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HAPPY NEW YEAR!



There we have it - another year of 911 & Porsche World wrapped up. For a variety of reasons, it's been a fantastic twelve months for marque enthusiasts. Even so, this issue of the world's best-selling monthly Porsche magazine lands on newsstands a whisker away from 2024, which guarantees more reasons to celebrate, not least the G-series 911's fiftieth anniversary, thirty-five years of 964, the 993's thirtieth birthday, twenty-five years of 911 GT3 and much more besides. As you'd expect, we're planning special celebration issues for each of these milestones in Porsche's production timeline, but we're an impatient bunch, hence our decision to showcase Dave the Trimmer's fantastic 1989 964 Carrera 2 on the cover

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of this very issue. Well, as we bid farewell to 2023, we might as well go out with a bang.

By the time you read these words, Christmas will have been and gone. I hope you had a cool yule and Santa Claus brought you and your precious Porsche all the goodies you asked for, especially if you're planning maintenance and upgrades for the car in the run up to show season, which promises a packed calendar of events. For now, though, I wish you and yours health and happiness for 2024. Happy New Year, friends!



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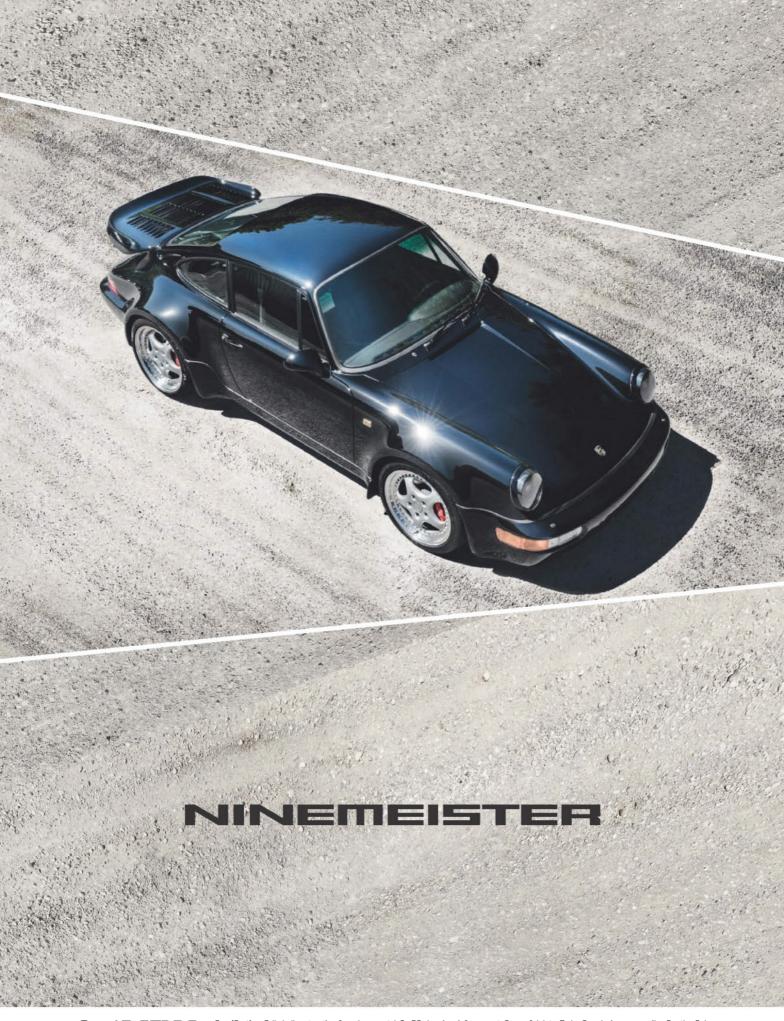
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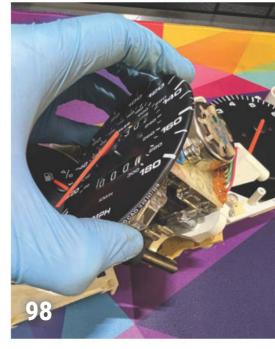


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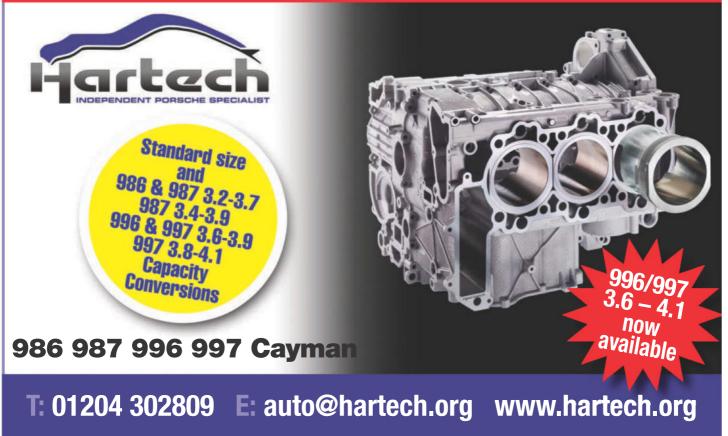


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BACK TO BASICS

Resplendent in a lick of Ruby Star Neo, the 718 Cayman Style Edition certainly draws attention, which seems to be the primary reason for its existence...

Words James Fossdyke Photography Barry Hayden



RK23 AKG





I he definition of style is ever-changing. After all, things drift in and out of fashion and favour with each successive change of wind direction. With

this in mind, naming a new car Style Edition is a bold move, but perhaps we should give Porsche a bit of leeway with its striking new 718 Boxster and Cayman trim presentations? After all, this is the brand responsible for the 356 and aircooled 911, cars favoured by style icons of the silver screen, including James Dean and Steve McQueen. And yet, it's hard to look at the new 718 Cayman Style Edition and not feel confronted by the recent *Barbiecore* trend. I can almost hear Aqua's squeaky bubblegum pop music as I write these words.

In fairness, Ruby Star Neo is inspired more by the gleaming annals of Porsche history than the archives of Mattel – as most of you will know, this particular colour is based on Rubystar Red, made famous by the 964 RS and 944 S2. Ruby Star Neo isn't specific to the 718, though. This arresting hue is available across both the 911 and 718 ranges, but serves as launch colour for the Style Edition, which contrasts the bright paintwork with white wheels, white body stripes and white rear badge lettering.

As a result of Porsche also offering the Style Edition with black body stripes, black wheels and black badge lettering, you don't have to stick with the colour scheme seen in our photographs, but let's face it: white works brilliantly against Ruby Star Neo. All things considered, however, resale value will probably be higher if you stick with Guards Red or Racing Yellow paintwork, both of which are available alongside numerous other popular shades from the Porsche colour catalogue.

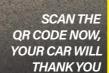
The divisive Ruby Star Neo might be the biggest talking point with this new Cayman, but it's far from the *only* talking point. As standard, you get twenty-inch alloy wheels, black sports tailpipes and sparkling silver Porsche lettering across the tail. Buyers can elect to dismiss the body stripes (applied to the doors and frunk) or, as intimated, pick between a choice of black or white decals. No matter which accent you choose, you'll get a coloured Porsche crest for each wheel, as opposed to the monochrome hub caps found on the standard Cayman.

Inside the car resides black leather with contrasting Chalk stitching and embossed Porsche crests on the head restraints. Illuminated stainless steel door sill protectors also feature, as does a heated steering wheel, complementing automatic mirror dimming and wiper operation. This is in addition to standard 718 Cayman features, such as the central infotainment system and an instrument display comprising a combination of analogue and digital dials. Apple CarPlay Above Let's face it, any Porsche looks good in Ruby Star Neo, an interpretation of a colour made famous by the 964 RS and the 944 S2

Below Cabin remains much the same as a standard 718 Cayman



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is also included as standard, along with Android Auto and heated seats.

WHAT'S THE STORY?

As a result, the overall impression is much the same as that of the standard 718 Cayman. This is fine — the quality is good and there isn't too much wrong with the styling, although the infotainment system is starting to show its age — but it means the Style Edition fails to feel any more special than a regular Cayman. There's no major difference lifting the cabin any more than a few considered cost options can manage, although if you stick with the aforementioned decorative body stripes, you can see the frunk-stuck decal from the driving seat.

On a more positive note, the lack of major differences in the cabin means the Style Edition is just as practical as a standard Cayman, offering a 150-litre front luggage compartment and a further 150 litres between the rear window and the engine bay. In truth, the space isn't massive, and bulky items will be tricky to squeeze in, but the 718 should be spacious enough for a couple's weekend away. Not that practicality is really the point of any Cayman, special edition or otherwise.

The Style Edition's two-litre turbocharged flat-four may not be the pinnacle of the range — this Porsche powerplant has been sneered at ever since the 718 Cayman's introduction — but were it not for the six-cylinder engines in Caymans of old, it wouldn't have too many detractors. Admittedly, the two-litre boxer is shown up by the normally aspirated four-litre flat-six powering the 718 GTS 4.0, but with 295bhp and a seventy-kilogram weight saving, the Style Edition is hardly a slouch. Our test car came equipped with the fabulous PDK seven-speed twin-clutch gearbox, allowing the sprint to 62mph from rest in 4.9 seconds (a two-tenth improvement on the optional manual gearbox), romping on to top speed of 170mph. This means the Style Edition is less than half a second slower to 62mph than the GTS 4.0 and just 12mph lower in the top speed stakes, not that many buyers will ever explore the true performance potential of this new Porsche.

The big difference, therefore, is the noise. The flat-four doesn't sound spectacular, although being horizontally opposed, it's nowhere near as dull as an inline-four in standard trim. Compared to a six-cylinder 718 Cayman engine, however, the two-litre unit sounds decidedly tame. This is despite the inclusion of the sportier tailpipes, which change note (slightly) when Sport or Sport Plus driving modes are engaged on the optional Sport Chrono package. Above Two-litre turbocharged engine is perky enough for road driving and is ably assisted by PDK

Below Colour-coded badges join sameshade body stripes and wheels

TECH SPEC

Model	718 Cayman Style Edition
Price	£65,336 (as tested)
Powertrain	2.0-litre turbocharged flat-four petrol and seven-speed
	PDK semi-automatic gearbox
Economy	30.7-31.7mpg
CO ₂ emissions	201-208g/km
Top speed	170mph
0-62mph	4.9 seconds
Power	295bhp
Torque	280lb-ft at 2,150-4,500rpm
Weight	1,365kg (DIN)



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Above Infotainment system feels a little dated, but this is true of all 718s it's important to remember the model is eight years old Ultimately, this Cayman never feels as sonorous or as rich as the GTS 4.0.

The seventy-kilogram weight saving doesn't only help when it comes to performance. It allows the Style Edition (and the basic 718 Cayman on which it is based) to be more economical than more powerful versions

of the 'baby 911'. For example, where a PDK-equipped GTS 4.0 will guzzle a gallon of super unleaded every twenty-eight miles, the Style Edition

manages up to 31.7mpg (according to official economy tests). We found it even easier on fuel during a long journey, nudging 40mpg on the motorway. It's worth noting how PDK-equipped 718 Caymans are (on paper, at least) more efficient than their manual siblings, despite the semi-automatic transmission adding an extra thirty kilograms.

This is a Porsche, which means we must address the question of handling. We're accustomed to the fact every Cayman drives brilliantly, but take our advice and pay extra for the Sport Chrono package, which gives you access to various driving modes. In Sport, the car feels sharper and more eager, particularly with the PDK gearbox. Sport Plus, meanwhile, really makes this 718 come alive. Our car was also fitted with the optional Porsche Active Suspension Management (PASM) system, which lowers ride height by ten millimetres and

BECAUSE THIS IS ONE OF THE LIGHTER CAYMAN MODELS AVAILABLE, IT FEELS MORE AGILE THAN ITS SIX-CYLINDER SIBLINGS

provides an adjustable damper setting. Combine the two systems and you can really exploit the Cayman's abilities, which are more than plentiful. Make no mistake, with its relatively light engine positioned amidships, the Style Edition is a beautifully balanced car. Porsche's sublime steering feel only adds to the sense of great control. And because this is one of the lighter Cayman models available, it feels more agile than its six-cylinder siblings. It isn't a world of difference, but enough to feel a fraction nimbler when you push on.

This Cayman certainly gives you every encouragement to do so. With the

dampers in their sportiest setting, the car feels incredibly tactile and responsive, while grip is ample, noted when the nose darts into corners. Even when you're in comfortable cruising mode, this Porsche feels sharper than most sports coupes. Whichever way you cut it, the

> Style Edition is a stonkingly good Porsche, keeping the Cayman's reputation intact despite the questionable colour scheme.

There is,

however, a trade-off with PASM. While the Style Edition is remarkably supple when the system's softer driving mode is selected – especially when compared to more aggressive Caymans and the 992-generation Carrera – the sportier damper mode is, well, quite stiff. You effectively trade a substantial chunk of comfort for a minor improvement in control and responsiveness. While this might be absolutely fine on a racetrack, the more savage ride quickly becomes tiresome on the road, especially in the UK, where potholes are rife.

Leave the dampers in their softer setting, though, and the Style Edition's

911& Porsche



ride is near perfect. Despite the presence of larger wheels than those of the standard 718 Cayman, the absorption on offer is such that the Style Edition feels very comfortable, even on a long drive, although the supportive seats may be a contributing factor. Either way, the Style Edition makes a surprisingly pleasant

long-distance companion. Road trips really aren't as tricky as might reasonably be expected.

Until, that is, you get to a speed bump. Working on

the assumption you approach humps in the road with a modicum of care, the previously mentioned ten-millimetre drop in ride height isn't a problem, but even the most careful of drivers will occasionally find the underside of their new Style Edition scraping over the top of a sleeping policeman. In a car this bright, the resultant noise can make the car's occupants feel decidedly conspicuous.

At least, by Porsche standards, they aren't worrying about an especially expensive car. Granted, in anyone's book, our test Style Edition's recommended retail price of more than sixty-five grand isn't cheap, but given the Cayman range extends well past the £100,000 mark, the Style Edition is one of the less expensive options. In fact, with a list price of £56,000 on the dot, this two-seater tin-top commands a premium of just £4,200 over the standard 718 Cayman. Given twenty-inch wheels are ordinarily an option costing almost £2,000, and not forgetting the heated steering wheel would be an extra £362, the Style Edition doesn't appear to be bad value for surprised we are Porsche bothered developing this Cayman. With a higher price tag than a basic 718, no extra performance and nothing to really make it feel more special, it's a bit of a damp squib for anyone not excited by gofaster stripes. If you want a new Cayman with a few mechanical upgrades and

a smattering of

luxury equipment,

you're far better off

buying a standard

personalising it.

like more of an

This sounds

model and

WHILE £4,200 ISN'T A HUGE AMOUNT OF CASH IN THE PORSCHE WORLD, IT'S ENOUGH TO PAY FOR A COUPLE OF CHOICE EXTRAS ON A BOGGO 718

money. As long as those are the options you'd choose, of course.

Our test car's nine grand's worth of additional kit didn't include some of the gadgets we'd have liked, such as adjustable electric sports seats. And although Porsche has made a song and dance about Ruby Star Neo, it's a £1,824 option. At least Guards Red and Racing Yellow are offered free of charge. In this context, it's difficult to describe the Style Edition as truly *great* value for money. While £4,200 isn't a huge amount of cash in the Porsche world, it's enough to pay for a couple of choice extras on a boggo 718 Cayman.

All of which means the Style Edition doesn't make much sense. In fact, the more we think about it, the more

indictment of the Style Edition than it should be. This isn't a bad car by any stretch of the imagination. It's a new Cayman, after all, and even in two-litre form, the 718 is a brilliant sports car. We have no doubt the Style Edition's looks will hold appeal in some quarters, too. There is a place for this car in Porsche's current product range, if only to show prospective Cayman purchasers the various personalisation options available. We're also not oblivious to Porsche using the Style Edition as a way of proving the brand has retained its sense of fun. The paint job alone has caused a splash. When all is said and done, this is a good publicity stunt for our favourite manufacturer. The fact it's a great car is a bonus - it isn't the 718 we'd choose, but we're glad it exists.

