayenne was more spacious inside, the dominant cabin feature the facia which with its large, Panamera style centre console intended to create the same "cockpit" feel of other Porsches. The entry level model was, as before, the Cayenne, but featuring an all-new 3.6-litre Porsche-designed V6 to replace the previous Volkswagen unit, power 296bhp.

The Cayenne S and Turbo carried over the same 4.8-litre V8s, but more economical than before, while the S also enjoyed a 15bhp increase to 395bhp. The Cayenne Diesel was 20 per cent thriftier than the previous oil burner at 38.2mpg, and the Cayenne S Hybrid was the least polluting Porsche, at 193g/km; it ran on either the petrol V6 or the 34kW electric motor, or both, in which case maximum power was 375bhp.

A series of eco-focused engineering

Proof that it's not easy to make a goodlooking big SUV, the gen 2 Cayenne is at least a better looking beast than its predecessor



Porsche hybrids have been around for longer than perhaps we can all remember. with the Cayenne Hybrid among the first of the new gen 2 models to be launched



upgrades were applied across the range including a new, eight-speed Tiptronic S automatic gearbox, auto start stop function, improved thermal management of the engine and transmission, and a "smart" alternator that switched off when charge is not needed, thus reducing engine load.

The first tweaks came in April 2011 when the Cayenne Turbo became available with a Powerkit raising output by 40bhp to 533bhp and torque by 37lb ft to 553lb ft. This gave a small increase in the already thunderous performance - 0-62mph a tenth quicker at 4.6sec - though fuel consumption was unchanged.

The kit comprised new turbochargers with titanium-aluminium turbine wheels, plus an ECU remap. Initially the Powerkit was a factory order on new vehicles, but later become an aftermarket fit. At the same time the Diesel's output was raised by 5bhp, 0-62mph acceleration cut by 0.2 seconds to 7.6 and economy improved 0.8mpg - doesn't sound much but it took a new turbocharger, revamped fuel-injection and enhanced thermal management to achieve it.

Developments thereafter were typical of the Porsche model path. The sporting version, the GTS, went on sale in July 2012 following a world premiere in Beijing in China, using the Cayenne S engine boosted by 19bhp to 414bhp and by 11lb ft to 380lb ft. The Porsche Active Suspension Management (PASM) was lowered 24mm over standard and more tautly tuned. The GTS used a Cayenne Turbo-style nose section, wider wheel arches, side-skirts and a twin-wing roof spoiler, plus some black exterior trim, while a sports exhaust protruded from under the tail. Inside, you saw leather/Alcantara trim, sports seats and SportDesign steering wheel.

Only offering diesel engines out of necessity, Porsche nonetheless took a leaf out of Mercedes' and VW's books and added a big oil burner to the range in September 2012. The 4.2-litre, twin-turbo V8 in the Cayenne S developed 377bhp, and a stumppulling 627lb ft, making it the highest torque Cayenne available. With a reasonable 34mpg and a 100-litre fuel capacity it could cover 750 miles on a tankful - and could also hit 62mph in 5.7 seconds and 157mph.

The last development before the facelift was the introduction of the Cayenne Turbo S in October 2012, the normal Turbo's engine uprated by 49bhp to 542bhp and pulling power 37lb ft to 553lb ft. On the outside it wore 21-inch diameter "911 Turbo II" wheels and inside special leather, and cost over £107.000.

After four years Porsche gave its SUV over 300,000 of which had been sold since 2010, making it the top selling Porsche - an extensive facelift, including a key new engine. The range went on sale in the UK in October, 2014.

The Cayenne V6 was dropped, the entry model now the Cayenne S, down-sized from the non-turbo 4.8-litre V8 to a new 3.6litre bi-turbo V6. It produced 414bhp, 19bhp more than the 4.8, and 406lb ft torque, 37lb ft more, shaving a tenth of a second off the 0-62mph time, now 5.4 seconds, while top speed was one mph higher at a surely academic 161mph. The Cayenne S's 223-229g/km CO2 emissions allowed models with the lower figure to escape the most punitive road tax bracket.

## TIMELINE February 2010

Second generation Porsche Cayenne revealed

May 2010 Cars go on sale

April 2011 Turbo S available with a Powerkit, and the Diesel's power is raised slightly

April 2012 GTS announced, extra power, chassis upgrades and body styling

September 2012 Cavenne S Diesel added to the range. 4.2-litre V8 diesel

October 2012 Turbo S joins the range, UK price from £107,460

July 2014 Range is facelifted, new V6 bi-turbo S is now the entry model

November 2014 Facelifted GTS on

January 2015 Facelifted Turbo debuts at Detroit motor show

## **SPECIFICATIONS** 2010-2017 Porsche Cavenne

Engine (cyl/cc) Power (bhp/rpm) Torque (lb ft/rpm) 0-62mph (sec) Max mph Average mpg CO2 (g/km) Weight (kg) Wheels Tyres Built

Cavenne S V8/4806 395/6500 369/3500 160 26.9 245 8Jx18 255/55 R18 2010-2017

**Cayenne GTS** V8/4806 414/6500 380/5500 163 26.4 251 275/45 R20 All figures from Porsche, and for pre-July 2014 facelifted models Cayenne Turbo, Turbo S V8/4806 493, 542/6000 24.6 270 2170, 2215 8.5Jx19, 10Jx21 265/50 R19, 295/35R20 2012-2017

**Cayenne Diesel** V6/2967 237/4000 405/2000 **7.8** 135 38.2 195 8Jx18 255/55 R18 2010-2017

Maintenance costs (guide, includes fitting and VAT) Oil service (V6/V8/V6 diesel) £336/£360/£388

Major service (V6/V8/V6 diesel) £476/£505/£585

Front brake pads and discs £750 (depending on brake spec)

Replace the "swirl" flap in the diesel induction system £1075

Replace the Exhaust gas recirculation valve (EGR) £1050 Four premium brand tyres (265/50R20) £1000 Service and repair prices from JZM Porsche (01923 269788, www.jzmporsche.com)

## WHAT YOU'LL PAY

£18,000-£20,000: 2010/2011 Cayenne V6, but these are rare £20,000-£25,000: 2012 Diesel with 100,000-plus miles, 2010 with 60,000 £25,000-£30,000: 2010-2012 Cayenne S, and sub-50,000 mile Diesel £30,000-£35,000: Starting price for Cayenne Turbo

£35,000-£40,000: minimum price for a GTS or Turbo S

The Cavenne became available in plug-in hybrid form, the Cayenne S E-Hybrid with its 3.0-litre supercharged petrol V6 producing 328bhp boosted to 410bhp by the electric motor, the combination also raising a total of 435lb ft torque. Its performance and economy were impressive, 0-62mph in 5.9 seconds and a maximum of 151mph - and its 83mpg and consequent 79g/km of CO2 meant zero road tax.

