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# UP FRONT

The future is electric, but don't write off petrol just yet.  
Porsche isn't and we don't need to either

This month's News pages are a good example of the general state of flux for Porsche and the motoring world in general. We lead with a story regarding the Mission E concept, which is now a couple of years from launch and promises a look into the all-electric future. Turn the page, however, and there's Porsche still playing with fossil fuels and smashing the Nürburgring lap record with the new 991 GT2 RS. Mixed messages perhaps, but in today's motoring climate there is still room for both activities and presumably in the future too, despite what the doom mongers may predict.

I'm quite looking forward to becoming a car 'hobbyist.' If the future means that I have to have some sort of electric conveyance (I say

“ I'm quite looking forward to becoming a car 'hobbyist' ”

conveyance because it might not even look much like a car) for – say – driving in town centres, then fine by me. I see it as being some sort of utilitarian device, probably white, with some gadgets and soothing interior. It might even be autonomous, although I don't buy that whole revolution just yet. As long as the quid pro quo is the common sense agreement that petrol cars are not going to be driven off the road and can be used, where fit for purpose and for leisure, then I'm perfectly happy with that.

I don't believe that we are seeing the last hurrah, but just a transition period and one that's going to take many years to pan out. There will be many more Nürburgring lap records to be broken. But maybe this will be the last one for an all petrol powered 911, and you get the feeling that Porsche really turned the wick up this time for that very reason.

**STEVE BENNETT**  
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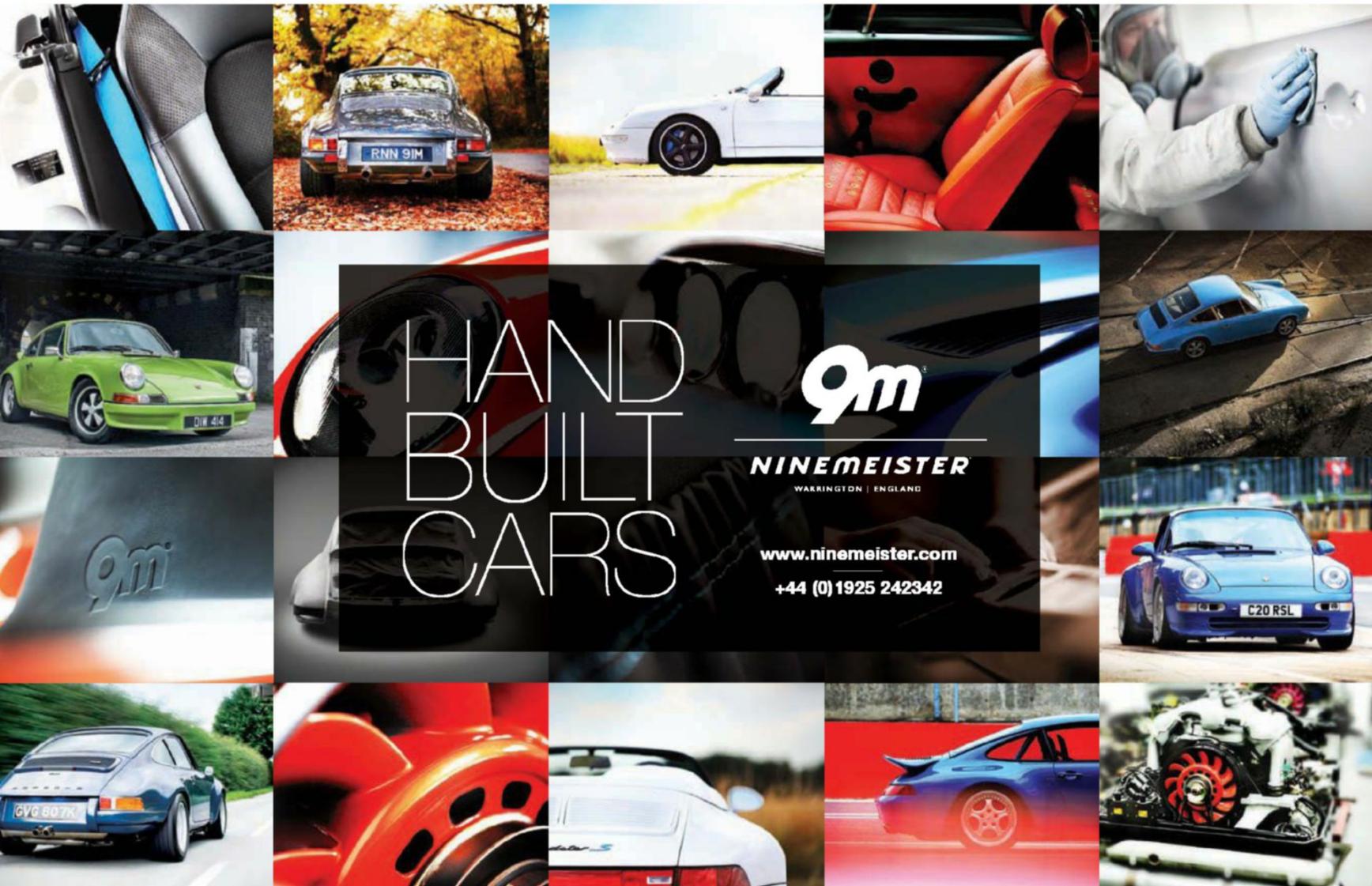
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# NEWS

Production bodied Mission E caught testing at Weissach. GT2 RS smashes the Nürburgring lap record. New Cayenne Turbo is fastest yet. Limited edition British Legends 911s released



## PORSCHE'S PROJECT MISSION E TAKES SHAPE

Production version of Porsche's first pure-electric car breaks cover

Porsche's Mission E electric car has been spotted testing with its final production body for the first time. Due to go on sale in 2019, Mission E will not only be the first pure-electric Porsche, it will also debut radical new autonomous driving technology.

Snapped outside Porsche's Weissach R&D centre, Porsche has used multiple camouflage elements in an effort to obscure its identity. But this is no Panamera-based mule. Close inspection reveals that this is, indeed, the production Mission E body.

Look carefully and you can see the Mission E's distinctive nose complete with four-point headlights and wide openings up front. Along the car's flanks Porsche has

used the same new-generation flush-fit door handles also seen in the upcoming Type-992 911 development cars. The rake of the roofline is also distinct from any Panamera, as are the broad rear hips.

Another tell-tale sign involves the glass house. The trim strip running across the top of the side windows is unbroken, indicating that the Mission E's frameless door glass will be making it into production, though not its 'suicide' rear doors. The Mission E concept's extreme, low-set proportions have likewise been toned down in the transition to production. That's perhaps inevitable given that the car will need to offer excellent cabin space to

appeal to the mass market.

Mission E will be based on an all-new platform known as J1, developed for broad use across the Volkswagen group and designed expressly for pure-electric power. Final technical details of the Mission E are not known. However, Porsche has indicated certain targets. Overall operating range will be in excess of 330 miles and power will come from a pair of electric motors good for a total system power in the region of 600hp. Mission E will be quick, very quick.

Another key element involves Mission E's revolutionary charging technology. Porsche is developing a new system with Japanese electronics specialist Hitachi.

Not quite as low as the Mission E concept, nevertheless it's fair to say that this is the production bodysell in disguise, judging by the distinctive nose. Those dummy exhaust pipes don't fool us! Range should be in excess of 330 miles. Launch will be in 2019, with sales commencing in 2020



Based around 800V technology, it's said to offer double the energy throughput of Tesla's latest 400V Supercharger tech. Porsche Chairman Oliver Blume has gone on the record stating the new charging tech will allow Mission E to recharge to 80 per cent battery capacity in just 15 mins despite the high capacity of its lithium-ion cells.

The final part of the Mission E package will arguably be even more controversial for a Porsche than electric power. Mission E will arrive with what's known as Level 4 self-driving technology. That's a nod to the five-level regime for autonomous cars recently defined by the US Department of Transportation. Level 1 involves individual

elements, like braking or accelerating, being intermittently controlled by the car, for instance cruise control.

Level 2 requires at least two control elements autonomously controlled at least partially in response to external data regarding the driving environment. Level 3 still requires a human driver but ups the ante to offloading many safety-critical driving functions to the car along with full control in certain narrowly defined scenarios, such as motorway cruising. Level 4, which is the target for Mission E, enables fully autonomous driving in many but not all scenarios and road conditions. Level 5 refers to cars that can operate fully

autonomously in all scenarios and have no requirement for a human driver.

Given that Porsche typically trades on offering the most exciting and engaging driving dynamics in each segment in which it competes, including with its SUV Macan and Cayenne models, promoting autonomous driving capabilities may seem like an odd fit. However, competing with the likes of Tesla's Model S almost certainly demands that Porsche offers advanced self-driving technology. It's a feature Tesla is already pushing hard. The final production version of Mission E will likely be revealed in 2019 and go on sale in 2020 at around £90,000.



## GT2 RS BLITZES 'RING RECORD

It's official. The new 911 GT2 RS is the fastest Porsche 911 of all time. At least, it's just set Porsche's best ever time at the 20.6-kilometre Nürburgring Nordschleife track in Germany

The GT2 RS nailed the record time of six minutes and 47.3 seconds in the presence of a notary and exceeded Porsche's expectations for the car. Frank-Steffen Walliser, Vice President Motorsport and GT Cars, said, "at the start of the development process, we set ourselves a lap time target for the GT2 RS of less than 7 minutes and 5 seconds. The credit for beating this target by 17.7 seconds goes to our development engineers, mechanics and drivers, who demonstrated an exceptionally strong team performance. This result makes it official: The GT2 RS is not only the most powerful, but also the fastest 911 ever built".

But hang on. Could the GT2 RS be the fastest road-going Porsche of all time, not just the fastest 911? Back in September 2013, Porsche hailed the 918 Spyder as the fastest street-legal car ever around the 'Ring with a time of six minutes and 57 seconds. Other road cars have since eclipsed that time, but not Porsches. Either way, it's a remarkable feat for the new GT2 RS given that it packs a mere 700 metric horsepower

pumped through just the rear axle, versus the 918's 900hp, all-wheel drive and electro' instatorque.

What's more, Porsche says the record was far from a one-off fluke of a hot lap. Lars Kern from Germany and Nick Tandy from the UK both broke the previous record for road-legal cars of six minutes and 52 seconds at their first attempt and banged in five laps in under six minutes, 50 seconds.

Andreas Preuninger, Director GT Model Line, said, "it's not just the record time achieved by the GT2 RS that demonstrates the vehicle's class, but also its consistent performance in every lap. We're particularly proud of the fact that this was achieved with two different vehicles and two different drivers, as this underlines the GT2 RS's ability to reproduce this record result over and over again".

Porsche factory driver Tandy travelled straight from a six-hour race in Austin, Texas to the Nürburgring, swapping the Le Mans prototype Porsche 919 Hybrid for the 515-kW (700bhp) 911 GT2 RS with Michelin Pilot Cup

2 tyres in impressive style. It was Lars Kern, a Porsche test driver by trade with a passion for racing, who ultimately set the record time. Alongside the Carrera Cup Australia, Kern regularly competes in the VLN Endurance Championship at the Nürburgring and knows the Nordschleife inside out. His record lap began at 7:11 pm and finished 6 minutes and 47.3 seconds later in ideal outdoor conditions and at an average speed of 184.11 km/h.

For the record, the GT2 RS made its world debut at the Festival of Speed at Goodwood in June. Its twin turbo flat six cranks out a crazy 700 metric horsepower. Combined with a kerb weight of 1470kg, that's good enough to fling the GT2 RS to 62mph in just 2.8 seconds, which is particularly impressive given the car is rear-wheel rather than all-wheel drive. You can thank the awesome traction derived from the rear-engine architecture for that. All out, the GT2 RS is good for 211mph. It's nominally on sale now for £207,506, but if you haven't already been given an allocation, you're almost certainly out of luck.

The new GT2 RS pulverised the road car lap record at the Nürburgring, with a time of 6m 47.3s

## OUR TAKE

### A LIMITED AVAILABILITY GAME

We've heard it before. Now it's happening again. When Porsche wheeled out the recent 911 R special, there was much talk of listening to customers, focusing on what they want from the driving experience rather than merely delivering a numbers car that hit certain quantifiable and objective performance targets.

Problem was, of course, that the 911 R was so limited in terms of its 991-unit production run that almost anything it did or delivered was academic. Even if you could afford it, you almost certainly couldn't buy one. But wait. Surely Porsche has responded to that issue directly with the new Touring option on the latest 911 GT3. After all, it looks just like a 911 R thanks to its wing-delete aesthetic and manual-only transmission configuration.

What's more, the Touring Package is a no-cost option. You don't even have to pay a premium. And the kicker? Unlike the 911 R, Porsche emphasised that the GT3 Touring pack isn't a limited-production car. Except it is in practice if you actually try to order one. It turns out that the Touring Package is to be part of the existing GT3 production run rather than representing a new batch of cars. In other words, the introduction of the Touring Package does not mean an overall increase in GT3 production.

That's a problem because, in the UK at least, the GT3 was effectively already sold out. It's possible that further allocations will be released in future. But if you wander into a UK Porsche Centre today and attempt to order any kind of GT3, Touring or otherwise, you won't have much luck.

Of course, the relationship between supply and demand with these kinds of cars is tricky. Simply open up the floodgates on the supply side and the result might actually be fewer sales, not more. Much of the appeal revolves around the perception of exclusivity. Take that away and demand might wander off with it. Instead, what grates is the lip service Porsche pays to meeting customer demand and preference while it really knows that most potential customers simply can't buy one at all. Porsche might not have a very specific number in mind with the Touring option. But it's a limited car all the same.



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## MIGHTY 550HP CAYENNE TURBO REVEALED

### The daddy of the new Cayenne range arrives

Last month we brought you news of the new third-generation iteration of Porsche's impossibly successful Cayenne SUV. Now we can reveal the daddy of the new range, the Cayenne Turbo – all 550bhp of it.

It's easy to forget that when Porsche first wheeled out the original Cayenne Turbo way back in the mists of 2002, the world hadn't really seen anything quite like it. What with 450bhp and capable of hitting 60mph in five seconds flat, it certainly delivered on the notion of Porsche creating a sports car among SUVs, on paper at least.

Fast forward to 2017 and the new Cayenne Turbo is described by Porsche as being the 'sports car for five'. It blitzes the sprint to 60mph in well under four seconds. For the record it ups the power and torque ante by 30hp and 15lb ft (now 568lb ft, all in) over the outgoing gen 2 Cayenne. Top speed is now 177mph. The engine, of course, is the same 4.0-litre mill seen in the latest Panamera, not to mention one or three other models within the wider VW Group empire.

Porsche reckons the Turbo's high level of dynamic performance is a function of a combination of innovative technologies, such as

active aerodynamics including adjustable roof spoiler, controlled three-chamber air suspension, mixed tyres and new high-performance brakes. With optional features, such as rear-axle steering and automatic body roll stabilisation via a 48-volt electrical system, Porsche reckons the four door, four-wheel drive Cayenne can deliver a driving experience equivalent to that of a true sports car. Albeit a two-tonne sports car the size of a small house.

While the new engine may be familiar, the Cayenne's all-new chassis is not. It'll be the combination of Porsche's latest chassis wizardry in the form of air-sprung PASM suspension, rear-axle steering, roll stabilisation from the PDCC and Porsche Torque Vectoring Plus along with that mighty V8 that will surely mark the new Turbo out from its predecessors.

The latest Cayenne Turbo is available to order now, priced from £99,291. First deliveries to Porsche Centres will be from April 2018. Customers will also be invited to explore the potential of their new car, and further develop their own skills behind the wheel, by participating in a bespoke driving experience around the tracks at the Porsche Experience Centre, Silverstone.

The Cayenne's gaping front end force feeds air into mighty new twin-turbo V8, that produces a not insubstantial 550bhp, enabling it to sprint to 60mph in under four seconds

## CAYENNE GETS CONNECTED

### New networking, apps and internet connectivity for the latest Cayenne

While we're talking all things Cayenne, Porsche has divulged further details of the new internet-connected and app-enabled Porsche Connect Plus system, which is standard in all models of the new SUV.

For the first time, drivers can now access Amazon Music and Radio Plus, an intelligent combination of traditional radio reception and online radio, all through Porsche Communication Management (PCM). The new Cayenne is permanently online thanks to the integrated, LTE-compatible SIM card. This function is also included as standard. What's more, Porsche has developed a simplified smartphone app for the key Connected Car functions.

With Amazon Music, Cayenne-owning subscribers can now use one of the most popular streaming services in-car. But it's Radio Plus that's arguably more innovative. This service extends the range of your personal favourite radio station through an integrated internet radio function so that audio delivery practically unbroken, provided that the chosen station offers an online radio channel.

If the Cayenne moves out of range of terrestrial radio reception via FM or digital radio, the system automatically switches to online streaming. The idea is to seamlessly bridge gaps where radio reception quality is poor. Porsche offers a seven-gigabyte data pack for the use of the Amazon Music streaming service, for online radio and for surfing the web using the Wifi Hotspot in the vehicle.

Further in-car innovations include what Porsche claims is swarm-powered navigation and a new Porsche Connect app for Apple and Android smartphones. The enhanced online navigation with real-time traffic information includes natural language searching for destinations using simple terms and results include local information such as fuel prices, available car parks including prices and opening times, along with user reviews for hotels and restaurants.

The route calculation has also been optimised with swarm data courtesy of the new Risk Radar service, whereby traffic data and road conditions are anonymously captured and transmitted from vehicles. The new Cayenne itself can contribute towards mitigating

risks and preventing accidents.

As for the new smartphone app, it now offers the driver an even more straightforward and comprehensive environment to access a wide range of vehicle and Connect functions remotely via smartphone. For example, the app can show whether the doors, tailgate and windows are closed and lock and unlock the vehicle.

New Cayenne packs more tech than ever from its new PCM system



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## PORSCHE CELEBRATES BRITISH LEGENDS WITH SPECIAL 911 GTS

Le Mans winners Bell, Attwood and Tandy get their own special-edition Carrera 4 GTS models

Three British drivers, each Le Mans winners behind the wheel of a works Porsche, are being celebrated with their own unique version of the 911 Carrera 4 GTS. The British Legends Edition 911s, as they are known, are available to buy as limited-run specials with special liveries and a hefty spec list.

The new models have been designed with input from all three drivers and feature liveries and race numbers inspired by their respective competition cars. Namely, that's Richard Attwood (winner 1970), Derek Bell MBE (winner 1981, 1982, 1986, 1987), and Nick Tandy (winner 2015). The car has been developed by Porsche Cars GB together with Porsche Exclusive Manufaktur at the company headquarters in Stuttgart, Germany. A Union Jack symbol combined with the driver's signature located on the B-pillar is a further motorsport-inspired leitmotif.

As for the spec, it's mega. Start with the latest Carrera 4 GTS. That means 450hp, all-wheel drive and performance well into the sub-four-second-to-60mph category. Then add rear-axle steering and Sport PASM including Porsche Dynamic Chassis Control (PDCC) to the chassis. Inside, you get carbon-fibre door sills with Union Jack motifs, door, dashboard and centre console trim in carbon-fibre, lashings of Alcantara, 18-way adaptive sports seats and, well, much more.

On the outside, there's that bespoke livery along with LED headlights with Porsche Dynamic Light System Plus along with the SportDesign aero package featuring an extended rear spoiler. And the damage associated with that little lot? It starts at £122,376 for the Guards Red version. The Sapphire Blue and Carrera White alternatives clock in at £123,210.

British Legends Edition 911s celebrate the Le Mans winning success of Richard Attwood, Derek Bell and Nick Tandy. Pictured is the Attwood inspired C4 GTS alongside his 1970 Le Mans winning 917

## MIXED GRILLES

Whether you're into major mods or fettling that factory finish, here's a little tiny tweak that might just be the perfect finishing touch for that air-cooled 911. It's the work of our chums at Car Bone, those Poland-based wizards who cook up all manner of nifty reproduction parts, badges, stickers and liveries for classic Porsche. Their latest is this 'Outlaw' grille badge. Secured to the grille with a new fixing arrangement, Car Bone says they used '70s production technology for a fully authentic look. No CNC machining, no computer involvement at all. Sized at 120mm by 51mm, you can grab yours from [www.car-bone.pl](http://www.car-bone.pl) for \$80 plus shipping, or around £60. While you're there, you can check out Car Bone's full range of custom and exquisitely reproduced factory-style stickers, badges, emblems, decals and more.



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PRODUCT BRIEFING

# ESSENTIALS

The tempting trinkets that enhance Porsche ownership

## ORIGINAL 911 R IGNITION SYSTEM RECREATED

The original 1967 911 R might just be the ultimate light-weight, air-cooled classic. With just 210bhp on tap, you could argue the R was all about power to weight thanks to a mass of around 800kg. But that 210hp was extracted from just 2.0-litres of engine capacity. Yup, over 100hp per litre from a naturally aspirated engine. And don't forget, this was in the late 1960s.

In other words, the R's engine was something special. Highlights include optimised magnesium crankcases enclosing a lightened and balanced crankshaft, titanium connecting rods and lightweight forged pistons. Big triple carburettors topped the flat-six, powering the 2-litre engine to an astonishing 210 horsepower at 8000 rpm. And then there's the spark, provided by a twin-spark system and energised by twin Bosch coils and a pair of special ignition boxes.

It's the latter detail that has been recreated in full by UK-based air-cooled electronics specialist Classic Retrofit. The owner of a genuine 911 R approached Classic Retrofit seeking to remove the CDI boxes fitted sometime in the 1970s and replace them with proper spark boxes, as would have been fitted to the car from new.

Classic Retrofit says CDI technology was not introduced until 1969, so all factory cars prior to this date used earlier ignition systems. The 911 R relied on a Transistor Controlled Ignition (TCI) circuit to manage the ignition coils. It's a system that has a few shortcomings compared to CDI and so racers back in period switched to CDI when it became available. However, for an original 911 R, TCI amplifiers are correct.

To recreate the original system, a genuine 911R ignition box was 3D printed and sent to Classic Retrofit for reference. That was scanned as the basis of the new box while a modern TCI module was created. Two original Bosch Blue coils were sourced to complete the package.

The finished product is said to be both an impeccable recreation of the original Porsche equipment and a perfect example of what the Classic Retrofit special projects section can achieve. To find out more about that and also Classic Retrofit's other products, including clever electric air-conditioning units for older 911s, head for [classicretrofit.com](http://classicretrofit.com).



## HEAVENLY BODIES

In this age of turbo everything, it's easy to forget that not all naturally aspirated engines are equal when it comes to throttle response. Some are more indeed equal than others. When it comes to fuel injected rather than carburettor-fuelled engines, then, the ultimate in throttle response is enabled by individual throttle bodies for each cylinder. That allows the bodies to be much closer to the combustion chamber and reduces the lag or time delay between adjusting the throttle and the impact of that on combustion. Porsche used just such a system back in the day on the 911 Carrera RSR and the 911 SC RS. However, Porsche no longer supplies factory parts. Enter MittelMotor in Germany. They're now reproducing the throttle bodies in full and the setup is compatible with the original solution, allowing individual parts to be replaced. To find out more and for pricing, head for [www.mittelmotor.de](http://www.mittelmotor.de).



## PINS FOR PADS

Ever had the misfortune of attempting a brake pad change on a car that has accrued few miles and even less maintenance over a number of years? Then you'll be familiar with the palaver that is seized brake pad retaining pins. The upshot can be hours of hammering away, spraying copious quantities of lube and not a little swearing. And all of that to complete what ought to take just moments. Oh, and quite possibly to end up with bent and non-reusable pins, to boot. Luckily, the fine fellows over at Woolies Workshop can help. Based in Kenilworth, Warwickshire, Woolies specialise in parts for transaxle Porsches and can supply new pins to replace bent or badly corroded items. The pins are compatible with 924S, 944 and 928 brake calipers. At just £7.99 a pop, they're a bit of a no brainer. Grab yours from [www.wooliesworkshop.com](http://www.wooliesworkshop.com).





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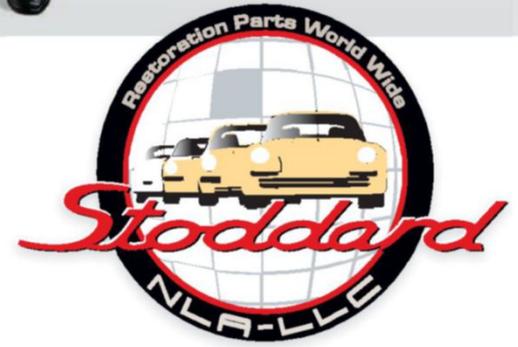
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## ADD LIGHTNESS

What price do you put on performance? That depends exactly how you go about achieving it. When it comes to air-cooled 911s, improving performance through engine upgrades has become a painfully pricey process. High performance rebuilds costing £20,000 or more are not unusual. Another option, of course is to add lightness. Not exactly a revolutionary idea, but reducing weight doesn't just improve acceleration. It aids cornering and braking, too. In that context, Dansk's new aluminium door skins look like an interesting value proposition. Composed of 1mm thick aluminium braid, they clock in at just 1.85kg a pop. At £568 each, plus VAT, the Dansk part numbers you need are 1680900570 and 1689900580. You can pick up the skins from [www.design911.co.uk](http://www.design911.co.uk) and browse the full Dansk catalogue at [www.jpgroupclassic.com](http://www.jpgroupclassic.com).



## BILSTEIN DAMPTRONIC FOR 991

Bilstein has come up with a B16 DampTronic kit for PASM equipped 991 models. The kit sits above the regular 'passive' B16 range of height and adjustable dampers and offers harmonious integration with the already highly capable PASM setup, giving drivers complete control over the manner in which their car handles the road or, just as likely, the track. The system uses an array of sensors to accurately read the road surface in real time, feeding this data back to the CPU governing the dampers. This allows the dampers to constantly and automatically adjust to the road conditions. Added to that is the ability to toggle between 10 pre-arranged settings by simply twisting a dial enabling the dampers to be tweaked to suit the individual requirements of a specific car or track layout, while the threaded bodies offer an adjustment range of between 30mm to 50mm. Price for the kit is a not unreasonable £2444 + VAT. [bilstein-shocks.co.uk](http://bilstein-shocks.co.uk)



## PANEL SHOW

Porsche's evolution-not-revolution approach to the original 911 is both a blessing and a curse. And we're not talking about the driving experience. Instead, replacement panels are the subject du jour, or at least of this page. The upside of that slow evolution is that panels for air-cooled 911s across the years are often interchangeable. The downside? Getting exactly the right panel in cosmetic terms isn't always easy. Until classic Porsche parts specialist Dansk came along, that is, and started making repro' parts for nearly everything. Like this new rear engine compartment crossbeam. It's compatible with a wide range of old 911s, but the specific shape of the rear outer skin is particular to the G Series models. What's more, Dansk is also preparing a similar panel with F Series cosmetics, so they've got you covered either way. Pricing is around £420, the part number is 1680601400 and you can find out more from [www.jpgroupclassic.com](http://www.jpgroupclassic.com).

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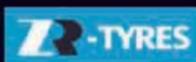
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## WATCH THIS

Martini and Porsche are brands with a long and symbiotic history. Which has us pondering recent rumours of Porsche entering F1 as an engine manufacturer and the process-of-elimination status of Williams F1 as the most prominent team that needs a works engine and which could plausibly work with Porsche. It just so happens that Williams is currently running Martini livery. Uh huh... Conspiracy theories aside, this official Porsche Martini Racing chronograph is a jolly nice way to celebrate the pairing of two icons. It packs a Swiss ETA movement complete with 200Hz hand movement capability, stainless steel casing and water proofing to 10ATM. Natch. Then there's the sapphire glass, black honeycomb rubber band and laser-etched Porsche logo. The whole shebang measures 42mm across and clocks in at £600 from [www.Porsche.com/uk](http://www.Porsche.com/uk).



## A GOOD YEAR

Can it really be nearly 2018? Another year up in smoke? Somebody, make it stop! Of course, the passing of the years isn't all bad. Who knows what marvels Porsche will release next year. Whatever, to help you navigate whatever 2018 brings, why not snag the latest official Porsche Calendar, this time themed 'Race Lab'. 13 motifs inside and out pay tribute to the motorsports roots of the current range of Porsche models, including the positively homicidal looking new GT2 RS. What's more, in addition to the annual collector's coin, the calendar contains digital features that can be accessed via QR codes. Hurrah. The calendar can be acquired online at [www.porsche.com/uk](http://www.porsche.com/uk) for precisely £40. Or you can mosey on over to your local Porsche Centre and pick one up there.



## MODEL R

What will history make of the Type-991 911 R? At launch it seemed to answer to every purist's dreams. Well, apart from the rear-steer. And the electric steering. And the huge wheels. But we digress. The real issue of late is the appearance of the new GT3 Touring option with its R-like wing delete cosmetic and an improved engine that matches the R's power but adds a few more revs and the promise of better reliability. But then the R is a limited model with the cachet that brings and the realities of the hardware comparison and driving experience probably don't matter. Plus, how do you put a value on those funky stripes? While sir ponders all that, perhaps sir would be partial to this beefy 1:12 scale rendition of the R. It's exquisitely detailed and comes complete with a display base and a limited production run of 500 units. Yours for approximately £550 from [www.selectionrs.com](http://www.selectionrs.com).





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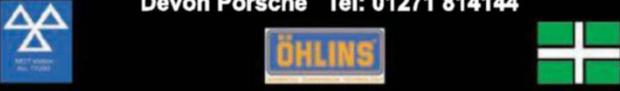





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# THE USUAL SUSPECTS



**BRETT FRASER**  
911&PW Deputy Editor

Brett Fraser does his best not to be cynical about Porsche GB's 'British Legends' 911 special editions and gets away with it. Meanwhile, the stars behind the cars are rather more interesting and the 919 Hybrid LMP1 plays second and third fiddle to the 962 and 917

## SPECIAL OCCASION

It's easy to be cynical about special editions – I know, because I am – but for car makers they tend to be solid gold. Dream up a natty name, throw a few stickers at it, include a few extra items of kit, maybe put a numbered plaque on the centre console, then throw wide the showroom doors and get ready to count the cash.

Even Porsche isn't averse to a special edition. Although being Porsche it puts in a little bit more effort than most. At least, it would like you to think that's the case. The new 'British Legends' 911 special editions that we were invited to see launched at the Porsche Experience Centre at Silverstone are an excellent example.

Strip away all the razzmatazz from the event – but don't worry, we'll return to that in a moment – and what Porsche wheeled out was classic special edition fare. The latest generation of 911 Carrera 4 GTS fitted as standard with all Porsche's dynamic control systems. Lashings of

Alcantara upholstery and a splash of carbonfibre. Centrelock wheels. Some stickers. And instead of putting the plaque on the centre console, there's a pair of them on either B-post, with a facsimile of a famous racing driver's signature on them. So far, so very marketing department.

Actually, though, the British Legends Edition 911 has a passably interesting and relevant back-story, even though the event invitation's reference to it being inspired by Porsche's racing successes at Le Mans was enough to trigger a bullshit alert. Turns out to be true. Sort of. With Porsche winding up its top-tier endurance racing operation, Porsche GB saw an opportunity to celebrate the company's numerous wins in iconic race cars with a special edition. The smart part was to recognise that some of those wins in some of those iconic race cars were achieved by British drivers, namely Richard Attwood, who helped Porsche to its first overall victory in 1970 in

the 917K; Derek Bell, a four-time winner with Porsche, most famously in the Rothmans-liveried 962; and Nick Tandy, who helped Porsche to its first Le Mans win with the hybrid-powered 919 Hybrid in 2015. Hence British Legends.

The connection to British racing heroes I like: the assertion that they fashioned their individual special editions to their personal preferences is a bit far-fetched. They ticked all the options boxes for a C4 GTS seems closer to the truth, while Porsche Exclusive Manufaktur – the company's bespoke division – added a few unique cosmetics, such as the Alcantara-covered steering column, and the driver's racing numbers and signatures embossed into the Alcantara on the centre console. Oh, and we shouldn't forget the subtle external graphics that nod towards the race car associated with each driver, and which several journalists suggested might have been more fun as a properly bold replica livery.