Above The 718 has aged exceptionally well and looks fabulous in Style Edition launch colours





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911 Carrera 2 (993)

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THE BULLETIN

News from the world of Porsche

PORSCHE INTRODUCES MONOTONE BADGING FOR ITS NEW TURBO CARS

For almost fifty years, Turbo-badged cars have enjoyed an exalted position at Porsche. They stand for high performance and represent the epitome of every model series. Of course, this is only true if you forget about the existence of Turbo S models. And the manufacturer's GT products. Porsche isn't one to let fact get in the way of a good story, so let's play along and assume things are as they were in the late 1970s and early 1980s, when a Turbo badge meant the car you were driving sat at the very top of the brand's model hierarchy. Unlike today, it also meant your Porsche carried a turbocharger.

To give new Turbo models greater prominence in a crowded car park, fresh exterior badging has been developed and will be rolled out across all new Turbo models with immediate effect. The modernised crest is dominated by a 'colour' Porsche describes as Turbonite, which replaces the gold, red and black seen on Porsche crests up until this point in time. Confusingly, the manufacturer's marketing department, which is causing eyebrows to raise with a string of somewhat bizarre press releases and questionable celebrity tie-ins intended to help shift Taycans at a time dealers are complaining of overproduction and stock not shifting, released photographs of the new badging in a selection of greyscale images, leading many to wonder just how much of the Porsche crest has been altered. We managed to get our grubby mitts on images of the new Panamera Turbo E-Hybrid Sonderwunsch, a one-off build designed to demonstrate the possibilities of the manufacturer's Porsche Exclusive Manufaktur department to Chinese buyers. The unique 'more door' wears the new Turbo badge. As you can see, all colour is removed.





"In 1974, Porsche presented the first turbocharged 911," says Michael Mauer, Vice President of Style Porsche. "Since then, Turbo has become a synonym for our high-performance top models and is now more or less a brand in its own right." This is his way of explaining why Turbo is now applied to Porsche products as a kind of trim identifier, rather than the host Porsche making use of forced induction or, in fact, a combustion engine. "We want to make Turbo models even more visible and differentiate them more markedly from other derivatives, such as GTS models. This is why we've developed a distinctive new Turbo aesthetic. From now on, our Turbo products will exhibit a consistent appearance across all model series."

GREY MATTERS

Turbo model rear badge lettering, as well as window borders and steering wheel decoration, will also be subjected to Turbonite. Depending on model series, further details, such as wheel spokes and inlays in the front aprons "could" also feature Turbonite. Additionally, selected components in the interior, including trim strips, belt straps and various controls, such as the driving mode switch and buttons on the airconditioning control panel, will also be finished in this understated hue. Will we see owners of existing Turbo models engaging in Turbonite badge engineering, thereby 'forward dating' their cars? Probably — these badges look great on black Porsches. Enter a new trend for 2024.





911& Porsche

NEWS & VIEWS





MODIFIED 992 CARRERA 4S SETS NEW ALTITUDE WORLD RECORD IN CHILE

6,734 metres above sea level. No car has ever gone higher. On 2nd December, former Porsche works driver and Glickenhaus WEC contender, Romain Dumas, set a new world record at the peak of Ojos del Salado volcano's west ridge, piloting a significantly modified 911 (running on eFuel) up the Chilean summit. He was supported by an international team (consisting of members from Chile, France, Germany, the United States, Canada and Switzerland) facing extreme conditions — the air at altitude was only half as dense as at sea level, while temperatures hovered around twenty degrees below freezing.

"I'll never forget this experience. It was an extraordinary feeling to drive where no car has gone before," says Dumas, a three-time winner of the 24 Hours of Le Mans. "The 911 managed to go higher than any other earthbound vehicle in history. We reached the true summit of the west ridge. We literally couldn't get any higher. We consider this the maximum altitude achievable in a motor car," he smiles.

Two modified examples of the current 992 Carrera 4S were used for the challenge. The cars, nicknamed Doris and Edith, were developed by RD Limited (Dumas' personally





owned team) in collaboration with Porsche. The record itself was achieved by Dumas in Edith, the lighter and more agile of the cars. The conversion utilises the standard near 440bhp three-litre flat-six and seven-speed manual gearbox, which benefit from advanced Mobil 1 lubricants enabling the powertrain to operate without issue in the extremely cold climate.

On account of its robust yet lightweight chassis construction, ample power and the ability to cope well with extremely high

altitudes, the 911 proved to be an excellent choice for the challenge.

The two cars were equipped with carbon-fibre seats and five-point harnesses. Portal axles (where the axle tube or driveshaft is offset from the centre of the wheel hub and where driving power is transferred to the wheels via a simple gearbox built onto each hub) were added to increase ground clearance to 350mm. These parts also have the effect of reducing gear ratios, allowing for precise, gentle throttle input at low speed. In addition, the cars were equipped with special lightweight (but extremely tough) Aramid-fibre underbody protection panels to allow for sliding over rocks.

The lead car was equipped with a special additional piece of technology: steer by wire, developed and provided by Schaeffler Group. The system (marketed as Space Drive and

> enabling steering of the host vehicle without a steering column connected to the wheel axles) was capable of meeting the unique and

THE CONVERSION UTILISES THE STANDARD NEAR 440BHP FLAT-SIX AND SEVEN-SPEED GEARBOX

extreme demands of the volcano's terrain, offering precision and detailed feedback, thereby allowing Dumas to place the Porsche precisely where he needed it, often while ascending precarious and near-vertical slopes.

The team took two weeks to acclimatise to the changing altitude, gaining height day after day. The cars had no such difficulties — the 992's standard systems sensed the thinner air and adjusted fuelling accordingly, meaning performance was maximised at all times.

911&Porsche

NEWS & VIEWS



ALESSANDRO GHIRETTI CONTESTS 2024 SEASON AS NEW PORSCHE JUNIOR

MOTORSPORT

Alessandro Ghiretti is the new Porsche Junior, a highly coveted position in Porsche Motorsport's successful development programme for young drivers. The twenty-one-year-old outshone eleven other candidates during an extensive selection process in Portimão, Portugal. Ghiretti is the reigning Rookie champion of the Porsche Mobil 1 Supercup and, in readiness for the coming season, has set his sights on an overall win in the 911 GT3 Cup, which will be hosted as support series to Formula One.

Aside from the Supercup's Rookie championship, Ghiretti also claimed the runner-up spot in last season's Carrera Cup France. When proving his mettle for acceptance into the Porsche Junior programme, the Frenchman called upon his skill and experience at the wheel of the 992 GT3 Cup during a shootout against other applicants on the Grand Prix circuit in Portugal's Algarve. Additionally, the youngster from Montauban impressed Porsche Motorsport representatives in the way he collaborated with their engineers, in fitness tests and when conducting media work.

"As always, this wasn't an easy decision for us to make. The twelve candidates were all extremely strong," emphasises Thomas





Laudenbach, Vice President of Porsche Motorsport. "Even though the assessment took place on a racetrack, the selection of a new Porsche Junior is about more than sporting talent and driving ability. We demand much more from a race driver than stepping on the gas, late

braking and hitting the apex. We are always looking for the complete package. In this respect, we're absolutely sold on Alessandro. I'm certain we'll be

seeing fantastic races from him in 2024. He has every chance to grow into an all-rounder, just like Porsche Juniors from previous years."

Ghiretti inherited a passion for motor racing early in life. His father, Alain, contested numerous races in single-seaters and his grandfather had a penchant for historic motorsport, working as a race mechanic in his free time. The new Porsche Junior's family gave him the backing he needed when he started racing in karts at the age of seven. His path led him to Carrera Cup France via Formula 4, Formula 3 and, among other competitions, the Le Mans Cup. At the wheel of the 911 GT3 Cup, the Frenchman underlined his talent and ability to learn. After achieving fourth place in 2021's Carrera Cup France (his first season of participation), he finished the 2022 and 2023 seasons in third and second place respectively. "When my phone rang and I saw Porsche was

A SPONSORSHIP PACKAGE OF UP TO 225,000 EUROS TO ASSIST WITH HIS RACING ACTIVITIES IN 2024

calling, I quickly took a screenshot," he smiles. "I immediately got the feeling I had to capture this moment

forever. I was in complete disbelief when Porsche Junior project manager, Jasmin Steidle-Faas, told me I'd been selected as 2024's Porsche Junior. I asked her to repeat the sentence in case I'd misheard. It's a dream come true. My whole family loves the Porsche brand and now I'm going to play a small part in it. The news blew me away. I was grinning from ear to ear for the rest of the day. It was a moment I certainly won't be forgetting in a hurry."

Ghiretti, who has lived in Marrakesh, Morocco, since he was six years old, will receive a singleseason sponsorship package of up to 225,000 Euros to assist with his racing activities in 2024.





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NEWS & VIEWS





PORSCHE DISPLAY CAR INVITATIONS OPEN FOR VOLKSWORLD PLUS SHOW

Last month, we brought you news of Volksworld Plus, to be held at Sandown Park in Surrey across the weekend of 16th and 17th March 2024. The event will be hosted in collaboration with *Classic Porsche* and *Performance VW* magazines, thus expanding the volume and variety of cars displayed at a show ordinarily associated with *Volksworld* alone. That's right, in addition to the usual fantastic fayre of internationally acclaimed Wolfsburg metal, 2024's show will feature air-cooled Porsches, as well as a host of modern-classics from the Zuffenhausen stable.

As was the case with 2023's Volksworld show, vehicles from all over Europe will be exhibited at Volksworld Plus. The Saturday will be the main fixture, with prizes awarded for the best air-cooled cars in attendance. It's important to note, this day will be the preserve of air-cooled Porsches and classic Volkswagens, a positive step for the event. Sunday will feature a veritable mix of cars from both marques. To this end, indoor areas will remain exclusively open to aircooled cars (classic Porsches will be displayed in the venue's Esher Hall), while water-cooled cars will be displayed outside. Irrespective of





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where they will be on display, all cars will be top-notch, meaning this is the Volksworld show attendees have always known and loved, but bigger and better than before.

Heritage Parts Centre, EMPI and Meguiar's are offering their support for the event as headline sponsors. Speaking of which, those of you wanting to buy 'early bird' tickets will

be interested to know about a special offer just announced in partnership with the famous car care product manufacturer. In short, order

a pair of weekend tickets (with or without camping) before December 31st and you'll receive a free Meguiar's cleaning kit worth £99. Considering two tickets costs £70, this is a deal not to be missed. Separately, single day tickets are available, satisfying those of you who may wish to only visit the show for the Saturday's extensive collection of air-cooled cars.

Entertainment will be provided for kids, while a carefully selected collection of trade stands will be available for show visitors to enjoy. This really does promise to be a calendar highlight in what will undoubtedly be a busy, bustling show season. Want to display your car at Volksworld Plus? Of course you do.

We want to showcase the very best classic and modern-classic Porsches, which is why we're throwing open the opportunity for you, our loyal readers, to put your cars forward for

> inclusion. Be it a classic 911, 912, 914, 356, 964 or 993, providing the car is finished to a high standard, it's a candidate for entry. It doesn't matter what style

of Porsche you're in possession of, either. Be it road, race, rally, stock-specification, modified or anything in between, as long as the car is of an excellent standard, we'd love to hear from you.

The same goes for owners of modernclassic Porsches. Yep, if you're the owner of an outstanding 996, 997 or a car from the manufacturer's transaxle family of products, then we're all ears. All you need to do is contact us by email at *dan.furr@kelsey.co.uk* and we'll take care of the rest. See you at Sandown!

22 February 2024





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RENNLINE ADJUSTABLE STRUT BRACE FOR 964

Accurate camber setting is a must for any track or fast-road car. Adjusting via camber plates usually requires a pry bar in one hand and a wrench in the other, giving you an end result of 'close enough'. Thanks to Rennline, those days are over. Not only is this the industry's first three-point strut brace for the 964/993, it also features an integrated adjustment point allowing you to fine tune and lock camber settings in a matter of seconds. This feature eliminates the need to drill and pin camber plates. This aluminium and steel strut brace is compatible with most adjustable camber plates and can even be installed on 964s and 993s without adjustable camber plates, providing extra chassis stiffness without adjustment. **Price: \$237.15**

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NEW SUNOCO FAS SUSTAINABLE RACING FUEL

Motorsport constantly proves itself a forum for technological development, as demonstrated by the use of Sunoco FAS sustainable race fuel at the recent Goodwood Revival Fordwater Trophy for pre-1965 911s. Designed to maximise power whilst meeting the FIA's new Advanced Sustainable racing fuel regulations, Sunoco FAS boasts impressive oxygen content of 4.7%. Its high energy level has already proven to release more power than traditional 102-octane racing fuels. The FIA's regulations state sustainable racing fuel must be made from at least seventy-percent bio components sourced from waste. For Sunoco FAS, components from the food, forest and refuse industry are fermented to produce a generation-two alcohol (ethanol), which is used to form various chains of hydrocarbons classed as fully sustainable. To highlight how the fuel can be used without the need for engine retuning, Sunoco FAS was proved on BS Motorsport's engine dyno before the race at Goodwood. Not only did the product pass every test, it also increased power by 2.5%. The fuel is available in 25- or 200-litre drums. **Proce**

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PPT TRIGGER WHEEL AND PULLEY KIT FOR 911

Designed for 911s manufactured between 1979 and 1989, this new trigger wheel and pulley kit from PIE Performance Tuning (PPT) comes complete with the required mount and features a 36-1 teeth count. The kit bolts to the host 911's crank – the supplied mounting bracket uses the bolt on the engine cradle. This is PPT's second-generation trigger wheel and pulley kit, introducing many improvements. A 15% discount is available for *911 & Porsche World* readers. **Price: £428.40 (a further 15% discount while stock lasts)** *pieperformance.co.uk or call* 01787 249924



FREE ANDERSEN A2 EV CHARGER AND INSTALL

Andersen EV, the UK's premium provider of domestic electric vehicle chargers, has partnered with selected Porsche Centres in the Midlands and North West to help more customers make the switch to electrification. In short, any customer purchasing a new or pre-owned Taycan through the six participating Stratstone Porsche Centres (Bolton, Nottingham, Stockport, Sutton Coldfield, Wilmslow and Wolverhampton) before the end of 2023 will be offered an Andersen A2 premium home charger and installation, all completely free of charge. No pun intended. **Price: Free!**

andersen-ev.com or visit participating Porsche Centres



CLUB AUTOSPORT 'MAGNUS WALKER' WHEELS

Regular readers will recall the launch of Fifteen52's range of forged alloy wheels produced in partnership with self-styled Urban Outlaw, Magnus Walker. The design proved popular, but is no longer being manufactured. Think you've missed the boat? Don't fret! Porsche parts specialist, Club Autosport, is having copies of the design manufactured to order. Available as a set of four wheels in fifteen, sixteen, seventeen, eighteen or nineteen-inch fitment, the design makes use of a billet centre and is a three-piece split-rim fashioned to look like a single wheel. Any colour is available to choose from, including raw-look anodised aluminium, although the classic style of bronze or gold with black details is most popular. Centre caps must be sourced separately, but Porsche-crested caps are on offer. **Price: 15/16/17-inch £4,140, 18-inch £4,554, 19-inch £5,154** *clubautosport.co.uk* or call 01384 410879



TECHART CARBON-FIBRE WING FOR 992 GT3

Lightweight, aerodynamically sophisticated and individual. The new TechArt carbon-fibre rear wing for the 992 GT3 excites with its unmistakable design and significant weight savings (when compared to the standard component). TechArt individuality is always a statement. This is especially true for the Leonberg-based company's refinement options for the new 911 GT3 models. Clearly influenced by motorsport, the eye-popping rear wing profile features newly shaped, large end plates. Compared to the standard wing, the overall kit weighs around a kilogram less than the factory part it replaces. The spotless surface is finished either in high-gloss or satin matte lacquer, depending on the customer's choice. As a special feature and masterpiece of craftsmanship, TechArt lettering is artfully integrated into the rear spoiler profile as an inlay made of carbon-fibre or, on request, aramid carbon-hybrid fabric. Alternatively, the lettering can be included as a subtle design painted directly onto the exposed carbon-fibre surface.