In the absence of a Turbo S, the Turbo was the flagship model, its twin-turbo, 4.8-litre V8 upped to 513bhp/553lb ft torque, while the Cayenne Diesel was made more economical. The revamp also included a new nose. bonnet and front wheel arches, and revised front and rear trim. Inside there was a new multi-function steering wheel based on the design of that in the 918 Spyder, and paddleshifts were standard on all five models.

Two additions followed, first the GTS in November 2014 powered by a 434bhp/443lb ft version of the S 3.6-litre V6 engine. At the Detroit show in January 2015 the new Turbo S was announced, Porsche re-engineering the 4.8-litre V8 engine to produce 562bhp/590lb ft torque, the extra grunt achieved by the use of integrated turbochargers, the pair now housed directly in the exhaust manifolds. On the basis of a 7min 59.74sec lap of the Nürburgring it was claimed to be the fastest sports utility vehicle in its class. The Porsche Composite Ceramic Brakes (PCCB) system with huge,

420mm front discs and - for the first time on a Cayenne – 10-piston calipers was standard equipment.

## DRIVING THE CAYENNE

If you like big SUVs, with their raised driving positions, the sense of security and the feeling of detachment from the road, the second generation Cayenne ticks all the boxes. The overall driving experience is broadly similar to the original, although the revised interior is notably better quality.

Both diesel engines are refined and responsive by oil burning standards, the Diesel S's V8 particularly torquey, but the effortless petrol V8s are what many will prefer. The standard steel springs provide a good enough ride, although the optional 20inch alloy wheels make the passage poor over bad surfaces.

## WHAT YOU'LL PAY

The cheapest way into this model of Cavenne is a V6 petrol from 2010, costing from £18,000. But you won't see many; we estimate 85 per cent of second generation Cavennes for sale are diesels, and the same proportion again are of the three-litre Diesel, the V8 Diesel S a minority choice. A typical lowest price for the Diesel would be £20,000, a vehicle offered by an independent used car dealer and with

## WHAT THE PRESS SAID

'We blatted a Turbo around the test track at the Leipzig factory where Cayennes are made, and it proved absurdly fast: absurd because you never lose the sense that you're in something large, high and heavy, yet here you are bounding from apex to exit with the playful enthusiasm of a 997. The soundtrack is different, of course – all rumbling rage and bellicose bellow.

911 & Porsche World, Porsche Cayenne first drive, July 2010

'The Cayenne is composed at higher speeds, and only rarely – on truly appalling town road surfaces – is there significant patter or kickback through the steering. Presented with a challenging road, the Cayenne does its best to seemingly defy the laws to which other cars adhere; it grips, turns and stops to indecent standards.

Autocar, Porsche Cayenne S Hybrid road test, 23rd June, 2010

## What Porsche said:

'The fresh design of the new model integrates the 2010 Cayenne into the Porsche range and the sporting character of the Cayenne is clearly obvious, just as the highlights in the shape and design of the car so typical of Porsche are also clearly defined. The new Cayenne has been developed according to the principles of Porsche Intelligent Performance: more power on less fuel, greater efficiency and lower

Press release, 25th February, 2010

around 100,000 miles. High mileages are to be expected - the Porsche is an excellent mile eater.

Bumping the budget up to £25,000 allows you something a year or two younger, or still an early example but with 60,000-70,000 miles. Spend another five grand and you can look at a threeyear-old, one owner car with well under 50,000 miles.

The mighty Cayenne Turbo seemingly defied the laws of physics, with huge, 500+bhp and handling that shrugged off its considerable weight



Interior is a highlight of the Cayenne Elevated position, plus more switches and dials than an aircraft, give it a high-tech vibe



## **USEFUL CONTACTS**

jzmporsche.com This Hertfordshire Porsche specialist concentrates on all models of newer Porsches, with expertise on servicing, repairing and also tuning. Our technical consultant for this Buyers' Guide.

#### Tech 9 tech9.ms

The Liverpool specialist is the long standing importer for Porsche tuner TechArt, which has offered bolt-on modifications for Cayennes, right back to the early cars

**Porscheshop** porscheshop.co.uk A Midlands-based Porsche parts supplier offering a wide selection of standard mechanical and body parts for Cayennes, as well as tuning equipment

The Cayenne S was not a popular choice, nonetheless it's relatively expensive: 2011 models are still stickered at £25,000-£30,000. Which makes the Turbo look tempting, because they are to be seen for £30,000 or a bit over. But if your mission is a Turbo S, be prepared to pay £40,000.

Pre-facelift GTS prices start at £35,000, but expect to pay closer to £40,000 for the right car. Whatever the model, it's worth checking Porsche Centres, whose prices are higher than independents, but not always significantly so; 2012 Diesels start from £31,000 to £32,000.

## WHAT TO LOOK FOR

This is a modern Porsche with Zuffenhausen's modern reliability, so even though the earliest vehicles are now coming up for eight years old there seems to be little to worry about so far. 'There's not a lot of issues with them, I'm sure as they get older there will be more problems but they will be more durable than the first series of Cayenne,' is the verdict from Steve McHale, director of Hertfordshire based Porsche specialist JZM. Hence our usual extensive list of points to check is shorter for this Buyers' Guide.

## **ENGINE**

Most owners picked the Diesel, and Steve has seen trouble here, mainly with diesel particulate filters (DPF) which reduce soot emissions. 'We've had a couple of DPF

problems, one caused by one of the three water temperature sensors having a fault, which prevented the DPF operating correctly until full water and oil temperatures were achieved,' he explains. 'The other fault was due to the vehicle undertaking only short journeys, and this is a common situation with diesels.