The 'British Legends.' Red equals 1970 Le Mans winner, Richard Attwood, while white is for 2016 winner, Nick Tandy, and blue is for four-times Porsche Le Mans winner, Derek Bell

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



STEVE BENNETT



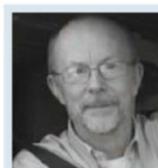
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## STAR TURNS

The Attwood, Bell and Tandy 911s will all sell in respectable numbers; that seems certain. But at the launch, well, I wasn't that bothered whether or not I even sat in one. Much more interesting was watching the three drivers at work and play. Derek Bell is the consummate professional when it comes to schmoozing the media. He's got a celebrity aura about him, the embodiment of the suave silver fox, and the moment he spots a camera the smile and the pose are instantly in place. A natural showman, he's a fount of anecdotes from the golden years of motor racing, all delivered with colour and humour. And from Porsche's perspective, he's brilliant at being corporate, can say all the right things about the company and its road and race cars, without sounding as though he's being paid to say it.

Attwood also has an impressive repertoire of fascinating stories from back in the day, but you get the slight sense that he'd prefer to get to know you better before dispensing them. It's not as though he's in anyway reluctant to talk when thrown into a pack of journalists, it's simply that he doesn't have the same comfortable, natural flow that Bell has in an unfamiliar crowd: Attwood, I'd guess, would feel more at home, more chatty, in a pub with a smaller group of people who he could interact with more intimately, and where he wasn't the centre of attention. That's no criticism; most of us would be the same, only most of us haven't won Le Mans or driven Porsche factory racing cars.

Comparative youngster, Tandy, is the least

comfortable of the Legends when it comes to corporate glad-handing. I've met him once before, in a pit garage at Laguna Seca during the Rennsport Reunion a couple of years back, and he was witty, irreverent and chatty. At the Porsche Experience Centre with his Porsche paymasters in attendance, you could sense he felt compelled to be on his best behaviour and it was killing him. He was most ill-at-ease during the Q&A session, hosted by a Porsche employee, where every response had to follow pre-prepared guidelines: whereas Bell has the experience to embellish his answers with nuggets from his personal Porsche scrapbook, Tandy gave the scripted response but nothing extra. Again, no criticism implied – after all, he's a racing driver, not a cabaret act.

Promotional duties mostly over for the day, it was touching to see the trio of Le Mans winners huddle together for some private conversation, and clearly the odd joke or two. Kindred spirits and all that... Later, Bell and Attwood were tasked with driving their old race cars (actually, the 917 was mocked up to look like Attwood's) around the Porsche Experience Centre track for the benefit of the official

photographers. Bell emerged in Nomex and helmet and Ray Bans, circulated for as long as the Nikons needed him, returned, and was straight out of the car.

Attwood wore his overalls but remained lidless even after he'd slithered into the tight confines of the 917's cockpit. He did his duty behind the camera car, but when the photographers pulled off the track, Attwood stayed out there for another five or six laps. He wasn't caning the Porsche Museum's car, just enjoying it. Watching him from the PEC's viewing balcony, it was as though he was lost in the mists of time, contemplating what once was, alone with a race car that had served him so well. I remain cynical about special editions, but observing Attwood out there in his own world was a very special moment.



Left to right: Derek Bell and Richard Attwood have the stories and the experience. Nick Tandy sticks to the script, but then he's got next year's contract to think about

## PAST GLORIES

To reinforce the link between the British Legends special edition 911s and the race cars they loosely pay homage to, Porsche GB organised for the Porsche Museum to bring over Derek Bell's Le Mans-winning 962 in its famous Rothmans livery, and a 917K mocked up to look like Richard Attwood's Le Mans winner from 1970. Oh, and Nick Tandy's 919 Hybrid LMP1 that he helped steer to Le Mans victory in 2015.

All three were parked up outside the Porsche Experience Centre building, but the 919 was roundly ignored when the cameras started clicking. It's a technological marvel, to be sure, a computer-optimised masterpiece in the art of going supremely fast for long periods at a time. But it's a dull thing to look at, bereft of character and charm, any fluidity of form knocked about by wings and winglets, skirts and diffusers and shark fins. Function reigns supreme. As a consequence of all this, the 919 seems devoid of romance.

Of course the 917 and 962 weren't scribbled out on the back of fag packets by a group of chancers. Porsche used the best technology it had at the time, same as it does today. Yet with the older race cars you get the sense that they had to look right

too, as if a human rather than a computer had the final say on the finished bodywork, a human capable of blending function and aesthetics.

And the old cars seem so basic and crude inside compared with the 919's amusement arcade cockpit. This is where the romance comes from. From man and machine being so very intimately connected in a physical sense, heroes both, fighting the ravages of the track, the speed, their rivals, the distance and that long ticking clock. Tandy and his team faced similar challenges

in the 919 when scoring their win, but to me at least, the contribution of computers and microchips introduce an element of disconnect betwixt driver and car.

As if to ram home the difference between old and new, at the Porsche Experience Centre a couple of technicians for the Porsche Museum were able to fire up the 917K and 962 for Attwood and Bell to steam around the track. The 919 Hybrid requires a small army to start it, so was left forlorn out the front, a static exhibit. That's no way to live for a racing car...



Left to right: 919 Hybrid, GpC 962 and 917: Le Mans heroes all, but it's the old stagers that capture the imagination

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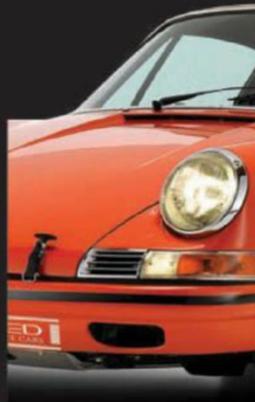
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# GROUND MISSILE

Gas platform worker, David Hamilton, has amassed quite a collection of Porsches – 924s mainly, with a daily driver, a spares car, a US market Weissach Commemorative Edition and a Turbo. However, today he's keen to show off his 996 Turbo and we're keen to see it!

Words and photography: Brett Fraser

It's dreary – and incredibly windy – the day that we meet up with David Hamilton and his 2003-vintage 996 Turbo at Suffolk-based PIE Performance. Dave seems a jolly chap, but he's lamenting the gloom in the sky. 'You should really see this car when the sun catches it,' he enthuses. 'The blue absolutely zings out at you, makes it look like a completely different car; it's quite a transformation. Today, with all this cloud cover, it looks a bit...urgh!'

Hate to disagree with you so early in the interview, Dave, but your Turbo looks anything but urgh. Sure, in these overcast conditions the dark blue seems to be absorbing light rather than reflecting much of it, but give it more than a cursory glance and you'll notice that what brightness there

is falls like a luminous sheet across patches of the bodywork, highlighting its curves, lending a richness to the paintwork. It's subtle stuff and makes the Turbo look more suave than menacing, and yet if your eye catches the car from head on or view it from the rear three-quarter, then you can't doubt you're in the presence of a car with incredible potential.

Dave, an electrical technician who works on the gas platforms in the sea off the north Norfolk coast, confesses that he initially had doubts about another feature of his Turbo that we're rather fond of: the HRE Performance multi-spoke, multi-piece alloy wheels. 'I came to own them through chance and through another guy's misfortune,' he admits. 'This bloke around the corner also owned a 996 Turbo, and

one day when he was giving it the beans a cam chain snapped. Obviously it was game over for the engine: the aforementioned misfortune was that he couldn't afford a rebuild so had to sell the car.

'Anyway, one day while I was out walking the dogs I bumped into him. He knew I owned a Turbo and wondered if I fancied buying the wheels, a Milltek Sports exhaust and a tailored car cover off him. I'd always admired his wheels, so we struck a deal. But then I put them on my car and really wasn't so sure anymore: I thought their colour didn't suit the car, wasn't convinced about their styling. But I left them on, and came across to PIE to see what Chris (Lansbury, company owner) and the team thought about them.

'They pretty much told me I was mad to

David Hamilton with his 996 Turbo. Being of 'a certain age,' he's also owned a 930 Turbo. He's had the whole range of four-cylinder cars, too, and currently has four 924s



have doubts. And then the sun came out and lit up the wheels and the paintwork, and I knew they were right. Mind you, they'll be coming off soon for the winter – they're a swine to clean so the original wheels, which I've had powder coated, are going back on until the spring. Hopefully by then I'll also have gotten around to fitting the Milltek exhaust: there's really nothing wrong with the standard system, but from what I've read the Milltek unit gives the exhaust note some extra edge and growl and isn't overbearingly noisy.'

Although not really one of the Mods Squad, Dave has made one other visual change to his Turbo, in the form of a set of ZunSport front mesh grilles for the car's gaping intakes. 'There was a story there, too,' laughs Dave. 'I'd already bought the grilles from PIE, and then took the Turbo in there hoping they could do some immediate work on the painted steel brake pipes that were corroded. They couldn't... At that stage it was only Chris and Ash, and they were inundated.'

'I was desperate, though, and they took pity on me, lending me some tools as a special favour. It took me the best part of two days to replace all the brake pipes and it was an absolute nightmare. And while I was about it I thought that I may just as well take off the front bumper and fit the grilles myself.'

The Turbo, which he bought a couple of years ago, isn't Dave's first Porsche. 'Like so many others of 'a certain age', my first Porsche was a 930 Turbo, that Athena poster I had on my bedroom wall. I caught the car bug from my dad who's as bad now that he's into his 70s as he was when I was a kid,' chuckles Dave. 'He had a particular soft-spot for the Rover P6 and had at least 20 of them that I can remember. My first car after I'd passed my test aged 17, was a Ford Cortina Mk4: I then graduated to a Triumph Dolomite, that after the Ford was sheer luxury, like sitting in an armchair.'

'Not long after came a Rover SD1, a fabulous car, if a bit like driving a whale. Still, I could get all the lads in and blast around in style; at the time it really was quite a thing. Later a friend bought a 924 off his dad, and a while after I bought it from him. In the fullness of time I sold it on, but then in 2009 I was trawling idly through eBay and saw my old 924 – it was looking a bit sorry for itself, so I had to buy it back...'

'And that car is still my daily driver when I'm not out working on the rigs. It looks like a hunk of junk and yet it passed its last MOT with no advisories. But it does badly need some paint. And a new interior. The fear is, though, that if I do all that then I won't drive it as much.'

Other Porsches, mainly four-cylinder models, have been part of Dave's portfolio over the years, and some still are. 'After owning that first 924 I then went on to buy a 924 Le Mans. That was sold to help fund a 924S Le Mans that I'd seen in a garage that I happened to be driving past and bought on the spot. A 944 was bought privately from a guy in Norwich, and then I came across PIE, which was advertising a 968.'

'I really wanted that car but PIE hadn't actually taken delivery of it: so I was on the phone several times a day for several days pestering them for news of its arrival. I turned up there about five minutes after the

David at the wheel of his 996 Turbo. "It takes off like a bloody missile," he reckons. Below Middle: It's a manual, too, which is, of course, the enthusiast's choice



“ Like so many others of 'a certain age' my first Porsche was a 930 Turbo ”



Never an inspiring sight, but you can't argue with the numbers or the performance. 420bhp was a lot when the 996 Turbo was launched nearly two decades ago, and it's still a respectable number now



## HISTORY

The 911 Turbo has always been Porsche's 'supercar' but, for whatever reason, the 996 variant really took off like no other before it, when launched in 2000. Perhaps it was because it's 420bhp was so spectacularly useable and its four-wheel drive system made it seem foolproof. Whatever, such performance had never been so accessible, which made the 996 Turbo an astonishing machine, fully living up to its 'everyday supercar' tag. Power increases have always been just a tweak away, and many are running at 500bhp, with an easily achievable 200mph.

car arrived! It was one of my favourite cars to drive and I really wish I hadn't sold it. The problem was that I couldn't justify keeping the 968 in addition to the 996 Turbo – and when I'd seen the Turbo at PIE, I realised that if I didn't buy it there and then, well, I'd have missed the boat forever.

'It turns out to have been a shrewd assessment of where the market was heading, because the Turbo is now worth about 50 per cent more than I paid for it.' (While he doesn't mention it, Dave must also be curious what his 1983 911SC that he sold several years back, might now be valued at.)

Although the 968 had to go, Dave has managed to amass a few other four-cylinder cars to compensate for its loss. As well as the aforementioned daily driver 924, there's another one for spares, plus an intriguing special edition. 'I've got a 924 Weissach Commemorative Edition,' reveals Dave, 'which was a limited run of just 400 cars built for the US market. One of them, however, escaped and was shipped to Australia where it was converted to right-

hand drive. Someone may wish to correct me here, but I believe it is the only right-hooker in existence.

'My fourth 924 is a Turbo: its engine is currently being rebuilt at PIE, while its bodyshell is somewhere over in the Midlands being repaired and painted. The Weissach, meanwhile, is awaiting some attention...'

in Germany – it's run by a couple of guys who used to work for the company that made the spoilers and realised they weren't made well enough. P-Speed rebuilt mine, put it through a test programme and then returned it working better than ever: a great service.'

Dave's sole regret about his Turbo is that he doesn't get to drive it enough. 'The shift

Compared to the current generation 991 Turbo, the 996 Turbo looks positively svelte on the road

“ If I didn't buy it there and then, I would have missed the boat forever ”

During the two years that he's had the Turbo, Dave has had to pay it some attention, too, but only for issues that seem to afflict all 996 Turbos. A water pipe for the left-hand turbocharger failed, a fiddly job. And one of the hydraulic rams for the tail spoiler packed up. 'I sent off the whole spoiler unit to a company called P-Speed

patterns when you're working on the rigs can make it awkward to get out in the car, and as a consequence I've only done about 1600 miles in it. But when the road ahead is clear and those turbos spool up, this car takes off like a bloody missile: it's absolutely astonishing. For moments like those, it's worth every penny.' **PW**



HRE split-rim wheels really finish Dave's car off, although he concedes that they're a 'swine' to clean! Exhaust will soon be replaced with a Milltek system, that's waiting in the wings



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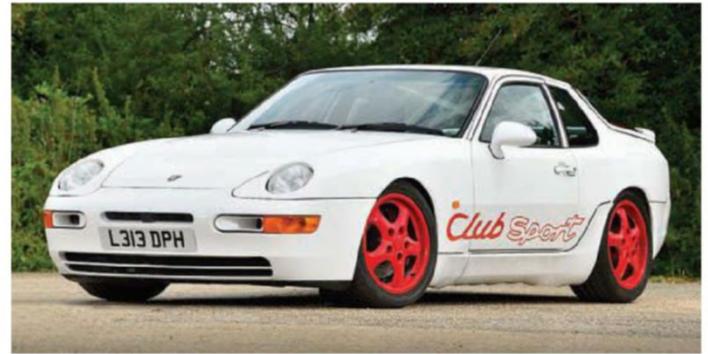
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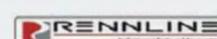
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# BLUEBIRD SINGS

A very special drive in a very special car as we get unfettered access to a 964 restored by Singer Vehicle Design

Words: Dan Trent

Photography: Tim Brown



**V**ision of the perfect customised Porsche? Or overblown caricature? You may consider the mega-money restorations carried out by Singer Vehicle Design a bit of both. But any high-minded convictions you may have regarding backdated 911s are hard to stick by once you've witnessed or, better still, experienced what the cars are actually about. After a

visit to the workshop a few years back I had a sense of this, the tour revealing the obsessive attention to detail lavished on every last component. And like many I've pored over cars they've restored, awed by the quality and finish.

But drive one? You only earn that privilege by acquiring a 964, sending it to California and then awaiting its return, 'reimagined' to your personal spec. Given rising values of donor cars and shifting

exchange rates mean this car is now insured for considerably more than the half million or so the restoration cost it's not surprising owners keep their cars to themselves.

Most owners. The man who commissioned the 'Dorset' car you see here is of the opinion his car should be enjoyed. And if he's too busy, well, he'll delegate the task to someone he trusts will appreciate it appropriately. Somewhat



incredibly that person is me, my instructions best summarised as 'enjoy yourself'.

Our man's admirable lack of pretension extends to where he keeps the car, the anonymous council lock-up in which it lives a classic case of hiding in plain sight. And with a shove the door squeaks open to reveal perhaps the most perfectly proportioned 911 rear end I've ever seen. The baby-blue paint – actually Farrow & Ball Parma Gray if you're interested –

pings from the gloom of the windowless garage, the contrasting Porsche script across the engine cover, the perforated acrylic panel under the grille and paired centre pipes of the ceramic-coated exhaust recognisable visual signatures of any Singer restoration. In the shadows I can just about make out widebody arches and 265-section rear tyres stretched over deeply dished 11-inch Fuchs-style wheels. I'm itching to get going but indulge a few

moments contemplation before jumping in, starting up and backing carefully out into the crisp autumnal sunshine.

Appreciation of the details will come in due course. For the first few miles I'm in that acclimatisation period required for any special 911. Because while they're all the same they're also all different, each with individual character traits demanding you apply yourself to the job at hand.

As I leave the city limits behind I've just



about dialled into the weight and bite of the RS-spec clutch, the well-oiled action of the stubby gear shifter and the instantaneous response to the accelerator. Forget the inertia of modern engines and their weighty flywheels; the Aasco single-mass item fitted to this car means you need to rev match up as well as down the 'box, the weight of the sole of your shoe on the hinged throttle pedal usually enough to avoid an unpleasant lurch as you go up through the gears. A humiliating flare of revs is never far away if you get too greedy though, the tightrope walk between kangarooing down the road and the stink of slipped clutch demanding constant focus.

As we get to know each other I've been happy enough to enjoy the healthy torque delivered by the Ed Pink Racing Engines-built 964 motor, the bored-out 3.8-litre capacity meaning it's happy to pull tall gears from below 4000rpm with no complaints. At last an opportunity presents to find out what lurks a little further round

that orange-faced rev counter. Nailing the perfect downshift takes timing and precision but I pull it off, right foot pushing against the accelerator's firm spring and deep into its long travel.

As the needle passes the '5' on the rev counter the engine takes on a totally different character, vocal chords opening

mechanism and pedals filling the momentary pause in engine noise before the perfectly matched ratios drop you right back into the sweet spot of the power band. There are many things to be intimidated by, not least the responsibility that comes with custody of another man's near-priceless Porsche. But I can't stop grinning. The next

Singer Vehicle Design restored machine sits perfectly on the road, its stance enhanced by super wide rear Michelins

## “ Nailing the perfect downshift takes timing and precision ”

into a sophisticated howl that builds in intensity to a second level of ferocity past 6000rpm. The final 1000rpm or so are where the real magic lies, the induction howl from the other side of the bulkhead filling the cabin before the next grabbed shift, the click-clack sound of the gear

couple of days are going to be epic...

First though there's some business to be taken care of, amusingly enough involving a visit to Ferrari's UK headquarters in Slough. The provocation of parking such an eye-catching Porsche outside is amusing, the speed with which my host and a colleague

Retractable wing features a 'ducktail' style lip in homage to the 2.7 RS



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emerge to check the car out more so. Normally you'd be lucky to get Ferrari men to even acknowledge the existence of other sports car brands but the wow factor is sufficient they temporarily forget themselves. The PR man's colleague quietly admits he used to work for Porsche and was a technician back in the 964 era. He's never heard of Singer but he knows he's looking at something special, his eyes narrowing as he takes in the proportions and then widening again when I tell him how much it cost. "Someone knows what they're doing there," he murmurs before asking to see inside the engine bay. His head disappears deep inside for a good five minutes and when he emerges his cheeks are puffed in amazement. "That's incredible," he says, "I can't believe the attention to detail in there, the way they've tidied it all up, the presentation, it's

amazing!" Remembering himself he makes his excuses and leaves us to talk business but the knowledge even Ferrari guys can't help themselves in the presence of an air-cooled 911 amuses me all the way home.

Over the miles that follow the feelgood factor that follows this car is perhaps the biggest revelation. It certainly makes some sense of why people with the money to buy any number of modern supercars are queuing at Singer's door to put the same into 911 restoration. Because this is so not a numbers car – it's a sensations car. Typical responses to driving something exotic are 'how much?' 'how many horsepower?' and 'how fast?' but nobody I meet seems interested in that, or hung up on whether it's 'original'. They just think it's beautiful. An impressive number of onlookers have heard of Singer and are suitably gobsmacked to see an example of

its work out in the wild. Even those who don't know the name recognise this car as something special, the retro looks enough to defuse any of the envy you sometimes encounter when driving more modern machinery. Dorset's owner also has a McLaren and a Carrera GT. But having previously owned both a 2.4 S and a 997 GT3 it's easy to see how he settled on a Singer-restored 964 as the sweet spot between a charismatic classic Porsche and well-mannered modern one.

Parked up for static photos the following day I have chance to take in some of the work that's gone into this car. I've driven it to the county referred to in its commission, leafy Dorset back roads leading to the famous Jurassic Coast and a suitably inspiring backdrop for some pictures.

Appreciating the aesthetics of this car is like taking a history lesson in what makes

Built to this particular customer's spec, this isn't a track car per se, but that doesn't stop it romping around Goodwood's fast sweeping curves

Below left: Lucky driver for a couple of days is 911&PW new boy, Dan Trent. Below: Attention to detail abounds. Ohlins suspension is configured to Singer's specification





The engine is pretty special. At the heart it's a 964 unit taken out to 3.8-litres, with a GT3 crank, Carrillo rods, Mahle pistons, Xtreme heads, with Singer's own custom heads and 48mm throttle bodies fed by a 996 upper intake. Power is 350bhp

On the narrow Dorset lanes it feels small and agile. All the traditional 911 cues are there, but underpinned by a more modern, secure feel

the 911 such an automotive icon. A lesson delivered by an inspirational teacher with a deep love of the subject. Sure, it's a mix-and-match compilation of visual cues. But it's done with a balance of respect and playfulness that gives it an identity of its own. So you can appreciate the RSR-like flare to the arches, the external oil filler from the original 911 R, the S/T influenced centre-mount fuel filler, the bullet-shaped wing mirrors and the timeless appeal of Fuchs-style 17-inch wheels. Even the deployable wing has a 2.7 RS-like shape to it. Inside it's the same, the leather-trimmed roll cage identical in profile to those fitted to '60s racing 911s, the 350mm Momo Prototipo sized to match that used in 917s and other competition Porsches of the era while the Recaro buckets give a suitably retro feel, the driver's seat on this car replaced with

a fixed-back item for additional support and a cool asymmetric layout.

What elevates it above mere tribute act are the way such old-school references are paired with modern materials and flourishes. So the shell is fully seam-

approach extends to the mechanical specification. The engine combines the blueprinted 964 M64/01 motor, bored out to 102mm for a 3.8-litre displacement and running a GT3 crank, Carrillo rods, Mahle pistons, Xtreme heads and custom cams to

“ The old school references are paired with modern materials ”

welded, the front lid, wings and engine cover are carbon-fibre, the brightwork is nickel rather than chrome plated and the light units are all custom fabricated at huge expense to Singer's own specifications.

The same retro-mod mix and match

Singer's specifications. 48mm throttle bodies are paired with a 996 upper intake plenum while the fuel injection is, again, to Singer's specs by Kinsler and controlled by an AEM ECU. The six-speed G50 gearbox is from the 993 with bespoke ratios and





drives through a single-plate clutch and a Guard Transmission limited-slip differential running 40/60 locking rates. The steering rack comes from the 993 and uses bespoke valving and set-up for fine-tuned weight and

with optional Ohlins units fitted to RS Evo uprights while all bushings, drop links and anti-roll bars are uprated. Brakes on this car are the optional upgraded items from the 993 Turbo, calipers colour coded to match the

understand how the price reaches such heady heights but it's the time and effort that goes into the assembly and finishing that really sets a Singer restoration apart. Most of the work is hidden but the way the usual clutter in the engine bay has been tidied to show the flat-six off to best effect is typical of the attention to detail.

All brightwork is nickle rather than chrome plated, which gives a rather subtle and less 'bling' effect

“ At first I would have sworn that the steering was unassisted ”

feel. The result is a healthy 350hp at 7000rpm and 270lb ft at 5800rpm, those stats alone offering a sense of how this engine behaves.

The standard suspension set-up offered by Singer comprises KW coilovers, the Dorset car going one step further and fitted

contrast decals on the body. Even the pedal box is blueprinted, based on the original Porsche set-up but with a Turbo clutch pedal, while the wiring loom is ripped out and replaced with a military spec replacement costing a five-figure sum on its own.

Looking at the parts alone you begin to

Obsessing over the parts going into the restoration is one thing. But helps inform the character of the car which, once again, strikes a carefully judged balance between 911 tradition and more modern sensibilities. So there's just enough of the traditional quirks like the off-set pedals and scattergun switchgear. But it's all screwed together and finished as if it were a new car. Hell, it even smells like one.

Same goes for the driving style. At first I'd have sworn the steering was unassisted, given the effort required to turn the thick-

Back on track. Fortunately the car is quiet enough not to disturb Goodwood's famously sensitive noise meter. Oh, and the colour? Well it's from the Farrow & Ball palette and called Parma Gray, should you wish to spec it for your car or, indeed, kitchen!





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rimmed wheel. Trying again with the ignition off reveals it is indeed assisted but Singer has clearly worked hard to give it the character and sensation of a pre-PAS car while maintaining the directness and usability of a more modern one. Thank intensive R&D and careful tuning of everything from bushings to tyre pressures for that.

Likewise on the move, there being enough chit-chat through the wheel to give you a sense of driving an older Porsche but without the bobbing or camber sensitivity that can afflict some stiffly sprung 911s, a 964 RS on stock suspension being the immediate example that springs to mind. On the narrow Dorset lanes this is a real delight, the compact 964 footprint meaning it feels small and agile while the constant feedback through hands and hips give you

all the information you need about what the car is up to. Without ever being intrusive, intimidating or distracting. All the signals that you are driving an old-school 911 are there, be that in the way it looks, the sound of the engine or the natural bob and weave over bumpy backroads. But it's underpinned with the security and civility of a modern one, a trick even Porsche can't pull off in cars like the modern-day 911 R.

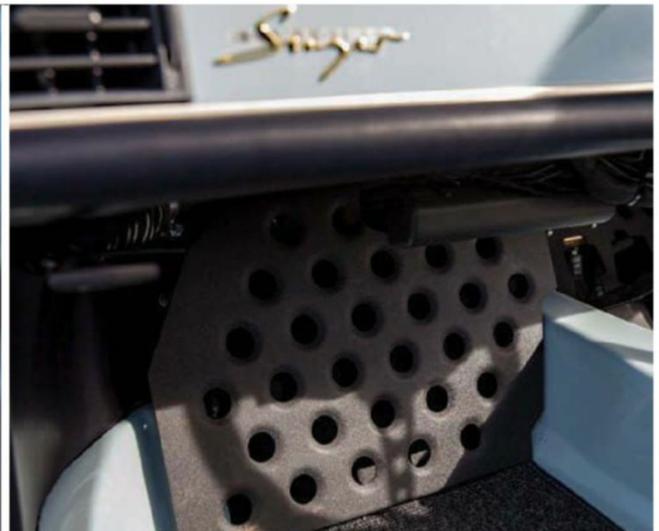
At speed on a twisting English B-road there's the perfect balance between light-nosed 911 turn-in and traditional rear-engined traction to make demands of the driver without it causing sweaty palms or worries about being spat off into the scenery. It's a car you can drive briskly and feel you're having to work for it but in a rewarding way.

The close gearing helps a great deal

here, too, this being another notable contrast with modern-day Porsches. Having been driven on the canyon roads close to Singer's base you can appreciate why it's been set up that way, those twisty, bumpy Californian roads demanding of both suspension and powertrain. Short ratios and plenty of punch for slice-and-dice driving and suspension able to both gobble choppy Tarmac and deliver perfect body control are exactly what you need on Singer's home turf and, happily, are also perfect for British roads. The car is set up firm and has excellent body control yet the Ohlins dampers seem blessed with a pillow-like plushness that has me emailing Singer to ask if they've fitted rally-style hydraulic bump stops. The answer is no, they've just spent a lot of time perfecting the spring and damper set-up to strike the perfect

The Dorset in Dorset. That will be the famous Jurassic Coastline behind

Recaro buckets get bespoke check inserts to complement the exterior colour. Passenger footplate a neat touch





Interior is familiar, of course, but largely bespoke in spec. Dash hides military grade wiring harness, while pedals and pedal box are precision blueprinted

compromise for fast road use. The complete lack of slop or play in the suspension components helps here, too.

But it's about more than bolting together a selection of boutique parts. The real magic here is the time and expertise that's gone into setting it up in a way that both celebrates the quirks we love in the 911 while buffing off some of the rougher edges.

Shorter gears also help you enjoy the car at vaguely sensible speeds, again explaining why so many supercar owners are willing to put equivalent money into an 'old' Porsche conspicuously lacking in ego massaging drift modes, active aero, paddle-shifted gearboxes or other gizmos. To get the same sort of sensations in a modern 911 you'd be seeing double the numbers on the speedo, social responsibility and a desire to hold onto your licence

demonstrating how feel matters more than numbers. In a car like this it's about the quality of the performance, not the quantity.

Photos wrapped up a ferry carries me across into Bournemouth's swanky suburbs, a brief promenade along the beach taking

for Goodwood's strict noise limits.

Thankfully the glorious sound you get from the cabin is more induction, the system designed for this car actually relatively quiet from the outside.

I get a thumbs up, the marshals put down

“ It's about the quality of the performance, not the quantity ”

Switchgear follows tradition of random placement, but that's all part of the charm. Mileage accrued confirms that this is essentially a new car

me out of town and heading for Goodwood Circuit on the promise of a little bit of track time. It's a beautiful early autumn day and the shafts of light are picking out the golden tinge to the leaves as I arrive in the paddock, hopeful the exhaust isn't too loud

their mugs of tea and return to their posts and I have 45 minutes of play time. I try some exploratory laps, short shifting in a couple of points so as not to trip the noise meters, but everything is fine and I'm good to press on a bit.





Goodwood is a great circuit but one that demands respect, most corners being in the upper reaches of fourth and fifth and well into three-figure speeds but the tyre barriers never far away. The Dorset commission has been configured for road use more than track but it's far from embarrassed. And from the turn into the opening fourth-gear right-

too. It's a fast corner like this where you'd expect to feel an older 911's nose go a little light on turn-in but the consistent weight to the wheel indicates the front axle has plenty of bite to spare and I could be on the power much, much earlier.

While I'm wary of those noise limits I figure you only get one chance at something

and tidy, maintaining the precision and rhythm of the gearshifts, delighting in how the pedals are perfectly positioned to heel and toe and how instantaneously the engine responds to the throttle. Like any 911 this Singer restoration demands a degree of assertiveness – brutality even – to your inputs but in return rewards your commitment with the kind of life-affirming driving experience no modern car can match.

My time is up and I think it can't get any better. But it can, the drive home along sun-dappled Sussex back roads proving why this car is worth every penny its owner put into it. When the door of that lock-up eventually squeaks shut I know I've been fortunate enough to enjoy a very special couple of days and an incredibly memorable 500 miles. It's easy to lust after Singer's style. That there's substance to back it up proves this really is a worthy celebration of all that's wonderful about the Porsche 911. And what I saw four years ago on that first visit to Singer's workshop all makes sense. **PW**

Old yet somehow contemporary, that is the trick that Singer has pulled off with its restoration

**THANKS**  
Many thanks to Singer and to the UK owner of this wonderful machine, for allowing us a proper UK drive. To contact Singer go to: [singervehicledesign.com](http://singervehicledesign.com)

Below: Some things cannot be improved on and wisely Singer has adopted Fuchs as wheel of choice. In 17in guise, they hide colour matched 993 Turbo brake calipers

“ My time is up and I think it can't get any better. But it can... ”

hander at Madgwick it's clear the set-up's brilliance on the road translates perfectly to the track. There's enough roll to sense the weight shifts but the overall balance is flat and composed, the Ohlins supporting the car when loaded up but maintaining enough travel to deal with any mid-corner bumps,

like this and push harder into the upper reaches of the rev range. It's clear there's more grip than power and it doesn't dance on its tip toes like an older 911 on skinnier tyres might. Frankly, given the speeds and the value of the car I'm happy enough with that, the pleasure coming from keeping things neat



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Words: Johnny Tipler Photography: Antony Fraser

# PEAK TWINNS

Just 42 examples of the 928 S4 SE reached GB in 1988; one was instantly turned into a racer. We drive it alongside one of its siblings in deepest Snowdonia

**G**entleman's carriage? Forget it! The S4 Special Equipment is a 928 Club Sport by another name, capable of hustling round the twists and turns of Snowdonia's Evo triangle with the best of them. We're guests of Tech9's Phil Hindley, who has wheeled out this pair of V8-powered titans from his personal collection for us to evaluate in rural Wales.