Price: POA tech-9.co.uk or call 0151 4255 911



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NEW DANSK REPAIR PANELS FOR F-SERIES 911

JP Group has launched a range of new panels for the classic 911. Each is marketed under the brand's famous Dansk Original imprint and is produced to OEM standards in the JP Group factory in Denmark. Standout parts include a new rear crossmember and a new centre tunnel for the F-series 911. The former is a critical component, affording the rear struts firm installation. The latter is the perfect remedy for a 911 suffering corrosion in the lower part of the chassis. Both items are finished in EDP paint to ensure ease of welding without the need for grinding. **Price: crossmember £1,342, centre tunnel £1,002 design911.co.uk or call 0208 500 8811**



NEW PFC BRAKE DISCS FOR 992 CUP CARS

Following successful development of prototype parts, PFC is set to launch competitively priced brake discs for 992 Cup cars in early 2024. Part number 380.34.0052.452/462 is a disc with a 34mm thickness designed for the host 911's front axle. This disc will give a slightly greater mass than the original Porsche part, but will exhibit greater resistance to high temperature. Part number 380.32.0052.452/462 is disc with a 32mm thickness suitable for both front and rear axles. Distributor, Co-Ord Sport, recommends 34mm discs for the front and 32mm for the rear. These discs are designed to be used on 992 Cup cars racing outside of manufacturer regulations, where homologated parts are required — there are many Cup cars falling into this category and now racing in 'open' series. **Price: 34mm discs £490.13, 32mm discs £469.50** *coordsport.com* or call 0121 661 6263



RECOMMENDED READ: ALWIN SPRINGER BOOK

This 468-page hardback tells the life story of Alwin Springer, one of US motorsport's great personalities. Narrated by himself and illustrated with hundreds of photographs, the tale begins with a dream: a young car technician eager to see the world. Soon, he finds himself looking after Porsche race engines for friends and travelling North America on a slant-bed truck. During what Alwin now calls his "nomad days", he and his wife make California their home, where he founds the Porsche specialist shop, ANDIAL, which quickly grows into the largest independent specialist for Porsche road cars and the most successful Porsche race engine rebuild facility in the US. For the next twenty years, ANDIAL-configured Porsche engines power everything from the 911 to the 935 and 962, winning numerous races and many championship titles. As the technical wizard behind this success, Alwin spent many decades at race circuits and at the negotiating table, where he shaped sports politics as a consultant for Porsche Motorsport. A must-read book. **Price: Limited edition (963 copies only) €225/\$249**



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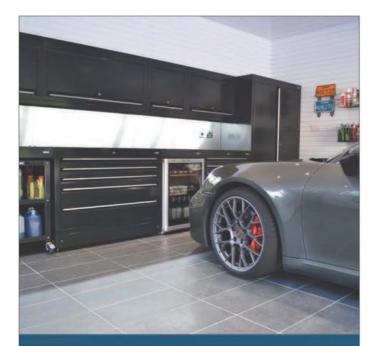


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COMMENT

TOM VAGI

With the arrival of winter comes the perfect opportunity to take care of servicing and maintenance of a much-used Porsche, but why stick to jobs classed as necessary? This is, after all, a great time to indulge in upgrades through choice, including addressing outdated audio equipment...

> s I write this column from the comfort of my workshop in New Hampshire, snow is falling. Not enough to stay for winter, but enough to signal the beginning

of hibernation for my beloved 944 Turbo, a Porsche I enjoy using at all other times of the year. That said, summer in this corner of the United States was particularly wet. I seemed to spend most of the period overhauling the car's driveline, whilst occasionally gazing outside and wondering whether my time would be better spent modifying the turbocharged transaxle for amphibious use.

The work began by removing the torque tube and having it completely rebuilt by the talented folk at Black Sea R&D, a Georgia-based company selling premium driveline parts for the 924, 944, 968, 928, 959, 964 and 993. Summer may have been wet, but fall delivered cool, dry weather and, after the torque tube was reinstalled, a drivable 944 Turbo. With snow now on the ground, however, the car is resting in anticipation of a beautiful New England spring and a fresh assault on local roads, which are perfect for a thousand solid miles of top-notch driving. Winter is my favourite time of year for working on Porsches. There's something about being able to work in a well-insulated, well-heated garage that makes me feel as though I'm cheating nature. The Danish and Norwegians refer to this state of comfort and togetherness as *hygge*. Just substitute candles and a cosy fire for a loaded Snap-On toolbox, a project Porsche and a hot cup of coffee.

At the time of writing, it's mid-December, but some of my New Year's resolutions are already in order, not the least the promise to spend 2024 completing all the projects I have in mind for my 944 Turbo. My to-do list will be familiar to any 944 owner, whether their car is turbocharged or normally aspirated. The most important job, of course, is a service. Second on the list is the need to replace perished rubber components, which in this instance includes sunroof seals, tyres and fuel tank filler hoses. It's best to get the 'need to have' jobs out of the way before tackling the 'nice to have' tasks.

As far as the latter is concerned, nearly all 944 owners will agree the factory in-car entertainment systems fitted to Porsches of this vintage leave a lot to be desired. Anybody who knows me will confirm I constantly (ad



Tom Vagi is founder of Seacoast Specialist Cars, a New Hampshire-based independent Porsche specialist carrying out repair, maintenance, servicing, sales and restoration. He is a Master Technician, lifelong Porsche enthusiast and Technical Chair for the local chapter of PCA. Visit sscarsnh.com



nauseum) sing the praises of the manufacturer's transaxle family of products, but I can't ever remember saying anything nice about the 944's head unit. Okay, you can't beat the look of the hard buttons applied to car stereos from the 1980s, but unlike the superb suspension, reliability, practicality, looks and performance of front-engined, water-cooled, modern-classic Porsches, their radios are, frankly, rubbish.

I'm happy to report a near perfect solution has been found in the form of the Blaupunkt Bremen SQR 46 DAB. This is essentially a modern DABenabled head unit housed in a package looking exactly like the original Bremen SQR 46, which was OEM equipment for many German sports cars in the 1980s. Genius! The box of joy is sitting on my desk as I write these words. And because replacing the radio alone would be too easy, I've decided to improve the rest of the car's audio system, too. One cannot possibly replace only the offending part. No, this would be too simple — one must also replace and optimise all supporting componentry!

My dear wife elicited an eyeroll upon hearing I would be building a 'system' thirty years after doing so was all the rage. To be honest, I think she's worried I'm going to start wearing band t-shirts and grow my hair long in recognition of the grunge era I'm so fond of.

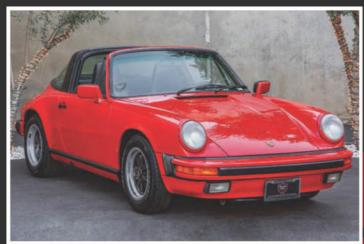
Here we are, then, poring over stereo components and evaluating the solutions others have employed to experience great audio while driving in their 944s. Amplifiers! Subwoofers! Speakers! Wiring! All good fun, but there's a selfimposed catch: the finished install must look stock, which is to say invisible. A daunting task.

Another job I consider worth the required effort is the installation of cup holders. I'm sure some of you will register alarm at this suggestion, but hear me out: I use my 944 Turbo as a daily driver for three seasons out of four and I like a nice cup of coffee to drink during the morning commute to work. I've experimented with a few solutions to securing a cup when on the move in a 944, but none are what you'd describe as elegant. My research continues.

The bold objective is to complete these projects and more before spring — there's little sense in holing up if you're not going to get anything done, is there?! Watch this space.

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 les on the odometer. One of those only 639 examples
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 18/00 FOISCITE 312 COUPE 10100 LUON MH 51
 pate California car the combines style, performance, and

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 pate California car. An extremely



1976 Porsche 911S Coupe #16776



1988 Porsche Carrera Cabriolet #16154 Presenting this 1988 Porsche Carrera Cabinotet # 1010-with matching numbers and only 25,552 miles on the odometer. Finished in its factory color Black - Schwarz (700) combined with a Grey interior. Equipped with a 5-speed manual transmission, Flat 6 Cylinder 3.2-liter engine, and Bosch-branded headlights. Comes with receipts dating 2012 through 2021. An excellent opportunity to get behind the wheel of this low-mileage Cabriolet that is mechanically sound.



1976 Porsche 912E #16829

Presenting this one-year-only 1976 Porsche 912E that is finished in Emerald Green Metallic complemented with a Tan interior. This California car is equipped with a 5-speed manual transmission, flat-4 optimider engine, and Dell'Orto dual carburetors. With service receipts dating from 1995 through December 2022, including a brake service completed in December 13, 2022, at a cost of \$5,087.86. An extremely coveted 912E that stands out and is mechanically sound.



1995 Porsche 993 Carrera Coupe #16178



1974 Carrera Sunroof Delete Coupe #16309 1974 Courter's Sumfool Defets Coupe # 10509 Presenting this 1974 Porsche Carrera Sumoof Delete Coupe featured with matching numbers and finished complemented with a Back interior. This early 911 comes equipped with a 5-speed manual transmission, Flat 6 Qylinder 2.7-litter engine, and "Carrera" side stripes. An extremely collectible Porsche Carrera Sumoof Delete Coupe that is offered in a captivating color combination and is mechanically Sound. Engline 2012 (Stripes Source Stripes Source Stripes Source) Porsche Carrera Sumoof Delete Coupe that is offered in a captivating color combination and is mechanically Sound. Engline 2012 (Stripes Source) Porsche Carrera Sumoof Delete Coupe that is offered source) Porsche Carrera Sumoof Delete Coupe that is offered that is an excellent addition to any collection and is sound. Engline 2012 (Stripes Source) Porsche Carrera Sumoof Delete Coupe that is offered that is an excellent addition to any collection and is Porsche Carrera Sumoof Delete Coupe that is offered that is an excellent addition to any collection and is Porsche Carrera Sumoof Delete Coupe that is offered Porsche Carrera Sumoof Delete Coupe that is offered

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1970 Porsche 911T Coupe #16659



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LOOKING FOR CLASSIC OR LUXURY SPORTSCARS?



COMMENT

KARL MEYER

As a fresh new year kicks off, would-be Porsche buyers are looking at a crowded marketplace and are wondering where they should be putting their money. Fortunately, a variety of used Porsche sports cars offer a secure place to park your cash, not only in the here and now, but also long into the future...

> t the start of each year, I am always asked for my opinion on which Porsches will make sound investments during the coming twelve months. All investments must generally

satisfy a few questions before they can be classed as positive, but chief among them concerns the cost of doing nothing with your money — it's surely better to invest than allow your hard-earned cash to collect dust?

2024 will give speculators new factors to carefully consider. It's no secret we face a number of global instabilities right now, from wars and political unrest to banks failing. Additionally, in the UK, no less than twenty-six of our local councils are verging on bankruptcy. Typically, these would be scenarios lubricating funds toward car buying. You see, aside from the potential for a decent return on spend, cars have a number of benefits for investors. For starters, unlike stocks and shares, they're tangible, meaning they seldom wipe-out to absolute zero value. They're also obviously transportable, meaning a car can, potentially, increase its value by moving to different territory, where the vehicle in question it is seen as more desirable. And, of course, gains in a car's value are taxfree. As we head into 2024, however, we face strong(ish) interest rates and a bullish stock

market, encouraging many would-be speculators to leave their cash where it is. Yet, with all this in mind, and with the sales data accrued at *theporschebuyer.com*, I see real potential for the values of certain Porsches in 2024. Let's take a twelve-to-twenty-four-month view, which is typical for ownership of a used Porsche. I believe the aforementioned circumstances will play favourably into price increases at the two extremes of the market, by which I mean sub-£45k and above £250k. Which cars, then, do I think you should be considering?

Any 996 is a no-brainer. These 911s won't get any cheaper — we've seen prices increase dramatically in recent months. Indeed, I'm blown away by recent 996 sale prices, especially for 40 Jahre and Millennium Edition models. Perhaps surprisingly, the GT3 doesn't make my two-year cut — prices for this particular breed of 996 have now crystallised, unlike those of the Carrera models, which are on the up.

Elsewhere, restomodders continuing to take a large number of 964s out of the marketplace have really helped improve 993 Carrera values. Moreover, I'm aware of a number of Porsche start-ups building their business model on modifying 993s. Some well-known companies already 'reimagining' the 911 are also turning their attention to the 993. Expect the restomod scene to diversify accordingly.



Karl Meyer is a UK-based independent Porsche buyer advising OPCs and independent specialists. Buying everything from 986s to Carrera GTs, his is a trusted name in the space of moving off-market and premium Porsches. If buying, selling or part exchanging, call Karl first. Visit **theporschebuyer.com**



First-generation 997 Carrera S and 4S models with fault-free engines will also do very well in the coming year or two. If you have a budget of circa £30k for a 911, this is where you should be putting your money. Even the base 3.6-litre 997 Carrera is a near perfect Porsche, but that little S badge takes things up a notch. Put it this way, there's a reason motoring journalists love the 3.8-litre first-generation 997 Carrera models, especially if Sport Chrono is included. At the other end of the price scale, the 993 Turbo S has recently been changing hands for serious money. I believe it will continue to do so. I'm talking more than half a million and still going.

As ridiculous as it sounds, I think the 918 Spyder is presently undervalued. I've been speaking to various investors and this gamechanging Porsche PHEV is on all their radars. The reality of the situation is that the 918 speaks to a new generation of multi-millionaires in a way the 959 probably never will. Also, the 918 is always spoken of in the same breath as the McLaren P1 and LaFerrari, which bolsters the Porsche's PR no end.

If we look forward to a five-year speculation, modern classics will gather strong pace. Our friends at Ferrari make the point better than any hypothetical example: today's new, entry-level, mid-engined Ferrari is some £330k in decent trim, making the availability of a 360 at £50k look very cheap indeed. Modern classics have seen a significant rise in value in recent years, and as yet another generation of buyers comes of economic age, I expect the trend to continue.

My top pick for the long-term is the 991 Carrera S 50th Anniversary Edition, launched in 2014. Exquisitely beautiful and individually numbered, this is Carrera exclusivity done brilliantly well. Equally attractive are both generations of 997 GT3 and RS, especially as we head into an automotive age concerning itself with electrification and the development of selfdrive technology. These cars tell a story now, but imagine how awe-inspiring they will be in the coming age of passive motoring. I anticipate values to continually rise in coming years.

This round-up of the Porsches making strong arguments for parting with your cash is far from exhaustive, but demonstrates there is significant justification in going car shopping in 2024. ●

911&Porsche

TRIM WHEN YOU'RE WINNING

דםרדם

In Dave Goodwin's pursuit of Porsche perfection, this 1989 964 Carrera 2 has undergone serious transformation...

Words Dan Furr Photography Dan Sherwood

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hose of us lucky enough to photograph and write for this magazine get to sample some of the very best 911s out there. From insanely good road car restorations to rare historic racers, hot rods and everything in between, we're privileged to be able to experience these cars and share them with you in our pages. What's so special about a 1989 964 Carrera 2, then? This is hardly the rarest of classic Porsches, after all.

You don't need to travel too far back in time for the 964 to be considered runt of the 911 litter. In recent years, however, with a new generation of enthusiasts entering the Porsche scene, the 964 has found favour among a fresh pool of buyers, primarily those who proudly pinned posters of the G-series successor to their bedroom wall in the mid-1990s. It's also important to acknowledge the 964's role in what has become a massive restomod scene - in decades past, this generation of 911 could be bought at relatively low cost, making it the perfect starting point for a personalised Porsche. Many of these builds went on to achieve high-profile recognition, further raising the 964's profile. Big-budget backdates, wild restomods, decent media exposure. The 964 had come of age.

Of all the 964-based restomods assembled in recent times, none

have captured the imagination of the automotive world as much as those produced by Singer Vehicle Design. Outlandish styling, ambitious engineering and, it must be said, eyewatering costs are hallmarks of the California brand's builds. We're first to admit they're not to everyone's liking. Moreover, with each successive 'reimagined 911' (not only from Singer Vehicle Design, but also those pieced together by the long line of copycat companies trying to get a slice of the pie by producing similarly bold 964 restorations) comes fresh speculation about whether the 911 restomod sector is becoming a tad overheated. Are we observing a money-rich trend destined to end with a significant pool of 964s viewed as tacky? Many of the automotive modifying fashions popular in the 1990s and 2000s haven't aged well, and though there's no denying the high standard of workmanship invested in today's high-profile 911 restomods, it's not unreasonable to suggest history likes to repeat itself. In other words, we could be fast heading to a point in time when these cars seem a bit, well, naff.