Another job he's carried out is to replace the "swirl" flap which is part of the diesel inlet system, and which leads to poor engine running when problematic. 'There are two per engine, and they're quite expensive to replace - around five hours' labour plus parts,' Steve reports. He's also changed two exhaust gas recirculation (EGR) valves, a faulty EGR bringing the engine light on and causing poor running. The petrol V6s and V8s are trouble-free, as is the eight-speed automatic gearbox.

## **BRAKES**

Check the condition of the brake discs, looking for the usual signs of extreme wear, a lip around the outside edges. 'Cayennes are heavy vehicles and therefore heavy on brakes and tyres,' Steve says. But he has good news on the optional Porsche Ceramic Composite Brakes (PCCB): 'The PCCB brakes do not suffer like those on the sports cars do, because not many Cayennes get used on track days.

## **ELECTRICS**

Even the least expensive Cayennes are laden with spec, so ensure that all the electrical equipment works properly: seats, windows, climate control, central locking and so on. However, Steve mentions two particular electrical weaknesses. 'The driver's door wiring loom from body to door can become damaged, causing the airbag light to come on, and we've also changed a few driver's door window regulators - they wear out, and the window drops into the door.'

## VERDICT

If you think of the second generation Cayenne, be it the Diesel or Turbo S, as the best full-size SUV out there you won't be disappointed, as it's massively capable and versatile. If you think of it as a sporting set of wheels, that's a bigger stretch, although the Cayenne, and particularly the GTS, has a taut edge not found on many 4x4s.

What is for certain is that the Cayenne is now relatively cheap and has proven durability, and makes a pretty good sub-£30,000 buy. Just ensure high mileage examples have had all the proper maintenance, and you can't really go wrong - if there's already a Porsche sports car in your garage, the Cayenne could be the perfect partner. PW

## SPOTTED FOR SALE

## Private seller

2012/12 Porsche Cayenne S, black, black leather, 52,000 miles, three owners, £27,999, Kensington, London

## Sports car specialist

2011/61 Porsche Cayenne Turbo, black, black leather, Panoramic sunroof, £34,995, Slough ashgood.co.uk

## **Porsche Centre**

2012/62 Porsche Cayenne Diesel, dark blue metallic, black leather, 43,870 miles, £31,500 **Porsche Centre Belfast** 

**BUYERS' CHECKLIST**Diesels can develop diesel particulate filter problems, illuminating the engine light Exhaust gas recirculation valves can give trouble, illuminating the engine light Check the condition of the brakes – the Cayenne is a heavy car that's heavy on discs Wiring loom going into the driver's door is a weak point and can become damaged Ensure all the electrical functions such as windows and air con are working correctly On high mileage vehicles, check that all the scheduled servicing has been completed.

## **DEALER TALK:**

## RENAISSANCE CLASSIC SPORTS CARS

Three years ago Graham Beeson sold the classic Porsche business he founded over 25 years ago, and now is back in the motor trade as General Manager and Head of Sales for this Surrey-based Porsche specialist – and has big ideas for its development



#### How long have you been in the Porsche business:

Porsches have been an integral part of my life since I first saw the 928S at the 1981 Motorfair at Earls Court. But from a business perspective, over 25 years now, turning my passion for Porsches into a business when I founded and managed Beeson Retrosport all those years ago, specialising in 1970s and '80s Porsches, offering a "one stop shop" for sales, servicing and restoration.

#### What Porsches do you specialise in?

A wide variety, from early aircooled 911s up to the 997, plus all Boxsters and Caymans. We also handle the 924, 944, 968 and the 928, and we are starting to take a serious interest in the Panamera.

## What's your cheapest, and most expensive Porsche presently in stock?

A very affordable, 2010 Boxster S with very low mileage at £23,495, and a unique 1987 DP Motorsport 935 with 20,000 on the clock and with a comprehensive history. We haven't yet set a firm price, but I would welcome potentially interested parties to contact me.

## What would you recommend as the best "first Porsche" to buy?

Sub-£15,000 I would say the 3.0-litre, 16-valve 944S2, an exceptionally well balanced car and a great driver's machine. Up to £50,000, the 997 gen 2, and over £50,000 a late impact bumper 911 - in "Resale Red", naturally.

## Where do you get your stock from?

Having been around the international classic and sports car market for a long time now, I have built a huge database of international contacts, and this networking has paid dividends in stock acquisition. Vehicles and deals can materialise and become available in the most surprising places.

## What warranty do you give,

Our philosophy is: 'we will not sell anyone a car we wouldn't be happy to own and drive ourselves'. All our vehicles go through a thorough, 131-point inspection and will be fully serviced and professionally presented. All come with a sixmonth comprehensive warranty as standard, with the option of extending this up to 36 months.

## What's 'hot' at the moment?

There will always be strong demand for good original aircooled 911s with full and correct provenance. But I have a feeling the 928 is going to make some serious waves in the marketplace over the next 12 months.

## What's best value at the moment?

Well-specced 987 Boxsters represent cracking value for money, and are sought after.

#### Name a car that you recently sold that you would happily have kept for yourself?

A 1975 911 Carrera 2.7 with 40,000 miles, absolutely stunning and a dream to drive. The one that got away!

#### What car do you drive evervday?

An E46 BMW M3. I have been fortunate to have owned over 50 Porsches, so driving a different manufacturer's car daily just makes jumping into the Porsches an even more enjoyable experience.

### What are your plans for the future?

To expand and develop Renaissance Classics into a major player in Porsches. We are launching our new website, have recently completed our dedicated engine workshop, a new sales forecourt and showrooms, while our external "investment car" garaging has all been expanded.

## **Contact** Renaissance Classic Sports

Trackspeed House **Portsmouth Road** Ripley Surrey GU23 6HB 01483 225878 renaissance-classics.co.uk

## HELPING YOU RUN YOU PORSCHE

## ELECTRIC CARS' USED VALUES RISING

Electric cars are bought to reduce pollution or side-step city restrictions – but soon there could be a resale benefit if an upward trend in some used values spreads across the market. Pricing specialist CAP HPI reports a rising demand for certain models of electric car, the resulting inadequate supply allowing owners of one-year-old vehicles to sell for a few hundred pounds profit.