Strange fruit for someone more readily associated with racing and tuning 911s, the 928 SE holds a particular fascination for Phil: 'I remember this 928 racing in 1988, reading the magazines in my early Porsche years, and then two or three years ago I bought an '88 model 928 SE. Porsche produced 42 of them for the UK market, and in Europe there were 19 Club Sports, so I always had an interest in them. I've got a list of all the chassis numbers and I knew that the very first one belonged to the car that was raced

(WP0ZZZ92ZJS841630).' Acquiring it was another matter: 'I was at Silverstone Classic last year and, walking across the paddock, I saw a white 928, and I noticed it didn't have a sun roof, and it had SE forged wheels, and it was E-reg, when most of them are F-reg. Talking to the driver, basically it had been owned by his father for 20 years, but when his father died the son decided to sell the car. So, as he's telling me the story I thought, ok, it's for sale then. And he said, "I think this is the car that Tony Dron raced," so, bearing that in mind, I started looking round the car, and it's got SP stamped next to the engine number, so two boxes ticked, an SE with its original engine. And under the carpets were the roll cage mounts. So, we agreed a deal, and I literally wired the deposit straight into his bank there and then.' Phil then set about recreating the car as it had been in period, a production racer, albeit fairly standard. 'We knew it had a Safety Devices cage in it, and I'm

actually a Safety Devices dealer, so asked them to make me a cage but they said they'd thrown away all those old plans and they couldn't do it. So, I said, look, if I bring you the car you've got the cage mounts in the floor, you must be able to make a cage based on those dimensions, so that's what happened, they made the cage to suit, to all intents and purposes the same as the one that was in it, so that was quite exciting. And then installing all the simple race stuff, the seats, belts, though I haven't gone the whole hog and put the old fire extinguisher in because at the moment it's not particularly needed. We've got a really good guy who does all our decals, and from photographs and measurements we recreated the original livery and it works well.'

The 928 SE's ABS was one of the first incarnations of the system in '88, so it was new technology and a fairly primitive ABS system. So, from that point of view, Porsche wanted to promote this car





showing that it could be raced, and that's nice as it was an official Porsche project and that makes it a nice piece of history, too. It's just a nice car to own, part of my collection, and it's a lot of fun.' The car took pride of place at PCGB's 928 extravaganza at Brooklands earlier this year, where racer

2.7RSs and cars like that, and he would qualify on pole and next minute the lights would go green and all those little 2.7RSs with fantastic traction and high power-to-weight ratio, were just gone, and he was still sat there trying to get this lumbering thing off the line.'

retained all the original trim, so they took the cage out and all the race bits came off it, they put the trim back in and sold it on. The great thing is it's got all its original trim and I've retained that.' During Tony Dron's racing tenure the car was set up at his behest by suspension guru Rhoddy Harvey-Bailey. 'It's still got its Bilstein suspension, and with this being the first chassis, it has a few unique features, so for instance only one mirror and it doesn't have a rear wiper, whereas all the SEs that followed had a rear wiper. We found out that the SEs had a particular series number, G28/55, for the gearbox type, and this car was fitted with an earlier one – G28/12 – so that's quite a cool feature.

Under cover and under wraps. Left: Phil Hindley supervises as the 928 SE ex-racer emerges from its transporter. Above: Standard road SE is another 928 in Phil's collection

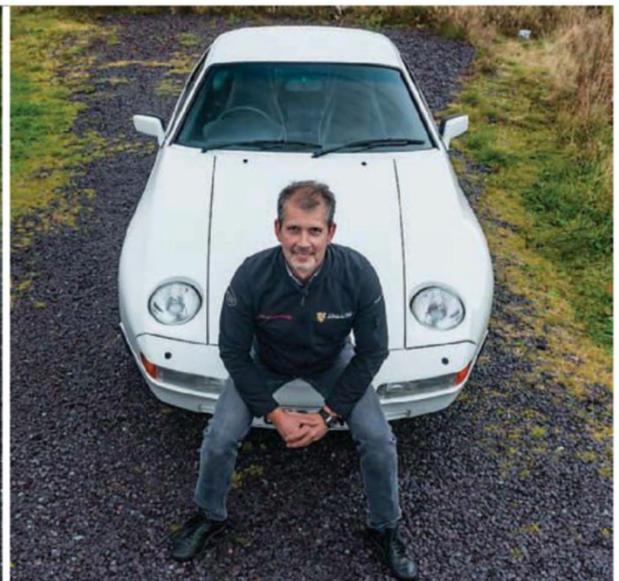
## “ It's a special car and the 928 was a clean sheet design, ahead of its day ”

Tony Dron was reunited with it. (See sidebar). 'We were racing at a similar time; I started in '91 and Dron was still racing, so we remembered each other from that period, and we had some good conversations, like at Brooklands where it was nice to sit down and talk about it in more detail. Ultimately, it's a big, heavy car; yes, it's powerful, and he was up against

I note that when it was raced it wouldn't have had a passenger seat: 'No, but I wanted to keep the car road-legal so it can maybe go to Europe to an event or something like that. It was always road-registered. Porsche raced it in '88 and '89, and then at the beginning of 1990 Porsche GB advertised it for sale – "offers in excess of £35K" back in October '89. They'd

'It's a special car, and the 928 was a clean sheet design conceived in the early '70s, a car ahead of its day, and I think it will become appreciated as time goes on. From an engineering point of view, it's quite a complex car; there was a lot of kit on them, and, yes, it's a big, heavy car, but you can't get away from the sound of that

Tech 9's Phil Hindley has extensively researched both 928s in minute detail and strives to restore each to its original spec





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engine. And the balance of the chassis is good, though this one is a bit twitchy because it's lower and race set-up running on Michelin Pilot Sport Club tyres.' The other car is more forgiving; it's completely standard, and it's interesting to feel the subtle differences between the two. The SE had all-leather trim whereas the Club Sports had plastic trim for some reason, and maybe Porsche GB deemed that UK buyers wouldn't buy them unless they were top spec and fully loaded. But ultimately the suspension, wheels, everything else is the same. The SE runs lightweight Fuchs-made anodised 16in-diameter forged wheels, with 8in rims on the front and 9in on the back. 'A contemporary road test report implies that it was unusual to have an 8in

wheel on the front of a car, and the road testers said the car tramlined on less than perfect roads, which it does a bit, but back then they weren't used to having such a big wheel on the front of a car because at that point hardly any vehicle had an 8in wheel on the front.'

It's said that the V8 engines were hand-picked for the SE/Club Sport models, and Porsche inscribed Club Sport on the sumps of the SEs as well. 'So, when I take my engine out I'm going to see if it's there.' Phil shows us his database: 'I've got a lot of paperwork to do with the 42 SEs, with all the chassis numbers and hand-written notes of my research, and I've found out which cars are where: so, some are known cars that have been damaged or there's a

problem with them, so there's a couple of Cat-D cars written off, and some have been exported or scrapped, and the rest are current known cars, and there are less than 15 good cars out of 42 still on the road.' Phil also has copious SE material including magazine features, such as *Fast Lane* magazine from October '88, and the original press pack from March 1988: 'How to recognise a 928 S4 Sport Equipment? It was based on a right-hand drive '88 S4 finished in white, silver, red or black, along with things you can't easily check, like specific camshafts, identical to the 928GT, but with no transaxle damper, and front spring rates stiffer than the S4.' According to the press material, the 928 was still the range-topping model: 'The new 928S Series

Ex-Tony Dron racer is surprisingly compliant on the road. Car has always been road legal, even in its racing days

## PRESS RELEASE

At launch, Porsche's press release for the "928S Series 4 with Sport Equipment", dated 4th March 1988, described it as "the flagship series of the Porsche high performance road car range, aimed specifically at the truly enthusiastic driver." With modified engine and exhaust system, close-ratio 5-speed gearbox, limited-slip diff plus sports suspension, it gives 0-to-62mph in 5.6seconds, which is 0.3 quicker than the standard car. Powerplant is a 5.0-litre, 32-valve, 320bhp V8, with high-profile cams, modified engine management system, Motronic fuel injection and EZK electric ignition system, plus modified exhaust with twin tail pipes. Available only with manual transmission, the 928S4 SE has a final drive ratio of 2.73:1

compared with 2.64:1 on the standard 5-speed transmission. The sport suspension comprises front springs which are 10% firmer, Koni sport shock-absorbers, 17mm wider rear track, plus special wider, lighter disc style Fuchs forged alloy 8Jx16 road wheels at the front and 9Jx16 at the rear, fitted with 225/50 VR16 and 245/45 VR16 low profile tyres. The weight saving is 50kg compared with standard specification. The SE was available in just four colours: Grand Prix White, Guards Red, silver metallic and black, fitted with the same interior trim comprising full black leather and electrically height adjustable sports seats with special black/red pinstripe cloth inlays and red piping. The UK retail price including tax and VAT was £55,970.

928S Series 4, with Sport Equipment, is how we should really be describing each of these machines, but it's a bit of a mouthfull, so we'll stick with SE





Ex-racer was converted back to road spec after its track days were over. Mounts and fixing for roll cage were still in place, so Phil had original supplier, Safety Devices, fit a new one

4 Sport Equipment has been added to the flagship series of the Porsche high performance road car range, aimed specifically at the truly enthusiastic driver.' Phil sums up: 'The performance was simply gigantic in a car that was just as easy to drive as any GTi, so, back in the day, it went down quite well with the press, albeit fairly expensive.'

History books shut, it's time for an outing. From Phil's rural Cheshire base, it's a swift blast in beguiling sunshine into majestic Welsh hill country, through beautiful deeply wooded green valleys. Phil's driving the race car, I'm in the 'standard' 928 SE, and it's like falling into an armchair, so palatial and comfortable are the seats. First thing to remember with the manual box is dog-leg 1st and the handbrake on the right-hand side of the driver's seat; plus the pedals are in quite a different orientation to where you would expect them to be: the brake pedal is quite high up and the accelerator pedal is more to the right than I'd remembered from our recent hike to the Nürburgring in a 928GT. I follow Phil, and, going along the road, it's an extremely handsome car viewed from the rear. If the racing livery seems a bit 'Jimmy-look-at-me' in this context, remember that this is the real thing, airing on road instead of track. As for the standard SE, I feel it is slightly slow off the line, but once I'm in 2nd and 3rd, the traction and power delivery is awesome. It's now, in these swooshing dips and troughs,

Road car interior has weathered well, given its age and 125,000-miles. Racer has a passenger bucket seat for convenience. Both are manual

crests and rises, that elation creeps up, because compared with the GT that we took to the Nordschleife, this is in a different league as far as handling is concerned: it's precise, there's no sense that it's oversteering or understeering, its power delivery is spot-on, and it's good fun to use the gearbox on the twisty bits as I slot from 2nd to 3rd and 4th, and of course the 5.0-litre V8 motor is so torquey that you actually needn't use the gearbox; it's just nice to do

The acceleration is just phenomenal in both cars, and they are both sincerely thrilling machines hurtling through the bends and the ups and downs; they do indeed feel like heavy cars, but they do handle. Perhaps it's that which makes it such an awesome thrill, heaving these relatively large sports GTs through every manner of corner and camber, swaying this way and that. I even find myself committing rear- and mid-engined heresy, imagining I could actually

“ I've got the windows open to better hear the gruff V8 soundtrack ”

so. It's so much fun slotting through the gears, though you can be in 4th and it does all the work for you. Meanwhile I'm accelerating hard in 3rd from 2000rpm, and I've got the windows open to better hear the gruff V8 soundtrack echoing off the stone walls. The ride is interesting – it seems to be a kind of compromise between pretty firm and tight, so the car feels planted, and yet there's an element of bounce over the poorer quality road surfaces. Both cars are on Michelin Pilot Sport Cups, which seem to suit them very well, even if the racer is a bit fidgety on the country lanes. All S4s have the strut brace.

live with this monster front-engined format!

Back at base, time to reflect. Like palaces on wheels, the 928 S4 SE is a plush cabin environment. The non-race car has done 125,000 miles, and still the upholstery is in perfect condition. The white plastic piping that trims the seats is sun-bleached but none of the stitching is split. The gearshift feels firm, resolute, positive, and there's a little glove box between the seats for storing sun glasses and things. There's an original-looking Blaupunkt Toronto radio, and air conditioning. Surprisingly, perhaps, the race car has done 140,000 miles, but as Phil reflects,





'they're old cars, they're 30-years old, so it's probably typical to see that sort of mileage. Yet you look at the upholstery, it's absolutely fine, because these cars were so expensive when they were new, £54-grand in 1988, much more expensive than a 911 Turbo; it was the most expensive car Porsche sold, and most of them were bought by companies and owned by company directors. Of the ones I've seen, they've all done a lot of miles in the early years, when it was not uncommon to see 15- or 20,000-miles per year for the first few years, and then obviously as they got sold on and passed into the hands of enthusiasts they've come right off. But I'm sure the depreciation was pretty massive in those first two or three years. Who wanted a 928 with a manual gearbox? Horses for courses, really. When I'm setting off from traffic lights I'll go off in 1st, skip 2nd, and go into 3rd. The engine is really torquey, and in spirited driving its 3rd and 4th gear ratios are lovely, and you can really wind it up in the revs: there's a big spread in 3rd and 4th gear, so you almost use 1st as a moving off gear, and 3rd and 4th are your fun gears, while 5th is just an

overdrive for the motorway. And anyway, it's nice to have that control, rather than an auto that relies on kick-down. The 928 manual was a pretty rare car really, like ordering a manual Panamera nowadays, it seems kind of perverse.'

Phil brought the street SE (WP0ZZZ92ZJS841914) out of storage after last winter and the first task was changing a wheel bearing and re-plating all the original parts, ceramic-coating the exhaust a grey hue, and replacing all the fuel lines. 'When you buy new fuel lines from Porsche they come in a brass colour, and in period they were an olive green, so we spent ages spraying different colours of olive green till we got the right colour, and then we resprayed the lines and fitted them. Another reason is that they are a bit prone to failing, with these cars going up in smoke, so I carry a fire extinguisher in the back. There are new bushes and new rear shocks on the back axle, which gave it a new lease of life. The springs are unique to an SE, so we blasted and powder-coated them, and the dampers are Koni Sports, specifically for this model, and it's actually quite supple on the road. The brakes and

brake lines have been restored; we've had all the calipers off, taken the pistons out, fitted new seals, re-painted the calipers – which were also unique to this model. I appreciate fine handling cars, and for me this is such a fantastic car, very nice to drive.' Other race people thought so, too: back in the day, this car belonged to 1974 Scottish Rally Champion, Arthur Jasper, and another SE was owned by Formula 5000 ace Tom Belso.

It has other period related qualities, too. 'What I also love about this car is the interior, which has got that subtle patina now. The cloth was originally black with the red pin stripe, and obviously over the years the UV has attacked the dye and it's got a lovely almost brown look to the fabric, which you just can't replicate, and look at the rear seats, how, because they are out of the direct sun, that's more like what the originals would have looked like. Along the top of the seats where the UV has attacked them it's got that wonderful patina that's impossible to reproduce. So, if you restored the car and replaced the cloth it would destroy the originality of it. We cleaned up the engine as well: we did all the intake

Both have the same 5-litre, 320bhp V8 engine, with all the associated benefits

Road racer! Loud it might be, but that's a bit of history there and besides it's a bit different to the 928's usual grown up demeanour





The 928 SE racer was a handful on track at first, until an imbalance was discovered between the front damper and the ABS system as Tony Dron recalls. Suspension is still the original Bilstein setup, which works surprisingly well on the road

## DRON DRONES

Porsche Cars GB – aka AFN – raced two 928s during the 1980s, and both were helmed by senior motoring scribe Tony Dron, no mean racer who'd piloted a galaxy of saloons and GTs from the early '70s including the works 924 Carrera GTRs at Le Mans. I've known him for years and we chatted about the 928 experience. 'Yes, they were standard 928s which I drove for AFN, and the idea behind racing the 928 in Porsche Club GB events from AFN's point of view was probably not so much to win as to demonstrate that their comparatively big luxury machine could hold its own amongst the 911s. There was a real danger in those days of it being seen as a bit soft. I won the Willhire 24-hour race at Snetterton in 1983 in the 928 S2, co-driven by Andy Rouse, Win Percy and Phil Dowsett. I went back to AFN in the 1988/1989 season, driving the latest S4 SE, and that proved a much trickier beast on a circuit than the S2 had ever been – at first, anyway. The problem was twofold, first the suspension was inclined to develop up and down motion at speed, and secondly, the ABS system was too keen to interrupt braking effort whenever the suspension was in one of its up strokes, so to speak. Once I got it sorted it was quite good. But when I first drove it as a standard road car it was unacceptable because the ABS would cut in and the thing would just be floating like a porpoise without the brakes working, so I had to deliberately spin it every now and then to avoid trouble. The AFN team wanted to stiffen

manifold because that is a big part of the car, though we didn't do the rocker covers as they weren't bad enough to really warrant it, but here again it's very original. I want to get to the servo at some point because that's gone rusty, but that is a big job, and I do plan to rebuild the engine at some point, so when I have the engine out to rebuild it I can get to areas like that. It's just cosmetic, but generally she looks nice.'

makes it very unique. It's got its original exhaust system, minus the back box, and it's got a straight-through pipe. Both SEs still have their cats. We've got the air conditioning working, which is a bit of a mission on these cars when you see the number of belts going on down the front of the engine. Have you ever seen a timing belt off one of these? It's the longest you can imagine! It doesn't have cruise control

up the suspension, and I said that won't do any good, but they did it anyway and it made it worse, so I said, right, the usual thing I always do in those circumstances is to get (suspension and handling guru) Rhoddy Harvey-Bailey in, and he identified the problem in that the frequency of the front dampers was incompatible with the electronic frequency of the ABS system, as it just turned off the brakes every now and then. He specified a different front damper, and putting the standard springs back on it transformed it, and it worked really well. It was a very good car in the wet. But although we took pole position several times, the 911s were stronger than ever in Porsche Club GB racing by then, and we never got a single win with that 928. Our one big chance came at Phoenix Park in Dublin where we looked set to win in the wet, but the sun came out, the circuit dried and I was picked off one by one by a string of 911s.'

Reviewing this particular 928 S4 SE in a *Motor Sport* track test in October 1989 alongside Tony Dron, journo Jeremy Walton describes it as, 'reaching out to the red line with stunning conviction,' and when applying too much throttle, 'discovering in slow corners why nearly every driver has spun this machine,' while using the 'generous brakes too hard, that a 928 loves to oversteer.' He finally declares in reverential tones that he was 'relieved not to have damaged it'.

production series myself, so we know the production racing regs, so it retains its trim, door panels, dash, and in period it wouldn't have raced with carpets and in fact it had chequer-plate on the floor! The rear spoiler was painted white, whereas the production car was black plastic.'

Phil sums up what's been a passion-driven project: 'I've had a lot of fun preparing this car back to its former glory. It remains an important car in the history of the 928, not only the very first SE, the fact that it was pre-production and had many unique features that preceded the production run. The racing history, supported by Porsche Cars GB as an official campaign, and driven by the super-talented Tony Dron, it makes a great story, and will always remain a very special car. As a collector, it ticks a lot of boxes, and its future will be enjoyed in a collection, and used for track days and show events.'

It's been an interesting exercise, driving these two pinnacle-topping examples of the ultimate 928, actually not so very different from one another on the road despite one's racing provenance, and also revealing, in the sense that the SE really does make the 928's land-shark moniker a virile reality. **PW**

“ I've had a lot of fun preparing this car back to its former glory ”

A few other differences on the race car: 'it came without sound deadening on the bonnet and none on the bulkhead either, so, taking into account the chassis number too, it preceded the general production run – no rear wiper, no sound proofing, so, when Porsche GB placed the order for that car and said it was going to be a race car, I think Porsche themselves were adaptable and decided to leave some bits off it, which

whereas all the production cars did, lack of sound deadening on the bonnet and bulkhead, the pre-production gearbox where they'd obviously changed the internals – yet they hadn't got that type of gearbox ready for this car, which the production cars had, and other than the fact it's now got two seats for ease of use, we've tried to replicate it as a production racer. I used to race in the Porsche

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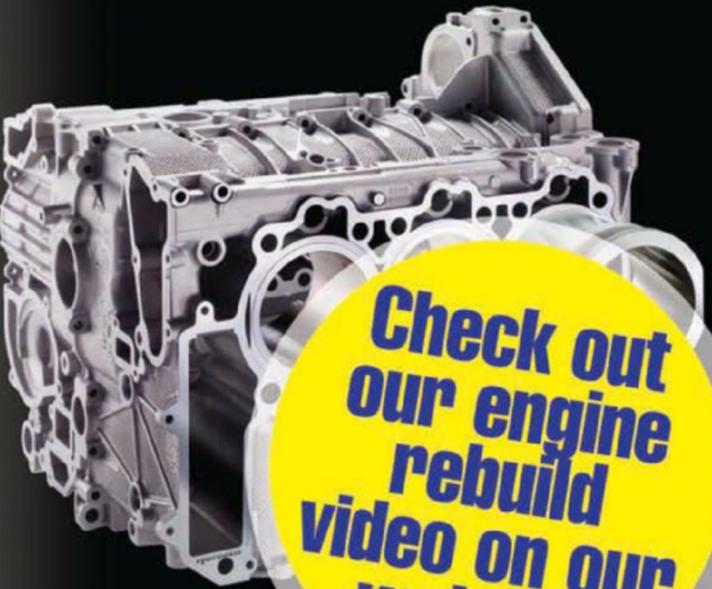
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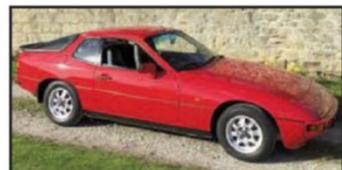
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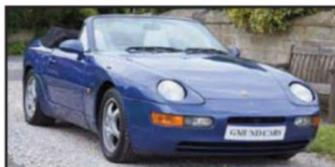
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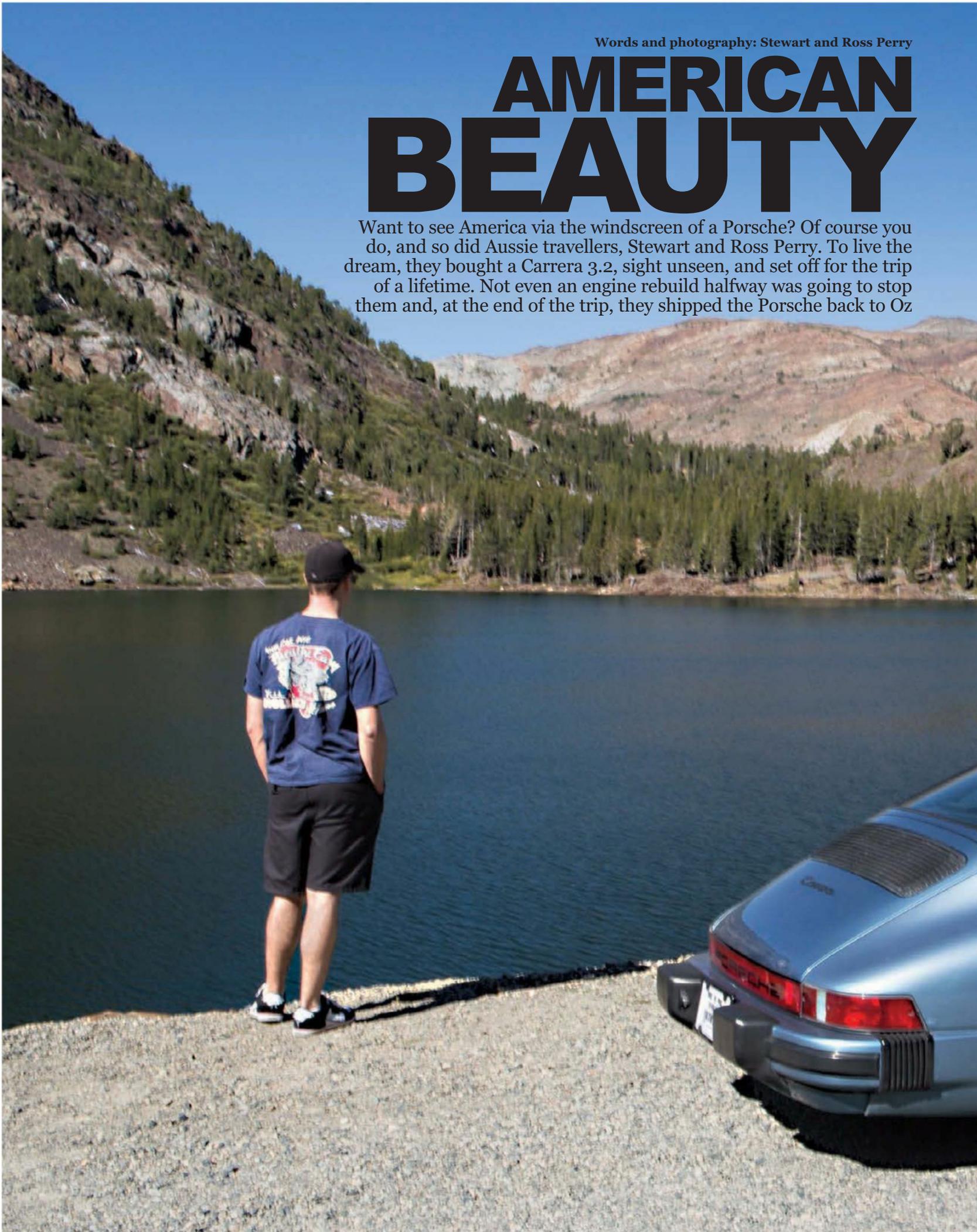


1996 Porsche 993 Coupe, Midnight Blue w/Grey Leather, good spec, cup alloys, £49,995

Words and photography: Stewart and Ross Perry

# AMERICAN BEAUTY

Want to see America via the windscreen of a Porsche? Of course you do, and so did Aussie travellers, Stewart and Ross Perry. To live the dream, they bought a Carrera 3.2, sight unseen, and set off for the trip of a lifetime. Not even an engine rebuild halfway was going to stop them and, at the end of the trip, they shipped the Porsche back to Oz



**T**he short story: two Aussies – that's me, Stewart Perry and my mate, Ross Perry – buy a Porsche Carrera 3.2 unseen in America, for a very long driving adventure. Here's how it panned out!

Ross and I were greeted by a line snaking through the door of Long Beach DMV (Dept of Motor Vehicles). Our taxi driver commented "it's always like this, recently took me five hours" – the last thing we needed after enduring an overnight economy flight from Melbourne to Los Angeles. A mere four hours later, I emerged triumphant with a permit allowing us to drive to Kingman, Arizona. Less stringent registration requirements, the offer of a permit for non-residents with no local address, and the chance to avoid hefty Californian sales tax made registering the car there the obvious choice.

Next stop was the CARS USA warehouse, where the 911 had been hibernating since purchase. It looked exactly like I expected: a neat original Iris Blue 1985 911 3.2 Carrera, with a few little chips and marks, and just over 103,000 miles on the clock. I bought the car sight-unseen via the well-known Porsche forum Pelican Parts. A pre-purchase inspection by a third party was reassuring, but nonetheless it was a relief to see it in the flesh.

I knew in advance the battery was dead, so

we had one waiting at the auto parts store around the corner. Once installed, the Porsche fired straight away, sending a disturbing cloud of oil smoke wafting through the warehouse. But especially after sitting for months, old 911s have a reputation for blowing smoke on start-up and it seemed to vanish within a few miles.

Driving on the 'wrong' side of the road after nearly 30-hours awake was always going to be a challenge, doubly so at rush hour while getting used to the insane merges and eight-lane interchanges LA freeways are famous for. I battled a little with shifting the baulky 915 gearbox with my unaccustomed right hand, but armed with basic directions and a dodgy map Ross directed us unscathed to our Airbnb accommodation in Venice Beach, a quirky little pool house a short stroll from the ocean.

Re-energised, next day we began our sightseeing by heading inland to the world-renowned Nethercutt Collection – an assembly of more than 250 mainly pre-war luxury cars, including an abundance of former Pebble Beach winners, all restored in-house and in pristine order. The public are free to roam the museum, but the best of the collection is housed across the road, only viewed as part of a tour which requires pre-booking. The centrepiece is the Grand Salon, a chandelier-lit sea of marble built to resemble

the ultra-luxury car showrooms of the '20s and '30s and showcasing thirty of the best and rarest cars of the era.

As the tour winds its way up four levels, the focus isn't only cars; amongst other collectibles is a vast array of mechanical music players, all still functional. Many are enthusiastically demonstrated for the audience, particularly impressive being a German-made Orchestrion from around 1900, a completely mechanised automatic orchestra housed in an ornate cabinet.

Back on the Venice foreshore we strolled amidst a vibrant mix of locals and tourists. Giving the tacky souvenir shops a wide berth, we found a cosy bar and sampled our first craft beers and burgers of the trip – set to become a recurring theme.

Day two in LA saw us take iconic Mulholland Drive for a roundabout journey to the Pomona swap meet to check out the vast array of cars and parts for sale, mostly American models from the '50s, '60s and '70s. Next stop was the Getty Center art museum, perched atop a hill and boasting architecture just as imposing as the accompanying superb view of the coastline below. Its varied and fascinating collection of artworks across the centuries could not quite dispel our unease at the intermittent puffs of oil smoke emanating from the 911's exhaust as we idled in the queue to the car park. Disappointingly,





the cruise home on Sunset Boulevard cemented our concern. It became obvious the 911 was not happy, down on power, and running rough.

As a result, we found ourselves first thing the following morning in the car park of the local O'Reilly Auto Parts, engine lid up and newly purchased spark plug spanner in hand. Immediately, we could see cylinders 3 and 6 were burning the bulk of the oil, and our power loss and uneven running had likely been caused by cylinder 6's spark plug being bridged out with carbon build-up. With new plugs installed and a litre of extra oil in the dry sump tank, we crossed our fingers and set off, bound for Las Vegas.

The further we got into Nevada, the hotter it became – unsurprising of course, but all too noticeable in what proved to be the absence of a working air-conditioner. However, the car was running nicely on the highway, despite continuing to use oil, and we spent most of the 300-mile drive to Kingman cruising at 80mph while being overtaken by many locals with less regard for the speed limit than us. Our concerns about another horrific wait at the road transport authority were unfounded. The Arizona Department of Transport team had us out in only 15 minutes, with our 90-day non-resident registration allowing us to drive legally for the rest of the trip, and all for \$15!

In fading sunlight, we finally cruised down

the famous Las Vegas Strip to the Monte Carlo Hotel, our home away from home for the next couple of nights.

Next morning, prior to heading out for a spectacular scenic flight over the Grand Canyon and Hoover dam, I dropped the 911 off to Las Vegas Porsche specialists 'Carl's Place' to have the oil swapped over to a Brad Penn 20W50 – apparently successful in stemming oil consumption according to the experiences of other 911 owners whose cars had been sitting for some time. Naturally, during the day and a half it was at the shop the car didn't blow any smoke at all, but as soon as I fired it up to leave we were again in a blue haze.

Having picked up yet more oil and a number-plate frame to mount our permit more unobtrusively, we hit the road again, setting a course for Mammoth Lakes via the Death Valley National Park. Descending into the Valley, the temperature rose, and rose, and rose again. Stopping for a sandwich at the aptly named Furnace Creek General Store, the roadside thermometer showed 116 degrees F (46.5 deg C) and the adjacent sign informed us we were 190 feet below sea level.