Whatever your view on the matter, it's true to say 964 restomods generally offer something *different*. As marque enthusiasts, this is something we can all appreciate, even if the finished Porsche isn't to our individual tastes. Ultimately, providing the work is finished to a high standard, there's much to applaud. Besides, the world would be a very boring place if we all drove the same cars, wouldn't it?!

A desire to present something unconventional, but not jarring in its presentation, leads many independent marque specialists to experiment with new ideas. A company's privately owned demonstration vehicle presents the proverbial blank canvas, serving as a rolling showcase of what the business is capable of producing for its clients. This Above Bumpers are modified to accept shorter plates

Below No area of the interior has been left untouched, as you'd expect from a trimmer using the car as a showcase of what his team can do





Above and below

Modern take on Pasha is a triumph of laser work applied to super-soft Alcantara and is complemented by red double stitching throughout the car's cabin train of thought leads us to the radiant red Carrera 2 you see on the pages before you.

"I bought the car in November 2020," says Dave Goodwin, founder of Dave the Trimmer, the Bedfordshirebased automotive interior specialist

responsible for some of the very best Porsche retrims we've seen in recent times. "I'd wanted to secure 964 ownership for a long time and spotted this car advertised as available for purchase from classic and modernclassic sports car sales outfit, Bure Valley Classics, located in Norfolk," he adds. A well-known car in 964 circles, the immaculately presented Porsche had been subjected to an engine rebuild at Strasse, a gearbox overhaul at Ninemeister and a major

PAIRED WITH 993 REAR PEWS, THE BIG-BOLSTERED RECAROS WERE A SOLID STARTING POINT FOR A CUSTOM CABIN

service and new clutch at Heritage Autowerks, the official UK service centre for Singer Vehicle Design restorations. The accompanying large folder of paperwork documented comprehensive servicing and maintenance (chiefly at Porsche Centres Wilmslow, Chester and Leeds), all past MOT certificates and, importantly, invoices for all work carried out during the previous three decades.



964 CARRERA 2



Receipts for recent jobs outlined more than three hundred hours spent on bodywork and paint, hence the

Porsche's pristine presentation. Even so, this stunning 911 remained with Bure Valley Classics longer than many would-be buyers anticipated. We

ask Dave his thoughts on the matter. "The interior was to blame," he laughs. "It looked as though it had been snowing in the cabin."

It's important to note the car had been retrimmed in vanilla Nappa soft leather to a high standard at the previous owner's request, but with the exception of the lower dashboard (and its 993 knee roll), all surfaces were unusually light in colour. "The previous owner asked me to quote for the work, but ended up using a different trimmer," Dave shrugs, before confirming the Porsche was in exceptionally good condition when he inspected it in his workshop. "I knew this 964 had been well looked after and could see huge potential to do something special with the interior, but the then owner decided to venture down an alternative path with his preferred supplier."

When the Guards Red coupe presented itself for sale through Bure Valley Classics, Dave recognised the opportunity to bring to life the ideas he'd previously considered for the car's interior. "The near white cabin



was very much to the previous owner's personal taste," he accepts. "The work had only recently been completed, but any prospective buyer was faced with the threat of an expensive retrim if they desired a less arresting finish. Not many people are prepared to shell out for a new interior the moment they've bought a 964, which is why I suspect the car didn't sell as quickly as might have otherwise been expected. That said, the previous owner lavished plenty of care and attention on this Porsche during his time with the car."

THE LOW LIFE

He highlights a wealth of wellconsidered upgrades, including KW Variant 1 coilovers, chassis tuning incorporating 964 Carrera RS ride height, new N-rated Michelin Pilot Sport tyres, a Porsche Technik exhaust system with G-pipe, Cup mirrors and wheels, a Clubsport steering wheel, a Steve Wong ECU chipset, rear windscreen wiper delete, de-locked 993 door handles, HID headlights (now with 356 lenses), limited-slip differential, modified bumpers with shortened registration plate recesses, Carrera RS brake cooling duct inserts and new rubber seals throughout. Updated in-car entertainment equipment also contributed to what was on offer - a Kenwood under-seat subwoofer and a mix of Hertz and Focal speakers promised to pump out Dave's favourite

tunes from a retro-styled head unit.

After a fruitful conversation with Bure Valley Classics founder, Oli Tappin, a deal was done – Dave was finally the proud owner of a 964. Beauty, however, is in the eye of the beholder. "I don't want your readers thinking the interior was junked," he smiles. "On the contrary, I sold the front and rear seats to a fellow 964 owner, who really admires the way they look. Besides, I'd already decided to fit Recaro A8 buckets. The vanilla-trimmed parts were therefore of little use to me." Paired with 993 rear pews, the big-bolstered Recaros were a solid starting point for a custom cabin. There was only one problem. "I had no idea what I wanted to do, other than something different," Dave admits. "I had three weeks of sleepless nights on account of my brain doing overtime trying to come up with something no other automotive trimmer had previously presented." Fortunately, he had time to play with – almost as soon as he bought the car, he handed it to Autobodykraft in Hockliffe for a round of corrective paintwork, highlighting one of the rear wheel arches and the engine lid as showing small signs of surface

Above Eighteeninch split rims are a custom take on the classic 'teledial'

Below Fibreglass frunk liner has been trimmed in Alcantara to match the interior



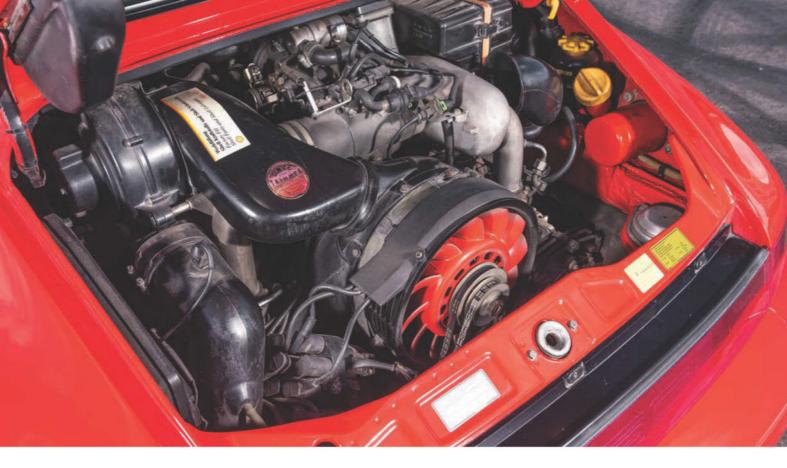


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corrosion. For good measure, the rear light bowls were promptly replaced by classic car restoration and metalwork specialist, DH Engineering.

It hit him like a bolt from the blue. "Pasha!" he cries. "I liked the idea of taking influence from a distinctive OEM finish, but reasoned it would need to be exhibited in unexpected fashion." His first experiments involved trying to impress the psychedelic pattern originally printed onto fine velour seat coverings and door panels for the 911, 924 and 928 models in the late 1970s - into leather, but no matter how hard he tried, the desired results couldn't be achieved. Laser-cutting into Alcantara, however, was a different story. "My team has overseen a fair amount of laser work for client projects," he explains. "Ordinarily, we'd used this technology for creating precise cut-outs in fabrics or leather for custom components or door speakers, but when experimenting with different laser temperatures, I realised we could laser-etch complex patterns into Alcantara." The soft, synthetic, suede-like material has become a hugely popular fixture of modern sports car cabins, not least Porsche's modern GTS range of products, and has been retrospectively applied to many of the Stuttgart brand's legacy models on the aftermarket.

Dave provided his appointed laseroperating supplier with a metre-square of Pasha fabric from which to take measurements for the creation of bespoke CAD drawings. The work was time-consuming, not least because few of the pattern's 'blocks' are the same size. Adding extra complexity, Dave wanted the design to 'fade' as it reached the fronts of the seat cushions. "Notwithstanding the many hours it took to create the required patterns in the application-specific design software, laser-treating the material was a laborious process. The door cards, for example, plus each seat centre section, took four hours per panel."

The Recaro logo has been impressed

into the lower seat shrouds using traditional heat-embossing methods. Indeed, the more you look, the more you realise just how much work has gone into this 964's interior — with the exception of air vent vanes, switchgear, the handbrake button, pedals, red-edged seat belts and the Built by Basil custom gear knob, almost everything is trimmed in Alcantara, including the dash clock rings, safety belt retainers, handbrake handle (wrapped three times), ignition switch surround, seat side brackets and even the seat release handles. The steering wheel has been covered in the Above The air-cooled flat-six's output is higher than standard thanks to aftermarket ECU tuning chips

Below Ride height is lower than standard thanks to the installation of KW Variant 1 coilovers





964 CARRERA 2





enough to stop me from committing to purchase." In fact, he already had a plan up his sleeve. "One of my customers agreed to loan me the original horn

LASER WORK CAN BE SEEN IN THE FORM

OF CUSTOM HEADLINING PERFORATIONS

AND INTRICATELY PATTERNED SPEAKER

Dave the Trimmer logo to custom billet door releases." The same branding can be seen in the seat backs and on the dash dials, the latter rebuilt and

customised by Reap Automotive Design and joined by a clock bearing the logo of wristwatch brand, Omologato. A Blaupunkt

Bremen SQR 46

pad from his 911's Porsche Design steering wheel. I had the part scanned and then commissioned 3D printing of fifteen units, thereby enabling me to sell the spares to cover the costs of development." The Alcantara spokes of the steering wheel were then heatembossed with both the Porsche Design

Elsewhere in the cabin, laser work can be seen in the form of custom headlining perforations and intricately patterned speaker sound holes in the door cards, where you'd ordinarily expect to view plastic grilles. Above these bespoke touches are door handles created from billet aluminium. "I know many 964 modifiers opt for RS-inspired blank door cards with fabric pull straps, but I like the presence of door pockets, grab handles and door catch release buttons," Dave confirms. "With this in mind, I've created custom handles from solid billet aluminium. Each handle features six holes, a design element to reflect the fact a 911 is powered by a six-cylinder engine. I've also added a

SOUND HOLES IN THE DOOR CARDS DAB head unit now takes centre stage in the Pasha-patterned dash. As mentioned earlier in this issue of 911 & Porsche World, this single-DIN delight serves as a modern digital audio receiver, whilst wearing looks straight out of the 1980s, and Dave the Trimmer logos.

making it perfect for a 964 interior blending old and new. "The work my team and I invested in this project has resulted in the reimagining of a classic Porsche pattern by giving it a twentyfirst century twist. It's also an interior which has enabled us to expand the scope of what we can do with modern technology and materials in the creation of truly bespoke automotive interiors for our customers," Dave beams, proudly.

Speaking of taking a classic design and reinterpreting it for the modern age, your eyes will doubtless have been drawn to this compelling Carrera 2's extraordinary wheels. A take on the classic 'teledial' made famous by the 911 SC and Porsche's transaxle family of cars, they're a completely new three-piece split-rim construction from Canadian wheel producer, Augment

Above Bespoke features abound, from the speaker holes to heat embossing of various logos

Below Brakes have been fully refurbished same non-reflective material. "It's a genuine MOMO Porsche Design threespoke," Dave assures us. "I'd wanted one for a while, but I wasn't prepared to pay

alert while I was away on a camping

trip with my family. A seller in Italy had

listed this steering wheel at low cost. It

was missing its horn pad, which was an

optional extra when new, but this wasn't

the extortionate sums sellers tend to want for examples of this particular Porsche steering wheel in good condition. I remember getting an eBay watch list





Wheel Company, and are manufactured from forged billet 6061-T6 aluminium. Many classic OEM wheels fall short in the 'here and now', when bigger diameters and wider widths are preferred. Augment's Dial-style wheels mimic the original Porsche design very well. They're seen here in eighteen-

inch staggered fitment (ten inches at the rear, eight and a half at the nose), enough to confuse purists. Dave requested polished lips and a brushed aluminium

finish for the faces. Reverse-mounting hardware hides the wheel bolts.

Augment Wheel Company was established by Ontario-based sports car nut, Dan Pye, back in 2016. He found himself struggling with the customisation and personalisation of then available wheels and looked to develop a process and solution to address the pain points he experienced as a consumer. Split rims have gained popularity in recent years, and while several businesses in the United States handle parts demand and fulfilment very well, Dan recognised no such solution in Canada. Fast-forward to today, and Augment's Oakville warehouse stocks hundreds of inner and outer wheel parts for some of the most popular of today's

wheel brands, including BBS, SSR, HRE, Kinesis and Work, to name a few. The company also stocks associated hardware, such as blind assembly bolts, premium aluminium valve stems and titanium wheel bolts and lug nuts.

For custom forged wheels, like those seen on Dave's 964, Augment reverse

THE COMPANY HAS COMPLETED IN EXCESS OF FIVE HUNDRED CUSTOM WHEEL ORDERS FOR CLIENTS IN MORE THAN THIRTY COUNTRIES

engineers many OEM designs, including a variety of Porsche styles, to produce completely bespoke wheel designs ranging from fifteen to twenty-two inches in diameter in two- or three-piece configurations. To date, the company has completed in excess of five hundred custom wheel orders for clients in more than thirty countries, with host vehicles ranging from street machines to hugehorsepower drag monsters.

The awesome Augment wheels on Dave's car are wrapped in Michelin Pilot Sport (225/40/18 front and 255/35/18 rear) tyres and have an offset of ET45 in each corner. Peeking out from the brushed wheel centres are bright red brake calipers, recently rebuilt and powdercoated. The flat-six's cooling fan was colour-matched at the same time. "I don't intend to mess about with the engine," Dave tells us, acknowledging how peppy the air-cooled boxer is following the previous owner's decision to install aftermarket ECU chips altering fuelling, a move yielding more power. "It's plenty quick enough as is," he

> adds. "I do want to add electric air-conditioning, though. This car didn't come with air-con from factory, which makes for a very hot cabin in the

summer. I'm also keen to update the headlamps." He cites The Lighting Guru's 964 LED headlights, which ape the look of fancy modern Porsche LED Matrix illumination, as being at the top of his wish list.

Looking at this gorgeous Guards Red riot of a Porsche, it's difficult to accept the 964 was once the 'great unloved' of the 911 world. How times change! Far from being down in the doldrums, the 993's predecessor has blossomed into the go-to air-cooled 911, offering all the charm and styling of a classic Porsche, but with modern levels of reliability, power and the potential for serious personalisation. Dave's superb Carrera 2 ably demonstrates the point. Special? You'd better believe it. Above Expect to see Dave and his exquisite 964 out and about across the coming show season



BURE VALLEY

CLASSICS

1971 Porsche 911 ST Evocation - POA



2004 Porsche 911 (996) Carrera 4S CSR. 66K Miles Manual, FSH, £40K spent to CSR conversion!



2015 Porsche 911 (991.1) GTS. 24K Miles Full Porsche Service History, 1 past owner, Huge Spec!



1985 Porsche 911 Turbo. 80K Miles Matching numbers, completely restored to a high level



2018 Porsche 911 (991.2) Carrera GTS. 30K Miles GTS interior, Full Porsche Service History



1971 Porsche 911 T 2.2. Signal Orange, LHD, matching numbers



1980 Porsche 924 Le Mans. 68K Miles Award winning original condition, FSH

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STREET FIGHTER

With only sixty-five units built, the 906 was Porsche's last street-legal factory race car. We go Dutch to track the provenance of chassis 134...

Words Johnny Tipler Photography Petersen Automotive Museum



he 1960s was an incredible time in Porsche competition history, beginning with the 718 RSK and ending with the 917. It was

the decade of the mid-engined coupé, evolving from the 904 Carrera GTS, progressing to 906 Carrera 6, the 910 and, before you had time to blink, the 907 and 908. A decade earlier, in the late 1950s, Porsche's reputation was that of giant killer, its small-capacity engines and diminutive chassis toppling the more powerful Brits and Italians in the endurance arena. Porsche won its class virtually every year from when it first ran at Sarthe in 1951. The 904 GTS was no exception, coming fourth and fifth overall in 1965 and winning both the Index of Performance and Index of Thermal Efficiency awards. Hard on its heels, the 906 took advantage of much stock 904 componentry and was fitted with unequal length wishbones at the front, with wishbones and twin forward-facing radius arms at the rear. Coil-sprung dampers and ATE-Dunlop disc brakes featured in each corner. Power came from a much modified, dry-sumped, 911 two-litre flat-six, based on a magnesium crankcase, with new cylinders, pistons, titanium connecting rods and valve-gear.