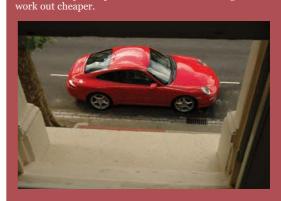
The cars in question are a Peugeot, Vauxhall and Nissan, but with a tipping point in the electric car market in sight, values of the Porsches concerned, the Cayenne S E-Hybrid from £67,626 and Panamera 4 E-Hybrid at £81,141, could enjoy hardened values. The market has turned a corner and for the savvy motorist the idea of buying a new electric car and putting 10,000 miles on and selling it after a year for more is an appealing one,' said Cap HPI.



## HELPING YOU RUN YOUR PORSCHE **MULTI-CAR INSURANCE POLICIES**

The number of two-car families in the UK soared by nearly half a million in 2017, and that means an increase in the number of insurance policies with more than one car on them. One broker claimed a saving of £400 per year was possible if you cover two cars with one policy — but if you do have a daily driver, and also that nice red 997 ready for the weekend, do the arithmetic before signing up.

A two car policy might save money, but only if both of the cars are competitively risked by the insurer. If the underwriter doesn't like Porsches, or the other car, it won't work. So before signing up, compare the cost of separate policies for each car, as it might work out cheaper. The number of two-car families in the UK soared by



# PRACTICAL

# **CLASSIFIEDS**

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## 996 Targa

2002, 35,000 miles, Arctic Silver, black leather heated memory seats, sat nav, FPSH, present owner 8yrs 10mths, MOT, number plate included, £20,950 ono. Tel: 07977 011187. Email:

eamarshall18@aol.com (Staffordshire). P0418/024 £20.950 ono



#### 997 Carerra 3.8 S manual

3.8 S 2005, metallic silver with unmarked blue leather interior, originally supplied by Porsche Cambridge. Great original 997. fitted with Pioneer multimedia system + original Porsche sat nav unit, sport bypass exhaust. Suspension service/air con system replaced at cost of £1200, new Bridgestone tyres, great car, full service history, 4 main dealer, 1 indi, 1 non spec, bargain price - no offers. Tel: 07801 559997. Email: v8cfj@yahoo.co.uk (Surrey)

£19.995

## 911 Carrera 3.2, 62,000 miles

Black with black leather interior, 12 months' MOT, lots of history and documentation, same owner for last 18 years, a very original car with overall good bodywork but does need some minor work to the body (photos available), the car is an original right hand drive/UK registered car and located in the UK. Tel: 0041 7874 54223. Email: croftsps@gmail.com

£42,000 P0418/034



## 993 Carrera 2 Coupe

6 speed manual in good condition for 176,000 miles, stamped full maintenance record, Slate Grey metallic, Marble Grey Sport seats, 996 GT3 steering wheel and Porsche Classic navigation system, Carrera S rear spoiler, 996 GT3 wheels, RSR exhausts, RS road splitter Aero bumper, adjustable suspension and Litronic low beam Xenons. MOT April '18, paint refresh and new carpets in 2015. Tel: 01453 451696. Email: steven\_buckley@outlook.com (Glos). P0418/041

## 944

#### 944 2.7 Coupe

Produced for 1 year only, this is an iconic 944 2.7 in cool Alpine White, excellent bodywork and unmarked Marine Blue pinstripe velour. Just over 56.000 miles. only 4 owners from new. last owner since 2006. Retains its original teledial wheels with all new Firestone Firehawk 215/60/15 94V tyres, recent service work includes new clutch and all cam and balance belts done at 55,130 miles. Extensive service records right back to 1993 by mainly Porsche OPC documents its well cared for life, hard to find in this condition, it's not perfect but a nice honest example with room to improve. Rare 2.7 interim model, detachable sunroof with storage cover, MOTs going back to its first MOT in 1992, will come with fresh MOT, HPI clear, Porsche COA. Tel: 07768 938967. Email: thedjrobinson@icloud.com (Beds). £13.500 P0418/026



#### 944 Turbo

1988, black with black electric leather seats, 220bhp. Just undergone a restoration, including full inner and outer sills using Porsche panels and front and rear lower wings, it is now solid and as original, bodywork is in great condition for vear, interior is in very good condition with very little wear, engine runs and drives well, boost is amazing and pushes you back in your seat. Original D90 alloys with 4 good named brand tyres, on the whole a good straight car. We have the original service book and manuals with a large wad of service paperwork, every MOT from new, just passed new MOT. Comes complete with private plate, these are fast appreciating classic cars, very desirable in this colour combination. Could do with a couple of bits and pieces finishing: tracking, small part of roof trim sagging, rear parcel shelf attaching correctly, small plastic dash trim replacing, call to arrange a viewing. Tel: 07973 550257. Email: c.p.s@hotmail.co.uk (Derbyshire). £12.500 P0418/015



## 944 2.5 needs light restoration

My uncle's car, has been in the family for about 20 years, laid up about 9 years ago, new engine was fitted about 3 months prior, needs restoration, registered Dec . 1984. Tel: 07988 657326. Email: leighweaver928@btinternet.com (Devon). P0418/043

## BOXSTER

07973 362476. Email:

986 Boxster 550 Spyder Anniversary 1069 of 1950, 73K miles, full service history with 7 stamps, many receipts, MOT until July (no advisories), GT Silver, Cocoa interior/roof, Litronics, Bose, heated seats, sports exhaust, 2 keys, non sat nav model, lovely original condition, exterior pristine aside from usual minor stonechips on front bumper, interior also excellent, drives superbly, superb limited edition appreciating analogue car. Tel:

benhugill@yahoo.co.uk (East Sussex). P0418/001

## REGISTRATIONS



'1 911 PF' registration number plate Rare Porsche 911 registration for sale, '1 911 PF', owned for 13 years, this is a one off opportunity. Excellent number plate. always gets lots of attention from all Porsche owners, sadly sold my 911 to move to France hence the sale of my registration. Open to sensible offers or in part exchange for cars or motorcycles. please give me a call to discuss. Tel: 07585 706030. Email: sirporsche1968@yahoo.co.uk.

£6500 P0418/020

# MIO SWAN

Super number plate for anyone named Swann or Swan, it isn't often that you can get a perfect name plate, so grab this whilst you can. On retention certificate, at just £1999 it is a real bargain, excellent investment for the future, pass it on to your children, please call or email, do not text. Tel: 07020 923542. Email: saltydog1@ymail.com.