It was a journey that offered stark contrasts, passing from the sea of arid sand broken up by little green shrubs of the Nevada Desert to the total desolation of Death Valley, emerging

into green valleys surrounded by tall hills near Lone Pine and finally some serious mountains. In all, we climbed almost 8000 feet that afternoon.

Continuing the following day via Yosemite National Park (more stunning scenery that really deserved a longer look) and Oakdale (lunch and a further critical oil top up) we drove through a glorious afternoon to arrive at Pebble Beach. Here we set up camp at Laguna Seca raceway, to experience Monterey's 'Ultimate Car Week'.

The Week offers something for everyone, and for all budgets. The highlight for us was 'The Quail – A Motorsports Gathering', an intimate 200-car show centred on '50s and '60s sports and racing cars (including a class for pre-'65 Porsches, though these features vary each year). With very limited tickets sold, inclusive of amazing food and drinks, it was far from crowded. On the same day, two miles down the road, we also dropped in on the 'Werks Reunion', a free event with 1500 Porsches on show.

Laguna Seca Motorsports reunion provided yet another great day out. A feature race celebrating 50 years of the Shelby GT350 saw almost 40 '65 and '66 Shelbys hit the track, including one all the way from back home in Australia! This was followed by a race of Le Mans and GT cars from the '80s and '90s, backed up by a sports car race with

Left: Removing months of dust after collecting our Carrera 3.2 from storage. Above: Skater at Venice Beach

Below left: Getty Center tram overlooking one of LA's many freeways. Below: A trouble shooting spark plug change





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Porsche 935s against big block, wide body C3 Corvettes... You get the idea.

Car Week festivities culminate on Sunday with the Pebble Beach Concours d'Elegance. Ross and I left our Porsche in the back-blocks and jumped on the shuttle bus. As we descended the steps, the vista of the bay spread before us, with a light fog hiding a couple of mega-yachts; a few steps further on, the cars appeared, a sea of beautiful pre-war machines, encircled by a line of coach-built Ferraris and a smattering of other exotica. But all good things must come to an end, and it was time for us to revert to more general sightseeing around San Francisco Bay.

With oil consumption unabated, or rather worsening, we were fearful for the health of the 911's engine, so first stop was to deliver it to Don Wise's Autowerks in San Jose for a compression and leak down test to diagnose the root cause.

Jumping into a hired Toyota Yaris, we headed off to catch a pre-booked ferry for Alcatraz Island. A short walk up the hill from the dock is the infamous cell block. Audio

guides with commentary recorded by former guards and prisoners steer visitors around the site and recount intriguing true stories of daring escape attempts. It was also fascinating to learn about the Native American occupation of the island for 19 months from 1969–1971, part of an ultimately successful land rights protest.

Back on the mainland we ascended the Coit Tower for 360 degree views of the area, before walking across town for a closer look at the famous Lombard Street, which boasts eight hairpin bends in only one block. Then on to Fisherman's Wharf for a freshly caught dinner before crossing the massive span of the Golden Gate, north to San Rafael, our base for the duration of this leg of our holiday.

The next day began with a quick stop at the renowned Cable Car Museum, which also houses the maintenance workshop and cable powerhouse. The museum explains the importance of this iconic mode of transport to the development of San Francisco, as well as the dramatic story behind its survival in the face of a number of government shut down attempts.

Continuing the historical theme, we checked out the Computer History Museum in Mountain View – admittedly chosen mainly for its convenient location for reclaiming the Porsche, but unexpectedly fascinating and worthy of a longer visit. This amazing collection contains everything from a Babbage Difference Engine to a working IBM 1401 – an early mainframe launched in 1959 – which volunteers have spent 20,000 hours restoring to running condition.

About 3:30pm the call came in. "Not good news I'm afraid," Don told me. The valve guides in my engine were completely worn out, with significant leak down on cylinder no 3; the only course of action would be a top end rebuild. Noting that he couldn't do it for at least a month, Don suggested names of good Porsche technicians in Portland – our next destination.

Nothing for it in the meantime but to continue with our itinerary as best we could. Next morning we drove out to the Napa Valley, nursing the sickly Porsche. We were taken aback at how many wineries wanted hefty fees for tastings, but a quick Google

Left: The Hoover Dam, which was once the world's largest concrete structure. Above top: Somewhere in Nevada. Above: A quick break after climbing Towne Pass, also known as Death Valley National Pass

Below left: Stunning 906 at The Quail, with an extensive racing past. Below: As you would expect, no shortage of 356s





## SO YOU WANT TO DO THE TRIP? HERE'S HOW

### Registration, Insurance and Shipping

We had the Porsche stored at CARS USA's facility in Long Beach, California prior to our arrival. They also specialise in worldwide freighting of collector cars. A one-trip permit from the California DMV for US\$20 allowed us to drive legally to Arizona to obtain registration.

We registered in Arizona because they have attractive taxation rules on used cars purchased from a private seller. For US\$15 they also offer 90-day registration, available to non-US citizens and valid in all states. You must have photo-ID and arrange Arizona insurance to qualify.

The insurance requires an in-state postal address – we used a friend's in Phoenix.

Farmers Insurance broker, Rex Townsend, arranged the necessary cover for just over US\$100 per week.

We shipped our car home with Melbourne-based company AMEROZ Imports.

### Contact Details:

Arizona Department of Transport – [azdot.gov](http://azdot.gov) – search 'Arizona 90 day registration' for details

AMEROZ Imports: [ameroz.com.au](http://ameroz.com.au)

CARS USA: [carsusa.com](http://carsusa.com)

Farmers Insurance: [farmersagent.com/rtownsend](http://farmersagent.com/rtownsend)

found a few with free samples plus a great little brewery to visit. The Jacuzzi Winery, owned by the family who invented the spa pumps of the same name, was a highlight and boasted an impressive display of early pumps near the bathrooms.

As Ross drove, I chatted to a couple of recommended Porsche shops in Portland to see if any could complete a quick top end rebuild. I got onto Kurt at Marque Motors, who thought he could turn it around in one to two weeks, and could start the job the day after tomorrow. So that became the plan, and 630 miles of uneventful driving north on the I-5

saw us arrive in uptown Portland just on dark the following evening.

Dropping the car at the shop first thing, our Portland hosts (friends recently moved from Melbourne) then drove us out to Astoria, a small coastal town formerly famous for its fish canneries and about ninety minutes by road. We lunched in the local brewery with sea lions visible through the glass floor, toured the maritime museum and explored the beach in the local state park.

Before leaving Australia we had booked to race my 911 in the Porsche Club of America's Portland autocross. Despite not

being able to run we went along to watch, and learning of our problems, the event organiser arranged track rides with some of the regulars. We scored spins in an '84 Carrera, a brand new Cayman GTS, and a 914. The field was only about half Porsches, the rest being an eclectic mix featuring a brand new Mustang, a 240Z, an early '90s Mazda MX-5, and plenty of WRXs.

The autocross finished up mid-afternoon, which, naturally, led to an impromptu brewery tour. Portland is known for its beers, with over 60 breweries within the city limits serving a population of merely 600,000. We managed

Above: Peaceful sunrise before the racers hit the track at Laguna Seca. Below: PCA Portland Autocross. Below right: Spitfire at Flying Heritage Collection





to visit four of them on the way back uptown. Now lacking a means of transport, we were forced into a rental car to continue our road trip – albeit with an unplanned loop back to Portland at a later date – and ended up with the antithesis of the Porsche: a plain, white, automatic Toyota Camry. Back home, such vehicles are nicknamed ‘whitegoods on wheels’, and it certainly lived up to that reputation, proving extremely adequate but not in the slightest bit exciting. Undoubtedly though, it was a plus to have working A/C and a stereo that could be clearly heard at highway speeds. We acclimatised to its ‘performance’ on a run to Columbia River Gorge national scenic area to check out Vista House, an observatory and pioneer memorial with extensive views of the river in both directions and impressive nearby waterfalls.

Later we popped into Marque Motors to check the progress of the 911. The engine was out and stripped of accessories and oil build-up in cylinders number 3 and 6 exhaust ports was plain to see. But with the heads yet to come off I was still worried about the condition of the cylinders – incredibly expensive to replace if damaged.

On the road once more next day and reaching Seattle mid-afternoon, we considered gaining a bird’s eye view from the prominent ‘space needle’ but were a little put off by the price tag, instead hiking via the Olympic Sculpture Park up to Kerry Park to take in a similar vista for free.

Seattle has a rich history in aviation and technology, as the home of Boeing and Microsoft among others. Tying these two together is the The Flying Heritage collection, a unique aviation museum established by Microsoft co-founder Paul Allen and featuring an extensive collection of warbirds, most airworthy and regularly flown. We unfortunately didn’t witness an aerial demonstration, but did see a Focke-Wulf FW190 being test-run on the Tarmac in preparation for an upcoming Luftwaffe display. The roar from the open exhausts of its 14 cylinder BMW radial engine was brutal. A tour of the Boeing factory was also impressive, for sheer size and number of planes churned out.

Day three was dedicated to the Museum of Flight. If you had to pick only one aviation activity in Seattle, this should be it! The display takes visitors through the history of flight from the Wright brothers to modern day space exploration, not only detailing the machines and technology, but also fascinating stories of the pioneers of the industry.

Driving north from Seattle we crossed into Canada, destination Whistler, for a weekend with a friend who had moved from Australia to follow the snow. Being the end of summer, however, the current focus was on mountain biking, river rafting and hiking.

So far we’d been exceptionally lucky with the weather, but the forecast was abominable and, sure enough, as we climbed into the hills, the rain set in completely eclipsing the

renowned mountain scenery. For the next 48 hours we managed to dodge enough showers for quick hikes to the stunning Nairn Falls near the quaint little town of Pemberton, and the remains of a train derailed in 1956 on the Cheakamus River. Seven carriages had been dragged clear of the tracks using logging machines and left to be enveloped by the forest, for many years forming part of a challenging mountain bike track but now acting as canvases for an impressive array of street art.

Back over the USA border, we stopped off at America’s Car Museum, an expansive purpose-built facility on the edge of downtown Tacoma. The extraordinary open-span first floor houses guest collections which are regularly changed; during our visit American Muscle cars and early Ford F trucks featured. The rest of the collection, spread across four floors, is dedicated to a wide range of mostly American cars from the 1920s through to the 1970s, with a smattering of international marques as well.

Upon reaching Portland once more, we immediately checked on the 911, finding the engine assembled and almost fully dressed but not yet back in the car. An earlier call had eased my mind somewhat, by confirming that the cylinders remained in good condition, needing only a hone and new rings. In the end it took another couple of days to reclaim the Porsche, as the shop insisted on thorough testing of their workmanship – 100 miles and

Above left: Muscle cars at America’s Car Museum  
Above: Rebuilt engine almost ready to be refitted at Marque Motors, Portland

Below left: Anxiously awaiting a refreshed power train  
Below: Dilapidated cars and trucks were a common roadside feature



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### Specifications

1985 Porsche 911 Carrera 3.2 Coupe  
 3.2 litre air cooled horizontally opposed 6 cylinder – (California emissions spec) 200hp @5900rpm  
 5 speed manual transmission model '915'  
 0–100km/h: 6.3 seconds  
 Top Speed: 146mph  
 Weight: 1260kg

### History

Delivered to its first owner in Thousand Oaks, California, in 1985, this car served as a daily driver until 1991 before being sold to a Porsche Club America member in Bellevue, Washington with 70,000 miles on the clock. Over the next twenty years it was used sparingly, having a second owner in the Bellevue region before moving back to LA in September 2014. I purchased the car in January 2017.

### What was using a Carrera 3.2 like for this sort of trip?

We did 5000 miles in the 911 in the three weeks we had it during the trip. The car was completely stock standard. Fuel economy was impressive with an overall average of 10.5L per 100km (27mpg), particularly considering we weighed in at a hefty 1590kg all told. The driving we did was mixed, including around town, on the freeways at speeds up to 80mph, and of course traversing as many twisty roads and mountain passes as we

could find where the throttle was used liberally.

At 6 feet tall I found the driving position with the standard seat and steering wheel to be uncomfortable at times; I couldn't be close enough to the wheel without it interfering with my legs and there is no tilt or reach adjustment. Ross is not quite as tall (5'9") and was better suited, but still would prefer the wheel a little closer. A lack of spare headroom (not an issue on the street) will be problematic with a helmet at the track as the seats do not adjust low enough. Another gripe was that we both struggled to comfortably 'heel and toe', the throttle pedal being relatively low compared to the brake pedal, though this may be improved by adjustment. There were also a few minor ergonomic blunders in the ancillary controls – I'll never understand why they put the cruise control stalk directly behind the wipers, or how a HVAC system can need so many knobs and levers! We were however impressed that everything, aside from the air conditioning and the poorly installed aftermarket stereo, still worked faultlessly in this 32-year-old car.

Beyond these minor criticisms, the car certainly lived up to its reputation (and my expectations) – most importantly the balanced handling, beautiful direct steering feel, and punchy mid-range made the mountain passes enthralling; while the low rpm driveability and strong high speed cruising ability made all types of traffic a breeze. Luggage space was tight but adequate, as we made use of the folded back seats – had we not taken camping gear there would have been ample room.

two more heat cycles – before handing it over. But two weeks for an entire top end engine rebuild is pretty amazing, when you think about how many individual tasks are involved, especially with very short notice.

After being Porscheless all this time, Ross and I were itching to drive as many challenging roads as possible before we shipped the car home, and carefully planned our amended route with this in mind. Brimming the tank, we headed out through the double joy of a rainstorm and peak hour Friday afternoon traffic. With our newly rebuilt engine, we made sure to vary RPM and engine load to seat the rings fully. Checking

the engine carefully at our dinner stop, we found no leaks or cause for concern. By the time we pulled into the hotel at Bend, Oregon, on the edge of the Cascade Range, we had covered 180 trouble-free miles and the car wasn't using any oil or blowing any smoke – hallelujah!

The following morning saw us heading south-west, traversing Willamette National Forest on our way to our overnight stop at Yreka – a long day's travel yielding many miles of winding roads, along with spectacular and varied scenery ranging from deepest forest to high elevation desert, majestic rivers and Crater Lake, the deepest in the USA.

Sunday kicked off with 200 miles of smooth, fast-sweeping corners in the glorious Californian sun. We drove a loop from Yreka to Redding via Happy Camp, hands-down our favourite road of the trip with great views, a good surface and almost no traffic. Our journey paused in Chico, home of the world famous Sierra Nevada Brewery – instrumental in the craft beer revolution.

There followed, over the next couple of days, countless mountains, lakes and curves. First, a run through the Plumas National Forest to Quincy and Lake Tahoe, all good roads but hampered by Labor Day holiday traffic. Subsequently, Highway 89 took us

Below left: As many twisty roads as possible to make up for being without a Porsche for two weeks

Middle: Working in the parts store car park has its benefits – mainly access to parts  
 Below: Chance meeting with some fellow Aussies and their Fiat Spiders on Pacific Coast Highway





Above: Big Creek Bridge on the exceptionally scenic Highway 1  
Right: Climbing to the Griffith Observatory for a view over LA

down to the 395, the route to Loopie, great but very busy with cyclists. Then Highway 108 over the Sonora Pass, the Tarmac tight and narrow but beautiful, winding all the way up to 9624ft and back down gain.

We had been monitoring the health of new front tyres fitted to the Porsche in Portland and now observed the inside shoulders scrubbing off noticeably. Exiting to Sonora for a quick wheel alignment check, more unexpected and concerning news emerged. The tie rod ends were worn and the wheel bearings loose (particularly the front right). The tyre shop judged there was no point trying to adjust the alignment in its current state and didn't recommend driving all the way to LA.

Re-inspecting the bearings and tie rods closely ourselves, we found them maybe slightly loose but not too bad – the shop's diagnosis seemed a little alarmist. Nonetheless we decided we had better do something about the front right bearing at least, as the penalty for failure can be extremely high. The bearings were not getting warm, a good sign, and we made it safely to the next auto parts shop – O'Reilly's in Oakdale. Again, the team at O'Reilly's were great; they sold me the tools I needed, a new set of wheel bearings and grease, and actively encouraged me to work in their car park as well as clean up afterwards in the staff bathroom. Out with the jack (which works really well – thanks, Porsche) and the car was in the air above the many oil stains bearing

witness to previous car park maintenance efforts. Luckily, when removed, the bearings proved to be in good shape and with a re-grease and adjustment behaved perfectly for the remainder of the trip.

The ensuing days saw us continue south from Monterey on the spectacular Pacific Coast Highway (Route 1). Traversing the rugged coastline around Big Sur we whizzed by stands of stately redwoods, along with what seemed like every convertible Mustang and Camaro rental car in the USA. At one

looking for an opportunity to take some rolling shots of the Porsche from another car, but being without the 911 both times when staying with friends, we were almost ready to put it on a ship with the job not done. So I placed a post on Pelican Parts asking if any 'Pelicans' in the LA area could help us out, resulting in our meeting Jim and his Carrera 3.2 Targa at Griffith Park Observatory in the early evening. Jim popped the top out, and with Ross kneeling backwards in the passenger seat gripping roll bar and camera simultaneously,

## “ We rounded off with a final cruise down Mulholland Drive ”

point we spotted four identical bright yellow Camaros parked next to each other outside a single café.

The road opened up a little as we approached San Simeon, and we pulled off to make our final tourist visit – to the famed Hearst Castle, a lavish mansion poised on a hill and home to magnificent architecture, art collection and history. The castle was constructed as a retreat by multi-millionaire newspaperman and recluse William Randolph Hearst between 1919 and 1947, before opening to the public as a museum in 1958.

Throughout our holiday we had been

we dodged rental cars up and down the hill to get some spectacular shots. We rounded off our American experience appropriately by watching our first NFL game at a bar, followed by a final cruise down Mulholland Drive under the stars.

Receiving a warm welcome back at the CARS USA warehouse, from whence we had departed five weeks previously, we chatted about our trip...and the unexpected engine rebuild...then spent a couple of hours packing the 911 chock full of spare parts before dropping it off at the shipping yard for its final long journey back to Australia. **PW**

Below: City of Angels by night – looking out from Mulholland Drive. It's a spectacular view





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Words: Johnny Tipler Photography: Antony Fraser

# REINING IN THE HORSES

Just how extreme can a road car get before it belongs on the track? This 600-horsepower 993 GT2 Evo comes close, yet it has an amazingly docile temperament, too

**C**razy horses! 600 of 'em, straining at the bit to haul this 993 GT2 Evo all the way to the horizon. But this stallion is no wild mustang; rather, a schooled showjumper of the breeds favoured by cavalymen or bullfighters. And that's fitting, because it is literally horses-for-courses around here: the Warendorf region is the equestrian capital of Germany, and our Porsche's Stuttgart coat-of-arms is right at home.

We're being treated to an outing just down the road by Thomas Schmitz, RS specialist extraordinaire, in the mellow north German countryside surrounding his Telgte base. Thomas's stable is packed with a mouth-watering array of 964 RSs and 993 RSs, plus a couple of 997 GT3s and 944 Cup Car, and it's something of a wrench to tear myself away from his top-line air-cooled feast to take a ride in the fastest of them all, the 993 GT2 Evo. Having driven a trackable Club Sport version in the Yorkshire Dales in 2016, I'm anticipating an uncompromising ride, where it's actually me that has to

compromise on account of an austere cabin, hard ride and massive mechanical soundtrack. I'm wrong. The Evo that I'm out in now is not like that at all. Sure, it's got a fearsome clutch, but nothing you wouldn't quickly come to terms with.

But first, before we take that ride, let's nail down some history and spec. In the first place, Porsche brought in the 993 GT2 racing car in 1995 to contest the GT2 category of the BRP Global Endurance series and the subsequent FIA GT Championship for 1997, with Rook Racing taking the GT2 honours in '96 and finishing runners-up in '97. So, the water-cooled revolution was already two years old when Porsche created this fabulous machine, making the 993 GT2 Evo the air-cooled swansong. But what a culmination: the Evo is the Evo to end all others, the most powerful incarnation of the air-cooled 911s – but better be wary when those twin turbos spin into action. Only 172 units of the 993 GT2 were produced, of which 30 were GT2 Club Sports, and this particular car is a street-legal evolution of that, one of only 21 road cars built in 1998. Thomas

qualifies the model's progression: 'When they came out in '95, the early GT2 race car was very similar to the GT2 Cup Cars, with carbon-fibre wings and carbon-fibre bonnets, and a lot of different parts, and the Club Sport was more or less a modified race car. But the evolution models were quite different: the Evos are rear-wheel drive Turbos with some lightweight parts and wheel arch extensions. One car was kept by the Porsche family for Wolfgang Porsche, and of the 21 Evos built, we have had 12 pass through here.' Indeed, Thomas has a second Evo in his showroom, in white, which has covered only 20,700kms.

The Evo is some 200kg (441lb) lighter than the 993 Turbo. The power unit is the 3.6-litre, two-valves-per-cylinder flat-six, developing a whopping 600bhp, an astonishing gain over the normal 430bhp of the 993 Turbo unit. With its boost pressure raised from 0.8- to 0.9-bar, it's good for 187mph and 0–60 in 3.3sec. The

It may be a wild thing, but this 993 GT2 looks surprisingly subtle in Ocean Blue Metallic, one of only two supplied as such



drivetrain incorporates the six-speed gearbox, but open the spoiled lid and the contents of the engine bay are rendered invisible by the vast intercooler that occupies the upper portion of the engine bay as well as the inside of the engine lid.

Finished in Ocean Blue Metallic, our test car is one of only two made in that hue. In the sunshine, the colour changes from dark blue to mid blue to metallic blue with some kind of greenish iridescence,

depending on the angle you look at it. It is gorgeous, a thing of beauty, and the hunkiest incarnation of the air-cooled 911 – and that in itself is a matter of some poignancy: there would never be another one. Stylistically, the remarkable aspects of the GT2 include the two tall grilles for the oil coolers in the front valance, a pair of ducts to cool the brakes, and another couple of grilles on either side for dissipating heat from the nose. The front

splitter with its side fins, and the add-on wheelarch flares give the GT2 its purposeful stance. The bulbous wheelarches are attached by Allen screws, seven each for the front ones and eight on the rears, augmenting the body width by 30mm at each corner, cladding 235/40ZR x 18 and 285/35ZR x 18 Continentals on 9in and 11in five-spoke Speedline split-rim wheels. The practical point of the extensions was that they could be



Unlike today's GT Porsches, Porsche had to build the 993 GT2 to homologate it for sports car racing. Hence all the arches, wings, engine and transmission are designed to serve a purpose on track

replaced more efficiently than panel beating in the event of an on-track altercation, not unlike the 934 of two decades earlier, though in practice they could be construed as a cosmetic conceit, albeit a rather sexy one. Cup mirrors are to be expected, but that bi-plane rear wing with its triangular air scoops is as prominent a declaration of intent as any. One thing's for sure, it dominates the prospect in the rear-view mirror. As for ride, the Evo is less uncompromising than the raw Club Sport, though still solid bushed and adjustable in a racing context. As Thomas points out, 'the 993 GT2 is an homologation model that was built to get the GT2 cars into racing, so everything that was put on to it has a reason: the rear spoiler, the wheelarch extensions, and it may look a bit show-off, but actually it's not like modern super cars, even the Porsche 991 GT3 RS, but the additions to the bodywork are due to the fact that more power and more speed means that you need a lot of aerodynamic helpers, especially in a car with a rear-mounted engine. So, supercars get more and more dramatic these days, but mainly for functional reasons.'

There's been a bit of to-ing and fro-ing regarding the car's ownership. Thomas bought it from its first owner, a Porsche VIP customer who'd also owned two 911 GT1s and raced at Le Mans and the FIA GT series

in the multi-coloured Krauss Motorsport GT2. 'This was just a car from his personal collection,' Thomas tells us, 'which he used on the road, and we have every piece of paper from the bill of sale onwards, including service invoices.' Thomas then sold the car to British enthusiast Graeme Langford. 'He had it for a while, and sold it back to me. We have all the paperwork from him, too. He actually bought it to use it as a trackday car, but then he decided it was too nice for track work, so it sat in his collection, and he drove it to Classic Le Mans one time. And then we sold it to the President of

that was it, and it's free from any kind of accidents, and in extremely nice condition.'

Quite so. It might have been acceptable to indulge in a certain amount of track work a decade or so ago, but this really is a gem, and while I know one or two maverick collectors who'd gladly shake it on down on a circuit session, it is on that cusp of hobby car and a piece of artwork. Like the thoroughbred it is, it merits mollycoddling. Thomas delivers a little context: 'It is a highly underrated car; it's so quick, and in Germany now GT2s are legal for what we call the YoungTimer Trophy, so this is in between

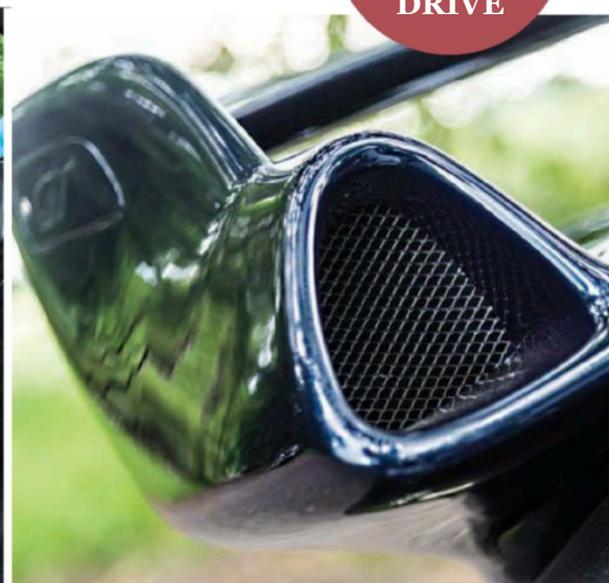
“ The 993 GT2 is a homologation car, so it is built for a purpose ”

the French Porsche club, and then I bought it back, and since then it's been my personal car. But I've done almost zero miles in it, as I just don't have the time. So, it's only done 36,900km, and clearly no competition work. The French gentleman was the same, he had it more as a collector's piece and as a hobby driver to Porsche club meetings. I drove it twice to the Porsche centre for a service, and in the countryside a little bit, and

classic racing and modern racing. Many of these races take place on the old Nürburgring Nordschleife, and these cars are very quick and so competitive, and if they are well maintained they are very reliable. They are nicely balanced, so up to a certain level they are quite easy to drive quickly, and I have been in Assen in Holland to test another one, and I could do the same lap times as a 993 Carrera Cup car. It's a very

Below: Stunning split-rim Speedlines. Thomas Schmitz. For now the 993 GT2 is his personal car





## DEALER PRINCIPLES

Thomas Schmitz has always operated at the high end of the 964 RS and 993 RS market, and he has stuck resolutely to his principles, to the exclusion of most modern Porsche bolides. 'To me, water-cooled Porsche cars are not 911s anymore; they are still Porsches, but the 911 era ended after the 993. This is my personal opinion, don't get me wrong – the 996, 997, they are still Porsches, but they are not 911s. Obviously I look to the future as much as I can, but I am not really a fan of the water-cooled cars. They drive very nicely, they are very quick, but my heart is with the air-cooled cars. The cars from the '90s combine the best of two worlds. You still have the classic 911 feel like you have with the earlier 911s, and you have the nice shape, and they are small cars, which I like very much, and everything about them is very high quality; they are well-made and robust, and you don't have the problems the cars from the '60s and '70s suffer from; there's very little corrosion, very good brakes, very good suspension. You don't have modern comfort levels like air conditioning and power windows, but who needs that, as a hobby car? As a daily driver, if you're running in

traffic all day long, then you need nice music, sat-nav and all this, but as a car in which to enjoy driving they are perfect.

I have customers who've not been into these cars before, and some of them are between 25 and 35-years old, and they always ask, "why do you like these cars, why do you like the 964 RS that much?" and I say it's because they are so pure and the car talks to you: if you do something wrong, it tells you, no, wrong braking point, wrong turn in point, and if you do something right you feel it, while with modern cars you are a little bit removed from what's really happening; there is a big filter, and for people who can't understand this, I try to explain to them, it's a little bit like sex with a condom or sex without a condom: in the 964 RS you feel everything, it's very pure, while in the modern 991 you have all these electronic helpers, and it all works very well, but you are a little bit disconnected, so for people who really want to enjoy the car and experience what real driving is about, these are the cars to go for, while if you want a daily driver they are probably not the right cars to go for.'

good car to drive, and reasonably priced.'

Is that so? Well, we can't drive a car like this and avoid touching on the question of its value. In 2012 at RM Auctions in London a road-going GT2 went for £324,000, and a Club Sport model from the Trundle family collection went for \$357K (£228K). By autumn that year one was on offer at £620K – though it may not have reached that. Then, in 2013 at Gooding & Co's Pebble Beach auction a GT2 Club Sport sold for \$506K; so, in three years they have trebled in price. It's not as if buyers are few and far

between at these sorts of prices; at Sotheby's in 2016 a low miles GT2 made £1.8m; three competing buyers pushed it to £1m over estimate. Any discussion on price has to be with Thomas Schmitz, but being extremely rare and in top class condition, it will be expensive.

Given his dedication to the latter day air-cooled 911s, does Thomas have a personal preference for the 964 or 993? 'If it comes down to the RS models, I personally love the 964 RS more than the 993 RS, and I felt that strongly ten years ago. Since then the

gap gets narrower as I get older, because the 993 is more comfortable, but I still prefer the 964 RS. The 993 RS is very nice, but if I had to choose a 993, then for me the GT2 is the one to have. Of course, it's much more expensive but it's so much more exciting and so much more powerful, and so much rarer of course. So, it is the 964 RS and the 993 GT2. Some people say the 964 Turbo S is the ultimate 964, and it's a very nice car, but to drive, the 964 RS is more fun than a 964 Turbo S. Of course, the 964 Turbo 3.6 is a very good car to drive, relatively rare,

*Sitting with just the right stance, the 993 GT2 was the official last hurrah for the air-cooled 911, racing on as the water-cooled Boxster and then 996 arrived*





If you have to ask, you probably can't afford it. Prices for 993 GT2s have been pushing over the £1m mark of late

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and much better than a normal 964 Turbo 3.3 – a totally different car, while the last of the 993 Turbos with 450bhp is a very interesting car; too comfortable for me, or the 993 Turbo S, which is more or less a limited luxury version of the Turbo, also a great car, but in the 993 range, nothing compares with the GT2 from my point of view. And that also applies to the race cars, the 993 GT2 race car was such a competitive car, and they won their class at Le Mans several times, though they are expensive to run.'

Its race-bred heritage doesn't necessarily compromise on-road usability though. 'On a long run you can drive it with or without the turbo boost, depending whether you want to go really quickly or not. And what I like so much about it is that it is a very light car and a relatively simple car. You don't have the Mickey Mouse four-wheel drive that you have in the normal 993 Turbo: it feels light, and it behaves like a lightweight car and if you want a comfortable ride coast to coast it can give you that, and if you want to go seriously quick you can do that, too, and you can also go on track if you want to, apart from the high value these days. A lot of modern supercars have a very harsh ride, but this 993's suspension is reasonably comfortable.'

That's absolutely true. As I motor away

from Telgte into the rural woodlands it is completely compliant, docile, apart from that clutch, which, till I put my foot down, is the only sharp reminder that this is not a normal 993. The seats are wonderfully supportive, and the belts are simply lap-and-diagonal, in matching blue, along with the RS-style door pulls, while the wheel is agreeably Alcantara rimmed. Considering its spec, it hides its light under a bushel, presenting as a mild-mannered car, sharpish on the clutch but responsive on the throttle, and easy to drive.

the lines through the corners enough to appreciate how much power to apply, getting bolder with every one. There's no turbo lag – it's instant forward motion once the throttle's pressed. Turn-in is sharp and accurate, aided by negative camber and despite the size of the front tyres. The slightest steering input and it goes where I point it. When it's revved up there's an amazing release of power and the front end seems to want to wash away – as in understeer – so it's got to

“ Its race bred heritage doesn't compromise on-road useability ”

That is, until I apply pressure with my Pilotis, and it takes off like a startled stallion! Woah there...! Now, we knew that was going to happen, didn't we? Like horse sh\*t off a shovel! So, a little more deference with the accelerator, and we'll build up to this. On these forested by-ways there are long enough straights to experience the seriously rapid acceleration, and doing posed turnarounds for my cameraman I've learned

be handled very circumspectly under power in fast bends.