Back in the mid-1960s, doubling as a road car on events such as Tour Auto and Targa Florio, the 906 – also known as Carrera 6 – played an important part in projecting Porsche from a manufacturer of road-going motorsport machines into the top echelon of sports prototypes in the World Sportscar Championship, culminating in the Le Mans-winning 917. I have had the dubious pleasure of driving a 906 on the road. I say dubious because I neglected to wear ear defenders. I attribute my tinnitus to the car's unsilenced two-litre boxer. Otherwise, it remains a landmark driving experience, which I'll outline later in this article.

And our feature star? It's 906-134, a car I've seen in action. Twice, as far as I can remember, though maybe more. The first time was in 1967, when the brightly coloured Porsche was in the hands of Ben Pon at the inaugural BOAC 500 enduro Brands Hatch. My vantage point was a pushchair. Pon and co-driver, Tony

Dean, won the two-litre class and finished eighth overall. Pon was the Porsche concessionaire in the Netherlands, hence the distinctive Dutch orange racing colour, and although he died in 2019, the operation his father founded in 1948 is very much still on the go.

Carrena C

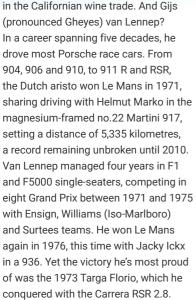
TOGETHER AGAIN

The second time I encountered this classic Porsche was much more recently, in 2009, at a historic motoring event and model fair held at Naarden-Vesting, near Amsterdam. The car was cruised around the narrow streets by none other than two-time Le Mans victor, Targa Florio winner and ex-F1 star, Gijs van Lennep. He also won the 1972 British F5000 Championship in a Surtees-Chevrolet TS11 for good measure. I've had the pleasure of chatting with van Lennep many times, at the 2011 Zandvoort Historic Grand Prix, for instance, when he was demonstrating a Can-Am 917. I also spoke to him on the 2009 and 2012 Mille Miglia, where he drove a 550 Spyder partnered by the Dutch Prime Minister, and also when I collected a Porsche tractor from Utrecht.

A little background to Ben Pon, then. The Pon family became Volkswagen's importer for the Netherlands in 1947. During that year, they invoiced fifty-one Beetles. The following year, the Pon clan became the Dutch concessionaire for Porsche. Ben Pon was a friend of Dutch F1 privateer, Carel Godin de Beaufort, whose Ecurie Maasbergen team handed Pon a Porsche 787 to race at the 1962 Dutch F1 Grand Prix at Zandvoort. An accident flipped the car, hurling him (preseatbelts) into a shrubbery. He never raced single-seaters again, though was active in Porsche sports-GTs.

He drove a 904 (also orange) in the World Sportscar Championship, placing third in the 1964 1,000km of Nürburgring and again in the 1965 1,000km of Spa, before winning a round of the 1967 European Touring Car Championship at Zandvoort, where he drove the Stichts Racing Team 911. That year, he ran at Le Mans in the orange 906 seen here, sharing driving with Vic Elford, finishing seventh overall and winning the two-litre prototype class. Pon retired in 1968 to pursue a lucrative career

Above Mister Tipler first encountered 906-134 when it raced at the hands of Ben Pon in 1967



Back to 906-134. On 3rd April 1966, van Lennep drove the car at the Trier Flugplatzrennen, placing second overall. Next, at the 1,000km race at Spa on 22nd May 1966 (van Lennep's first World Sportscar Championship race, partnered by his brother, David), man and machine finished fifteenth overall and first in the two-litre class. Next up was the 1,000km of Nürburgring on 5th June 1966, when van Lennep drove five out of the six hours (David chipping in for the remaining sixty minutes), endorsing his prowess as an endurance driver. "There were thirteen 906s in that race. I finished first in class and seventh overall. It started raining one lap before the end, though. At the time, I was running third in class, but used my experience from Rob Slotemaker's Zandvoort skid school to climb a couple of places higher. I'd been racing karts since 1957, and then a Beetle with a

356 engine, but the skid school proved valuable training".

On 7th August 1966, van Lennep started the Rheinland-Pfalz Pries from pole on the Nürburgring, but an accident put him out. The car was then driven to third place by Pon in the Preis von Tirol at Innsbruck airfield circuit on 9th October.

During 1967, van Lennep mostly drove a 911 R, but he had a bad crash at Spa in this very 906. "It was just before safety belts were mandatory. I pitted to have the roll-bar adjusted. I went out again, but the mechanics hadn't fastened the rear-hinged engine cover properly. One of the catches broke as I turned left up to Malmedy. I'd just changed to fifth gear and the engine lid broke free! It was like an aircraft taking off. I spun, but there was no guardrail on the old Spa circuit in those days, and the track was about a

metre higher than the surrounding land. The car carried on going for about two hundred metres, landing upside down. Along the way, I dropped out of it and fell into a ditch. At first, marshals couldn't find me. I broke only one little bone on my first finger, though I had a lot of sand in my eyes underneath my helmet. My boots were gone, my trousers were gone. I was bloody lucky - I should have been dead!" How's that for an introduction to the swashbuckling days when this 906 was in the thick of it? Today, though, you would never guess it had suffered a major pile-up, flattening its upper sections and cabin-top. Perversely, had van Lennep been belted in, he would not be with us today.

The next phase of the car's existence is sketchy. Pon sold 906-134 to Canadian club racer, Dr. Jean-Paul Ostiguy, who ran Below Two-litre flat-six was a 911 production unit treated to stronger internals and an updated crankcase, while many carryover parts from the 904 were used for the newer racing machine's suspension setup





5

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the car as a Spyder with no coupé roof or engine lid, a legacy of its inversion at Spa, one supposes. He entered events at Ste Jovite, Harewood and Mosport Park. Research reveals confusion with 906 chassis 132 at this point, primarily because both cars belonged to Dr. Ostiguy, though 906-132 was bought by Toronto-based, Rainer Brezinka, in 1969. Did Brezinka also own 906-134? It's likely the car's last hurrah was in Ecuador in 1971, having been acquired by another Canadian, Bert Kuehne, who placed third in a Marlboro-promoted event at Lake Yahuarcocha. And there the Porsche seems to have stayed, until ownership passed to Los Angeles classic car dealer, Marty Yacoobian, in 1991, when brokering a deal for classic Porsche collector, Bruce Canepa, who put 906-134 through a comprehensive restoration, albeit with the body painted white and with red detailing. In 2013, the original Racing Team Holland orange livery was reinstated by Ed Palmer of Kundensport, based at Oxnard, near Ventura.

In general, the 906 is a usable classic, eligible for events like Tour Auto, Giro Sicilia and Tour Britannia. As a point of reference, in 1966, the model cost a little over £6,000. Wind the clocks forward to 2015 and 906-134 changed hands at Scottsdale, when Gooding & Company's hammer dropped at \$1,980,000.

So, then, where does the 906 fit in the Porsche pantheon? Zuffenhausen's race cars evolved very quickly in the mid-1960s. Following on from the ladderframe 904, the 906, with its mid-mounted flat-six, was built on a multi-tubular spaceframe chassis, reverting to earlier practice. Like the 904, it was clad in a crude fibreglass body, though *unlike* the 904, the 906's broader, flatter shape stemmed from wind-tunnel tests.

In 1966, Porsche was looking to participate in the new Group 4 category for competition sports cars whilst continuing to produce the prototypes which honed the breed. This meant producing a minimum of fifty identical machines. By April 1966, the 906's homologation papers were stamped. According to former Porsche works driver and current factory historian, Jürgen Barth, the design for the 906's frame (factory drawing number 906 401 001 00) was penned on the 19th October 1965. The job of making fifty elaborate spaceframe chassis was delegated to Karosseriewerk Weinsberg, while the low-slung body and its bulbous front wheel-arches - designed to house tall fifteen-inch steel wheels - and its lift-up beetle-back engine cover, plus plexiglass greenhouse windows and gullwing door cockpit, was laid up by hand. The 906's fibreglass body is actually wrapped around and bonded over the lower and midship chassis tubes. The quality of the

Above and below

Inspired by the Mercedes-Benz W198 300 SL, Porsche equipped the 906 with gullwing doors





Above Some like it hot – poor cabin ventilation and the 906 requiring a proper workout from its drivers makes for a steamy session behind the wheel fabrication leaves much to be desired. Even on the bodyshell's painted outer surface, the weave and weft of the fibreglass matting is visible in a raking light, while inner surfaces were unfinished, as a glance inside the engine cover starkly reveals. The whole

construction is very

raw and there is a slight gap between the door and the hoop of the windscreen frame. It lacks the front-corner aerospoilers other 906s sprouted.

As mentioned earlier, taking advantage of Porsche's stock of 904 componentry, the 906 was equipped with unequal length wishbones and coil-spring damper units at the front, while wishbones, twin forward-facing radius arms and



906-134





coil-spring damper units featured at the rear, with slowing taken care of by ATE-Dunlop disc brakes in each corner. The

OUT ON THE OPEN ROAD, THE 906 IS A RIOT, AND NOT JUST BECAUSE OF ITS OMNIPRESENT SOUNDTRACK, COMPLETE WITH PITCH CHANGES

fifteen-inch, five-stud steel wheels were shod with Dunlop racing tyres (5.25x10.5 on the back and 4.75x10 on the front). Power was provided by a much-modified, dry-sumped, two-litre flat-six sourced form the 911 and based on an Elektron magnesium-alloy crankcase, with aluminium heads, new barrels, Mahle pistons, titanium connecting rods and titanium valve-gear.

Two banks of three twin-choke downdraught Weber 46 IDA 3C carburettors surmounted the Porschescripted cam covers, while the axial blower fan was mounted flat on top of the engine. Transmission was via single-plate clutch and five-speed allsynchromesh gearbox. Up front, under the Dzus-fastened panel, lay the oil tank and oil cooler, as well as the clutch and brake fluid reservoirs. Like the crankcase breather hoses at the rear, fat orange cooling flexi-pipes emerged python-like from the two channels in the nose of the car, where the frontal chassis tubes were embedded in the fibreglass floorpan.

The 906 weighed 580kg and delivered





at least 210bhp, though on the cam, it feels like much more. The car was good for a solid 174mph.

Porsche debuted the 906 at the 1966 24 Hours of Daytona, where the pairing of Hans Herrmann and Herbert Linge placed sixth overall. Soon after,

Willy Mairesse and Herbie Müller used a 906 to win the Targa Florio outright. Eventually, sixty-five 906s were made, including nine Bosch fuel-injected cars designated 906 E, one of which (driven by Jo Siffert and Colin Davis) finished fourth at Le Mans that year and won the event's Index of Performance. Like its two siblings, which finished fifth (Hans Herrmann and Herbert Linge) and sixth (Udo Schutz and Peter de Klerk), it ran long-tail bodywork, which prefigured similar versions of 907, 908 and 917.

LUCKY NUMBER

What of my own sojourn in the cockpit of a 906 (chassis 129, as it happens)? To access the clutch pedal, I am obliged remove my size tens in order to fit the left one between the footwell wall and steering column, in order to thrust the clutch pedal deep into the 906's nose, while probing its gate for dog-leg first. Between this and the fact there's nowhere for me to put my head, the 906 is a tricky drive. Away from its natural race-track environment, keeping it on the cam in traffic means dropping to second



or third to avoid the two-litre flat-six from s-s-s-spluttering. And this is after I've actually made it into the cockpit literally, the first hurdle. Both legs in first, over the broad sill, using the handily slanting chassis tube as a support, easing my pins beneath steering wheel and settling into the spartan bucket seat.

BELT AND BRACES

With the doors closed, I feel cocooned. I'm immediately conscious of the lack of headroom — racing drivers were either mostly short-arses back then or the seat was even lower. Did they have the protection of the five-point harness enveloping my torso like a spider's web? A lap belt at a push, maybe.

The switchgear is basic - the procedure for starting up is child's play. The red on-off key for the battery is in the front door-shut, with a fire extinguisher pull-switch above it, while on the far side of the dashboard strip are the two little pull-out ignition switches. A matching turn indicator switch sits next to them. The oil pressure and temperature gauge is in a tiny niche like something from a Nativity tableau. Then there's the wash/ wipe button, which, mercifully I do not need. The rev-counter, housed in its round arched binnacle, is right in front of me. There is no speedo, and the light switches are on the left of the steering column. A fan is angled right at the driver, though I can't work out how to operate it, and there is an air vent on top of the dash. It isn't connected - my ventilation comes from the two flaps in the door

side-windows. The windscreen washer catheter lives in the passenger footwell.

Once all ignition switches are turned on, I twist the key right a notch and the fuel pump ticks away, then I turn it further and the flat-six snarls into life. I catch the revs with the accelerator pedal and those Weber throttle slides do their work. Up and running, heel and toe is straightforward, but I need the full travel of the clutch pedal to find first and reverse gears. The car demands 3,000rpm to get rolling without hic-coughing. In fact, the clutch action is surprising soft, but it's a long way down. The brake pedal benefits from pumping for maximum rallentando, though once on the move, the stoppers seem absolutely fine.

I sit very low in the creaking seat, backside inches from the asphalt. From time to time, I'm reminded of its proximity by a harsh scrape as the belly-pan bottoms out. My view directly through the rainbow-arch of the plastic windscreen is of the road a few feet ahead. The front wheel arches, topped by dinky streamlined mirrors, dominate peripheral vision like a pair of giant green bananas either side of the car. The rearward view provided by those chrome wing mirrors is minuscule and isn't much better when trying to make use of the in-cabin mirror as I look back through the sepia-tinted opaque plastic of the engine lid window. But with no bodywork visible in the straight-ahead, my middle distance forward vision is



perfect for judging apexes for turn-in. No time to think too hard about that, though. It's mostly intuitive – pretty soon the next corner comes rushing up.

Beguiling from the standpoint of a trackside spectator, the crisp bark of the flat-six at high 5-6,000rpm, with its gunshot staccato key-changes at successive gearshifts, is absolutely deafening within the cockpit. I tolerate it because I'm living a dream, born at that BOAC 500 in 1967, when I was in the presence of the car you see pictured on these pages. Incidentally, racing drivers are not merely showing off as they drive through the paddock constantly blipping the throttle — if they' don't do so, the engine stalls.

Out on the open road, the 906 is a riot, and not just because of its omnipresent soundtrack, complete with pitch changes effected by the five-speed gearbox. Diffidence has no place here. I remind myself this is a racer, grab it bouncer-like by the lapels, and just go for it. Now it makes sense. Give this Porsche its head on the undulating country lanes, and it's a tiger. It needs to be kept on the cam to avoid misfiring, meaning there's little time to relax between corners, where I'm downshifting, double-de-clutching and feeding into apexes, always with a bit of power on. Flames pop on crackling overrun. Pure magic!

Above Despite only being produced in 1966, the 906 continued to prove itself a formidable racing machine in the years that followed

Given a pair of earplugs, I could do this all day. Whilst the 906 twitches and jiffles (every steering input eliciting instant effect), bump-steer is also in the recipe as the taut chassis and the tall tyres paw their way over B-road contours. I reflect the 906 feels more securely planted than a mid-1960s 911, as it should do. This is still some workout. Coming to rest, I unclip the rudimentary gullwing door catch from the driver's seat and hoist the lightweight panel above my head to aerate the steaming cockpit. The Meccano bracket hinges up and clips on to support it. Not pretty, but it works. I'm soaked with sweat, and my scalp bears creases where it bounced off the tubes in the roof and the lip of the door top.

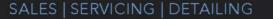
What would Porsche follow up with? The 906's deeper legacy is the fact it spawned a generation of increasingly refined tube-framed Porsche race cars. For example, introduced in 1967, the 910 was similarly specified to the 906, built on the same complex steel tubeframe chassis as the earlier car, similarly clad in fibreglass bodywork, bonded to the triangulated tubes at strategic points — with either a two-litre flat-six or 2.2-litre flat-eight engine providing power — but in a more rounded shell and running on thirteen-inch wheels. By 1968, twenty-eight 910s had been built, qualifying it as a Competition Sports Car, allowing Porsche to go up against more prosaic machinery. Later in 1967 came the 2.2-litre 907 prototype, a still more aerodynamic shape, but swiftly replaced by the similar-looking three-litre 908 prototype in coupé form. The 908 Spyder arrived in 1969, as did the all-conquering 917. Enough said.