£1999 P0418/016

## L9II BAD

## Porsche cherished number

'L911 BAD', complementary number for a special 911. Tel: 07415 252911. Email: keithnicko@aol.com.

£3850 P0418/040

## KBO 911P

## 'KBO 911P'

On a retention document. Tel: 07766 831220. Email: mark@linstoneclassics.co.uk.

P0418/011

## PORSCHE RELATED CHERISHED REGISTRATION NUMBERS

A911 DPG **RSR 911T** RS15 ACE P993 POR **RUF 911T WBZ 911 VOP 911S** RED 911H 911 HDL **CAB 911X** 911 ADS 911 WVS **REG 911E** 911 SCR **S911 LER** 911 FEG **TON 997X** 911 MSD **POR 997T** CAR232A **POR 911K** 930 FF 1974 RS XXX 911C 993 POR 991 PD **993 RUF** 911 RWS **X993 POR B911 RSR VNZ 911** A993 XXX 964 MC **D911 POR** 964 GC E944 POR **RSR 911K** 1 YRS All on retention certificates

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PCGB MEMBER TEL: 07730 007694 EMAIL: erha300@aol.com

## REGISTRATIONS



Porsche 959 cherished number Cherished number for your Porsche 959, 'IIL 959'. Tel: 07988 657326. Email: leigh.weaver@btinternet.com.

£1500 P0418/013



'JAZ 4911' private number plate Private number plate, dateless number plate currently on a car, can be moved onto retention or onto your car, (JAS, JAS 911). Tel: 44 7944 494840. Email:

P0418/009 £1000

pssall@hotmail.com

# BOX BOY

Boxster plate 'BOX 80Y' (BOX BOY) Great plate for Porsche Boxster. Tel: 07767 818983. Email: steve@hayes-P0418/039 £4000

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## **AUCTION/SHOWROOM/CLASSIFIED**

# MARKET WATCH

Many of us look longingly at the Porsches bought for six- and seven-figure sums at international auctions. So after reporting a few of those sales, we move on to cars closer to our hearts – these sold for real world money at a classic car auction near you



very year in late January a bunch of filthy rich car enthusiasts gather at a series of posh events in and around Scottsdale, Arizona in the US for the year's first round of classic car auctions. These whose jet set lifestyle hasn't afforded a window to attend but fancy bidding stay on the sunbed and do so by phone or on the web.

And this year the usual crop of super valuable classics shifted from one securely garaged collection to another. RM Sotheby's' highest priced Porsche sale was of a 1987 959 Komfort that made \$1.16m, (about £784,244), over £96,000 ahead of its pre-sale estimate - a sum that would have bought you a 959 a dozen years ago. RM also achieved healthy prices on several modern Porsches including number 196 of the 356 997model Speedsters introduced at the 2010 Paris motor show, which sold for \$280,000 (£196,800), an appreciation of nearly £53,000 over its new price in 2011. And did someone say the 996 is the unloved 911? RM took \$428,500 (£301,100) for a 1996 RS 3.8, based on the Carrera Cup car and serving as an homologation car for GT racing.

Over at rival auction house Gooding & Company funds were flowing fast, with at one end of the age spectrum an outstanding, late 356 Speedster from 1957 making \$553,500 (£389,000) and at the other a 2004 Carrera GT achieving \$715,000 (£502,400) and underlining how after a wobbly start in the collectors market the carbonbodied V10 roadster is accelerating towards price superstardom.

But these two auctioneers were upstaged by the efforts of Bonhams, which had

managed to consign an actual 1958 works Porsche 550A Spyder with provenance flooding off its curvaceous aluminium body: second in class at the 1958 Le Mans, wins at the Nürburgring, and 10 entries to the Mille Miglia re-run. One of 40 Spyders built, it's reckoned to be one of the top three examples in the world, and it sold for \$5.17m (£ 3,63m). This lot alone earned Bonhams around £330.000.

But that's enough about how 0.1 percenters amuse themselves in winter. What was going on in the cold and damp auction halls, the places to frequent should you be in need of a cheap set of Porsche wheels?

In its Christmas sale in December, Barons, which stages its sales at the Sandown Park race course in Surrey offered a pair of 944s, a 1987, 93,000-mile 944S and a 1990 Turbo with

somewhere between £12,000 and £14,000, and £11,000 to £13,000. But neither found a buyer, so it would seem that although 944s are now appreciating, they're not doing so as fast as some sellers believe.

However, there were no unrealistic hopes for the 1997, 96,500-mile Boxster 2.5, the tidy looking car in silver and oh-so-1990s orange leather probably a decent buy at £4500. A 2005. 69.500-mile Boxster 3.2S, also a manual, made £10,450 - hard to decide which of this pair represented the better value, but it sure shows that if you want a cheap Boxster, get your bidding registration in at the local classic auction, because this is where early 986s are increasingly to be found at more than affordable prices. At the same sale a 2000 996-model 911 Carrera Cabriolet looked a sensible £13,000 worth, especially since it was the manual version (many are the less sought after Tiptronic), had covered just 76,000 miles and even came with a factory

Anglia Car Auctions runs regular classic sales that usually attract "anything goes" entries, someone at the January event paying £450 for a barn find 1964 Morris 1100 that appeared to have some of the barn inside it, and £400 securing someone else a Sinclair C5 minus battery and unused for many years. There were scant details on the 911S "modified in the style of a 993 RS", which had been in the previous owner's garage for almost 20 years, but it made £29.680, which was £3680 over its top estimate, this

perhaps reflecting the current popularity of 1970s 911s, whatever form they come in. A more run of the mill offering was a 1998 Boxster 2.5 with a maintenance history from 2002; possibly the main challenge for the new owner, who paid £4345, would be living with the turquoise paintwork.

While Barons did not shift its two 944s, a buyer at the sale hosted in late January by South Western Vehicle Auctions in Poole, Dorset took home a respectable 1986 example in white for £5600 plus purchase fee. It seemed to be the car so many seek: a warranted 63,000 miles, 22 main dealer stamps, cambelt and water pump at 45,000 miles, the last owner for eight years, and even two keys. SWA also sold a white 1979 930 Turbo, a right-hand-drive, Australian spec car for £52.500 plus premium, which seemed reasonable value given how the value of this model has rocketed over several years.