Ironically, it's real-life horses that brings us back to reality: as I say, the Telgte and Warendorf area is equine heaven, and we encounter a posse of riders, reining in our back-road bash to walking pace. Horsepower assumes a different slant as the GG-forces take over. Still, this is one 993 I wouldn't mind being saddled with. **PW**



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## NO BEATING AROUND THE BUSH

'Our' 944S2 trackday car, first seen a few months ago being equipped with lightweight sound-deadening material after the interior trim had been stripped out, is undergoing a full suspension overhaul as well, and for the primary stage in that process is benefiting from the installation of Powerflex polyurethane bushes. This month it's the front end we're looking at, with the rear to follow soon. Story and photographs by Chris Horton



**S**ome good, old-fashioned spanning for our how-to this month – on a good (and relatively), old-fashioned Porsche. To wit, replacing the standard metal-and-rubber front suspension bushes in a 1990 944S2, with uprated polyurethane items made by Powerflex. The process is just one element of an on-going conversion intended primarily for trackday use (see the July 2017 issue to find out how we previously installed some lightweight Dynamat sound-deadening material). But at the same time it usefully illustrates a number of techniques and possible problems that now apply to many of these still hugely practical and deservedly popular transaxle cars.

It's genuine, old-school DIY stuff, too. We've pictured the vehicle, a limited-budget joint venture between Rob Nugent and Rob(in) Hayers, two of the technicians at BS Motorsport in Buckinghamshire, on a wheel-free lift, because being able to make use of

that is one of the natural and undeniably valuable perks of their jobs (it makes the photography a great deal easier, too), but it is entirely feasible to tackle the work on axle-stands if you have to. Needless to say, always make absolutely sure that any car you are working on is adequately and safely supported before you even think about venturing beneath it.

Essentially, you will be removing and later refitting the two lower suspension arms and the single transverse anti-roll bar, together with the so-called drop links securing the ends of the bar to said arms. (We shall be covering the necessarily rather more complicated rear-suspension overhaul, again with Powerflex bushes, within the next few months.) Few, if any, special tools are required, although extracting certain of the original metal-and-

rubber bushes does require the seemingly rather brutal use of some pretty basic weaponry. The good news is that the new bushes are by design fitted by hand alone – and if necessary subsequently removed in entirely the same way.

We did, however, encounter one or two minor 'issues' during the job – and knowing in advance about those should make your own experience of it quite a lot easier.

### THE KNOWLEDGE

The bushes at the front end of the 944's lower suspension arms are of a type used throughout the motor industry for many years. You often hear them referred to as metalastic bushes, although strictly speaking this was a trade name (originally Metalastik) that has become a generic, like Hoover. They consist, in very simple terms, of a steel outer tube which is a tight press fit in the arm (or whatever), and a steel inner sleeve through which passes the mounting bolt. Between them – and chemically bonded to each metallic surface – is a layer of a special synthetic rubber designed to allow a specified amount of rotational movement as the arm pivots to follow the road surface.

Generally speaking, the key to removing bushes of this nature is first to extract both the

central metal tube and the rubber, usually by destroying the latter's structural integrity with the flame from a gas torch. (And from which it will be obvious that the bush cannot be used again.) This allows a hacksaw blade to be passed through the outer tube, reconnected to its frame, and then used to make a cut almost, but crucially not quite, through the length of the tube. This should weaken it sufficiently that it can then be chiselled inward on itself, and thus quite easily removed from the 'eye' of the arm.

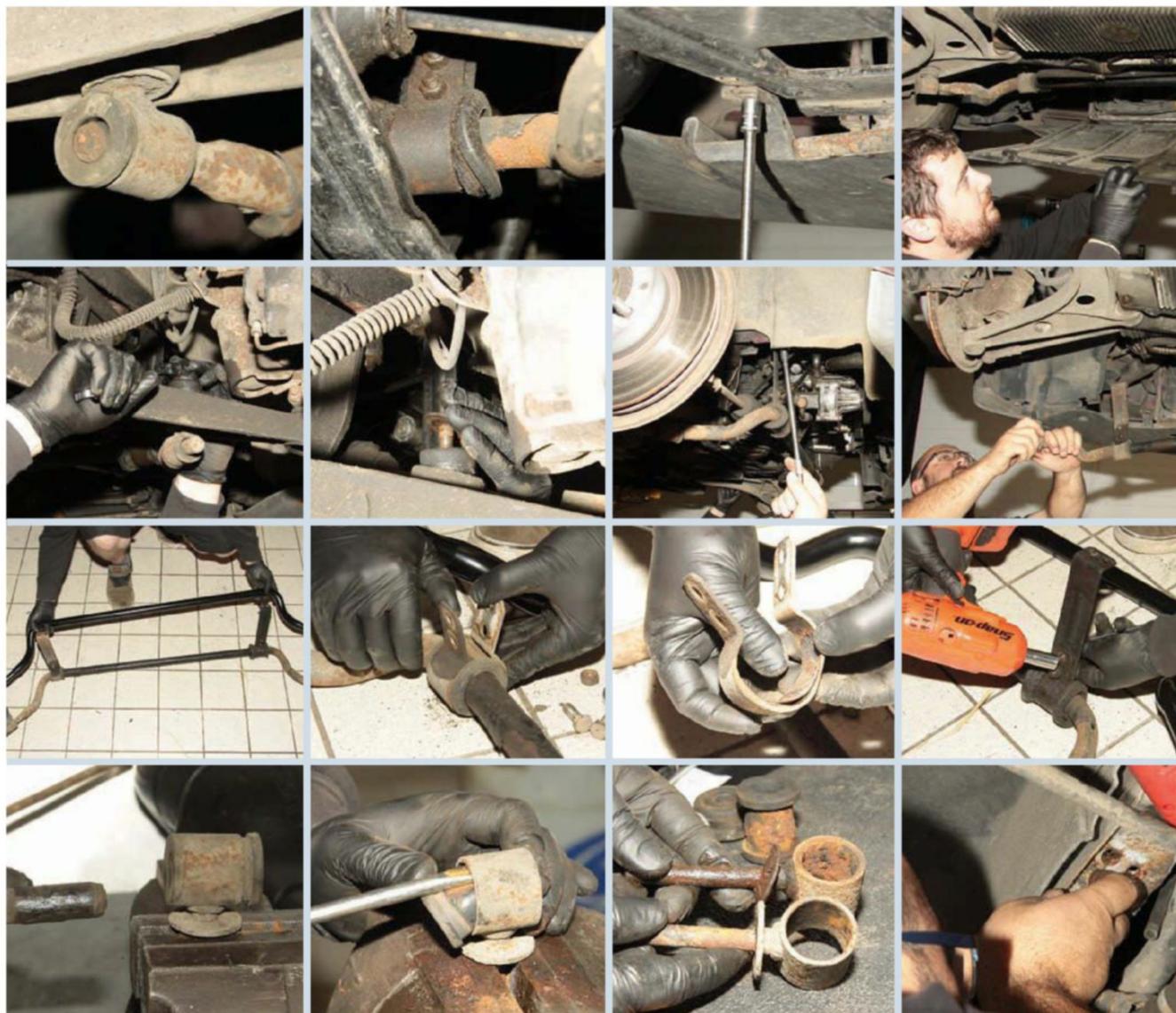
In the 944, at least, the good news is that you probably won't need a gas torch for the suspension arms' front bushes, because they are two-piece items, each half pressed in from the relevant side. This allows the centre section of each half simply to be levered out with a

suitably large screwdriver – although the fact is that, unless the bushes are on their last legs (as were this car's), a bit of heat will almost certainly help things along. The only slight complication is that each outer tube is of a top-hat style, with a flange bent over the edge of the eye in the arm, but this, too, can easily be cut through with your hacksaw.

Note, though, that the rear mounts used on this car's front arms – essentially 'U'-shaped metal brackets, although some models have a design similar to the one at the front of the arm – will almost certainly require the rubber to be degraded with a combination of heat and cutting with a blade, although such is what you might call their open design that this is a relatively straightforward process – see the accompanying photos.

Main picture: Rob Nugent (left) and Robin Hayers replacing the 944S2's front anti-roll bar – for the time being with not quite the right bushes in the two 'L'-shaped mounting brackets; see text. Inset: The full complement of Powerflex bushes for the front end of the S2. We'll be tackling the rear end shortly, ready for the car's first trackday sortie in the new year

S2's anti-roll bar rubbers were well past their best, with mounting rubber on driver's side affected by dripping engine oil and/or power-steering fluid. First stage in overhaul is to remove the front undertray, and then detach the drop-links from the suspension arms. The ARB's 'L'-shaped mounting brackets are secured to the chassis by two M8 screws apiece, but one of them broke as Robin Hayers attempted to undo it, and would require drilling and the hole cleaning out with a pick (bottom, far right); see also main text. Bracketry cleaned up well enough, but one drop-link was too far gone, and replaced with a rather better used item



To remove the suspension arms, first detach pinch-bolt securing the pin of the outer ball-joint to the base of the stub axle. Slacken off the nut at the rear of the rearmost pivot point, as shown, but then use your spanner to counter-hold the arrowed tab. This will help to preserve the geometry, although naturally the car will need a full alignment carried out before it is driven again. Undo nut and bolt through front pivot, turning the steering and pushing up the rack gaiter to allow the bolt to slide free. It's important to replace the bolt in the same way, otherwise the threaded end with the nut on will project too far, and probably damage the gaiter. Undo the bolts securing the 'U'-shaped bracket for the rear pivot bush (some cars have another round bush, similar to that at the front), and pull the arm down, away from the chassis. Ball-joint pin can usually be freed from the stub axle with judicious use of a soft-faced hammer. One of the two supposedly non-replaceable joints (far right) appeared to have been, well, replaced, evidenced by this resin-like filler. No matter: it seems OK for the time being, anyway

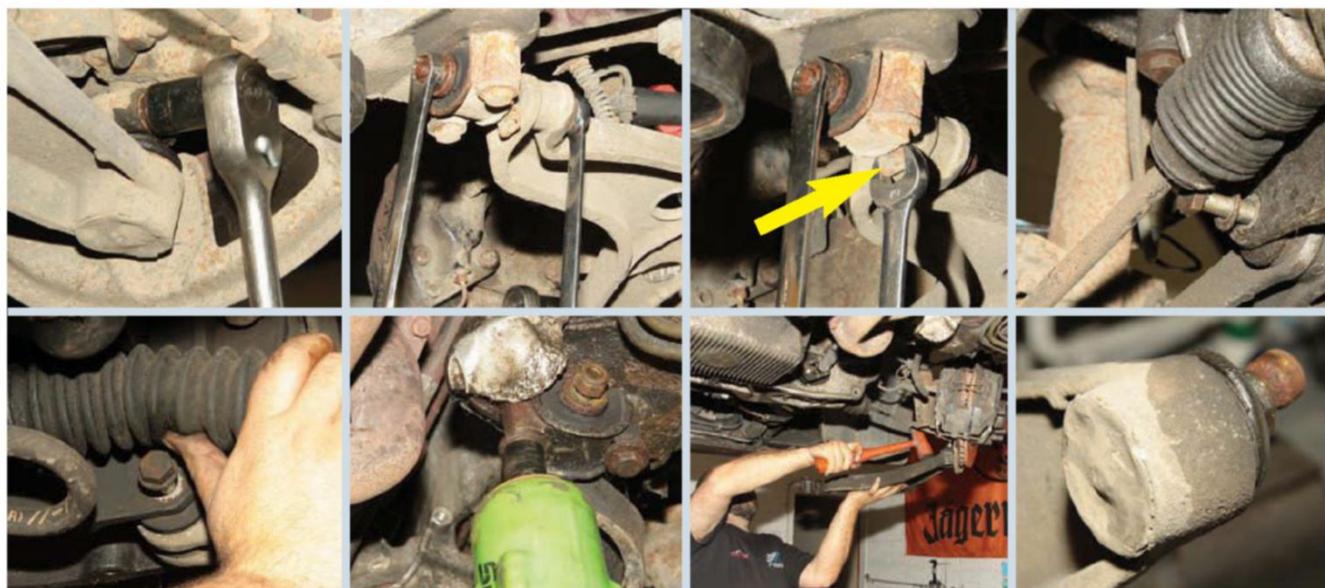
First, one of the four M8 hex-head screws securing the anti-roll bar's two 'L'-shaped mounting brackets to the longitudinal chassis rails quickly snapped when Rob Hayers attempted to undo it – and the other three almost went the same way.

'I always very slightly tighten screws like these, before I try to unscrew them,' he said,

'and then work them backwards and forwards, undoing them just a little bit further each time. That first stage sounds counter-intuitive, but in my experience it helps to break the grip of the corrosion on the threads far more effectively than penetrating oil – which in this case would have served no purpose anyway, because the screws' exposed threads are completely

inaccessible, inside the box-section chassis members. Sometimes, though, they will just break, whatever you do!'

Luckily, such is Rob's long-practised, world-class accuracy that he was able successfully to drill out the remains of the broken screw, and then to clean out the existing thread in the chassis with a tap, thereby avoiding the



# TECH: HOW TO



Front pivot bush is essentially two identical items, each pressed in to the eye in the suspension arm from the relevant direction. To remove them, lever out the two centre sections, then use a hacksaw to make a cut first across the external flange, and then, after temporarily detaching blade from frame to pass it through the eye, another cut through the wall of the tube. To avoid cutting into the arm, err on the side of caution, and stop sawing before you break through the steel; the tube should still be sufficiently weakened to split easily with a chisel. Clean up the eye as required, and fit the new bushes as shown – almost entirely by hand, you will be pleased to see. Don't forget to use the lube supplied. 'D'-shaped rear bush is dealt with in a slightly different manner: use a combination of mechanical force and a sharp knife to open up and then cut through the rubber, removing the remainder with a gas torch and then a suitable abrasive. The bracket needs to be as smooth as this (left) before you use it again

need for a Time-Sert insert. But you – like this writer – may be neither so fortunate nor so skilled, so give yourself a fighting chance of not breaking the screws by perhaps first applying some reasonably intense localised heat to their heads. (But obviously without risking setting anything else alight by careless use of your blowtorch.) For the same reason,

always apply a modest amount of copper-based grease to the screws when you refit them. You – or the car's next owner – might be very glad of it one day.

The second minor problem, which I touched upon in last month's *Technical Topics* (page 112), was that the brand-new M030-specification anti-roll bar that Rob Nugent

had ordered from Porsche, supposedly with a diameter of 30mm along its central section, actually now has a diameter of just 28.5mm. Unsurprisingly, then, the relevant Powerflex bushes were not even close to being the required snug fit around it, and Powerflex, unaware of this seemingly unannounced change by Porsche (until we told them about



Offer (or gently tap) the arm back into position and refit the through-bolt – from the front of the car, remember. At the rear, fit the 'D'-shaped bush and white nylon washer (instructions are supplied with each kit) and then the bracket and its two securing screws and their washers. If you've left the central pin undisturbed the caster angle should be much as it was before – although there is no guarantee that even that was correct, of course

Grease ball-joint pin and gently tap it back into place in the stub axle, and then tighten all fixings. Oddly, the rearmost pin on one of this car's arms refused to accept the new steel central sleeve supplied with the Powerflex bush, leading us to believe the former might have been bent or otherwise damaged, but a few minutes' work with an abrasive flap wheel cured that minor problem. As ever, if something doesn't fit, find out why and do something sensible about it, rather than simply hitting it...



it, anyway) do not yet make any to this precise figure; their next size down is 26.8mm, for the alternative Porsche anti-roll bar of that diameter.

For the sake of the photographs on the day, then, the two Robs fitted the oversize Powerflex bushes, and shortly afterwards replaced them with some new standard Porsche items – which, unsurprisingly, *do* have the required 28.5mm internal diameter. (For this reason it is always a good idea to measure your own anti-roll bar's diameter with an accurate caliper before you order any new bushes. You don't necessarily know what someone else might previously have done to an otherwise standard-looking vehicle.)

Whether or not you need any other parts will depend to a large extent on the condition

of the vehicle to start with, and the level to which you are preparing it. This one, for instance, with around 300,000 doubtless hard miles on the clock, could also do with some new circular brackets for the anti-roll bar's mounting rubbers – the old ones were plainly suffering from corrosion, but will do for the time being – and likewise Rob Nugent replaced the worst-preserved of the drop-links 'from stock' before shot-blasting and repainting both. (Another benefit of working for a pre-eminent Porsche specialist with such extensive facilities.) Various other items, not directly connected to the job in hand, were visibly past their best, too (the cold-air ducting for the alternator, for instance, plus sundry nuts and bolts), but again these will all be dealt with in due course.

It was interesting to note, too, that one of the lower suspension arms appeared to have been fitted with a replacement outer ball-joint, evidenced by the resin that had been applied to the underside of the recess in the arm, presumably to help seal the body of the joint tightly in position. In theory these components cannot be renewed individually, without the entire arm, but back in the late 1990s a number of specialists – Hartech among them, before it became so heavily involved with M96 and M97 water-cooled engines – were offering re-engineered alternatives, and we presume this might be one of them. Whether it stays on the car in the longer term remains to be decided, but for the time being it seems OK, and the two Robs will have to play that one by ear – and not least their budget. **PW**

Arguably the hardest part of the entire process is persuading the new drop-link bushes into position without either damaging them or severely lacerating one's fingers. Patience, dexterity and not least a good, strong bench-mounted vice are essential. Main mounting bushes for ARB (top row, middle right and far right) were too large for the bar, but that wasn't down to Powerflex: unknown to all of us, Porsche had quietly reduced the diameter of the M030-spec bar from 30mm to 28.5mm. Nearest Powerflex equivalent is 26.8mm (which would be far too small to fit), so although we have shown the bar going back on, it later came off again for standard Porsche bushes to be installed. See also *Technical Topics* in the November 2017 edition, and main text above

## WHERE – AND WHAT – TO BUY

Powerflex, arguably the pre-eminent manufacturer of replacement polyurethane suspension bushes, certainly here in the UK, offers a wide range of relevant parts for Porsches of all ages, from the earliest 911 up to and including the 997, the 986 and 987 Boxster and Cayman, and even the recently launched Macan SUV. The transaxle cars are well represented, too, with all of the commonly required items for the 924 and 924S, the 944 and 944S2, and the 968.

Likewise even the 928. For full details and prices – and to place an on-line order – see the company's website at [powerflex.co.uk](http://powerflex.co.uk).

The products come in two colour-coded grades: in simple terms, blue (less pliant than standard, but still 'soft' enough for road use), and a harder and stiffer black for the track, but obviously with some degree of mix-and-match overlap available for fine-tuning to one's own particular requirements. Rob Nugent specified black throughout,

on the grounds that the car will only ever be used for track work, and the occasional road run there and back, but as you will see we ended up with some black and some blue. Quite why this should be so has already been lost in the fog of war, so to speak, but we are all perfectly satisfied that, either way, the S2 will be immeasurably more competent, and fun, to drive. And any future bush replacement will be by the parts' very nature be immeasurably quicker and easier.





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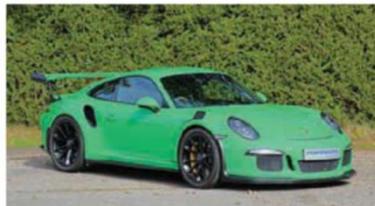
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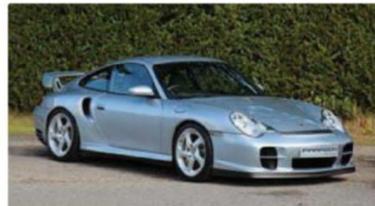
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## AT POWER THROTTLES LTD

What will throttle bodies give your Porsche? Well, if it's an air-cooled 911, 964 or 993, then about an extra 25bhp of pure bolt on power, more when combined with other mods. We get the lowdown from AT Power Throttles and its ingenious 'shaftless throttle' design

Words and photography: Brett Fraser



**T**hey're a modest bunch over at AT Power Throttles in Wymondham, Norfolk. Not prone to blowing their own trumpets, despite manufacturing quite a few of them. But the team at AT does have some good tales to tell: you just have to work long and hard to prise them free.

One such tale relates back to when the current owners bought the company from the administrators five years ago. There had been 'issues' concerning some of the products sold by AT in its previous guise, but rather than just drawing a discreet veil over problems that weren't in any way their responsibility, the new AT team contacted all disgruntled customers. Offered to fix and improve the affected components. For free. 'It cost us a six-figure sum,' admits AT's Business Development Manager, Paul

Knapp, 'but it meant that we could get on with turning around the company without a background of ill-feeling. We could ring customers up and they would be happy to hear from us, because they knew we were handling their issues.'

As a consequence of the team's reticence to self-promote, many of us will never have heard of AT Power. 'In the simplest possible terms,' explains Ben Clifton, technical sales manager, 'what we do is to make people's cars go faster.' More specifically, though, the firm designs, tests and manufactures throttle bodies and other throttle assemblies and all their ancillary components, oil pumps and dry sumps, primarily for motorsport applications but also for the performance tuning market. And while AT Power is UK-based, it sells its products to a global audience.

The piece of technology of which AT is

proudest – and has won awards for – is its 'shaftless throttle' inside its throttle bodies, claimed to achieve an extra 25bhp when used on air-cooled 911, 964 and 993 flat-six motors. Throttle body setups use a butterfly valve inside the trumpet to vary the amount of air entering the cylinders; typically, this butterfly is mounted on a shaft or spindle, and is held in place by a couple of screws. When the butterfly is fully open, at full throttle, the shaft and screws protrude from the surface of the butterfly, obstructing and disrupting the flow of air past it.

AT's butterfly isn't mounted to a shaft and so doesn't need screws. Instead it pivots around lobes that slot directly into the walls of the trumpet's bore, leaving the surface of the butterfly free of impediments to clean airflow. In the full throttle position – that is, when the butterfly is sitting vertically inside the bore for maximum intake of air – the

*A work of engineering art and design. Imagine a set of these perched on top of your air-cooled, flat-six motor*

It's not just throttle bodies that AT Power specialises in. Dry sump oil kits are a feature, too



butterfly presents a sharp, aerodynamically shaped edge to the incoming gale, further promoting speed of airflow. AT claims that in tests its shaftless butterfly allows 99.5% as much airflow as having no butterfly at all, and that compared with traditional setups its system improves airflow by up to 15% on common throttle body sizes. And, of course, the higher the airflow's velocity, the greater the volumetric efficiency, leading to more power and torque.

AT Power designs and manufactures most of its components and assemblies on-site, much of them from billet aluminium, including its fuel rails. As Ben explains, it's all about keeping a tight rein on quality, and dotted around the work stations are posters reinforcing the message to keep standards high and to constantly check that the job's being done properly. Admittedly it's only a subjective measure, but if you pick up any individual component or activate, say, a throttle linkage, then you can feel the precision and craftsmanship that has gone into them.

Part of the quality process involves

testing individual assemblies, which is done in-house. Oil pumps, for instance, are run for many hours at a time inside a specially-designed test booth, to ensure they function as they should under load. And every customer is provided with a Test Flow Data Sheet so they can see exactly how their oil pump performed. AT is big on that kind of

facility here to determine long-term durability,' says Ben. 'So, for a certain system we're developing for high performance Honda engines, we selected 25 of the country's top Honda racing and tuning outfits, provided the kit at cost, and let them use it in real world conditions for a specific period of time. We then retrieved

“ AT Power designs and manufactures most of its components on site ”

transparency, and during throttle body builds, for instance, will photograph every stage of the construction procedure. One highly respected rally engine builder even insists on GoPro footage of its throttle bodies in build, which AT is more than happy to supply.

'We're also very conscious of the fact that while we can test for many things inside our workshop, we don't have the

the kit, analysed it, improved it, and returned it. We repeated that process three times, and while it's time consuming and expensive, from our perspective it's a very worthwhile investment.'

On-site AT Power has both five-axis and three-axis milling machines: it's mesmerising to watch the process of a block of aluminium being accurately drilled and carved and shaved, amidst a cloud of



Quality is second to none, with most components starting as a solid block of alloy before being precision machined and finished

# TECH: SPECIALIST



Either they had a tidy up before we dropped in, or it's always like this. We suspect the latter!

lubricant and shiny swarf, and then a complex component emerges when the doors on the machine open at the end of the process. Amongst myriad other operations that can be undertaken inside AT's industrial unit, there's galvanising equipment, a spray booth, and a machine for making small injection moulded plastic

matches the high standards of our hardware. Because we work on a comparatively modest scale, we can be very flexible towards a customer's special requirements – they can order single-colour anodising, multi-colours, or just anodise particular parts of the throttle body assembly.'

very specific outcomes,' says Ben. 'That can mean, for example, picking an inlet pipe length appropriate to the type of driving you do in your Porsche 911 – you might spend most of your time on the race track and want plenty of top end power, or maybe you want more mid-range torque for comfortable long-distance touring – through to calibrating a drive-by-wire throttle actuator to complement the aftermarket ECU that's fitted to your turbocharged Japanese monster. Even our oil pumps feature an integrated adjustable pressure relief valve that the customer can use to suit their specific pressure and flow requirements.'

And there's a variety of throttle types to choose from, too. AT's direct-to-head throttle bodies are not only port matched to suit individual engines, they can also be specified with individually sized butterflies for each inlet port, as well as a number of

“ We can design systems from scratch to achieve very specific outcomes ”

parts. Anodising, however, is outsourced.

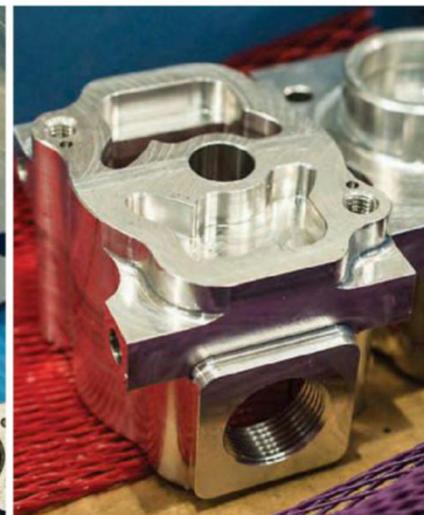
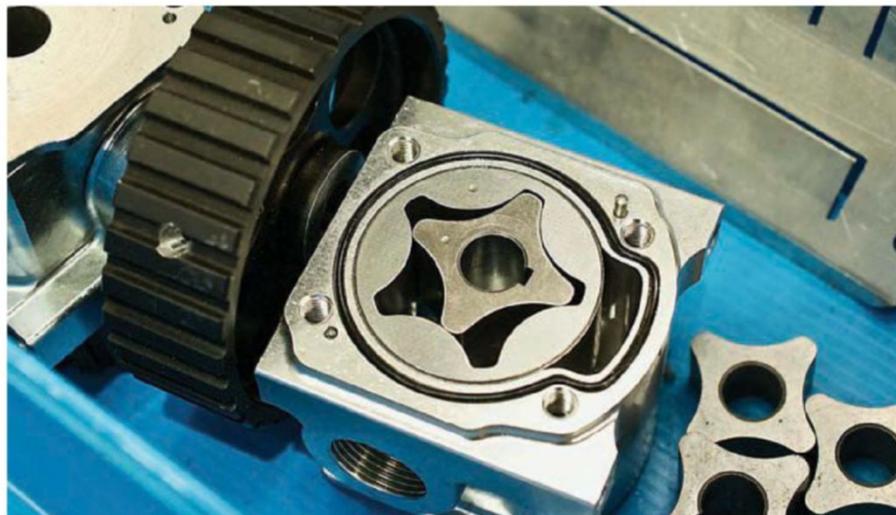
'I think we tried just about every anodising company in Britain,' reveals Ben, and the outfit we've ended up with is first-class. Obviously anodising is purely for cosmetics, but we had to ensure that it

It's not only with colours that AT Power can personalise its offerings. 'We work closely with engine tuners, motorsport outfits and private individuals to provide exactly what it is that they need: we can design systems from scratch to achieve



Far left: Buggy is an in-house project and features a three-cylinder Toyota Aygo engine fitted with one of AT's throttle bodies and a dry sump system. Left: Ben Clifton, AT's Technical Sales Manager

Oil pumps are tested for many hours in a special booth to make sure that they perform under load



linkage options and a choice of throttle position sensors (TPSS). The company's range of universal throttles can be supplied in direct-to-head configuration, but can also be directly mounted to a customer's existing intake manifold. Both types of throttle body can be controlled using AT's drive-by-wire electronic throttle actuator.

There are also direct replacement shaftless big bore throttle kits that are a relatively simple plug-and-play DIY installation job, and drive-by-wire single throttles to complement aftermarket ECUs. And – again featuring a shaftless butterfly – there are compact single throttle bodies primarily aimed at supercharged and turbocharged applications, but which work equally well on naturally aspirated engines.

Parked to one side in AT's workshop is a windscreen-less buggy, the only whole vehicle on the premises. 'That belongs to

Chris Goldspink, one of the company's directors,' remarks Ben with a smile. 'He's been building it as an after-hours project, and as a sort of a challenge. It was originally powered by a superbike engine, but he swapped that for a 1 KRFE three-cylinder unit from a Toyota Aygo, fitted with

and manufactured his own. It's indicative of the way we approach everything around here – when confronted with an obstacle, we find the very best solution to overcome it.

'Because while we all obviously want AT Power to be a commercial success, what really motivates us is a passion for

## “ Direct to head throttle bodies can be matched to port size ”

one of our throttle bodies and dry sump kits, that helps it produce about 87bhp.

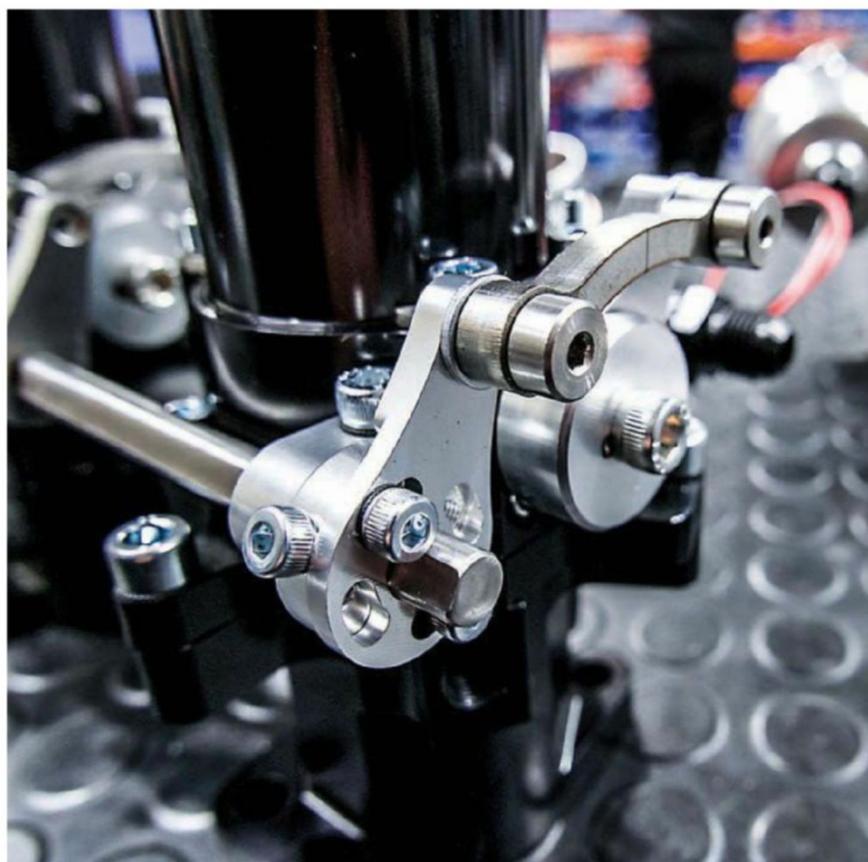
'When Chris discovered that there were no off-the-shelf brake caliper solutions to fit the buggy he went away to research how calipers are constructed, and then designed

high quality engineering for high-performance vehicles – and that includes drag bikes, bike engines for kit cars, single-seater race cars and even jet skis. We're at our happiest when our customers are going faster.' **PW**

Throttle linkages are pure quality, made of individually machined components, that together work seamlessly

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## PROJECTS

We don't just write about Porsches, we drive and live with them, too

### THE TEAM

#### STEVE BENNETT

996 C2



Since fitting shiny Ohlins suspension last month, my 996 has been expertly setup at



Center Gravity. It handles brilliantly, but we're going to mess around with spring rates to get it just so.