The 906 possesses an individualistic, beautiful design, redolent of the brief two-year period when it was in its classwinning prime. Today, this Porsche's double-edged specification allows you to participate in the Tour Auto and then drive the car home, should you want to. I've messaged Gijs van Lennep to see if he's up for it. ●









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THUNDER STRUCK

The story is as old as the hills – someone is confronted with a deadly illness and vows to live life to the full, if spared. This was the scenario Jeff Morton found himself in, resulting in his determination to hit Australia's tracks and road rallies in a 991 GT2 RS...

Words Richard Holdsworth Photography Rhys Vandersyde, Matthew Evepingham, John Hutchison, Aaron Wishart

ack in 2010, then thirtyyear-old motorsport fanatic, Jeff Morton, was diagnosed with a brain tumour. So his doctors said, should

he survive the required traumatic programme of treatment — surgery, radiation and chemotherapy — he would likely never drive again. This was devastating news for a man whose life

revolved around the automotive industry. Indeed, while completing his degree at the University of Technology Sydney, Jeff investigated the reason the company prospered.

Revenues earned by Autopia provided the funds for Jeff to open an account for himself on Australia's race tracks and in the country's road rallies. Previously, without the cash to compete professionally, his participation was limited to practice days, but thanks to Autopia's success, he was able to enter a multi-disciplined series of events, including the 2008 New South Wales

I'M NOT SURE HOW LONG IT TAKES TO GET YOUR WINGS, SO TO SPEAK, BUT PURSUING A CAMS LICENCE CONSUMED THE NEXT FIVE YEARS OF JEFF'S LIFE

prospect of importing second-hand cars from Japan and selling them for profit. Following in his father's footsteps as a computer programmer didn't appeal, whereas an uncle with a successful engineering business served as inspiration for what was possible as founder of an independent company.

In 2001, at twenty-one years of age, Jeff established a business leasing cars to selected clients. Main dealers were, of course, offering lease options to their customers, but Jeff saw an opening in small businesses wanting to offer their employees the opportunity of leasing cars as part of their salary package, an arrangement attracting tax benefits. This enterprise was a stepping stone for Autopia, a company Jeff founded in 2004 to fill another gap in the Australian motor vehicle supply market. Essentially, Autopia took on the role of fleet manager for companies not large enough to have capacity to take care of the work themselves. It doesn't take initiative alone to identify opportunities like this, though - a great deal of determination, time and graft is required. Jeff has all three in spades, which is the primary

Facing page Suitably chuffed at smashing the production sports car lap record at the iconic Mount Panorama Circuit in New South Wales Dutton Rally. Although the BMW 135i he was competing in wasn't on the same level as the super-aggressive machines of his rivals, he was able to score top ten finishes time and again. Not bad for a Bimmer in standard showroom specification and in a field of up to a hundred cars.

In 2010, Jeff moved up another rung, importing a second-hand Lotus Elise from the UK. Working with Sydney-based marque specialist, Simply Sports Cars, the new arrival was prepared for the cut and thrust of competition. Before long, however, Jeff's doctor delivered the aforementioned grave news. The Lotus was immediately mothballed. It looked very much as though Jeff would be unable to discover whether he could be as successful in motorsport as he was in business.

Aussie grit comes into play. Jeff put himself in the hands of medical specialists and, following a challenging operation, immersed himself in aftertreatment courses of radiation and chemotherapy. As you can imagine, it was a taxing time for the Morton family, but Jeff quickly became an inspiration for anyone facing the same lifethreatening situation — he became an ambassador for the Cure Brain Cancer Foundation, a charity dedicated to increasing survival rates and improving the quality of life for those impacted by an illness killing more children in Australia than any other cancer.

A year passed. The Lotus remained motionless in Jeff's garage – he'd been stripped of his driving licence,

but having come through the operation and subsequent intensive programme of treatment, and with his recovery looking surprisingly good, he applied for and received

permission to return to the road in May 2011. He was itching to pick up where he left off with the Elise, but doing so required a competition license, which is an altogether different challenge to reobtaining a driving license for the road.

PERMISSION TO LAND

"I had to jump through a lot of hoops," he tells me. It's difficult enough getting a racing license in Australia without the challenge of a major illness providing an extra level of scrutiny from issuing authorities — many years ago, in Southern Australia, I aspired to move up from club racing with my 356 Speedster. It was far from a case of simply grabbing an appropriate license 'off the shelf'. Jeff, however, found himself akin to a pilot trying to regain his licence after being told he'd never fly an aircraft again. Not something I had to contend with.

The Confederation of Australian Motorsport (CAMS, now named Motorsport Australia) was the ruling body. This is where the analogy of the pilot's licence comes in. You see, I'm not sure how long it takes to get your wings, so to speak, but pursuing a CAMS race



licence consumed the next five years of Jeff's life. CAMS representatives were playing safe, obviously, but he was champing at the bit. "I was doing all the right things," he relays. "I was getting the required medicals and filling in all the forms I was being asked to complete. I even registered and participated in various low-profile events, where only a road licence was required. It was a way of demonstrating I was ready." Invariably, he beat all opposition thrown his way.

Finally, in late September 2016, his patience was rewarded with a CAMS competition license, meaning he could compete in events attracting the best drivers and cars in Australasia. Naturally, he was delighted to have the necessary paperwork finally in his possession, but the timing of its arrival gave very little wiggle room to prepare for the for the Targa High Country Rally, the next available event he wanted to contest. A well-supported competition centred around Victoria's best-known ski resort (its focal point being Mount Buller, a mountain in the Victorian Alps of the Great Dividing Range) and some 2,200 metres above sea level, the event welcomed Jeff and his friend, Jarred Kershaw, in the Time Speed Distance (Regularity) class, which doesn't necessarily reward the fastest car or driver, but a good car-driver-navigator combination certainly helps meet the strict criteria of crossing the finish line

on or as close to the predetermined target time.

Thanks to the work at Simply Sports Cars, the Elise — powered by a supercharged 1.8-litre Toyota engine delivering near 330bhp — benefited from upgraded brakes and suspension. With so little time between Jeff getting his competition licence and the start of the event, he and Jarred finishing in third place was an extraordinary achievement. More challenges beckoned.

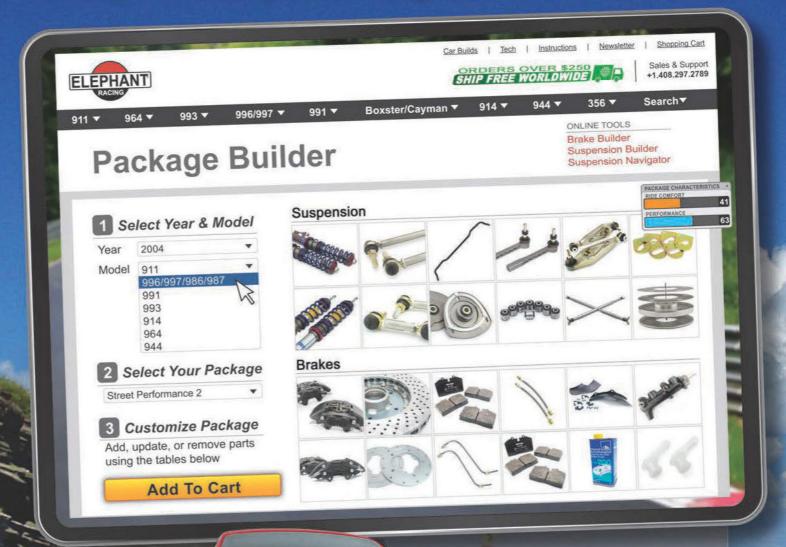
Challenge Bathurst is an annual

event in which drivers are challenged to set the best lap times at Mount Panorama Circuit in New South Wales. Jeff entered 2016's contest, which took place in late November, shortly after the Victoria outing. He clocked a scintillating two-minute and twentythree second lap, which is nothing short of fantastic for someone who hadn't previously driven this particular track. To put this achievement into perspective, the venue's lap record stands at a shade under two minutes, achieved by **Above** Flying toward third in class and fourth overall in the 2021 Targa Tasmania

Below Giving Red Thunder a rest between attacks of the track at Sydney Motorsport Park



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professional driver, Christopher Miles, driving an Audi R8 MLS GT3 in the heat of battle.

MAKING TRACKS

A circuit lap attack was all well and good, but rallies really set Jeff's pulse racing. "Targa High Country gave me a real taste for road rallies," he recalls. "In Australia, the best-known of these events is the Targa Tasmania. Held each April, the event is the world's largest tarmac rally and is located 240 kilometres south of the Australian mainland - Tasmania is separated from it by the Bass Strait. I was determined to see how well I could perform in the event. The first I was able to enter was 2017's outing. In preparation, I swapped the Elise for an Exige, a Lotus far better suited to the event's many different stages and challenges." He also needed a navigator who knew the island, its towns, villages, twisty forest roads and mountain passes. Having navigated the previous fifteen Targa Tasmania events, Dennis Neagle was just the man. As if to prove the point, he and Jeff went on to win their class (GT Sports Trophy) a huge ten minutes ahead of the second-placed car.

In years gone by, Targa Tasmania featured Rookie Rallye, offering entrants the opportunity to compete in the hope of winning free entry to the main event. Rookie Rallye returned in 2018, affording entrants the possibility a shot at the fullfat 2019 Targa Tasmania. As a veteran of the main competition, Dennis was ineligible, which is why Jeff called upon the services of Steve Fisher, a navigator more than up to the task. Indeed, the pair duly crossed the line in first place.

The Targa Great Barrier Reef, held north in the Sunshine State of Queensland, was a new event staged in September 2018. Like Targa Tasmania, it is an open competition, attracting some of the best drivers and cars in Australia. "I thought I'd give it a go," Jeff shrugs. In this instance, 'giving it a go' equates to finishing third overall in a packed entry list of powerful cars and experienced drivers. It was then time to head back down south to Victoria's Alpine region for the year's Targa High Country, which saw Jeff bag another highly creditable third-

place finish. Momentum was building Proving the point, in 2019, he set sail across the Tasman Sea to take up his free entry in the year's Targa Tasmania. He partnered with experienced navigator, Daymon Nicoli. The dynamic duo finished fourth overall in an entry list of almost two hundred competitors. It was a more than respectable result, but one Jeff felt needed to be improved on. This, as you can probably guess, meant ditching the Lotus and buying a new car. And what a car he picked! With proceeds from the sale of Autopia, he invested in a 991 GT2 RS in 2020. "Rally rivals driving Porsches were phenomenally competitive," he reasons.

Above Jeff honing his circuit driving technique at Sydney Motorsport Park

Below You can follow Jeff's adventures online by hitting his social media profiles





"Their cars offered superior power and

supply of parts if something went wrong,

rock-solid reliability, but also an easy

although this was

a rare occurrence.

Pleasingly, I could

specify the GT2 RS

cage, which can be

unbolted, allowing

the car to be sold

everyday, road-going 911, should

the need present itself. This really

With a Porsche acquired, it was

time to seek sponsorship. Goodyear's

Australian outpost was first to step in

tyres, a race-bred 911 and Jeff behind

the wheel. This stellar combination

with support. The die was set: Goodyear

and used as an

appealed to me."

immediately paid off.

with a factory roll

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The car made its maiden competitive appearance in the Mount Baw Baw Sprint, which serves as the first

across two days. It's important to note, the GT2 RS didn't finish first on every stage, but it completed the overall event

> by a staggering nine minutes and forty-nine seconds ahead of the runner-up. A month later, car and driver took top honours at the Lake Mountain Sprint in Victoria.

UNDAUNTED AND DESPERATE TO KEEP MOMENTUM GOING, HE ENTERED THE PRECIOUS FEW TRACK EVENTS PERMITTED BY THE AUSTRALIAN GOVERNMENT

round of the Australian Tarmac Rally



Championship. With regular navigator, Daymon, at his side, Jeff beat all other competitors, despite this being his first time at the event. Winding forest roads are interspersed with fast, short, straight sprints and a twenty-mile climb to Baw Baw's summit, a challenge Jeff relished. The event is divided into more than a dozen stages and spread

Just when Jeff felt the problems he'd experienced during the previous five or so years were behind him, the pandemic arrived. He had a new car and a new partner in Goodyear, but just as he was demonstrating what a powerful combination they could be, COVID-19 dictated lockdowns the world over. Motorsport was cancelled.

Undaunted and desperate to keep momentum going, he entered the precious few track events permitted by the Australian government. Although he was successful (he won the Supercar Class in the Australian Time Attack weekend at Wakefield Park in his home state of New South Wales), he wasn't happy with his overall performance. "Naturally, the car was configured for rally events, with longer travel in the suspension and the dampers adjusted for a soft ride. This isn't ideal for the cut and thrust of repetitious lapping on the same ground and around same corners time after time. Also, in truth, I wasn't as confident at circuit events, where you have to maximise the limits in every corner and in each braking

Top middle The 2022 Targa Tasmania was cut short due to regrettable accidents and fatalities caused by poor weather

Far right Celebrating outright victory with Daymon Nicoli at the 2022 Targa High Country Rally

Below The Targa Tasmania presents a challenging drive set against some of Australia's most impressive scenery



zone if you want to achieve the best lap time." Despite his misgivings, on 28th November 2020, he returned to Challenge Bathurst.

He set his sights set on the lap record for production sports cars. As mentioned earlier, he'd already chalked up a scintillating lap time in his modified Lotus Elise, but felt that with the GT2 RS, the then production sports car lap record of two minutes and sixteen-and-a-half seconds was beatable. He refined his circuit driving at Sydney's Motorsport Park and, consequently, sensed the lap record at Mount Panorama might not be a goal too far.

RUBBER SOUL

"I arrived at Bathurst with the car rolling on used Goodyear Eagle F1 SuperSport RS tyres," he remembers. "I managed a best of two minutes and eighteenpoint-six seconds in the last session of the day at peak temperature. The plan was to throw on a fresh set of tyres in the cool of the next morning and have another crack at the record. We duly installed new rubber and, although I was somewhat impeded by another car in the first practice session, I got my lap time down to two minutes and fifteen-point-eight seconds, a full seven tenths quicker than the previous record for any production sports car." In the next session, with track temperatures rising, he had a clear run and clocked two minutes and fourteen-point-two seconds, more than two seconds faster than the production sports car lap record then held by five-time DTM champion and AMG brand ambassador, Bernd Schneider, who registered his time in a 2017 Mercedes-AMG GT R. Schneider's was a record standing for several years before Jeff's accomplishment. "All over the world and at famous circuits, professional drivers have set lap records time and again," he reflects. "And then I turn up, an amateur driver with very limited circuit experience, and set a lap record at a racetrack recognised across the globe. I still can't quite believe it!"

When lockdown restrictions lifted, Jeff entered Targa Tasmania once again.

Above Setting a new lap record at Mount Panorama Circuit





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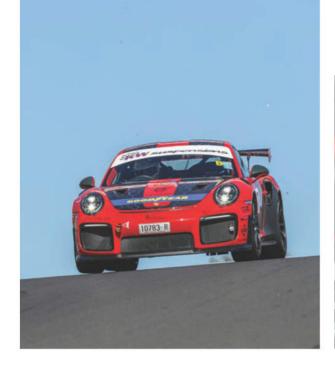
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Above Red Thunder strutting its stuff at Mount Panorama

Right All set for the 2021 Targa Tassie

Facing page and below Leading the charge in the 2022 Targa High Country Rally, which climbs 7,2000 feet to Mount Buller's summit

This was the 2021 event. As before, he was behind the wheel of the GT2 RS and had Daymon assisting as navigator. Tragically, the event was marred by multiple fatalities, including the death

of Dennis, who passed away alongside driver, Leigh Mundy, when the pair's 991 GT3 RS veered off the road and collided with a tree near Cygnet,

south of Hobart, on the final day of the competition. Veteran driver, Shane Navin, was killed a day earlier, when he lost control of his 1979 Mazda RX-7 while cornering at Double Barrel Creek.

Tasmania is a beautiful island, but being the southern-most state of Australia makes it prone to very un-Australian weather. So it was during the last days of April 2021. News of Dennis' death reached Jeff, who fully appreciated the challenges participants faced - his GT2 RS, a rear-wheel drive sports car with 690bhp pumping out of its 3.8-litre flat-six, was a handful in inclement weather. Powerful four-wheeldrive cars ruled the roost. That said, despite 'playing it safe', Jeff and Daymon finished third-in-class and fourth overall.