If you're looking for an ordinary Porsche at an ordinary price, the local classic car auction is where you'll find it, and the auction environment is much more "safe" for the inexperienced buver than it used to be, so there is no reason to be put off. There is even an argument that there is greater transparency than in many private sales, because major issues on the car are not hidden. And the adrenalin rush following a successful bid on a £5000 Porsche 944, or similar, on a wet Wednesday afternoon can be as big as when buying a £5m Spyder in the Texas sunshine!

Bonhams 550A Spyder, £3.63m



## TRIED&TESTED

With 911 & Porsche World's international Porsche adventurist, Johnny Tipler

911S 1976 19,000-MILES £80,000



ided and abetted by my regular snapping companion, I recently reviewed a quartet of 911Ss spanning a seven-year period, from the first 2.0-litre S of 1967 to the last of the line, a 2.7 S built in 1976. It was a heady mix indeed: the two other cars were a 2.2 S and a 2.4 S and, seduced as I was by each one's arcane and esoteric attributes, the one that I came away thinking that, were I to sell my home, the one I'd want most to spend the money on would be the 2.7. Imagine my surprise when the owner, Porsche specialist Alastair Iles announced the other day that it would indeed be up for sale.

Here's why I'd choose it. The 2.7 S is a lefthooker, having been bought from a Los Angeles Porsche dealership in 1976, but since I have a penchant for 911s helmed from the left-hand side I rather relish that prospect. In that particular year, production of California-spec 911Ss totalled 2174 units, though considerably more of the 49-state 911Ss were shipped. One aspect that makes it special is that it's a narrow-bodied shell with impact bumpers. But what does make it considerably rarer is the presumably unique special-order colour; it's not dissimilar to Mexico Blue, though somewhat paler in hue. 'It only had two owners in the States before it came to me,' states Alastair. 'It's still got the factory underseal intact, and that mileage is a believed genuine 19,000. It was a high-spec car in America because it was equipped with air-con, either factory-fit or fitted at the dealer, and that I've never seen before. The black Blaupunkt rear speakers are quite unusual, and the seats have black leather perforated centres.' It was also spec'd with Bilstein Sports dampers, 6in x 15in Fuchs wheels, which are currently running Pirelli P6000s, a 380mm-diameter competition steering wheel, electric windows and sunroof, and black window trim instead of chrome. Its US headlamp bezels have been changed to European ones, and the heavy-duty rubber bumper over-riders have also been swapped accordingly. Alastair loves it. 'The 2.7 S is probably the unsung hero of the S saga, because it's got the narrow body and the impact bumpers, which don't detract from it, and it being

slightly newer technology. It's so easy to drive, too.' As for the 2.7-litre engine, still emitting that awesome soundtrack, Alastair's had it rebuilt to 180bhp European factory spec, but in its original '76 California specification it had retarded cams, thermal reactors and exhaust gas recirculation, dropping power fairly significantly to 160bhp.

Other benefits of this model are that, in 1976, the I-programme 911s ushered in zinc-coated shell panels, a major advance on predecessors whose floor-pans only were galvanised. The quarter-light and rear three-quarter windows no longer open, but the single 'elephant's ear' door mirror is electrically adjustable, while electric windows were now standard across the range. The S was getting much more civilised, though this was the last incarnation of the 911S until the once much vaunted S-suffix was revived on upgraded versions of the turbocharged 964, 993 and 996 models, as well as the 4WD 996 C4S. By this time, so many other performance embellishments existed that the formerly significant S moniker had become rather overlooked. Paradoxically, the values of classic Ss are all over the place. 'The 2.7 is a third of the value of the 2.0 and the 2.2, and the 2.4 is a little bit less than them.'

So, for the try-out, I ease aboard the 2.7 S for a turn behind the wheel and, in comparison with its older siblings, it feels like a modern 911. This model's high-back tombstone seats with their integral headrests and longer seat squabs were introduced in 1974, providing better leg and back support in every direction, and the 2.7 S cabin is thus a more relaxed and better composed environment than the older versions. Repa inertia reel seat belts were standard. too, while door handles and bins took on a recognisably modern aspect. The way the

## CHECKLIST

## BACKGROUND

A natty 2.7 S, first registered in the USA and finished in a one-off colour specified by the first owner, and including special hi-fi speakers. Comes with the benefit of an engine rebuilt to European standards rather than its original damped down US spec.

WHERE IS IT?
Trofeo Cars are based at Holt in rural North
Norfolk. Website: trofeocars.com Phone Alastair
lles on 01328 831974 or email:
alastair@trofeocars.com cars.

Narrow body meets impact bumpers, so very rare in that sense. Lovely colour coachwork, Fuchs wheels, super low mileage. Superb condition inside and out, ride and handling inspirational.

### **AGAINST**

Some aficionados may prefer the wider body of the contemporary Carrera 3, though the 2.7 S is more unusual.

## VERDICT

Given the steepness of air-cooled 911 prices in general, this 2.7 S is excellent value at £80,000, given its stimulating on-road behaviour and delightful halfway-house chassis and body imagery. Ten out of ten, or nine as it says below!

## VALUE AT A GLANCE



doors shut, the more logical door furniture, the operation of the 915 gearshift; everything about it feels newer. It's a sort of mid-generation car; this 2.7 S comes into the same bracket as a 3.0 Carrera and SC, almost a 3.2 Carrera, despite its narrow body, though it contrives to feel some way livelier than those bigger-engined models. It's done a modest 19,000 miles, so in practice it's hardly been anywhere. The engine also feels flexible and more able to dispense power in a lower rev range than its older siblings, and the 915 gearing is longer, too. It is also very quick in terms of acceleration and getting off the line and, all in all, it's a very sprightly car. The steering is well-weighted, it also feels light, definitely an S for the esses, and actually, given its original condition and low miles, this is quite a remarkable find. PW



# **CLASSIFIEDS**

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## REGISTRATIONS

### Registration for sale

'JJI 9115', number on retention. Tel: 07810 058297. Email: s-blakeley@sky.com. P0418/012 £2000

## BA02 BOX

## Boxster registration 'BA02 BOX'

Nice Boxster registration: 'BA02 BOX', available for immediate transfer. Tel: 07920 721956. Email: billyarmitage@virginmedia.com.