#### KEITH SEUME

912/6 'EL CHUCHO'



Fresh MOT? Check! New seats? Check? Well, not check, but another shade of tartan, to be



precise. More miles under the belt? Check! Looks like it's time for a full update on El Chucho next month.

#### CHRIS HORTON

924S, 944 LUX



The 924S passed its MOT, but the handbrake obviously needs an overhaul, and the electrics



suggest a certain irony in their maker's name: Hella, which might be translated from German as 'brighter'. I think not.

#### PETER SIMPSON

356C



Still pushing ever forward on the 356 but much work is needed before I can give a decent



update. In the coming issues I'll be getting the pictures together to show you how I found this 356

#### BRETT FRASER

BOXSTER 986 S



A well overdue service at PIE Performance reveals a to-do list that is both long and



expensive. Still, tackling each job one at a time it shouldn't be too scary, should it? Watch this space as we so often say.

#### JOHNNY TIPLER

BOXSTER 986 S



After much work and personalisation – including a new exhaust box, wheels, tyres,



Mo30 springs and no doubt some other stuff I've forgotten – I can now actually enjoy my new Boxster!

#### JEREMY LAIRD

CAYMAN 987 S



Life is relatively quiet for the mildly modified Cayman at present. That's not to say there's



nothing pending, but nothing that's crucial or going to break the bank. Except for a new set of boots, perhaps...

## MISSION CREEP

What was supposed to be a 'spanner check' for Paul Davies' Carrera 3.2 Targa, turns into something more lengthy and expensive



### PAUL DAVIES

#### CARRERA 3.2 TARGA

**Occupation:** Freelance motoring writer

**Previous Porsches:** '68 912

**Current Porsches:** 1987 Carrera 3.2 Targa

**Mods/options:** Just as Stuttgart intended!

**Contact:** auto.writer@btinternet.com

**This month:** A regular service turns into more than just an oil change: Where have we heard that one before? Our man also gives us a little lesson on oil

Jazmen Steve Winter (left) and Warren North decide there's nothing left of that brake back plate!

**T**ime for a service. At present I'm clocking up no more than 3000 miles a year in the Carrera, which means that I reckon I can go for a major service (plugs, tappets, timing, the Full Monty) on alternate years and settle for just an oil change and what we rallying types used to call a 'spanner check' in between. Fortunately for the bank balance, this year was due to be the turn of the less costly.

Staff shortages at Jaz Porsche meant the St Albans specialist asked me to postpone my chosen date by a few weeks. No problem as far as I was concerned; Steve Winter and his crew have been friends since the days of the 912 (eerily that is last century!) so I was happy to oblige.

Only, in the ensuing gap things took a

turn for the worse when the exhaust took a turn to develop a more than 'exciting' note – especially on the A1M road tunnel that goes under the Hatfield shopping centre. The decibels were bouncing off the walls.

A crawl underneath revealed a noise-sized hole in the pipe that connects the main silencer to the intermediate box. Bother, thought I, then remembered that the only part of the exhaust system to have been replaced since the car left Stuttgart in 1987 had been the aforesaid intermediate box (sometimes known as the pre-silencer) that I had fitted eight years ago.

New main box needed. But did I go for basic factory spec or stainless steel? Without doubt the stainless version would last much longer, but on the basis that the original mild steel version had lasted three



The big hole in the connecting pipe on the main silencer is easy to see. The pre-silencer (left) was changed for a stainless steel type nine years ago and is fine



decades I opted for basic. Perhaps the fact that Dansk prices are £416 for stainless and just £295 for mild steel had something to do with my choice. Oh yes, plus £33 for bolts, nuts and gaskets for either.

New box duly ordered and added to the minor service already requested, it was off to Jaz for that little job that started as an oil change...

As the oil was dribbling from the dry

sump tank, and the replacement silencer was standing by, Jaz technician Warren was doing his 'spanner check'. The rubber boot on the outside left hand drive shaft constant velocity joint was split, he said. Better change that, I said. Then, ever helpful, I added there had been an occasional knocking (or was it more like rattling?) somewhere in the region of the right hand front suspension.

It didn't take more than a little bit of wheel shaking (no play in the bearing or bushes) and three seconds looking to reveal the disc back plate was in the terminal stages of corrosion and about to fall off. Better add that to the list, I said.

That was all. But what started as an oil change (the simple bit) had developed into the best part of a day's work. It's happened to me before.

When the spanner and hammer and chisel both failed, the grinder was used to remove the old fixing bolts. The box retaining straps were good enough to re-use

New Dansk factory-pattern silencer was a perfect fit. The previous mild steel one lasted 30 years so here's hoping the new one will hold out until 2047

## SLIPPERY STUFF

Without getting technical – and in danger of over-simplifying things – those figures you see on an oil bottle are based on an SAE (Society of Automotive Engineers) formula and relate to the viscosity index at cold (W for winter) and hot (at 100deg C) operating conditions. Call it 'thickness' and any oil industry chemist will get uppity, but that's an easy and simple way to describe things. Point of shear comes into it as well. Modern oils are so clever they can be formulated to have totally different characteristics at different ends of the operating scale.

Early oils were refined pure mineral oil, straight from the ground so to speak, with ratings such as SAE30. Then manufacturers started to get clever introducing additives – viscosity index improvers, detergents, corrosion inhibitors – and along came the first multi-grade oils. (Anyone remember Duckhams 20W50?) Fully synthetic oils are purely laboratory created lubricants; very clever, of course, but expensive to manufacture. Semi, or part, synthetic oils are a blend of the two, and now generally accepted as being best for older (post 1945 that is) performance engines.

Confusion over which oil to use in any particular engine comes from

the fact that the pace of development in oil technology has far outstripped that of the internal combustion engine. Engine, and transmission, designs can have a life covering decades. The air-cooled 911 is a good example; that flat-six we all know and love was designed to be lubricated by the oil technology of the early 1960s.

OK, there have been many improvements over the years, but the basic engineering – oil galleries, bearings, clearances, oil pump – remain the same. So, the argument goes, the air-cooled 911 needs the modern equivalent of the oil that existed back when (then) development engineer Ferdinand Piech and his men set to work to design the unit. Now the water-cooled M96 engine (Boxster, 996 and all that followed) that first appeared in 1997 is something different. That was made for fully synthetic.

When I worked for classic car lubricant specialist Penrite Oil the rule was to always recommend the latest available formulation of the oil that was around when the car was manufactured. Although I will add that diesel formulations seemed to be pretty effective in 356/912 as well as early 911 engines.

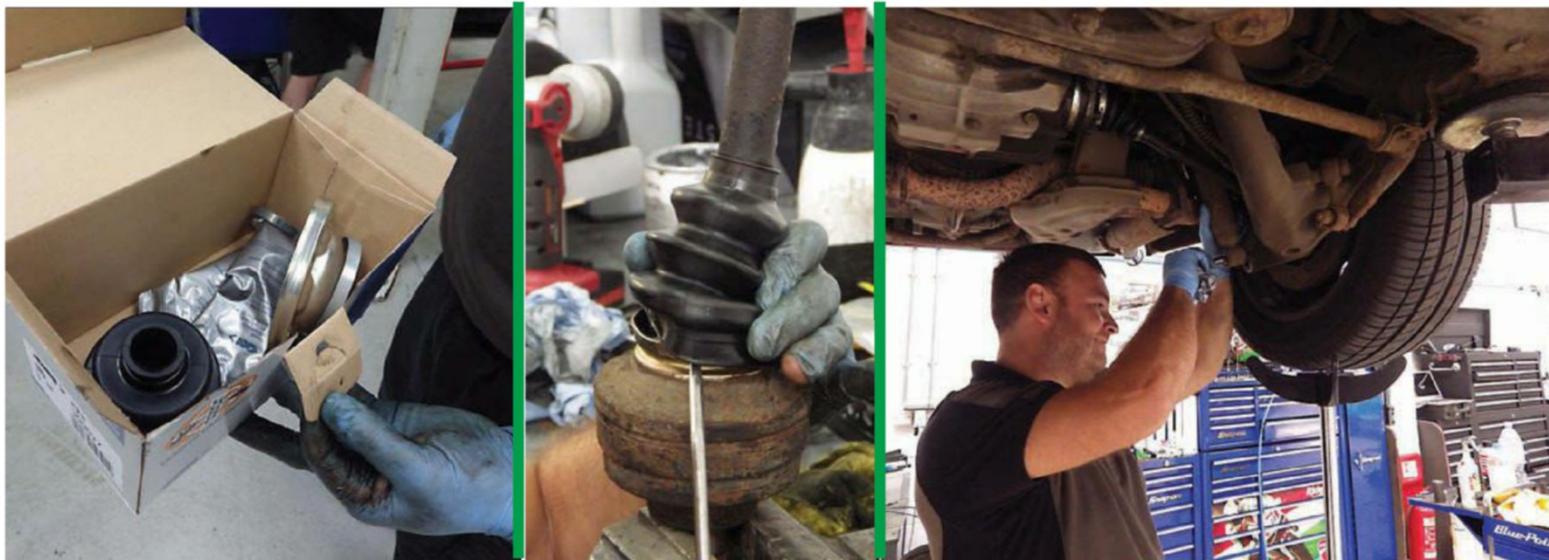


Split in the outer c.v. joint boot is visible. To remove the drive shaft, the bottom of the damper needs to be unbolted from the suspension arm

Six bolts hold the inner c.v. joint to the output flange on the transmission. The outer end of the drive shaft is knocked out of the hub when the retaining nut is removed

With the drive shaft on the bench the inner joint can be knocked off (difficult!) and the shaft cleaned up to allow the old rubber boot to slide off and the new one fitted

# TECH: PROJECTS



On the subject of oil, Jaz rely on Mobil – like Porsche themselves – but for air cooled engines opt for semi-synthetic Super 10W40, a choice I agree with: the tolerances of older engineering, particularly the oil pump, demand a ‘fuller’ oil, and not the fully synthetic 0W-something recommended for modern power units.

The Dansk silencer was a perfect fit, once Warren had got a grinder to the rusty old bolts on the mounting flange with the intermediate box. Whilst the box was being fitted and we were downing our own lubricant (tea, milk but no sugar please) Euro Car Parts were doing what they do best and delivering a GKN box containing all the bits needed for the drive shaft boot replacement that had only been ordered an hour previously. The back plate was out of stock

and so would come another day.

Changing the boot is not as easy as it sounds. The drive shaft needs to be taken from the car (unbolt the lower damper mount first) and the inner c.v. joint, which bolts to the flange on the differential, removed so that the outer boot can be slid off along the shaft and the new one fitted. It's not possible to separate the outside c.v. joint which carries the splined axle because this is friction welded to the shaft on Carrera 3.2 models – although it does unbolt on earlier cars.

Sounds simple, eh? Only problem is that a c.v. joint that's been tight on a drive shaft for 30 years tends to be a bit of nuisance to remove. With the shaft in the vice on the work bench a fairly large hammer had to be brought into action. But all went smoothly as the pics show.

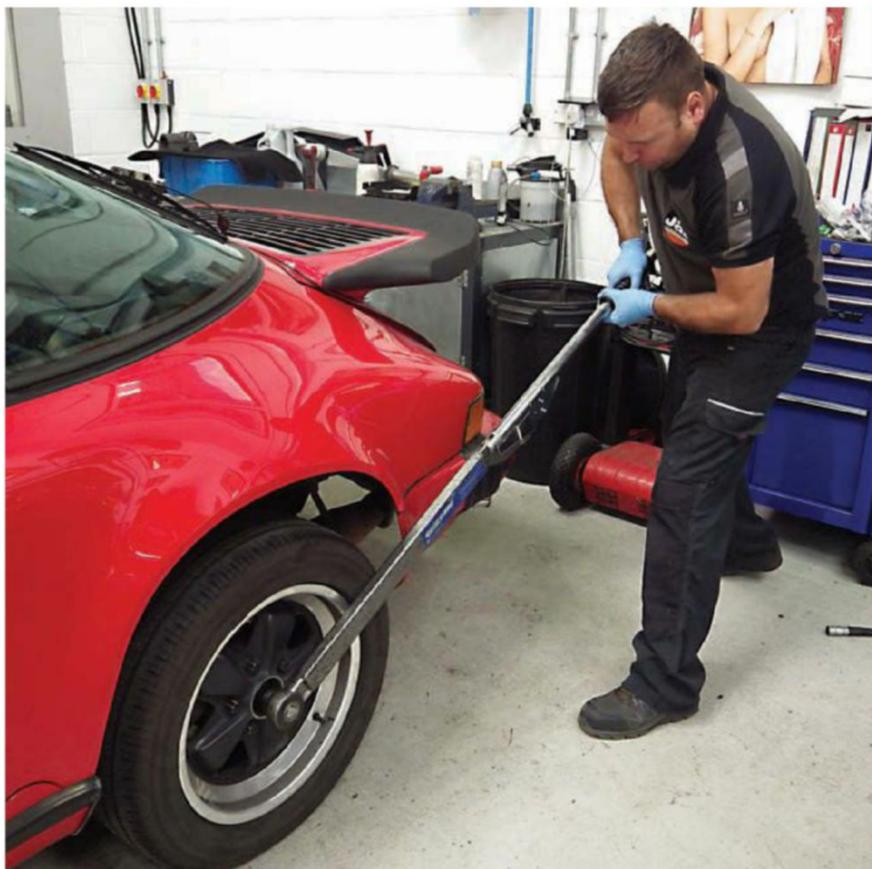
The brake back plate arrived a few days later and was duly fitted on a return trip to Jaz. The disc, hub and brake caliper have to be removed to bolt the new plate to the casting that carries the stub axle. The brake caliper can be simply tied back out of the way, there being no need to disconnect the hose which would entail bleeding the brakes on re-fitting. Whilst the wheel and disc were out of the way I took the opportunity to knock out the mud that collects on the oil cooler pipes that run inside the wheel arch – leave it there and when it's wet it will corrode the pipes.

All done then, thanks to Warren and Steve. Not a DIY job I'm afraid, but the workshop at Jaz is so clean and tidy (eat lunch off the floor etc) I felt I needed to do my bit so swept up the crud that fell from the wheel arch before I left. **PW**

The GKN kit works for both outer and inner boot replacements and contains grease for both c.v. joints and a new cap for the inner joint as well as a boot and clips

New outer boot being coaxied into place (helped by a screwdriver) after joint has been re-filled with new grease. Drive shaft can then be re-fitted

Getting the damper mount to line up to get the bolt through could be difficult without lowering the car on the lift onto this cradle. Can't do that in my garage!



Final job is to tighten up the drive shaft retaining nut, which is an almost unbelievable 460Nm and needs a very big torque wrench. Earlier cars had a split pin fixing

New disc back plate is bolted to the stub axle casting after the disc brake has been removed. The caliper can be pushed out of the way without having to disconnect

## CONTACT

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## BOXSTER GETS AN OVERDUE SERVICE

Brett Fraser removes head from sand and confronts the various issues with his Boxster S, just not all at once though! First on the agenda is to replace ragged front tyres and brake discs



**BRETT FRASER**

**BOXSTER 986 S**

**Occupation:**

Freelance writer, Dep Ed, *911&PW*

**Previous Porsches:**

None

**Current Porsche:**

986 Boxster S

**Mods/options:**

Eibach springs and anti-roll bars, Pipercross air filter

**Contact:**

brett@brettfraser.co.uk

**This month:**

A long overdue service

Brett's Boxster at PIE Performance getting a good going over. It needed it!

As regular readers will already have surmised, I have a fairly laissez-faire attitude towards car servicing. I'm not ignorant to the wisdom of regular servicing as preached in this magazine and many others. It's simply that there's another maxim that I follow more avidly – if it ain't broke, don't fix it. My brother's old Toyota Hilux pickup made it to 350,000 miles in his horribly abusive hands with no servicing – he just topped up the oil and replaced worn-out parts – so I know it can be done. I also know that it isn't really all that sensible...

The Boxster had started sending out its own little signals that it would appreciate some decent attention. It wasn't accelerating as smoothly as normal and the idle was lumpier than it had been. The brake pedal had grown soft underfoot and the gearshift was becoming more and more recalcitrant when cold. And then the rear lower corner of the hood on the driver's side detached itself from the rubber seal that sits just below the bodywork along a two-inch section. All these things had sort of crept up on me; one day, though, I noticed them as one, large ugly package of neglect and realised that the time had come to do something about them. Especially as the Boxster's mileage is now galloping along the final furlong towards 100,000.

My choice of independent Porsche specialist was steered, in a small way, by a chance encounter with another Boxster owner during the summer. Walking into town one sunny afternoon, a Speed Yellow 986 S pulled

up to the kerb a few yards ahead: for a brief moment I thought maybe someone had nicked mine. A guy jumped out with a slightly distressed look on his face and started to look around the car – there was a nasty, high-pitched metallic screeching noise, he told me. Could be a stone betwixt disc and caliper, I suggested: punt the car forwards and backwards a couple of times and brake hard. Screeching cured. So we had a little chat about Boxsters before he proceeded on his way, which was when he said what a great place PIE was and that I should really take my car there when the next service was due.

As it happens, PIE was on my list anyway. It's not quite my local specialist but it almost is, and the drive down there through the Suffolk lanes to the edge of Lavenham is both pleasant and entertaining. Besides, having been there once before to do a story on the place, I like the vibe that Chris Lansbury and his team have got going on – and when I spoke to Chris last time he seemed very clued up on the subject of Boxsters.

Sure enough, when I arrived with my car there were already a couple of Boxsters up on the ramps – one in for an emergency suspension spring replacement, the other for a bit of an overhaul – and a third in a state of serious disassembly. Turns out that the latter is the basis for PIE's entry into the Boxster Championship in 2018, which is something we'll be following as the car comes together. While I was there I met the young guy who hopes to be driving it for Chris, who turns out to own his own Boxster S.

When I'd rung to book my car in I was

asked by PIE's Frank Rowland – whose own Boxster S we featured in *911&PW* – what sort of service I was after, big or little? The skinflint in me momentarily wondered if I could get by with the latter, but then I recalled that during my tenure the car hasn't had a major service: really, it was time it had to fix that situation.

PIE's procedure is to thoroughly inspect your car before starting work on it. Watching two eagle-eyed technicians – one doing the shaking and rattling, prodding and poking, the other writing down all the first bloke's observations – giving my Boxster a very thorough investigation was nerve-wracking. The amount of ink being used on the check-sheet caused my wallet to shake itself free of my pocket and start running towards the door.

The chaps told me not to worry. That much writing was fairly typical for a 17-year-old Boxster. Just regular wear and tear stuff. They'd compile a report later, detailing the bits that would require pretty rapid attention and those that could be put off for another day: but, perhaps detecting my lackadaisical outlook on maintenance, they insisted I shouldn't leave the latter for too many more days.

To my relief the oil emerged from the sump a very healthy hue. Not so the desiccated bird – species unrecognisable – pulled from the leaves and other detritus that had accumulated around the front radiators despite my best efforts to keep the area clear. The other area I'd failed to keep clear was the drain holes in the hood's stowage recess, so I was thankful to the PIEmen for



unbubbling them. They also showed me the old pollen filter, which had become a retirement home for sycamore seeds and crushed leaves.

As I've mentioned in previous reports, the Michelin Pilot Sports on the front of the Boxster had suffered terribly from me not checking the suspension geometry properly after the car was lowered – even though the geometry has now been done, the PIEguys thought it prudent to highlight the fact that the inside edges of the tread are getting worse, not better...

That, I was expecting. The condition of the front discs, now that was a surprise. A surprise even though I was aware that the braking wasn't as crisp and aggressive as it once was. I'd simply put that down to the pads being tired. But while the outer faces of the front discs looked fine, the inner faces were corroded and pitted. Apparently the outer pads typically bite on the discs fractionally sooner than their inboard twins, and if you're not bold and positive with your braking then the inside surface of the disc doesn't get the full force of the pads and can therefore suffer corrosion. Do I feather the brakes a lot, they asked. Actually, I'd always fancied myself as one of the last of the late brakers... So the cause is a mystery but the outcome is clear – I need new front discs and pads. To go with the new front tyres.

While the rest of the service was routine stuff – mainly fluids and plugs – and

performed with swift efficiency by the PIEteam, the 37 item inspection sheet I was handed along with the modestly priced bill, revealed a plethora of problems in waiting. I might have burst into tears had the guys not urged me not to be too concerned: they know how to look after their customers in their hour of need.

Corrosion is one of the big issues, even if it is commensurate with my Boxster's age and the fact that it's used all winter-long. Rust has devoured, totally, one of the exhaust clamps and laid waste to the rest. It has nibbled round the exhaust back box's seams and the exhaust header bolts. Most of the brake pipes have been licked by the Red Devil's tongue, as have the dampers, if only on their surfaces.

And there are leaks. Lots of leaks. Mostly from seals. The mere mention of the three initials I, M and S had me twitching nervously, but the seepage from its seal was marked as an advisory. As was leakage from the seals of the gearbox selector, the chain tensioner on the number one bank of cylinders, and both banks' rocker cover.

Then there was wear. Largely in the suspension department (but also to the ignition barrel). The top mounts were dry and noisy, and the passenger-side front coffin arm noted as worn. The bump-stops were shot. Even the conical washers on the – frankly dreadful straight from the factory – wheel nuts showed signs of deteriorating. Damage was also recorded. To the front of the

floorpan. To the front splitter. To the windscreen and front number-plate. And in addition to the hood material on the driver's side parting company with its rubber seal, on the passenger side some of the stitching had come undone.

Frankly: bloody hell! A sensible person would just get rid. Punt the car out at a price that reflects the fact that it's in far from perfect condition. But Porsche ownership can afflict you with a sort of madness. A need to prevail in spite of the odds. Boxster values remain in the gutter, so even if I sold mine there'd be a financial chasm to vault before I could acquire a half-decent Cayman. And besides which, I've come so far with my car that I can't consign it to an uncertain future: perhaps even more uncertain than the one I'm likely to afford it.

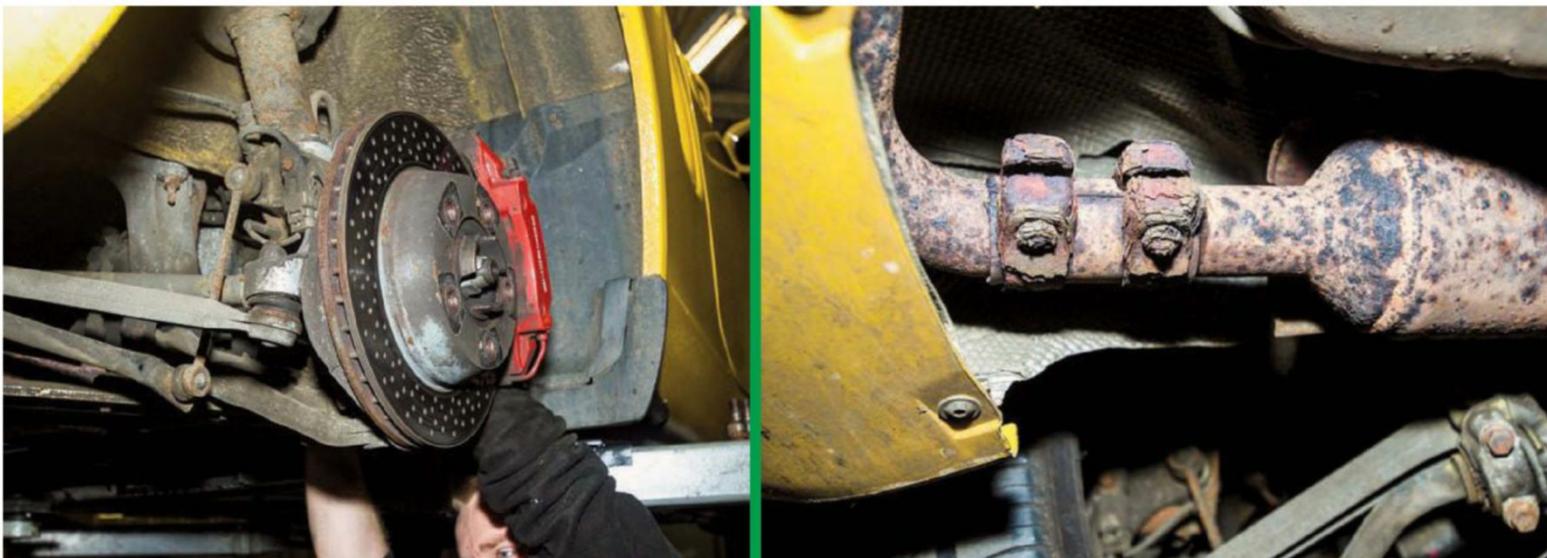
So the plan is this – little steps. Tyres and brakes first, for safety's sake. If anything else were urgent, PIE would have said. Then maybe the hood. No-one likes rain indoors. After that, a massive gulp, a huge injection of cash, and a wholesale replacement of weeping seals that will doubtless require dropping the engine and gearbox. The seals won't be alone in weeping...

At the end of the day it's a story Boxster owners know so well – you can buy a Porsche for a snip, but you can't run one on a shoestring. But at least after its service at PIE, it's running more sweetly than it's done in a long while. **PW**

Top left: Front tyres are an issue, with wear on the inside. Middle: Access to engine not one of the Boxster's plus points, but still there it is (above). It appears hearty enough, save for a few leaks from all the usual places

Bottom left: Front discs are worn on the inside as are pads. Exhaust clamps rusted and typical of the underneath of a Boxster that's used in all weathers and is 17-years old!

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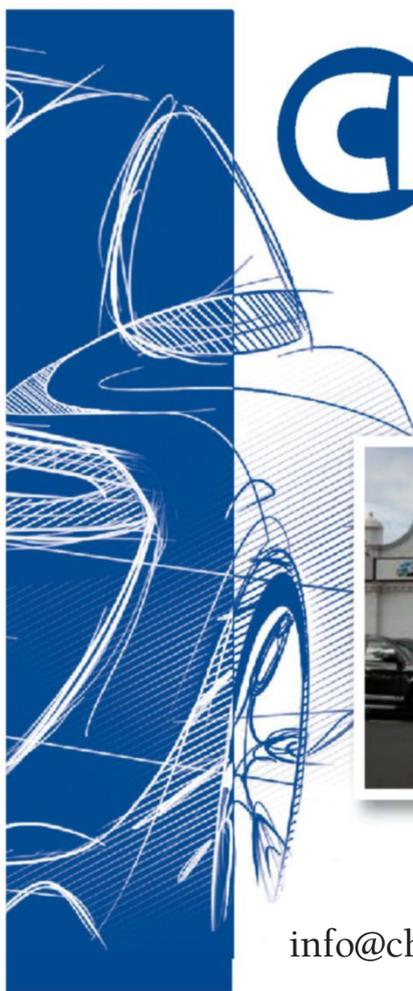
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## CAYMAN STANDS TEST OF TIME

Four years and 32,000-miles in and Kieron Fennelly's Cayman has been a sound proposition. Maybe other *g11&PW* running reporters should take a leaf out of Kieron's book and stop fiddling and modifying and just drive...



### KIERON FENNELLY CAYMAN

**Occupation:** Freelance writer,  
**Previous Porsches:** 993  
**Current Porsche:** Cayman 987 2.9  
**Mods/options:** None  
**Contact:** kieronfen@talktalk.net  
**This month:** Not a lot! Some new tyres and a lot of driving

Kieron's Cayman has been a paragon of Porsche reliability. Artistically posed in the background is Mrs Fennelly's Karmann Ghia

**M**ine is the black 987 croc (the red one which features rather more often in these pages is Jeremy Laird's) that has now been with me for four years and 32,000 miles. Readers with good memories might recall that I swapped it with the 993 which had transported me round for the previous decade. A poor move from an investment point of view – look at where 993s are now, but still not one I regret. To my mind if you can afford only one Porsche there's little point in keeping it in the garage and not using it. That was increasingly happening to my ageing 993, which I no longer wanted to subject to our dirty, crumbling winter roads. At Northway for the 993's annual service, I spotted a 40,000 mile 2.9 Cayman gen 2 which Ray had been servicing for a couple of years before taking in part exchange against a 997. A small cash adjustment and the deal was done: quite unplanned, I had moved from rear to mid engine propulsion.

Although lacking the character of the 993, the far more modern Cayman has proved extremely practical and week in week out is my main car. With the 993, particularly as it aged, I was always wondering what to replace next, whereas in four years and 34,000 miles the croc has cost me only routine servicing plus a couple of intermediate oil changes because I simply don't believe even the latest oils are

still as effective into their second year.

This year's first major outing was in February to Wolfsburg, home of VW. Those big rectangular brick buildings of the original factory are worth seeing, VW Group's 'Autostadt' a little less so: a fine if rather self-aggrandising showcase with a separate pavilion for each of the Group's marques, it is a bit too 'totally immersive automobile experience' for my taste, more a stop on the tourist itinerary than a mecca for aficionados. But because 20 years ago a VW bursting with the confidence of a decade of acquisition decided to sink a considerable sum into this lavish shop window, the original VW museum, situated in an obscure former office building much as the Porsche museum used to be, has in corporate terms been completely forgotten. For the enthusiast, this is wonderful because unself-consciously lined up but with space to walk round them properly, are examples of production models, prototypes and experimental builds representing probably nearly all of VW output from 1946 to the mid 1990s. This classic warts-and-all display is completely out of fashion today and surely cannot last for ever. In the wake of Dieselgate, there are likely to be major changes at Wolfsburg (where 2500 people work in catering alone) so my advice is to visit sooner rather than later.

One advantage of Germany off-season is that the Autobahnen are far quieter and we got to within 6mph of Porsche's claimed top

speed for the smaller engined Cayman before the Wolfsburg dual carriageway turned into single carriageway. Just one more mile might have sufficed. It was all very undramatic, in contrast to the 993 which used to get frighteningly light at the front at these speeds.

On the way through snowy Netherlands we stopped at the magnificent Porsche Gelderland where Mark Wegh's guys were kind enough to clean our by now filthy Cayman. Alas, within a couple of days it was as dirty as ever, but responded to the jetwash back once in Blighty though after eight winters the body now sports sufficient stone marks and nicks to keep a detailer happy for a few hours.

I knew the rear tyres would not survive another MOT, so the Guild of Motoring Writers' annual track day at Castle Combe in April offered a chance to finish them off, as it were. Alas, the day dawned wet and my slot was the first session. PSM on of course, I set off with some trepidation, but in relatively thin traffic, it was fascinating to see how far the Cayman would go before electronics showed their hand. The main problem initially was that the track was not uniformly wet and the PSM's interventions were rather 'jolly' until a 'racing line' was established by mid morning. Recently I heard ARDs instruction Gary Marsh encourage an audience of GT3 owners to take advantage of a wet track rather than shun it as many do: "on a wet surface things



happen at slower speeds – it's a good way to learn car control." He also warned about the danger of aquaplaning on standing water. It struck me as very good advice, but as a track neophyte, I would need a lot more practice. Once again though this wet outing confirmed how surefooted the Cayman is, flattering my driving skills once more. Years ago with the 993 I invested in a complete KW suspension kit; I'm not inclined to go that route again: if the croc sometimes feels softish, there is always the PASM button, which is fine for the track, but is otherwise designed for German blacktop and just too firm on the surfaces Highways England inflicts on us.