After the troubled event, Jeff sought the expertise of Sydney-based Porsche sales, servicing and motorsport specialist, Autohaus Hamilton, which quickly became an integral part of his continued improvement behind the wheel. Entry into the highly competitive Adelaide Rally at the end of 2021 brought second-place overall, a result he built on in 2022, when he returned to the

Targa High Country Rally. This time, of course, he was driving his GT2 RS, which he'd dubbed Red Thunder. With Daymon as navigator, the pair were first to the top of the iconic Mount Buller stage

HIS GT2 RS, A REAR-WHEEL DRIVE **SPORTS CAR WITH 690BHP PUMPING OUT OF ITS 3.8-LITRE FLAT-SIX, WAS A** HANDFUL IN INCLEMENT WEATHER

and went on to dominate the three-day event, leading from start to finish and winning by a significant two minutes and twenty-four seconds. "It was our first outright Targa victory," Jeff grins. "Needless to say, we were pretty pleased with ourselves."

It was time to return to the epic six days of Targa Tasmania. Low, dense cloud and precipitation made the course's roads damp and slippery. "It was difficult to see any of the corners ahead, let alone what was around them," Jeff sighs. Predictably, a string of accidents yielded a fatality - Lotus Exige

driver, Tony Seymour, was killed when his car (also carrying his wife as navigator) hit a steep embankment and crashed. The event was immediately cut short. In a move seen by organisers as

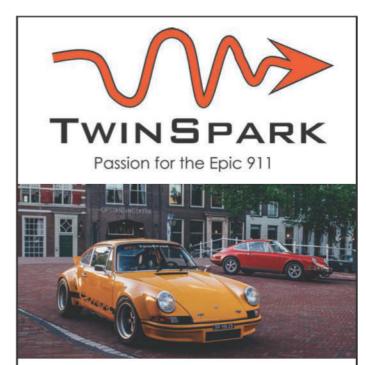
providing a safer time of year to compete, the 2023 Targa Tasmania was postponed from its traditional staging in April to late October. Unfortunately,

as the year progressed, the decision was made to cancel the event. In fact, Motorsport Australia suspended permits for all of the country's road-based rallies, giving it time to review recommendations for safety, including speed limits. Consequently, Targa Tasmania won't be returning until 2025. Entries are, however, already open and, as you can probably guess, fourteen years on from his life-threatening medical diagnosis, Jeff is itching to get going. We'll be sure to report on his progress - just as when he was battling brain cancer, he'll be out front, fighting with everything he's got.



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THE POINT OF DEPARTURE

The clumsily named Cayenne Turbo E-Hybrid Coupe with GT Package is one of the most powerful road cars Porsche has ever built. This super-SUV attempts to recreate the Cayenne Turbo GT's magic, but in plug-in hybrid form. Has the novel approach worked?

Words Matt Robinson Photography Andreas Koslowski







hy does *GT*, an innocuouslooking pairing of letters, get Porsche fans so hot under the

collar? After all, *GT* is widely used by all manner of automotive manufacturers and on all sorts of products. In the wider scheme of things, *GT* stands for *gran turismo*, which is the Italian way of saying *grand tourer*. And yet, whenever these two letters are appended to a Stuttgart-crested sports car, we go weak at the knees. Add RS nomenclature to get us even more excited.

If you want incontrovertible evidence of *GT*'s power in the Porsche fold, look no further than the Cayenne sports utility vehicle. Nobody could have expected quite what the company's GT division would serve up when it allowed its cypher to be planted on the biggest, heaviest vehicle Porsche produces, but in 2021, the Cayenne Turbo GT arrived. It completely rewrote the rules of what an SUV ought to be capable of.

Okay, we're being slightly disingenuous here — the Cayenne Turbo GT obviously had significant development input from Porsche's GT division, but it wasn't one of the department's glittering pieces of coursework. That said, to put *GT* badging on the back of a two-tonne-plus SUV was a daring decision. Thankfully, it paid off handsomely.

There are some truly great-handling performance-oriented SUVs out in the world. Manufacturers have embraced the myriad clever technologies required to make such inherently cumbersome vehicles handle sharply and, crucially, in an involving manner. Porsche is one of the leading lights, of course – the Cayenne and Macan are benchmarks in their respective fields, regardless of the drivetrain a particular model possesses. The Turbo GT was something else, though. Here was a lighter, more focused version of the Cayenne Turbo Coupe. The Turbo GT delivered a genuine downforce-generating spoiler perched atop the rear screen and offered a healthy power boost to help the big brute along the road. It is, perhaps, a touch controversial to suggest a 2,220kg super-SUV nearly five metres long, two metres wide and more than 1.6 metres tall can in any way be considered a sports vehicle, but this is exactly what the Turbo GT is.

It is also utterly sublime to drive – the Turbo GT's beautifully informative steering and majestic front-end ensures effortless changes of direction, keeping Above Utilising the might of the four-litre V8 in combination with the potent electric motor results in a massive 729bhp and 701lb-ft torque



CAYENNE GT PACKAGE



Above Interior is a neat mix of carbonfibre, Alcantara and digital displays, although we're not fans of the entirely digital instrument cluster, mirroring that of the Taycan

Below Just your everyday school run

the vehicle's body flat, even under the greatest mid-corner provocation and when every last one of 631 horses is unleashed by the

phenomenally charismatic, twinturbocharged four-litre V8. Never mind considering the merits of other SUVs when we had

the Turbo GT on test for an extended period, we reasoned few sports cars of any description were as good as or as enjoyable to drive. The ultimate Cayenne, then?

Sadly, tightening of emissions regulations mean the Turbo GT can no

es is North American Porsche main dealer electric v
THIS IS THE ONLY WAY PORSCHE

CAN CONTINUE SELLING THE TURBO GT IN MARKETS THE MODEL HAS BEEN OUTLAWED

although it continues to be offered in

showrooms and select other markets, although for how long? The standard Cayenne Turbo has been chopped for the same reason. All is not lost: the four-litre twin-turbocharged V8 under Turbo and Turbo GT bonnets lives on in the facelifted third-generation Cayenne



line-up, albeit with the emissionsslashing assistance of plug-in hybrid electric vehicle (PHEV) technology.

> With the Stuttgart concern's largest model available in regular SUV body style or the more racylooking Coupe (one of the bestlooking coupe-

SUVs going at any level), you've got five main choices of drivetrain. Sixty percent of them, regardless of body style, are PHEVs marketed under Porsche's now familiar E-Hybrid banner. Porsche offered two E-Hybrids in the pre-facelift line-up of the Cayenne 9YA/ YB generation. Their replacements are, in essence, carry-overs. Whereas the entry-level E-Hybrid continues (albeit marginally uprated for power at the cost of a dab of torque, illustrated by the hike from 456bhp to 464bhp, but down to 480lb-ft from peak of 516lb-ft), the old Turbo S E-Hybrid (671bhp and 664lb-ft torque) has been superseded by the new Turbo E-Hybrid, which doesn't look like much like an upgrade, given the loss of the S badging. Even so, it forms the starting point for the GT Package.

What we've not yet mentioned is the all-new 512bhp Cayenne S E-Hybrid. We'll bring you a full review, as well as our verdict on the 'plain' Turbo E-Hybrid, in forthcoming issues of *911 & Porsche World*. What we're focusing on here, then, is the clunkily named Cayenne Turbo E-Hybrid Coupe with GT Package.



It uses the Turbo E-Hybrid as its source, but doesn't add any extra power. Then again, why would the GT Package need it? Believe it or not, there has been only one road-going production Porsche powered by an internal combustion engine with higher bhp than the new flagship Cayenne: 2013's astonishing 918 Spyder. You'll recall this was a PHEV to boot.

Yes, somewhat outrageously, what you're looking at with *any* Cayenne Turbo E-Hybrid is a system offering maximum power output on the far side of 700bhp. A jaw-dropping 729bhp, in fact. At 701lbft, the torque to go with it is equally monstrous. Performance is, as you would expect, exceptional. Specifically, the dash to 62mph from a standing start takes just 3.7 seconds. Top speed is 183mph. Consider the Turbo E-Hybrid Coupe tips scales at a chunky 2,670kg. In its seventy-five-year-plus history, Porsche hasn't made a road-going vehicle so heavy. This is a company whose name appeared on tractors in the 1950s, don't forget.

This is where the GT Package comes in. Effectively, it strips out weight. Only available with the Coupe body style, it takes a significant hundred kilograms from the kerb weight of the Turbo E-Hybrid Coupe through a raft of measures, including replacing the standard-fit panoramic glass roof with a carbon-fibre panel. Porsche Ceramic Composite Brakes (PCCB) feature, as does a lithium-ion twelve-volt battery in place of the usual lead-acid affair.

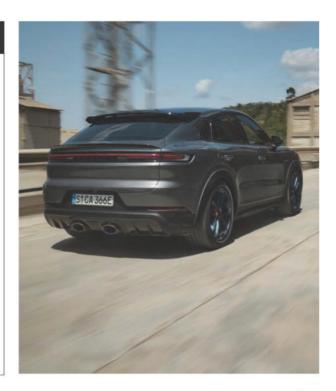
Bringing us back to our opening gambit, this Cayenne doesn't half look familiar to anyone lusting after the now departed Turbo GT. The Turbo E-Hybrid with GT Package not only has the same carbon-fibre roof and PCCB kit, but also has the aforementioned fixed spoiler at the top of its rear screen, complementing the automatically

Above and below

Cayenne Coupe body styling sacrifices a bit of headroom in the back and slightly reduces luggage capacity over the standard SUV body style, but amazing looks make the tradeoff more than worth it

TECH SPEC

Model	Cayenne Turbo E-Hybrid Coupe with GT Package (PHEV)
Engine	EA825TT 3,996cc 'hot inside-V' biturbo V8 petrol, plus 130kW electric motor and 25.9kWh lithium-ion battery pack
Transmission	Tiptronic S eight-speed torque-converter semi-automatic
	gearbox, Porsche Traction Management, all-wheel drive
Economy	148.7mpg (combined)
CO ₂ emissions	40-43g/km
Top speed	189mph hybrid mode, 84mph electric mode
0-62mph	3.6 seconds
Power	Petrol 591bhp at 6,000rpm, electric 174bhp at 3,200rpm,
	system maximum 729bhp at 5,500-6,800rpm
Torque	Petrol 590lb-ft at 2,400-4,500rpm, electric 332lb-ft at
	0-2,690rpm, system maximum 701lb-ft at 900-5,130rpm
Weight	2,495kg (DIN), 2,570kg (EU)
Dimensions	4,930mm long, 1,995mm wide (excluding mirrors),
	1,652mm high, 2,895mm wheelbase
Price	From £154,000





Above and right

Passenger gets their own standalone infotainment screen, which is invisible to the driver thanks to a meshed screen cover operated spoiler the Coupe's hatch. The same attractive twenty-two-inch alloy wheels (which can be painted in colours contrasting

the body and to match a bold set of stripes along the bottom of the doors) are also present. Additionally, the Turbo E-Hybrid with

GT Package boasts the Turbo GT's two central oval exhaust pipes, as well as pipework constructed from titanium.

In short, this is the only way Porsche can continue selling the Turbo GT in markets the model has been outlawed. In our earlier review of this controversial Cayenne, we applauded the four-litre V8, the model's strident styling and its focus on driving thrills above all other **CAYENNE PHEV RANGE** mind, we inevitably end up comparing the Turbo E-Hybrid Coupe with GT Package with the Turbo GT. What we conclude, regrettably, is less than

flattering to the newbie. In the game of statistical Top Trumps, the PHEV has significant advantages on power (98bhp) and torque (74lb-ft), but the telling number is the time it takes to race from rest to 62mph. While



CAYENNE GT PACKAGE



considerations, which was especially welcome in an age demanding exhaust emissions are cut further. With this in

THE TURBO E-HYBRID COUPE WITH GT

PACKAGE FEELS THE MOST PLAYFUL AND

FAITHFULLY ADJUSTABLE OF THE ENTIRE

the GT Package's lower kerb weight trims a tenth from the standard Turbo E-Hybrid's record in the same test, 3.6

> seconds pales in comparison to the Turbo GT's fiery 3.3-second abilities. This comes down to bulk. Despite the weight-saving measures we've

namechecked, the Turbo E-Hybrid with GT Package is 275 kilograms heavier than the Turbo GT. A considerable sum. The weight of a sizable motorcycle, in fact. Presumably, this is why Porsche chose to name this flavour of Cayenne the Turbo E-Hybrid Coupe with GT Package, rather than simply referring to it as the Turbo E-Hybrid GT. An important distinction of nomenclature is at play.

Much of what the GT Package does, of course, is magnificent. This Porsche is blessed with some of the best steering you'll find in the modern age, irrespective of whether the host vehicle is an SUV. And with its mammoth roadroller rubber, there's grip for years. Yet, when the tyres do let go, the Turbo E-Hybrid Coupe with GT Package feels the most playful and faithfully adjustable of the entire Cayenne PHEV range. It also limits body roll, pitch and dive beautifully, which is impressive, considering the forces required to keep the significant mass in check.

On a track, this is a mighty impressive Porsche. On roads, it has the added advantage of being able to travel a



claimed forty-five miles on electric power alone, enhancing a refinement level we acknowledge as top-notch, not least on account of new twovalve Porsche Active Suspension Management (PASM) dampers. These have dedicated valves for each of rebound and compression, rather than the previous set-up, where one valve did both jobs. The upshot is an extra polish of sophistication for ride comfort and rolling refinement.

Unsurprisingly, you're unlikely to get forty-five miles on purely electric power for all but the most conservative of journeys, just as you probably won't achieve Porsche's frankly preposterous 148.7mpg combined economy figure. Reckon on sub-10mpg if you batter the drivetrain hard for an extended period, such as on track or a challenging road. We know this because the Cayenne Turbo E-Hybrid returned 7.7mpg on one of our mountain test routes.

The Turbo E-Hybrid with GT Package is all things to all people. It can be a demented back-road charger or remarkably talented on-track machine one minute, and a saintly EV-alike in urban areas the next. In accordance with the rest of the updated Cayenne range, there's a beautiful cabin and decent practicality. The updated interior delivers a 12.6-inch digital instrument cluster with no cowl, as you'd find in a Taycan. You also get the option of a 10.9-inch front passenger display screen. On the outside resides slimmer headlamp units, a bolder tailgate strip (between the rear clusters), discreetly adjusted bumpers, revised front wings and an updated bonnet. All in, this is an amazingly cohesive, deeply talented Porsche. It's a marvel of modern engineering, too.

The problem is the use of those two little letters, *GT*. Starting at £154,000, the GT Package is an expensive £21,400 uplift on the 729bhp Turbo E-Hybrid Coupe. As good as the GT Package is dynamically, it never reaches the giddy kinematic heights of the deposed Turbo GT. There's also the huge elephant in the room: just how good will the Turbo E-Hybrid with GT Package be to drive with a long-depleted battery pack. In this scenario, the 591bhp four-litre V8 is essentially having to haul around 275kg of ballast.

Not even the addition of *Package* after those hallowed initials can detract from the fact that, as superbly talented as the Turbo E-Hybrid with GT Package undoubtedly is, and notwithstanding it being the most enjoyable drive of the entire updated Cayenne E-Hybrid range, it is nevertheless far from the best Cayenne manufactured to date. This honour remains with the Turbo GT, a supposedly outmoded model wearing those hallowed two letters with unmatched distinction. Above Yellow calipers highlight the presence of Porsche Ceramic Composite Brakes (PCCB), needed to act as a foil to massive power output

Below Cayenne Turbo E-Hybrid and Cayenne Turbo E-Hybrid Coupe with GT-Package pictured side-by-side







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TECH: SPECIALIST



DRIVING FORCE

Occupying two state-of-the-art sites either side of Manchester, Road and Race Restorations is a Porsche-approved repair centre with thorough knowledge of the brand's new and legacy output, including its motorsport machines... SUBSCRIBE TO 911& **Porsche** SEE PAGE 124 FOR DETAILS

Words Dan Furr Photography Adrian Brannan

hrough its Porsche

Classic Partner Centres, Porsche Cars GB has overseen the restoration of several historically significant sports cars. For example, at the back end of 2015, in a bid to highlight the existence of the rich pool of talented Porsche Centre technicians well versed in the field of maintaining classic Stuttgart speed machines, then Porsche Cars GB Owner Services Manager, Jonathan Mannell, arranged for 924 GTP chassis 002 - a participant in the 1980 24 Hours of Le Mans and the only factory race car ever to compete wearing the Union Jack - to be liberated from the Porsche Museum's vault in Zuffenhausen and passed through each of the UK's Classic

Partner Centres for restoration. The team at Porsche Centre Leeds took care of stripping and inspecting the car, as well as sorting its electrics. Porsche Centre Glasgow recommissioned the suspension, brakes and wheels. Porsche Centre Swindon was tasked with the mammoth job of rebuilding the engine. Last, but by no means least, Porsche Centre Hatfield refurbished the reinforced five-speed transmission.