P0418/044

## P9II RHK

## 'P911 RHK' number plate

Ideal number plate for those Porsche 911 owners! Plate is currently on a retention document, Tel: 07867 754739. Email: a\_rudge@hotmail.co.uk.

£1000

P0418/014

## **GTO3 DKT**

## 'GT03 DKT

On retention. Tel: 07711 713479. Email: bschalmers@hotmail.com.

P0418/032 £350

## **J4XX**0

## JACKSON, JACK, JACKO, JAXXO

Excellent personal number plate for anyone named Jackson, Jack, Jacko, etc, etc, 'JAXXO'. Overseas move forces the sale of this cracking plate, I have now put it on to a retention certificate to make the transfer of ownership simple, you can put it on your vehicle now or keep it until you want to, absolute bargain and sure to appreciate in value, £1500 or very near offer. Tel: 07020 923542. Email: saltydog1@ymail.com.

P0418/018 £1500

## **PARTS**

## 1977 Porsche 911 parts for sale

911 parts, bonnet, boot lid, bumpers various instruments/ sundries Tel: 07879 466740. Email: keith@seatown.co.uk

P0418/035

## Original Porsche steering wheel for Tiptronic 986, 996 or 993 with paddles

Original Porsche steering wheel (996.347.804.538) in black leather for 996, 986 and 993(?), professionally fitted with paddles for Tiptronic gearbox, as new condition. Tel: +31 651 622105. Email: yimex@hotmail.com (Holland). P0418/025 £750

## Porsche 993

Transmission housing bracket: 933.375.313. Tel: 07354 324021

£20 plus p&p P0418/027

## Gold BBS RS 16", rare and immaculate

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matthewsmichael@hotmail.com (London).

£2000 P0418/028

## Cavenne spare wheel

Genuine Porsche Cayenne alloy wheel with Continental Sport Contact 255/55R18 tyre, no damage or repairs, 4 - 2.5mm tread, used as full size spare, pictures available. Tel: 07766 160594. Email: mawarman@supanet.com (Derbyshire). P0418/036

## Porsche Boxster (987) alloy wheels

4 OE alloy wheels with tyres, excellent condition, fronts 6.5x17, rears 8x17, tyres Michelin Pilot Sport NO, buyer collects or plus carriage. Tel: 07960 170380. Email: nigel2@btinternet.com (south Manchester).

P0418/007 £400

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## 964 RS America door cards

Elasticated pockets let in, black vinyl, complete with RS leather covered door pulls, red webbing pull releases and all rosettes. Used but as new with screw attachment holes at outer edges £400 new, asking £250. Tel: 07766 160594. Email: mawarman@supanet.com (Derbyshire). £250

P0418/037

## **PARTS**



#### Porsche centre caps

Fuchs chrome centre caps, excellent condition, £150; also 997 centre caps, £80 Tel: 07771 822832 Email: behaggm@yahoo.com (Hertfordshire).

P0418/010 £150

## Porsche 911 Turbo alloys

Porsche 911 Turbo 17" alloy wheels to fit 1984-1989 model. Tel: 07932 605497. Email: alfdixon@gmail.com (Cheshire). £300

P0418/038



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£995

P0418/029

## MISCELLANEOUS

## Porsche Design original 5621 'Exclusive' sunglasses

I have only worn these a few times back when I initially purchased them from an official Porsche Centre back in 1985 and they have been stored since. They are in close to mint condition, they come with: bronze graduated tint lenses, dark solid lenses, ID card, case and cardboard box. Tel: 07392 372297. Email: thomashumber1867@gmail.com (Norfolk).

£195 P0418/002



Panamera dealer sales book
Dated 12/2008, 169 unmarked pages,

hardback, plus price/options list, 81 pages, dated 05/2009, both as new condition, great gift! Tel: 07399 359072. £12 P0418/046

**MISCELLANEOUS** 



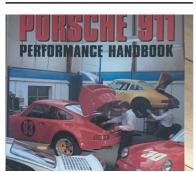
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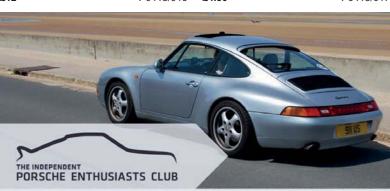


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countryporsche@btinternet.com (N.Ireland).

**£160** P0418/005

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**10 ono** P0418/021

## WANTED

## Wanted early 911 literature

Early 911 literature wanted (especially 2.4), eg driver's hand book, document wallet, sales brochure, anything of the period, service records etc. Tel: 07545 234505. Email:

richard@uplandsorchard.co.uk (Herefordshire). P0418/023

## WANTED



## Wanted all Porsche models pre 2005!

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sales@torosportscars.com. P0418/045

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# THE WAY WE WERE

# TIME MACHINE

Editor Bennett peruses the archives of 911 & Porsche World from days gone by. What's changed? That will be everything and nothing...

## **APRIL 2000 (ISSUE 73)**

iggest ever issue - 132 pages! And if the promise of lots of pages didn't encourage the magazine buying public of the year 2000, then surely the Speed Yellow 996 Turbo would. Or the Guards Red 944 Turbo for that matter, a duo that we suggested had more in common than you might think, despite being separated by £90,000. The premise, you see, was that the 944 Turbo offered similar explosive acceleration to the 996 Turbo, which it did, but we'll come back to that.

Of course the 996 Turbo was a big, big deal, being the first of the modern water-cooled 911 Turbos. Editor Horton took the 'First drive' ticket to Spain, where the fleet of Turbos attracted considerable attention from the local teenagers in the small towns and villages near Andalucia. Seven years later on the 997 Turbo launch, also in Spain, I experienced exactly the same thing as crowds of boisterous, but harmless, local kids surrounded us. Maybe Porsche bunged them a few Euros to add a little local colour...

Seventeen years on and the 996 Turbo still packs a punch, but it's telling that the current 991 version has added another 100bhp to the engine spec sheet. The 996 Turbo's 420bhp now merely matches a 991 Carrera S, which itself is now twin-turbocharged.

As ever the 996 Turbo drew praise for its all-round abilities and while many would protest, Chris was probably spot on in preferring the Tiptronic version to the manual. The Turbo had the ability to fill in any gaps in the five-speed auto ratio repertoire. Funnily enough, on the 997 Turbo launch. Walter Rohrl was of much the same opinion, as he dished out demo rides on a loose



surface track in a Tiptronic.