In fact the tyres turned into a bit of a saga as it took Continental eight weeks to import a pair of 235x50x17s. The problem is that this size in is now largely fitted to medium size SUVs and as such only occasionally

manufactured with a speed rating appropriate for Porsche. Road wheels continue to get bigger so tyre makers increasingly produce their high speed tyres in 18-inches and up. For my money the trend for bigger rims is a triumph of styling over what really matters, that is ride quality, noise and handling, and even economy.

Talking of handling, I was lucky enough to get my hands on a Cayman 718 2.0 for a few days. The bigger chassis and wider front track mean it is a very different car from the 987 and it feels light years ahead: this is the entry level Porsche yet the cabin is beautifully finished and the 718's steering, ride and body control are all in a completely different league. And, provided you are over 2000rpm it just goes in a rush.

I can add no comment on the poverty of the soundtrack – it has all been said. I enjoyed the 718, but after a while, I missed

things to do, like changing gear. It's almost superfluous with all that torque: you might as well have a PDK. The 718 is so well glued to the road, too, with handling resources I simply couldn't begin to exploit down here in the busy Home Counties. But that's progress. We could argue for ever about the false god of CO2 which has cost us natural aspiration and here, two cylinders as well, but otherwise the latest junior Porsche is as brilliant as ever. It's just not my kind of brilliance anymore. I still aspire to a 981, but so do many other people and prices are very firm.

So life, still quite wonderful with the 2.9, goes on. Year four, driving my usual 8000 miles has hardly been expensive or onerous, £400 covering tyres and intermediate oil change. We shall see whether anything falls off in our fifth year together. **PW**

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## IF YOU CAN'T STAND THE HEAT...

American correspondent, Matt Stone, sets about getting his oil cooler working just so in the Californian heat, which, let's face it, is not something us mainly chilly Europeans have to worry about



**MATT STONE**

**CARRERA 3.2**

**Occupation:**

Freelance motoring writer/broadcaster

**Previous**

Porsches: One

**Current Porsche:**

Carrera 3.2

**Mods/options:**

Standard

**Contact:**

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**This month:**

Always something to do. This month it's mostly getting the oil temp stable

Matt's Carrera 3.2 about to be elevated at Callas Rennsport

The California Carrera has been doing most everything right lately. The last major items including an alternator/regulator/diode pack and battery replacement has made the electrics as robust as new. The AC is holding charge, and the formerly fiddly high/low beam switch is staying well adjusted. During this most crazy hot west coast summer, I noticed the car running a little warmer than usual, so I investigated appropriate cooling upgrades, which of course included consulting my Go To Guy, Tony Callas; he being the epicentre of Callas Rennsport. We discussed the finned oil cooling tubes that folks like Elephant Racing produce, and I even plied him about the notion of a second or larger replacement cooler.

He said the place to start was making sure the factory cooler and its thermo-controlled fan were in good nick, adding that "at factory setting the fan normally doesn't come on until it's nearly too late anyway" and that he's developed a rewire and thermocouple replacement upgrade that kicks the oil cooler fan in at much lower temperatures, and considering the rest of the oil tubes, engine and other systems are solid that it might be enough to better

manage the temp gauge: \$750 all in, which seemed like a logical place to begin, and also cheaper than any of the other alternatives I'd been looking at.

The first step was to put some juice direct to the fan to make sure its motor was healthy and that it spun smoothly. Callas ace tech Mike pulled the cooler and fan off the car, drained out the cooler, then tested the fan. It spun up to speed, so from there it was a simple matter of refitting a new thermocouple and some other little nubbins to drop the "kick-on threshold" to a more reasonable level; Mike had the goods fitted and the whole system cleaned up and reinstalled on the car in relatively short order. I should also add that the entire oil system was fully drained prior to the cooler's removal.

Once buttoned up, it was time for a case of Gibbs Racing high zinc 20-50 oil – Anthony's favorite non-synthetic brew for protecting against cam wear, but not so high a zinc load as to immediately clog the catalytic converter – and a fresh Porsche Purolator "red" filter. With all the fluids properly refreshed and topped, it was time to cover up the rear deck cooling vents, fire the car, and let it fully warm to check the oil levels and to (hopefully) kick on the cooler fan – which it did like clockwork. The car

has since run notably cooler, although after it sits outside on a really warm day (the black coachwork turning the whole thing into a giant heat sink), in traffic, with the AC running, the temp gauge needle will still edge up between the nine and ten o'clock position, but once the traffic breaks loose and the air flows through the car, it drops right back to nine o'clock. Callas is comfortable that this is OK, with the cooling system in good nick, using this oil, and with the fan fix, as long as the needle doesn't immediately head toward the ten o'clock mark, and stay there. I've since driven a lot over a wide variety of conditions with an eye on the gauge and it appears job done.

I'm happy that this situation is solved, and see no need for any further cooling upgrades – if it ever gets excessively hot, we'll readdress. It was also time for the car's annual brake flush, so we did that, closed up all the lids and bonnets, and drove home with content.

There was also one more car show on the calendar for 2017, and time for another good wax and detail. The paint was still clean with no oxidation, so I passed on the clay job or machine polish. Instead just a really good clean and then a thin hand applied and removed coat of Surf City Garage's premium liquid carnauba wax.

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What's next? Not a lot as the 'To Do' list has grown commendably short, unless things go wrong. One thing that's absolutely wrong is the current in-dash AM/FM/CD. The original Blaupunkt Reno AM/FM/cassette head either went bad, or the previous owner just wanted to listen to his CDs, so the Blaupunkt was unceremoniously removed and replaced with an Alpine – which of course plays perfectly but kills the originality and period

look of the cabin. So I thought hard about bucking up for the new Porsche Classic head unit that looks a lot like the original piece, yet packs a satnav and all the latest Bluetooth capability. But my stomach just can't warm to the \$1200 or so price. It looks the business and I'm sure works a treat, but I rely on Porsche's own 3.2-litre flat-six for my audio entertainment. While at Callas, we pulled the Alpine out to see how it was wired, and – of course – the original Porsche plug in connectors were cut and tossed during that previous installation, and in order to properly install a factory original Blaupunkt piece, we needed to source the proper connector

cables – one main harness that supplies power, ground, and antenna, plus two smaller jump harnesses, one per left and right channel speakers.

Tony has since sourced a clean used original Blaupunkt, so we set off on a mission to find the connector harnesses – the speaker cables have long been available new, and inexpensively, but for some time the main harness was made of "Unobtainium". A visit to Sierra Madre Collection answered the need, so with all three harnesses and a proper Blaupunkt head unit in hand, it'll be a hopefully quick visit back to Callas Rennsport to swap it all and make it look and sound like 1989 all over again. **PW**

Above middle: Oil cooler lives inside the offside front wing. Removed for inspection. A new thermocouple and fan now kicks in at a lower temp

Below: Alpine head unit is letting its originality down. A period Blaupunkt is standing in the wings



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## 928 DOOR CHECK-STRAP REPLACED

I have mentioned several times within these pages the similarities there are between the smaller transaxle cars – the 924, the 944 and the 968 – and their big 'brother', the 928. And specifically, of course, the fact that perhaps unsurprisingly they all share a number of peripheral components.

Probably the most obvious are the door latch mechanisms and the door check-straps – the latter the devices that not only prevent the doors from opening too far, and damaging both themselves and the adjacent front wings, but also provide just the right degree of friction to hold them open at a couple of convenient intermediate positions.

Either way, I thought that the

928 owners among you might like to see how to replace one of the aforementioned check-straps. A few weeks ago I turned up unannounced at Auto Umbau in Bedfordshire (01525 861182; classicporscherepairs.co.uk), and proprietor Robin McKenzie was about to start the job on a customer's GTS. I had my camera with me – as has become my habit – so it would have been rude not to take a few pictures, wouldn't it?

The job was occasioned – as it was on my red 924S a few years ago, and as will soon be necessary on my 944 – because the friction had increased to the level that it was taking far too much effort to open and close the

(driver's) door. Essentially that's a result of the plastic brake blocks within the device gradually swelling and becoming too effective, such that the central blade won't slide easily between them. And greasing the blade – a natural but here misguided response – usually serves only to make matters worse.

The front end of the blade is secured to a bracket on the 'A'-post with a simple socket-head screw, but the main part of the mechanism is attached to the inside of the door (albeit by two screws from the outside of the shell), so unsurprisingly the trim has to come off in order to extract it. And no less surprisingly, especially in a car as complex as the 928, that is

by far the trickiest part – and certainly so if you are to avoid causing any damage.

The usual lack of space precludes me going into too much verbal detail here, so I'll let the photos and caption tell the story. Suffice it to say that, as you might expect of a model that was in production for nearly 20 years, there are minor variations from the arrangement shown, and likewise rather more in the way of cunningly concealed screws and other hardware that have to come off than you will find in, say, a 944. So don't try simply to lever the door card off, in other words, without first making absolutely certain that it is free to move.

Be prepared, as well, to buy

any necessary parts to put everything back together as far as possible in the way Porsche intended. Most likely that will include the plastic membrane that prevents rainwater running down past the window's waist seal, and soaking the internal trim. Robin McKenzie, working to the customer's tight deadline, had no choice but to repair this car's with adhesive tape, and that will do the job for the time being, but it would be good eventually to replace the entire sheet – although its availability may be such that you have to make one. The check-strap is currently priced at £37.04 including VAT. If you want someone to do the job for you, reckon on perhaps a couple of hours' labour.



Wooden trim panel has press fixings along its top edge, metal tabs along the lower; carefully prise off accordingly. Plastic recess for door-locking knob (second row, far left) unscrews in usual anti-clockwise direction. Disconnect all wiring after armrest has been removed – and only then attempt to separate bottom part of door card from shell. Most important point is arrowed tab (above), which requires that card be pulled forward slightly before you try to lift it. Ignore that, and you'll leave a tell-tale crease (above)



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## 924S FUSE BOARD EXPLAINED – OR POSSIBLY NOT...

The layout of the 924S's (and by definition the early 944's) fuses and relays is, as I've said in my *Our cars* report this month (see pages 102–104), awkward and chaotic – and I think the Driver's Handbook serves only to cloud the issue. (In the case of at least two of the fuses it appears to be plain wrong, an error that persisted through both of the two editions in my possession, and so cannot really be blamed on a so-called 'typo'.) I have set out here, then, what I now believe each of the relays to be responsible for in my 1986-model car – established by methodically removing them, one at a time, and observing what stopped working – together with what the handbook suggests. I have used Roman numerals to match the style of the Porsche diagram, although in this context I believe those to be unhelpful in the extreme. To be scrupulously fair, there is no

massive difference between what Porsche says and what I have noted in my car but, even so, it is significant enough to cause problems in the heat of the moment, and especially given the inaccessibility of the combined fuse and relay board, tucked up under the end of the fascia.

Even when you have reached the board, removing any of the relays is not easy – and, in the case of some, virtually impossible without the additional dismantling that would today be considered quite unacceptable. Those at the left-hand end of the board, for instance, including the infamously vital DME job, are obscured by the additional fuse box (which the Porsche diagram shows mounted in a completely different position), and I have found that the best way to get at the relays is to remove the two screws and lower it out of the way. You might also want to undo the

single screw securing the relay board itself to its metal support bracket, and then ease it out by pulling it down and towards you (without placing undue strain on the cables behind it), although that requires not insignificant dexterity and some strength, too. It is no less awkward pushing everything back in again.

Even then, you will probably find that the relays' multiple terminals are between them so tightly gripped by their mounting blocks that you need some kind of tool to prise them out. Pulling them via their plastic covers is usually a non-starter, partly because there is nothing much to hold, but also because there is a danger that the cover alone will pull off, leaving the guts of the thing exposed, and liable to damage. For obvious reasons use only a plastic blade or, if (say) a metal screwdriver is all that you have available, first disconnect the vehicle's battery

- I Radiator cooling fan (Porsche says 'cooling fan')
- II DME (Porsche says 'fuel pump', but in truth – or so I understand – it protects the ECU, as well)
- III Heater blower motor (Porsche says 'air-conditioning'. Which is not at all helpful when you know that your car doesn't have it!)
- IV Headlight washers (long defunct in my car, and so for that reason I have left this relay out)
- V **Not used**
- VI Heated rear window (somewhat confusingly the relay has printed on it the term *Heckscheibe*, which translates literally as rear windscreen; also now removed from my car)
- VII **Not used**
- VIII Additional headlights (ie the ones in the front bumper, and in which separate lower-wattage bulbs also serve as the sidelights)
- IX Horn (easily recognisable by its built-in 16-amp fuse)
- X Intermittent windscreen wipers
- XI Direction indicators (and, therefore, hazard lights)
- XII **Not used**

to prevent any possible short-circuits and the resultant fuse blowing – or worse. It is not always sufficient merely to turn off the ignition. Take care when replacing the relays, too, that

you don't bend any of the terminals by forcing them in against an incorrect orientation (easily done, believe me), but also that you push them fully home. Good luck! **PW**



Horton's present 924S relay board (far left) has been carefully checked against the list in the handbook to establish the precise function of each unit, and now 'modified' as per the text panel above. Looking again at an old picture of the red 924S's board (middle) came as a bit of a surprise: there is a relay at position 5 (which the handbook says is not used), and none at six. Go figure! Either way, the smaller extra fuse board is best removed for access to any of the relays – and especially the DME ('fuel pump'), at position 2. The later 944 has a far more convenient location for the combined fuse and relay boards (above)



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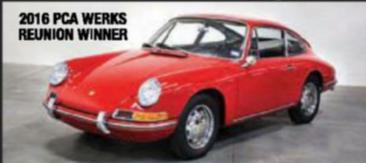


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P1217/038

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P1217/039

911



911 3.0L RS Replica

1974 RHD, original chassis no: 9115100757, production completed Feb 1975. Ex-race car, road legal, last owner 31 years. Exterior paint Guards Red G8. Original selling Porsche Centre PCGB, revised specification: front and rear wings extended RS type, with front and rear bumpers RS type, rear spoiler RSR (long) type, weight 950kg. 3.2 Carrera engine fitted with Club Sport DME, racing exhaust manifolds, 42mm three into one racing headers, 2 off (taken from Mr John Greasley of Dage Sport 911 race car) silencer pre-1974, approx 260bhp. Gearbox: 915 (1975) special close gear ratios 4 and 5; suspension: front torsion bar 21mm diameter, rear torsion bar 26mm, anti-roll bar 26mm [SC type]. Brakes: 993 Turbo, 4 discs and callipers; wheels: BBS Cargraphic front 8.5"x18", rear 10.5"x18"; windows, side and rear plexiglass; roll cage: Safety Devices model (steel) welded into suspension pick-up points; steering wheel: Momo Prototipo; seats: Corbeau race (new); safety belts: Luke 6 point (new). Many spares, including slicks included, history and pictures, Porsche Certificate of Authenticity. A top road and track day car that is 100% reliable, and can only appreciate in value, one year MOT. Email: lena911@googlemail (Marlow, Bucks).

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# THE ULTIMATE 911

The 911 Turbo, it even sounds fast. Back in 1974 the Turbo was a revolution and planted the 911 firmly into supercar territory alongside Lamborghini and Ferrari. Unlike the Italian duo, though, the Porsche was a genuinely useable machine and famously durable. We take a look at the buying pros and cons

**A**t the Paris motor show 43 years ago Porsche launched the first 911 Turbo, and the rest of the motor industry may well have wondered if Porsche management had taken leave of its collective senses. If there was an inappropriate time to launch a fast, thirsty, extrovert and expensive sports car, this was it.

The cost of fuel was going through the roof, and with countries' economies affected by the uncertainty created by another Middle East crisis, it was justifiable to wonder just what sort of market there would be for the 911 Turbo. But within a year the crisis had passed, and the flagship Porsche that had seemed almost a preposterous idea was now seen for what it was, a very desirable supercar.

And the '930', to give the original shape its factory numbering, has always been a charismatic car, even if values were down to around £20,000 in the 2000s. Since then, though, prices have risen dramatically, average cars well over £60,000 and top examples achieving £200,000. But occasionally they pop up for

sale looking like old cars rather than garage queen classics, so what should you be looking for if considering buying one?

## DESIGN, EVOLUTION

The outline of the Turbo is an enduring image from the mid 1970s, with its massively bulging wings, eight-inch rear and seven-inch wide front wheels, deep front spoiler and 'whale-tail' rear wing. The black paintwork some came in emphasised the Porsche's menacing stance. However, there wasn't a great deal to distinguish the Turbo interior from the regular 911, the Turbo even lacking a boost gauge.

Essentially there were two stages of the early 911 Turbo: the original cars, and those from September 1977. The former's 3.0-litre engine, with its lowered, 6.5:1 compression ratio and Bosch K-Jetronic fuel-injection produced 260bhp (though 15bhp less for North America) and 253lb ft torque. At a time by which all manual 911s had a five-speed gearbox, the Turbo used a specially adapted four-speeder based on the existing 915 'box; at the time Porsche

said the engine's wide spread of torque meant four speeds were sufficient, a statement which some might have interpreted as a fear that the five-speed gearbox wouldn't be strong enough.

For the 1978 model year the 911 Turbo engine rose to 3.3 litres and gained an intercooler, this mounted under the rear spoiler which was re-designed (the 'tea-tray') and enlarged to accommodate it. Numerous other modifications were made including a revised crankshaft, new conrods and pistons, a bigger oil pump and the addition of an exhaust air pump for emissions purposes. In European spec the new motor delivered 300bhp, and 303lb ft torque at 4000rpm, 15 and 20 per cent more than before, respectively, although for North America and Japan, output was an emissions-controlled 265bhp and 291lb ft.

The original, un-servoed brakes were updated, now ventilated and cross-drilled discs with four-piston calipers, and with servo assistance. Wheel diameter went up an inch to 16-inch, partly to accommodate the larger brakes, remaining at seven and eight inches in width, although a nine-inch

Wide arches, big rear tyre distinguish the 911 Turbo over lesser 911s of its generation. Having said that, the Turbo 'look' was latterly available for those that wanted the 'show,' if not the 'go'





Interior is familiar and near identical to any other 911 of its era. We'll ignore the wood trim, though! Seats are Porsche's 'Sport' option. From 1977 the 911 Turbo's engine was increased in size to 3.3-litres and gained an intercooler, as seen here

rear rim was optional. However, of greater significance is that by now the Turbo was running Pirelli P7 tyres – the world's first low-profile tyre. The sizes were 205/55 at the front, 245/45 rear.

In 1983 the engine gained a new exhaust and wastegate, which raised European model torque to 317lb ft. Since 1979, the 930 had been withdrawn from North America, returning in 1986 with revised engine management and 282bhp/289lb ft.

A number of equipment updates were applied: in August 1982 the heating system, always cantankerous on a 911 due to it running off the exhaust heat exchangers, was revised; in September 1984 the 930 gained central locking as standard, a four-spoke steering wheel and electric seats; as from September 1986 all cars came with an electric sunroof. A five-speed gearbox was introduced in September 1988 for the final model year production.

In 1986 Porsche introduced the 911 Turbo SE, or "Flatnose", a road-going salute to the iconic 935 endurance racer of the 1970s, whose flattened out bonnet section was part of the overall aerodynamics. The build process involved transferring nearly finished cars from

the Zuffenhausen assembly line to Porsche's specialist engineering unit at nearby Weissach, where they were rebuilt to SE spec. The engine was the Turbo's regular 3.3-litre unit, except with a bigger turbo and intercooler, and higher lift camshafts, output rising 30bhp to 330bhp, but torque unchanged. The year before that Porsche introduced a Targa option for the 911 Turbo, and Cabriolet versions of the Turbo and Turbo SE.

Early Porsche turbo engines are often considered to have crude, on-off power curves, but this simply isn't the case. True, nothing much happens below 3000rpm, but from there on the boost surges in quickly but progressively. What you don't get is the ever present, shrill note of the atmospheric air-cooled 911 engine, the turbo unit feeling quite subdued.

Drivers of early 911s will be familiar with the Turbo traits: a clonky and vague gear shift and a none too light clutch, seats that are comfortable if perhaps not quite supportive enough, and a heating system that is a thing of mystery. But it's undoubtedly a charismatic car to be in.

## DRIVING THE 911 TURBO

The 911 Turbo still feels a very special car to drive, but also quite basic. The lack of power-assisted steering in normal 911s of the time wasn't an issue, but the Turbo's wider front wheels stiffen up the steering considerably; however, the rack-and-pinion system feels responsive and accurate.

The aspect that most dates the early, 3.0-litre 911 Turbo is the braking. The all-disc system does stop you, but a mighty push is required. It's especially noticeable at low speed, and rolling neatly and comfortably to a halt is a delicate operation. But the car rides more compliantly than might be expected.

## WHAT YOU'LL PAY

It does seem extraordinary that until as recently as 2010/2011 you could buy a 930 Turbo for around £20,000, whereas now you might need to budget four times that. 'They were £20,000 for years, and at one point, they were down to about £12,000,' recalls Robin McKenzie, proprietor of Bedfordshire-based classic Porsche specialist Auto Umbau, and who has owned one since 2000. 'When I started this

## TIMELINE

**October 1974**  
Original 3.0-litre 911 Turbo unveiled

**September 1977**  
Engine rises to 3.3-litre, brakes uprated and gain servo assistance

**August 1982**  
Heating system revised

**September 1983**  
Engine revised for increased torque

**September 1984**  
Equipment upgraded, including four-spoke steering wheel and electric seats

**September 1985**  
911 Turbo SE "Flatnose" introduced

**August 1987**  
Targa and Cabriolet versions added to the range

**September 1988**  
Five-speed gearbox fitted

**June 1989**  
Production ceases

## SPECIFICATIONS

### 930 911 Turbo (coupe)

	911 Turbo 3.0 Flat-six, 2994cc	911 Turbo 3.3 Flat-six, 3299cc	911 Turbo SE Flat-six, 3299cc
Engine (cyl/cc)	Flat-six, 2994cc	Flat-six, 3299cc	Flat-six, 3299cc
Power (bhp/rpm)	260/5500	300/5500	330/5750
Torque (lb ft/rpm)	253/4500	317/4000	317/4000
Transmission	4-speed manual	4/5-speed manual*	4/5-speed manual*
Weight (kg)	1195	1335	1346
0-60mph	6.1	5.1	n/a
Maximum mph	153	162	n/a
Wheels (front, rear)	7Jx15in, 8Jx15in	7Jx16in, 9Jx16in	7Jx16in, 9Jx16in
Tyres (front, rear)	205/50, 225/50	205/55, 245/45	205/55, 245/45
Built	1974-1977	1977-1989	1986-1989

Specification figures from Porsche, for European models; US/Japanese 3.3s 265bhp/291lb ft until 1979, 282bhp/289lb ft from 1986; performance data from *Autocar*; \*5-speed from September 1988

Maintenance costs, 930 911 Turbo (including VAT)

Minor service £230

Major service £750

Front/rear brake discs and pads (excludes fitting) £325/£290

Replacement exhaust system (Dansk, excludes fitting) £1460

New shock absorbers (excludes fitting) £1380

Four premium brand tyres (Michelin SXMXX3 205/55 VR16, 245/45 VR16) £1125

Servicing and repair prices from Auto Umbau Porsche; tyre prices from Longstone Classic Tyres, 01302 714072, [longstonetyres.co.uk](http://longstonetyres.co.uk)

## WHAT YOU'LL PAY

**£70,000-£80,000** Starter price for 930s, likely to be a 3.3-litre four-speed  
**£80,000-£100,000** Average condition 3.3s, 3.0 cars, too, but these are rare  
**£100,000-£150,000** Top condition models, five-speed models  
**£150,000-£200,000** The very best, at international auctions and premium classic specialists

business I offered my 930 to a well known Porsche specialist for £23,000 but they weren't interested.'

Most of the 930s delivered in the UK were London cars, Robin reckons, and prices now seem to start at around £80,000. It's surely a sign of just how collectable they've become that the places you'll find most of those for sale are the high profile international auctions held by the likes of RM Sotheby's and Gooding & Company. London classic car dealer Hexagon was offering a 1989 Cabriolet in black with 30,250 miles for £159,995.

There are three categories of 930. First, the original 3.0-litre, which are very rare now. 'Values are dictated by condition, and not necessarily history, as people didn't pay much attention to keeping full service histories, especially if they were company owned,' Robin says. Second is the most readily available 930, the 3.3-litre four-speed. The third is the five-speed and last of the 930s, which now command very serious money.

## WHAT TO LOOK FOR ENGINE

When inspecting a 930 flat-six there are some things that are easy to spot, such as vacuum hoses that are breaking up. But the main thing is to listen to the engine, and

decide whether it's running correctly, Robin McKenzie advises. 'If it isn't, this can be down to many reasons, from the simple to cure, such as old or incorrect RON petrol, to ignition problems. 930s need 98 RON, so do not be tempted to put in 95, as there is no knock sensor or ignition adjustment.'

Broken cylinder-head studs are a common failing, but hard to diagnose unless the cam covers are removed and the head studs actually checked. Valve guides can wear, and you can tell this because the engine will smoke under acceleration, as oil is forced into the combustion chamber and burnt. The turbocharger is reliable, but can be ruined by careless owners. 'People are tempted to change the boost spring up to 1bar, which will ultimately decrease turbo life, and poor oil can cause oil starvation,' Robin explains.

The exhaust system corrodes and can be difficult to change, because it bolts onto the turbo, which gets extremely hot, and the fixings become very corroded. Fuel pumps fail on unused cars, and there are two of them.

## GEARBOX

The four-speeder is a good gearbox, but the synchromesh rings wear, especially on second. Rebuilds on the four-speed are expensive, even more so on the five-

## WHAT THE PRESS SAID

'The remoteness of the engine and the typically turbo silencing effect of its blower make it a quiet engine indeed. Engine noise rarely strays above a hum, even when it's delivering maximum push at around 5000rpm. Only when it's nearing the 6700rpm red line does the engine emit a delicious yowl.'  
**Car**, supercar test, April 1984

'The 930 still packs a big visual hit – although by today's standard the performance is no longer electrifying. And with the unassisted steering and un-servoed brakes, it's actually quite a heavy car to drive. But some early 911 Turbo connoisseurs prefer this to the more refined but less tactile successor. And the Porsche is certainly tractable and un-temperamental in the way that Italian rival exotics of the day weren't.'

**911 & Porsche World**, "Porsche Turbos through the decades", November 2005

speed. Worn bushes in the linkage, not an expensive fix, can make an otherwise good 'box feel bad. 'Driving the car is the only way to find out what condition the gearbox is in,' Robin advises. 'Don't expect a quick, modern shift, allow the 'box to warm up a little and do not force the gears.'

## SUSPENSION AND WHEELS

Not a great deal goes wrong with the suspension. 'Shock absorbers do go, but the simple bounce test should give you an idea of how much life is left in them,' instructs Robin. 'Driving the car will also tell you – a well maintained car is firm but comfortable.'

Pay close attention to the condition of the road wheels. 'Some people will have

Rear 'tea tray' wing handy for picnics. Elevated height to accommodate intercooler. Ugly bumper overriders mark this car as an American version



A true poster car for a generation. Today the 911 Turbo is a solid, if rather expensive, Porsche classic buy. A good one, though, will be relatively pain free from an ownership point of view



## USEFUL CONTACTS

### Auto Umbau Porsche

A Bedfordshire classic Porsche specialist for a number of years, and steeped in earlier 911s. Offers sales and servicing/repairs. Our consultant for this Buyers' Guide [classicporsche.repairs.co.uk](http://classicporsche.repairs.co.uk)

**Shirleys Garage**  
Meriden-based business has been dealing in Porsches since the late 1970s, and, through an associated company, has long experience of servicing and repairing air-cooled 911s [shirleys-garage.co.uk](http://shirleys-garage.co.uk)

**Design 911**  
Constantly expanding company offers a wide range of Porsche parts, and also nominates local fitting centres for them. [design911.co.uk](http://design911.co.uk)

gone down the cheap road and had their wheels diamond cut and lacquered,' Robin reveals. 'These will decrease the value of the car as they will not last, because corrosion will soon attack the lacquer and tarnish the aluminium.'

## BODYWORK

Unsurprisingly a 930 rusts in the same way as a 911 Carrera. Check the bottom of the door catch plates (or B posts); if you see bubbling, rust is present. The front wings rust around the headlamp bowls and at the bottom of the front windscreen. Check the inner wings by lifting up the boot carpet.

Look out for accident damage. 'Most 930s will have been to a bodyshop at some point, but there are good and bad repairs' Robin points out. 'The first thing to establish are which panels have different shades. Reds are especially bad for this, and the only solution is to re-spray the whole car.'

These cars were factory galvanised, so stay away from those that have had a bare metal respray, is Robin's advice. 'If they are sanded to bare metal the zinc layer will have been removed, making them more prone to rusting if the paint is broken

by a stone chip.' Robin's business, Auto Umbau Porsche, has its own re-galvanising equipment, incidentally.

## INTERIOR

Well cared for interiors look good and smell right. 'The driver's seat side bolster will take the most damage, as a result of the driver getting in and out,' Robin observes. 'Thereafter, look at the things people touch the most – the steering wheel, gear knob, door pull handles and pedals.'

The seat bolsters are also prone to cracking if the leather has not been treated over the years. 'Be aware that some seats have been painted to make them look good for a short while, but ultimately the paint collects dirt much quicker and wears off, making the seat look worse than ever,' Robin warns.

Leather dries out – it should be soft and not feel like cardboard. The door cards and door pockets can suffer from water damage, normally caused by shrinking window seals and door membranes being damaged. Head linings deteriorate, especially if the car has been smoked in, and replacing this is expensive as it is a windows-out job.

Security systems are a nuisance, Robin feels. 'The alarm fitters are to blame for wrecking dashboards and interiors by drilling holes everywhere to fit LEDs, and removing trim and not putting it back properly. And most electrical problems are caused by poor alarm installation, where bad soldering has caused high resistance or a break in the wiring.'

## VERDICT

Gone are the days of the 930 Turbo as the discerning hooligan's runabout. It is now a blue chip collectable that has to be kept locked away safely. Values have risen massively in just a few years, and in the long term will probably go much higher.

Judged as a car, the Turbo is a mixed blessing: it's faster than its contemporary, the Carrera 3.2, but the blower robs the motor of some of its shrill character, which for some is more important than extra horsepower. But with the bulging wheel arches and huge rear wing, 911 bragging rights don't get much better. **PW**

## SPOTTED FOR SALE

**Private seller**  
1986 911 Turbo coupe, black, black leather, 69,500 miles, £89,999, Essex

**Prestige car dealer**  
1989 911 Turbo coupe, red, black leather, 49,065 miles, £149,970, Suffolk [ukisudbury.com](http://ukisudbury.com)

**Classic car dealer**  
1979 911 Turbo coupe, left-hand-drive, dark red, black leather, 55,000 miles €127,000 (£111,400), Austria [carcollection.at](http://carcollection.at)

## BUYERS' CHECKLIST

- Old or poor fuel can make the engine run badly
- Valve guides can wear, causing the engine to burn oil
- Turbo life is shortened by skimpy maintenance
- Gearbox can crunch in second due to worn synchromesh
- Carry out the 'bounce test' to gauge the health of shock absorbers
- Look for rust on the door catch plates, headlamps and windscreen base
- Driver's seat side bolster may be badly worn
- An old alarm system is likely to cause electrical problems

# DEALER TALK: DESIGN 911

Previously majoring on value-for-money Porsche parts, Karl Chopra has expanded his business into sales and restoration of classic Porsches, and if there happens to be a 930 Turbo in stock, that's the one he'll drive to work in



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

I started working on Porsches back in 1990, trading from my garage at home. I then moved to bigger premises and then even bigger premises, and now Design 911 has 38,000sq ft of space in Brentwood in Essex, and 25 employees. Our parts department has a comprehensive range of parts for classic and modern Porsches, covering all models from the 356, 912, 911, 944 and 928 to the latest 991-model and the Boxster 718. We are now involved with some major OEM suppliers. We also have a service centre, and a body shop enabling us to offer restorations.