And the 944 Turbo? Electronic jiggery pokery from DP Motorsport in the shape of an A'PEXi' boost control unit. boosted power to 350bhp from 1.3 bar, or in other words 100bhp above the standard 944 Turbo's output. "Blindingly, devastatingly, almost terrifyingly quick," is how Chris described it.



## **APRIL 2007 (ISSUE 157)**

et's start with the news pages. Eleven years ago and we reported that Porsche was pressing for some kind of exemption from the forthcoming EU emissions regs, that were due to come in for 2012 and would see manufacturers limited to an average of 130g/km of C02 across their respective model range. Unfair said Porsche and Angela Merkel, both claiming that they favoured French and Italian manufacturers and their small car ranges and targeted the likes of Porsche, BMW and Mercedes.

So how did that go? Well, not great, really. The 'we will never build a diesel engined car' Cayenne Diesel arrived in 2008 and work began in earnest on hybrid solutions, the first arriving in 2010 with the gen 2 Cayenne. And it continues to this day with four cylinder Boxsters and Caymans. If you want an analysis of eco pressure on Porsche's immediate future, then check out the news pages in this issue. It's interesting stuff. We can return to it in another edition of 'Time machine,' in a fews years.

Turning to the 'Our cars' section at the back of the mag and I'm reminded that I once owned a Carrera 3.2. There's a pretty pic of it outside my house, sharing drive space with a press fleet Cayman. However, presumably influenced by the above CO2 malarkey I was more concerned about converting my newly acquired 944S to LPG. That never happened, but I did run an LPG non Porsche for a while, and it's a shame that this genuinely clean (well, cleaner at least) has never really taken off here. An LPG hybrid, would be a very clean solution.



## **APRIL 2012 (ISSUE 217)**

nother big launch issue. This time it's the 991 generation of the mighty 911 and with that comes something of a reponsibilty for a magazine that takes at least part of its name from Porsche's legendary sports car.

Being hardcore motoring journo types, we of course took a base Carrrera 2, perched on passive suspension, for an extended three-day jaunt on some fave roads, before a compare and contrast with the 996 and 997 generation of 911s. The new car won our praise, but looking back at what we said then there was an underlying reserve that has, as time has progressed, come to dominate the view of the 991. After nearly 50-years of trying, Porsche had just about managed to iron out most of the rear-engined machine's flaws and foibles. The 911 DNA was still there, but you had to dig mighty deep to access it. Progress of sorts, I guess.

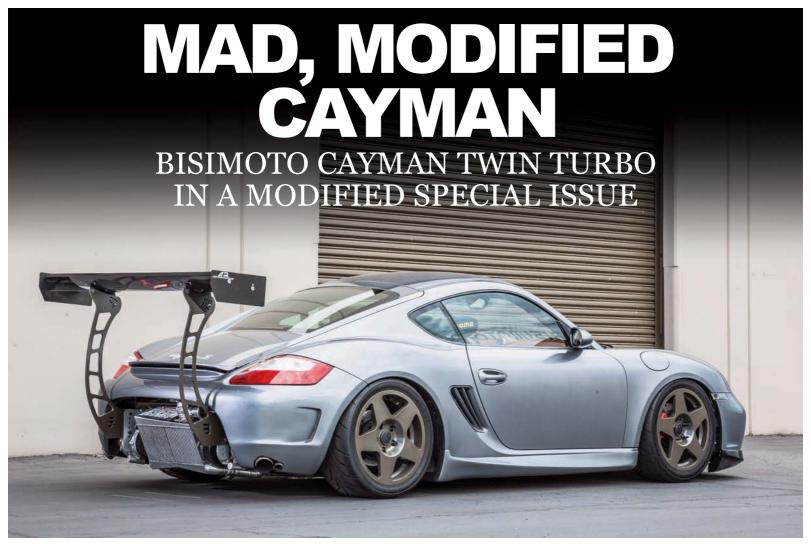
We're a broad church here at 911&PW, but even so a V8 engined 914 might have tested the faith of some on the mag. In those days it was 'only a 914' and fair game. Wouldn't happen now, I don't suppose.











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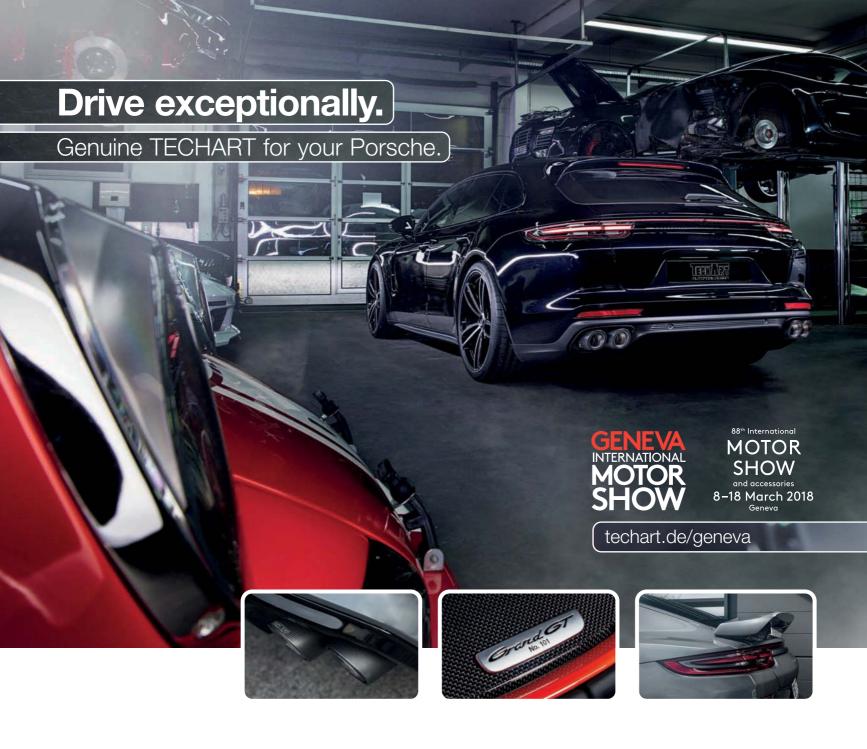
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