## What Porsches do you specialise in?

We mainly sell earlier air-cooled Porsches – 911s, the 912 and 356. But we also usually have a selection of the 964 and 993 models.

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

The cheapest is a 1971 left-hand-drive 911T Targa which is a restoration project, priced at £25,000. It's pretty solid and rust-free. Currently our most expensive car is a left-hand-drive 1972 911T in slate grey with a red leather interior, priced at £145,000. The engine and gearbox have been rebuilt and the electrical wiring is new, as is the suspension and braking. We sell quite a few 1974–1976 narrow-body 2.7-

litre 911s, and these are normally around £39,000. We also often have rare classics, like the three-litre 930 Turbo, 356 and 356 Speedster.

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

I think the post-1974 "impact bumper" cars are a great classic, even for a daily driver. Even now they can still be affordable, and I believe they are the next collectable 911 to go sky-high in value.

## Where do you get your stock from?

We have an extensive network of customers who are constantly offering us their Porsches, or a car comes into our workshop for a service, and we get chatting to the owner and find out that it could be for sale. We also make a big effort to search out cars worldwide.

## What warranty do you give, or sell?

On classic cars we give our "retail" customers a three-month warranty including parts and labour, and the buyer can, at cost, extend that warranty for up to two years. But even if the car is out of its warranty and something minor happens, we will fix it free of charge.

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

In our experience, customers love the early, iconic "F" series 911 models built from 1965 to 1973, and also the "long bonnet"

911s. The four-cylinder 912, once a bit unloved, has become very popular

## What's best value at the moment?

It has to be the 1974–1976 narrow-body 2.7-litre 911s. At the moment nothing betters them on value, I believe.

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

I once had a beautiful 356 roadster, and I sometimes look back and think I should have kept that one.

## What car do you drive everyday?

When driving locally I like to take out a 930 Turbo, or one of the early 911s we might have in stock. But I do a lot of European travelling for business, and I must confess I do that in my Audi RS6!

## What are your plans for the future?

To continue to expand the business. Now that we have our own body shop, I am particularly keen to develop our classic Porsche restoration work.

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## HELPING YOU BUY YOUR PORSCHE

### USED CAR SEARCH ENGINE "DWARFS THE COMPETITION"

There are so many on-line used car advertising platforms in operation that it can be time consuming and even tiresome looking through for the Porsche you intend to buy. Therefore a new site, Cazana, might be of interest, which essentially pulls together cars for sale on various sites. It's updated hourly, and was founded by Tom Wood, an expert in artificial intelligence and "big data", who claims it has more cars for sale than other similar sites offer.

The service effectively has its own valuation service, averaging the asking prices seen elsewhere. That's quite useful if a Porsche is at the beginning of its transition to classic status, and its value still not reflected in mainstream price guides. Conveniently, Cazana also

presents a car's full MOT history, which is available from the DVLA. A charge is levied for more detailed information – that aspect of the service has still to be rolled out. Visit [cazana.com](http://cazana.com)



## HELPING YOU MAINTAIN YOUR PORSCHE PROTECTING THE WINDSCREEN

With windscreens on all modern cars including Porsches an increasingly complex item, for example being made of thinner glass to save weight, owners might wish to invest a relatively modest sum to protect them. The Reep Group, a UK chain of car care/detailing specialists has introduced a new product called ClearPlex which is claimed to prevent windscreen damage.

It's a clear film which, the Yorkshire-headquartered firm says, was developed in America in association with NASA, and can withstand the impact of stones and other debris thrown up. It's also said to almost completely eliminate UVA and UVB rays, as well as reducing glare for the driver. Costing £300 including VAT for a Boxster and £540 for a Cayenne, it has to be installed by an authorised fitter, of which there are presently eight. Visit [clearplex.co.uk](http://clearplex.co.uk)



# CLASSIFIEDS

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## REGISTRATIONS



**'POR 911L' registration number**  
Would suit any 911 (August 1972 or later), held on certificate of entitlement (V750), no further fees to pay, currently for sale on eBay for £7500 (add no. 132346638510), would accept £7250. You are buying the registration number and not the car in the advert. Tel: 07926 035523. Email: philipjelinek1960@gmail.com.  
**£7250** P1217/007

## REGISTRATIONS



**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@gmail.com.  
**£1500** P1217/029

## REGISTRATIONS



**'EI CAY'**  
The Cay, ready on retention certificate to go immediately for transfer onto your Cayman or Cayenne, valued at £1695, will accept £1200 for quick sale, bargain. Tel: Nick, 07867 806545. Email: nick.southan@btinternet.com.  
**£1200** P1217/036



**Cherished registration**  
'P911 SAB'. Tel: +44 1628 633745. Email: mocflyer@hotmail.co.uk.  
**£9950** P1217/046

## REGISTRATIONS

### PORSCHE RELATED CHERISHED REGISTRATION NUMBERS

911 ADS	911 BEG
REG 911E	911 HDL
S911 LER	911 WVS
TON 997X	911 SCR
POR 997T	911 TYR
POR 911K	911 FEG
1974 RS	911 MSD
993 POR	911 SHE
993 RUF	CAR232A
X993 POR	930 FF
VNZ 911	XXX 911C
964 MC	991 PD
964 GC	911 RWS
RSR 911K	B911 RSR
RSR 911T	A993 XXX
RUF 911T	D911 POR
911 VE	E944 POR

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**£3500** P1217/027



**Registration for sale**  
'JJI 9115', number on retention. Tel: 07810 058297. Email: s-blakeley@sky.com.  
**£2000** P1217/028



**'GT03 DKT'**  
On retention. Tel: 07711 713479. Email: bschalmers@hotmail.com.  
**£350** P1217/030



**'IRZ 996' car registration on retention**  
I have available on a retention certificate so available immediately to transfer onto your 996 'IRZ 996', an ideal number plate at a great price for your Porsche 996, please feel free to contact me if you have any questions. Tel: 07856 687137. Email: colin.fettes@azamour-solutions.co.uk.  
**£1200** P1217/045



**SWANN or 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@gmail.com.  
**£1999** P1217/031



**Boxster 987 owners!!!**  
The finishing touch for your Boxster 987! A dateless reg that can only increase in value. Tel: 07763 719646. Email: pbeb@freeuk.com.  
**£1750** P1217/043

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**BOSTOCK, ultimate plates**  
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**TURBO P (TU12 BOP)**  
Probably one of the best number plates you could have to complement a Porsche Turbo 'TU12 BOP', the plate is on a retention certificate and available for immediate transfer. Tel: 07557 492542. Email: alanhowt@hotmail.co.uk.  
**£1950** P1217/047

## PARTS

**Two Porsche Macan diesel S rear silencers**  
5 months old and covered only 2000 miles, off a March 2017 model. Email: petestans@yahoo.co.uk. P1217/004

**1977 Porsche 911 parts for sale**  
911 parts, bonnet, boot lid, bumpers, various instruments/ sundries. Tel: 07879 466740. Email: keith@seatown.co.uk. P1217/040



**1994 964 Speedster racing seats**  
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**£15,000** P1217/001



**'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: pssall@hotmail.com.  
**£1000** P1217/026

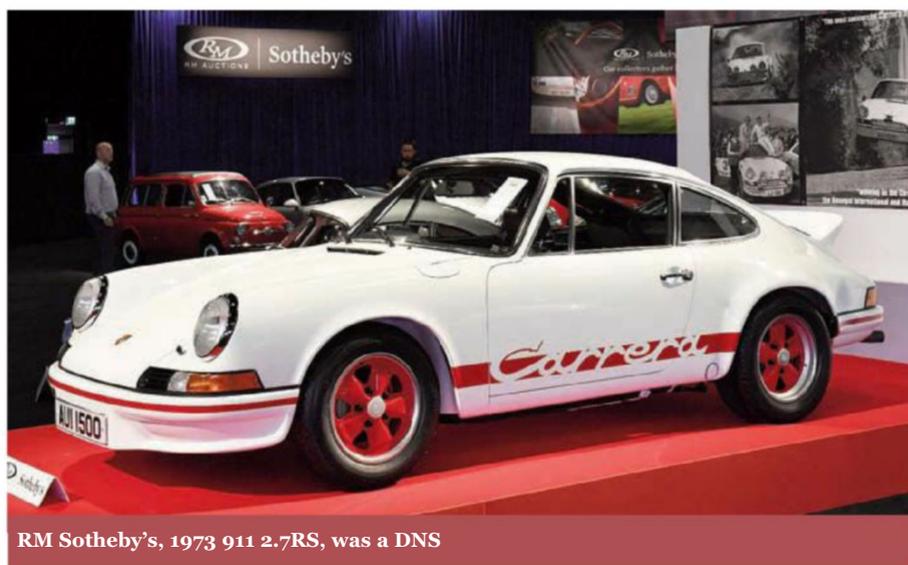


**Cherished number 'BVV 911'**  
Complementary 911 number for that special Porsche. Tel: Keith, 07415 252911. Email: keithnicko@aol.com.  
**£3250** P1217/044

AUCTION/SHOWROOM/CLASSIFIED

# MARKET WATCH

A recent major classic auction in London saw a number of Porsches failing to find new homes. David Sutherland asks if this was because the market is softening, or because sellers have become too greedy when setting reserve prices



RM Sotheby's, 1973 911 2.7RS, was a DNS

As 2017 unfolded an increasing number of siren voices were head telling us that the top end of the classic car market was at best levelling off, and at worst falling. It's easy to look back and identify when a market turned, but harder – impossible perhaps – to pinpoint it at the time. This is partly because although the premium classic market is global, there can still be a marked difference in confidence in California and in London, or in Paris or Stuttgart, which impacts prices.

Nonetheless, September's auctions, both international and local, brought solid evidence that the market was not delivering the prices buyers were expecting, not least at the UK's highest profile annual sale, hosted by RM Sotheby's at the Battersea Evolution venue in Central London. Out of 14 Porsches, mainly classic models, carrying six-figure

pre-sale estimates, just four were sold on the night.

The most spectacular Did Not Sell had to be the right-hand drive 1973 911 Carrera 2.7RS Sport, or "Lightweight", expected to fetch between £825,000 and £1m. Not only was this model, one of 17 Sports sold in the UK out of a 200 production batch, and the one collectors die for, but this particular car's provenance was boosted by it being the final car sold in the UK and hence delivered with some RSR features, after which it raced extensively.

'That RS is a strange one,' commented Peter Haynes of RM Sotheby's. 'On the one hand it's one of the most important 2.7RSs because of its racing history, and it has been beautifully restored. But the question is, as it is with many cars that have been raced, how much of the original car is left?'

A 911 RSR from the batch of 30 built by Porsche's Motorsport department in

1997, and which raced in US endurance events before finding its way into a collection in 2006, did not make its reserve, which we reckon was around £850,000, given its £800,000–£900,000 expectation.

As we mention in this month's Buyers' Guide in the preceding pages, the 930-model 911 Turbo has been the darling of investors, with prices soaring towards £200,000, but the 1975 car expected to make at least £175,000 was another DNS. And, moving on two generations to the 993, the seller of the 2133-mile, 1996 911 Turbo was looking for too much, at £165,000 to £195,000.

Are we seeing a turning point in the classic car market as a whole, or something pertaining to Porsches in particular? 'The market for limited run Porsches of the 1970s, '80s, '90s and 2000s has never been hotter than in the last two years, but inevitably there comes a point

when the market can't take any more inflation and I think we've reached that point,' Haynes told us.

He adds that it's a familiar scenario: 'There's been a correction in the Ferrari market over the last two years, and probably the same thing is happening with Porsches.' But the problem is not the cars, but the owners, he continued. 'It's become quite hard to consign cars at realistic reserve prices now – people seem to think that if a car sold for £500,000 at a high profile auction a year ago, then it must be worth £550,000 this year. They need to accept that in many cases it's still a £500,000 car.'

But if the auctioneer's hammer mostly fell at Battersea without the satisfying crack of a sale, there were some strong prices achieved. A black, 18,000km (11,250 miles) GT2 – the ultimate road-going, air-cooled 911 – sold for £775,625, which was £26,125 above its upper estimate, while a 1971 911E thrust past its £70,000–£90,000 estimate to make £126,500. The 2003 911 GT3 RS's £126,500 was £3500 short of expectation, but nonetheless was a reminder of how the original lightweight 996 GT3 has left its list price behind in little more than a decade.

Even cars that sell can hint that the model is perhaps being touted at ambitious prices, such as the 9365-mile 2011 911 GT3 RS 4.0 that was sold for £287,100, more or less in the middle of its upper and lower estimates, at Bonhams' Goodwood Festival of Speed sale, occurring three days after Battersea. At that time, Lakeside Classics

in Shrewsbury in Shropshire was asking £346,500 for the same model with 7342 miles.

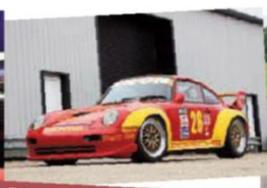
At what is one of the UK's most likeable local classic auctions – Historics at Brooklands, held at the Brooklands Museum – an interesting looking race replica of the 1970s Group 4 'Jagermeister' Tribute, based on a 1980 911SC, was offered in the September sale. Previewing this car in our October issue we said that with its £70,000–£90,000 estimate it 'seems pretty good value', but our crystal ball must have been having an off day because it didn't find a home. Sellers of two earlier Porsches, a 1967 912 (£27,000–£34,000) and a 1972 911T Targa (£29,000–£36,000), pulled their cars at a late stage.

We tend to look at prices achieved at the top end of the market for a steer on values, but life at the other end can also be revealing; two cars in particular, which for many years we've regarded as Auto Trader/eBay cheapies, the 944 and 928, provided more proof that this mindset is out of date. Historics collected £33,040 for a tidy but not immaculate 1990 928GT with 71,030 miles, while at Goodwood, Bonhams sold a 1992 944 S2 SE with 85,000 miles for £40,250, its price reflecting that it was one of 14 very late 944s built with special equipment.

We think it unlikely that the classic Porsche market – at whatever price point you're looking – is going to drop off. But sellers should also bear in mind Haynes' observation: 'There is a buyer for everything – if the price is right.' **PW**



RM, 1996 GT2, £775,625



RM, 1997 RSR, DNS



1971 911E, £126,500



2003 GT3RS, £126,500



Bonhams 2011 GT3 RS 4.0, £287,100



Bonhams 1992 944S2 SE, £40,250

# TRIED & TESTED

With 911 & Porsche World's roving tyre kicker, Kieron Fennelly

PORSCHE 993 TARGA 1996 99,600 MILES £42,495



**T**he 993 Targa was introduced with the facelift for model year 1996. Visually the 993 was virtually unchanged, but modifications to the engine included larger inlet and exhaust valves and Varioram induction, a first stage to tailoring air input to actual engine requirements. Power went up from 272 to 285bhp, attributable to the revised cylinder head, not the impressive-looking Varioram which noticeably enhanced torque. The 993 Targa was a landmark because it replaced the removable roof panel, a design synonymous with Porsche since 1967, with an elegant sliding glass roof arrangement. Combined with the 993's other refinements, the 911 Targa had become more sophisticated tourer than uncompromised sports car.

This Targa has spent most of its life in the north or western Home Counties and its five owners have clearly looked after it: the service stamps are so numerous they extend to a second book. Six consecutive HR Owen services at St Albans or Hatfield cover the period to 2001 and 62,288 miles. These are followed by a stamp from Prestige Autos in Reading and then an unbroken run of thirteen stamps from Northway Porsche, the last dated June 2017 carried out at 99,369 miles. The last owner purchased the car from Northway in March 2017 and he spent considerable sums on refurbishment: new springs, dampers and rollbars, a four-wheel geometry reset and new tyres.

Externally, the Targa looks as smart as you might expect: the polar silver metallic of the body suits the

glass roof and the 17in split-rim alloys are unmarked. The fractionally imperfect fit of the front valance means it was probably replaced at some point in the past; the paintwork shows some stone chips around the bonnet and there are small rust bubbles around the opening roof and that 993 favourite, the windscreen. Ray explains that the previous owner's priority was the suspension and he planned to attend to the paintwork, but a sudden change of circumstance obliged him to sell the Targa, hence its return to Northway after barely four months. The cabin in black leather is unspoiled, the seats and steering wheel unmarked and there is no sign either of the scuffing which disfigures some 993s where a briefcase (remember those?) has been tossed into the back of a car that, in its day, was the ultimate executive express. The opening roof and blind slide smoothly and the a/c produces impressively cold air.

On the road, this Targa feels very good: on uneven surfaces there are the inevitable creaks from the roof, but the suspension renewal really makes itself felt – steering and handling are spot on. The gearshift is precise, the clutch bites where it should and the brakes, which appear to have plenty of material, are authoritative. The flat-six is lively and responsive and its addictive zest is proof if ever it were needed that, with regular care, these air-cooled engines will retain their performance well into their third decade.

This 993 is a fine 911 which lacks only minor repainting to make it perfect. The Targa is not to everybody's taste, but you'll pay £8–10,000 more for a 993 coupé in comparable condition. **PW**



## CHECKLIST

### BACKGROUND

The 993 was the car that saved Porsche: despite the budget-driven compromises in its design – it could have had a water-cooled engine and a completely revised roofline and cabin – it was well received. The revisions to the air-cooled 3.6 extracted a little more horsepower and torque, but provided above all rather more refinement. This complemented the new multi-link rear suspension which offered an improved, quieter ride and more secure on-the-limit handling. The new six-speed was much appreciated as was the handling of the C4 version which, with a variable torque split between front and rear axles, was much more '911-like' through the corners than its 964 predecessor.

### WHERE IS IT?

Northway Porsche in Berkshire will be familiar to many if not most 911&PW readers. Ray Northway was the UK's first Porsche trained technician and he established himself as an independent operator in the early 1990s. Service and maintenance have always been his priority and he is still to be found most often in the workshop, but he has long kept a handful of cars for sale. "I'll buy and sell a car when I'm happy with its history; the cars I've turned away over the years have been either dubious or suffered botched customisation jobs." The Targa, subject of this T&T, is typically a car Ray knows well: "I've sold this one three times before." Tel: 01189 714333, [northway.co.uk](http://northway.co.uk)

### FOR

Excellent mechanical condition and driving experience; unspoiled cabin.

### AGAINST

Paint will need attention around windscreen and roof.

### VERDICT

If a usable 993 Targa is what you are after, this one will take some beating.

### VALUE AT A GLANCE

Condition	●●●●●●○○
Price	●●●●●●○○
Performance	●●●●●●●●
Overall	●●●●●●○○

# CLASSIFIEDS

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## PARTS

**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 (located south Manchester).  
**£500 ono** P1217/005



**Porsche 993 RS Speedline wheels OEM 911**  
Unobtainable Porsche 993 OEM set of 4 Speedline wheels, 2 fronts 18x8ET52, 2 rears 18x10ET65. They are brand new, never mounted, ever, no kerb rash, oxidation etc, zero imperfections. Tel: 07783 624679. Email: rallyparts@tutanota.com.  
**£3500** P1217/014



**Restored Porsche Fuchs 1973 flat six**  
Rare set of genuine 1973 Porsche Fuchs flat 6, fully restored, offers in excess of £3000, more pics and serial numbers on request. Tel: 07768 860433. Email: lee@mkflooring.com (Bucks).  
**£3000+** P1217/002

## PARTS



**Porsche 911 Weber carburetors 46 IDA OEM**  
Beautiful set of Porsche OEM 46 IDA3C carburetors. If you're restoring a 906 or are looking for the best OEM 911 carburettor produced by Weber for Porsche, here it is. The intakes are PMO, email for more photos if interested. Email: racep@tutanota.com (USA).  
**£3500** P1217/020



**'75 '76 '77 Porsche 911 911S engine motor 2**  
'77 911 Targa 2.7 litre engine, 80,000 miles, ran great, engine turns smooth, comes with distributor, oil cooler etc, email me for more pics if interested. Email: gavinblaublau@gmail.com.  
**£3000** P1217/024



**Porsche 911 Weber 46 IDA carburettor**  
Porsche 911 Weber 46 IDA few carb original RSR ST 906 good condition with bridges. It came from a running engine, even with the original stamp on it. Tel: 07783 624679. Email: rallyparts@tutanota.com.  
**£4000** P1217/022

## PARTS



**Porsche 911 RSR ST 2.5 MFI**  
Genuine Porsche -Bosch 911 ST/RSR MFI mechanical fuel injection pump, this will fit most mechanically injection Porsche competition cars from 1971-1974. The pump has been in storage for many years, the dual actuator moves freely and the pump turns nicely as it should. Email: gavinblaublau@gmail.com (Kent).  
**£10,000** P1217/017



**Genuine Ruf wheel set for Porsche 993**  
Ruf wheels (complete set of 4) for Porsche 993 including tyres Pirelli P Zero. Front: wheels 8.5 J x 18 H2 ET58, tyres 225/40 ZR 18 N4 DOT 0910; rear: wheels 10 J x 18 H2 ET66, tyres 285/30 ZR 18 N4 DOT 3607. Wheels are in perfect condition, no damage at all, tyres are perfect with 7mm profile, centre caps not included, fits C2, C4, Targa, S, 4S, RS, Turbo. Tel: 32 475 723939. Email: guysteen68@gmail.com (Belgium).  
**£2400/£2750** P1217/019

## PARTS



**996 pair clear headlights (not Litronic)**  
Pair of clear headlights for 996, non Litronic, good condition complete with all bulbs, buyer collects. Tel: 07850 667555. Email: paulkayvin@gmail.com (Essex).  
**£600** P1217/016



**Porsche Carrera 911 996 3.6L engine**  
02 03 04 05 Porsche Carrera 911 996 3.6L engine assembly motor dropout, 80K miles, engine runs great, email me for more photos if interested. Email: gavinblaublau@gmail.com.  
**£4000** P1217/015



**Porsche 912 E engine**  
Nice used condition with perfect leakdown and compression, complete 912 E engine with excellent heat exchangers. Our mechanics have leaked down this engine and it has perfect compression as well, ready to install. Email: raceparts920@gmail.com (USA).  
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# TRIED & TESTED

With *911* & *Porsche World's* roving tyre kicker, Kieron Fennelly

**BOXSTER 986 1998 'S'REG 39,600 MILES £8495**



It has been apparent for some time that used 986/987 Boxster prices are on the up, and while I was looking around to see what the oldest and cheapest examples had to offer I was intrigued to come across this 1998 model priced at over £8000. Phil Raby's example has the original 2.5 engine, the beefier 3.2'S' not appearing until a couple of years later. A seemingly little used 986, which covered 20,000 miles in its first two years and then averaged a little over 1000 miles/year ever since might be expected to be in good shape and it is: the yellow paintwork has good lustre and is largely unmarked and there is nothing to suggest wholesale respraying or attention to the body. At the rear a neat fixed spoiler is a distinguishing feature. The hood, unblemished except for a slight nick, needs a brush, but has none of the verdigris of a car that has lived outdoors and the rear screen is still reasonably clear. The interior has the attractive ruffled leather seat option and the leather extends to the dash which has a full climate control rather than the more usual cold air a/c. The absence of wear on the leather steering wheel and gearshift further confirm this Boxster's quiet life. The hood mechanism works correctly, needing only manual

intervention with latching to the windscreen.

The service record shows the original August 1998 sales price of £36,500 and a series of stamps from PC Silverstone. New ignition coils and a new catalyst were fitted in November 2016 and Raby has subjected the Boxster to a full service. Tyres are half-worn Conti Sports at the rear and third-worn Bridgestones on the front, and with a fresh MOT this Boxster is all set for the open road. Mated to a five-speed the 2.5 is surprisingly torquey, the gear ratios well chosen and roof down this is real sports car motoring. If the acceleration is not quite kick-in-the-back, the 986 is as brisk as you would want and sixty mph feels exactly that. The new front rollbar no doubt contributes to the exemplary steering, and together with its ride quality and damping, this is where the early Boxster, still satisfyingly analogue, is so different from sports cars of yore. Response to the driver's right foot would no doubt improve with the regular use this 986 has long been deprived of, but the flat-six is eager enough and, for a blat around Sussex's country lanes, it's tremendous. A future classic, as its vendor suggests? Perhaps that is a little optimistic, but for 8k or so here is an authentic flat-six Porsche, unworn and nicely optioned that is just asking to be driven. **PW**



## CHECKLIST

### BACKGROUND

The Boxster concept was greeted with huge applause when revealed in 1993, an important morale booster for a Porsche emerging from a very dark period. When launched in 1996, the final Boxster design was remarkably close to that original concept and this contributed to its appeal. Once more Porsche was offering an entry level model, but unlike the previous transaxle range, it was bang up to date, and clearly the best handling sports car in its class. Not even Tiff Needell managing to snap the Boxster's cable gearshift on *Top Gear* could dent the waiting lists. Over 20 years the Boxster has never lost its early momentum, reaching parts of the market other Porsches couldn't and simply getting better and better.

### WHERE IS IT?

Long time *911* & *PW* readers may remember assistant editor Phil Raby whose LHD Carrera 4 964 appeared regularly in the early 2000s. Phil went on to found another Porsche title (*Judas! Ed*) which he built up and sustained through 80 or so issues before turning to Porsche sales. "I had started selling one or two cars from home when I was editing the magazine and, after five years, it became full time. I've always liked the buying and selling aspect of Porsches. Today I rent premises from AW Motorsport next door and those guys do all my servicing and prep. You have to prepare these cars properly for sales and offer a guarantee. It takes a while to get a decent reputation and when you do you don't want to lose it. I sell two to three cars/month and I often find myself selling the same Porsche again a few years on. Last year was very good, but with everything that's happening politically, I'm finding buyers are a shade more cautious this year." Phil Raby is at Southbourne, just off the A27 between Portsmouth and Chichester. [philraby.co.uk](mailto:philraby.co.uk) 01243 780389

### FOR

Original early 2.5, low mileage FSH car with unmarked body and leather interior.

### AGAINST

2.5 lacks the firepower of larger engined 'S'; minor rattles from the hood and doors.

### VERDICT

Fine example of the first Boxster with a distinct period sports car feel offering the roof-down pleasures of TRs and MGs but dynamically in another century.

### VALUE AT A GLANCE

Condition	●●●●●●○○
Price	●●●●●●○○
Performance	●●●●●○○○
Overall	●●●●●○○○

# CLASSIFIEDS

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## PARTS



**Porsche 911 Weber 40mm carbs 40ID**  
 Pair of Weber carburetors, 40IDAP3C and 40IDAP3C1, including the air cleaner bases. The carbs are in good perfect condition, asking price is \$1600, and I will ship worldwide. Tel: 207 890 1234. Email: [raceparts920@gmail.com](mailto:raceparts920@gmail.com) (USA).  
**£1600** P1217/013



**Porsche 911SC 3.0 engine crankshaft**  
 Genuine, early 911SC fully CCR-refurbished, counterweighted 911SC crankshaft, condition is excellent, asking price is 1600 Euro, and I will ship worldwide. Tel: 614 341 4554. Email: [racin@protonmail.com](mailto:racin@protonmail.com) (Netherlands).  
**€1600** P1217/025



**Porsche 911 parts for sale**  
 Rear spoiler off '75 2.7, £400; complete black carpet set, £50; rear lower quarter panels off SC, £40 each; rear lower quarter panel off 2.7, £30, needs work; front smile, £35; front roll bar, £50; s/s exhaust system, £350; 1 s/s heat exchanger, £250; front steering cross member, early steel, £60; pair wishbones, rusty but ok, £50pr; ono on all items plus other items available, call or email for details. Tel: 07903 783586. Email: [d.m.stllr@ntlworld.com](mailto:d.m.stllr@ntlworld.com).  
**£995** P1217/048

## PARTS



**Porsche 987 Boxster S engine 3.2 9871009**  
 Factory rebuilt Porsche 987 Boxster S engine 3.2 98710092602 M96.26 fitment: 2005-2008 Boxster. Condition is excellent, asking price is 6000 Euro, and I will ship worldwide. Tel: 614 341 4554. Email: [racin@protonmail.com](mailto:racin@protonmail.com) (Netherlands).  
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# TIME MACHINE



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

## DECEMBER 1998 (ISSUE 57)

**R**ead it and weep: 'Bargain-basement 911 – Buy this 2.4T for £6500.' That was the screaming coverline on the Dec 1998 issue, and even taking into account nearly 20-years of inflation the equivalent price today would be a massive bargain. True, this was a 'bargain basement 911' for a reason, and it had a 2.7-litre engine instead of the 2.4, but even so, it was solid and a great drive, by all accounts. And it flew in the face of what we described as the 911's classic status pushing prices in to the 'stratosphere.' Today, then, you would have to say that classic 911 prices have gone beyond the stratosphere, wherever and whatever that might be!

The 996 range was beginning to expand with the launch of the Carrera 4. We were there, of course, and described the new machine as a 'quantifiable' leap forward praising – in particular – the seamless integration of Porsche's Stability Management system and proving that 'it is possible to engineer active handling aids that really can be servant and not master.'

A hot topic at the time was the demise of 4-star petrol, which was causing nearly as much angst as the impending millennium bug computer meltdown. Of course neither came to much. As we noted, America had been running unleaded since 1979 and as such all Porsches from that time on had the wherewithal from a valve seat point of view to accommodate the new mix. Of more concern, perhaps, was the weakened state of the fuel at 95 octane, but, as we also pointed out, many Porsches were happy on this brew, plus 98 octane was widely available, too. Storm and tea cup come to mind, and as for that pesky millennium bug thing...

## DECEMBER 2014 (ISSUE 249)

**W**e decided it was time to big up the 996 on the front cover of the December 2014 issue. Why? Well, many would say that we've always been generous to the 996, despite being brutally honest about its many foibles, which is perhaps why others were beginning to accuse us of some sort of vendetta. Whatever, we decided on the 'star car' studio treatment and a reappraisal of the 996's position on the 911 ladder, which was to say very much at the bottom, but take advantage of that fact now because such a state of affairs won't last forever and nor will the bargains. And you know what? We were right, too!

Elsewhere we put the then new 991 GT3 through its paces at a very wet Silverstone, which was a stern test for both its Michelin Cup tyres and traction control systems.

Devoid of such trickery was a narrow bodied classic 911 with a 930 Turbo engine installed in its rear by our good friend Johan Dirckx. Needless to say it was overkill – but in a highly fun rear tyres shredding sort of way.



Turning to the back of the magazine in the classified pages, there was no shortage of budget classic 911s to complement the cover star. A left-hooker 1968 911T at £4495 and in need of cosmetic restoration seemed more than reasonable, as did numerous other pre '73 cars at well under £10k. Turbos seemed to be particularly unloved, with (as described) an immaculate 1984 LHD 911 Turbo up for £16,950. Even more appealing, though, was a 911RS rep based on a 1972 911T at £18,500. If only time travel really were possible...



## DEC 2002 (ISSUE 105)

**C**ayenne first drive! Now there's a coverline to illicit a response from the Porsche faithful. First of the 911&PW crew to get behind the wheel was columnist and ex-Porsche GB Press man, Michael Cotton, who was happily convinced by the whole experience pronouncing the Cayenne as a 'proper' Porsche and so outing himself as some sort of heretic in the eyes of many. We jest, of course, but the truth is there remain many that will never forgive Porsche for building such a machine, but then they probably still feel the same about the 924 and any water-cooled 911. Truth is, the Cayenne is a deeply impressive machine that needs to be driven to be appreciated. Not only that, but Porsche had the absolute foresight to build it, too, and so get the jump on just about every other premium manufacturer.

Now please don't think I'm implying anything here, but Keith Seume's Carte Blanche column celebrated the joys of driving an old Porsche as he and long term partner in crime, Delwyn Mallett, made a now long forgotten journey in Delwyn's 356 Speedster and Streamliner duo to meet up with some other 356 owners. It rained, it was windy, the brakes didn't work, they got wet, but apparently it was fun and no doubt character building. These days they're the first on the phone to the Porsche GB press office for something big and comfortable, when a long jaunt is in the offing!

Back to the front cover and we boasted of 15-pages of readers' classified ads. Of course the internet has decimated the classified world. But flicking through, there was also a full page Tried & tested on a 911SC that I actually went to see for myself and very nearly bought at £8000!



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