After the build was complete, the car was presented to an excited gathering of motoring hacks at Porsche Experience Centre Silverstone, with one of GTP 002's original drivers, Tony Dron, entertaining the crowd by way of demonstration laps. Soon after, Derek Bell drove the wide-arched 924 around the Green Hell as part of a Porsche-organised coming together of standout survivors from the manufacturer's transaxle range of products. In fact, the success of GTP 002's restoration served as catalyst for preparing an early 928 for similar treatment - driven by former works driver and Le Mans winner, Richard Attwood, the V8-powered 'land shark' was configured for entry into the Historic Sports Car Club (HSCC)'s 2017 '70s Roadsport Championship, a move designed to draw attention to the 928's fortieth anniversary. This time, the role of each Classic Partner Centre was to serve as trackside support whenever a round of the championship arrived at a local circuit. This was the first time many of the technicians involved had participated in the preparation of a competition car for practice, qualifying and racing - a

Above John (seated) established Road and Race Restorations in 1988 as a reaction to his love of motorsport and a desire to provide first-class repair services to the racing community



huge challenge, but another example of how Porsche Cars GB is keen to bring its Classic Partner Centres ever closer to Stuttgart-crested retro rides (both in road and race trim), thereby adding to a knowledge base directly benefiting owners taking their air-cooled or transaxle models to Glasgow, Leeds, Hatfield, Swindon or recently appointed Bournemouth

Bradshaw, the pair behind Manchester-

marque bodywork specialist, Road

and Race Restorations, one of only a

handful of independent repair shops

officially recommended by Porsche.

The company took care of all GTP 002's

bodywork needs. This was no mean feat

the car's front clam, a condition requiring

the part to be created afresh with nothing

as a point of reference. Additionally, John

other than period photographs available

prepared the aforementioned 928 and

personally sourced the car's 4.5-litre V8

for Attwood's star turn behind the wheel.

- significant damage was inflicted on

based race car preparation and premium

for maintenance, servicing, repair or restoration work.

The success of both the 924 and 928 projects relied heavily on the input of father and son Porschephiles, John and Tom "The 928 project worked very well as a way of raising awareness about the existence of the Porsche Classic Parts service and the expertise of Classic Partner Centre technicians," John reflects, seven years on from the adventure. "What became apparent, however, is that changing personnel between each round of racing meant

INCREASED APPETITE FOR THE COMPANY'S SERVICES FROM CLIENTS SOUTH OF THE CITY ENCOURAGED JOHN TO OPEN A SECOND WORKSHOP IN 2023

Road and Race Restorations to prepare the two-litre model for an attack of the track in time for Porsche's seventieth anniversary. "This 911 was purchased by Porsche Cars GB many years ago, but unrelenting engine problems meant keeping it in good operating condition had proved a prohibitively expensive exercise," John tells us. "With Porsche's

big birthday on the horizon, not to mention the fact one of the 911's previous owners had part-prepared the car for circuit use, a decision was made to hand it

to Tom and I with an instruction for our team to strip and rebuild the car for a motorsport campaign to tie in with the manufacturer's planned year of highprofile celebrations."

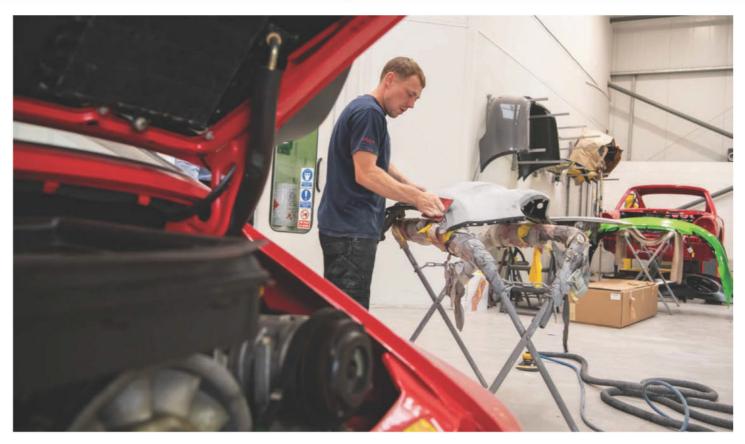
John established Road and Race Restorations in 1988. The company was born from his love of competition and sports cars, as well as a desire to provide exceptional quality repair and restoration services. Fast-forward more than thirty-five years and the business has forged a reputation for the highest levels of craftsmanship, irrespective of whether the car being worked on is treated to minor accident repair or full restoration. Proving the point, Road and

Below The company's highly skilled workforce is familiar with the intricacies of every age and model of Porsche sports car, a consequence of years working with the marque, manufacturer training and the firm's continual investment in its talented staff there was never anyone on-hand with intimate knowledge of the car come race day. Time spent with a motorsport machine across a season, or at the very least, multiple successive rounds of a championship, gives you insight into how a car should be configured for varying weather and driving conditions. With this in mind, when Jonathan approached me with details of Porsche Cars GB's next motorsport-themed restoration project, I knew we needed to pull together a permanent support team to look after the car across an entire season of racing."

The Porsche being pitched was a short-wheelbase 911 manufactured in 1965. Jonathan's request was for



TECH: SPECIALIST



Race Restorations is a repair centre recommended by many Volkswagen brands, including Porsche and Audi.

"Seventy percent of the work we do concerns Porsches," John reveals. "We love working on these vehicles, old and new, not least because Porsche owners are passionate about their cars and know what they're looking at when it comes to assessing attention to detail. Our reputation for getting work right first time is very attractive in an industry heavily populated by volume repair bodyshops churning out work without care for consistency or fastidiousness."

As demonstrated by the flawless finish achieved by the company's painters, polishers and panel technicians, John has surrounded himself with some of the best in the business. "Our workshop staff are trained to the very highest standards and take great pride in the work they do," he smiles. "Their knowledge is continually expanding, partly a result of regular attendance at Porsche for additional training. This is very important and ensures the brand's recommended repairer programme remains robust." Indeed, most bodywork repair centres don't possess the necessary experience or specialist knowledge required to work on Porsche products correctly. For this reason, the manufacturer's stamp of approval provides assurance Road and

Race Restorations is more than capable of tackling even the most convoluted of Porsche repairs and is well-versed in the intricacies of these uniquely engineered cars. Additionally, John's team is qualified to carry out all aluminium chassis repairs on Volkswagen Group vehicles, including the Audi R8.

The business has long taken up residence in Little Hulton, an area in Salford, Greater Manchester, but increased appetite for the company's services from clients south of the city encouraged John to open a second Road and Race Restorations workshop in 2023. Located in Lower Stretton (a village in Cheshire situated approximately twenty-five miles south of Salford), this new facility enables easier servicing of client needs in an area known for its many owners of premium sports cars. "We take care of bodywork and paint repairs for six Porsche Centres in the region," he reveals. "Broadly speaking, three are in the north of Manchester, three are in the south." Logistically, the Cheshire site is a more straightforward proposition for Porsche Centres and private customers based in this neck of the woods, not limited to Alderley Edge and Warrington.

As you'd expect, work from main dealers primarily concerns accident repairs. "We see a lot of Taycans with **Above** A wide variety of cars can be found in the workshop at any given time, from 356s to the latest GT Porsche products

Below Porsche Cars GB's Salzburg-liveried early two-litre 911, restored and prepared for competition by the team at Road and Race Restorations





911&Porsche

February 2024 77

TECH: SPECIALIST



front-end damage," John reveals, before going on to talk about some of the more exciting projects currently in his team's custody. "A successful racer of singleseaters has commissioned us to work on a classic RSR replica. The car has been subjected to various questionable modifications, including a poorly installed carbon-fibre roof assembly which appears to weigh more than the steel it replaced. We're looking forward to putting this 911 right. It is powered by a fantastic long-trumpet engine and will be a brilliant car when we're finished with it."

Elsewhere in the workshop, we spot not one, but two 356s ("one is very rusty, the other needs bonnet and wing repairs"), a 996 race car having its chassis legs and rear panels attended to, a 991 GT3 RS, a two-litre 911 being prepared for motorsport and a 992 having a complete replacement back end. "The car came to Road and Race Restorations eighteen months ago after a front-end smash," John recalls. "Everything was replaced from the bulkhead forward. Unfortunately, someone recently rear-ended the car. We've now got to replace everything from the rear bulkhead back!"

We wonder if recent work requested by private customers reveals a change in attitude to classic 911 styling? "It's a funny thing," he replies. "A few years back, there was serious effort to return air-cooled Porsches to their factory specification. Often, these cars were modified, even if only a move away from their original colour. Today, we receive a high number of enquiries from clients keen to turn their classic Porsches into restomods. Doing so is more acceptable than ever before. We're regularly given a 'blank canvas' insofar as an owner will ask us what we can do to personalise their 911 with a given budget. There seems to be far less concern about maintaining originality than before, although it's true to say you can modify a Porsche and not necessarily negatively impact its financial worth. It's difficult to think of this being the case with the output of any other manufacturer."

A 964 Cup car "with more hits than Tina Turner" catches our eye. Campaigned all its life, this superb motorsport machine's chassis legs were tapped down and its wheel arches crudely flared to allow for the installation of bigger-than-standard wheels and tyres. Road and Race Restorations is charged with righting these wrongs and returning the car to its original specification in advance of a return to action.

As evidenced by the company's

Above The firm's second workshop serves Porsche Centres and private customers located south of Manchester

Below John (centre) with representatives from the Porsche Classic Partner Centre programme and the brilliantly restored 924 GTP 002















Above and below The diverse range of work undertaken spans everything from minor accident repair to full-blown restoration, as well as race car preparation

involvement in Porsche Cars GB's recent restoration projects, motorsport continues to play a significant role in the Road and Race Restorations story. The

round of the championship. He started

his racing journey competing with a modified Lotus Elan and Europa in the

national Modsports Championship

back in the late 1970s. He designed

and developed the cars in his garage,

culminating in construction of a single-

company has been the recommended repairer for Carrera Cup Great Britain for more than a decade - at least two of John's technicians are present at every

seater in which he won the National Monoposto Championship in 1987. Off the back of this success, Road and Race Restorations was born, initially to answer

TOM WAS SELECTED AS THE FIRST **CARRERA CUP GB JUNIOR, WHICH SAW** HIM REGULARLY RUN IN THE TOP THREE **OF THE PROFESSIONAL CLASS**

> requests from fellow racers and to prepare their cars for competition.

Developing the business into restoring classic cars curtailed his racing activities until 2003, when he bought a 1976 Argo JM1 Formula 3 single-seater. Since then, both John and Tom had dovetailed motorsport with their passion for repairing and restoring cars. Specifically, after winning the 2006 Formula Ford NW Championship at the age of sixteen, Tom went on to compete in Formula Palmer Audi, where he scored more wins than any driver in the history of the series. In 2008, he finished college and joined the family business. A year later, he was selected as the first Carrera Cup GB Junior, which saw him regularly run in the top three of the professional class.

More recently, Tom has won the Silverstone Classic and the European Historic Masters Sports Car Championship in John's personally

owned Chevron B19 and is lucky enough to have raced for Porsche Cars GB, partnering with Richard Attwood and Derek Bell in the previously mentioned

> short-wheelbase 911. "The Peter Auto 2.0L Cup was introduced in 2018 for early short-chassis 911s prepared in accordance with pre-1966 FIA

regulations," John continues. "The Le Mans Classic also offered an attractive forum for the car to strut its stuff." As tempting as these outings were, there was a huge amount of work to be done before putting the diminutive Porsche through its paces. "We stripped the shell and were delighted to find a chassis in excellent condition, a characteristic partly resulting from the car spending much of its life in the sunny side of Italy. Even so, we had to repair the roof, rear quarters and sills, where knocks had been picked up over the years. In fairness, these were minor complaints, but they needed to be addressed before paint."

The poorly engine was stripped and rebuilt in accordance with FIA Appendix K historic race regulations, essentially a rulebook stating competing cars need to be built to authentic original specification to ensure a level playing field. This meant the 911 needed to



TECH: SPECIALIST



make use of stock-spec ignition, its original Solex carburettors ("a pain to work with, certainly when compared to the Weber carbs Porsche fitted to later 911s") and its small-valve heads. New barrels, pistons and a new crankshaft were required — the acquisition and use of replacement items sourced through Porsche Classic highlighted the accessibility of newly manufactured OEM components for the manufacturer's legacy models, a statement which was largely the point of the project.

In addition to the engine, the transmission was rebuilt. Appendix K allows the use of any gear sets originally manufactured for the host vehicle. This flexibility afforded John the opportunity to pick from twenty different Type 901 ratios, enabling gearboxes to be built to varying specification to suit whichever circuit the car happened to be tackling. Finding available ratios was the first challenge, followed by a process of trial and error on the track. "Anyone with experience of a 901 gearbox will tell you it's a tricky unit to operate quickly," he warns. "Miss a gear, over-rev the engine and you'll break a rocker valve. Follow this pattern of behaviour too many times and you'll do serious damage to the bottom end. We were thankful to welcome a variety of experienced drivers when the car hit the track, but while we did our best to improve oil flow, a lack

of mechanical sympathy during shifting caused major problems, resulting in necessary removal of the engine after we landed for a round of racing at Spa." Fortunately, drivers and gearboxes didn't miss a beat after the repaired engine was returned to its natural habitat, enabling hassle-free maintenance every time the car was put to work thereafter.

The interior of the punchy 911 was painted matte black (to eliminate the risk of glare), while the tired front seats and belts were replaced with a single Sparco bucket and a Schroth harness. A roll cage was installed, but rear seats and carpets hinted at how close the car's specification was to the standard roadgoing short-wheelbase two-litre 911. "Even the suspension is more or less what you'd find fitted to the Porsche street car," stresses John. "That said, Appendix K allows for alteration to ride height and other suspension settings. While owners of competing cars in the Peter Auto series opted for a thirty-millimetre drop, we stuck with fifteen millimetres in a bid to avoid compromised handling."

Brake calipers, suspension bushes, fuel equipment, wiring, dashboard instrumentation and host of other parts were renewed in readiness for participation in the 2.0L Cup, the HSCC's Oulton Park Gold Cup, the same organisation's Guards Trophy and the

Silverstone Classic. The car also made appearances at gentlemen drivers events held across Britain, an important factor in promoting the project as an initiative of Porsche's UK outpost. Nonetheless, an invitation to compete in the Nürburgring Oldtimer Grand Prix was not to be turned down. "The 911 held its own all season, helped by having Derek Bell, Richard Attwood, Anthony Reid and Tom at the controls," says a suitably proud John. "Despite observing homologation requirements demanding a minimum weight of 1,002kg, the car took the fight to vehicles weighing as much as a damp bus ticket! It was a fantastic display of performance highlighting how impressive a 911 of any age can be when carrying more or less standard trim at a track."

Tom has been offered a drive in a 718 Cayman GT4 RS for the coming season of Sprint Challenge GB. Part of the Porsche Motorsport Pyramid, the championship enters its fifth year and continues to enjoy a major presence on the TOCA package - the series will race as support for the British Touring Car Championship. Needless to say, with Road and Race Restorations' new Cheshire workshop firing on all cylinders, busy times at the firm's site in Salford, plus a tantalising motorsport season on the horizon, the Bradshaw boys are set for a productive 2024. Here's to their next thirty-five years in business.

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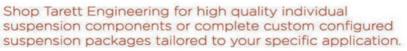
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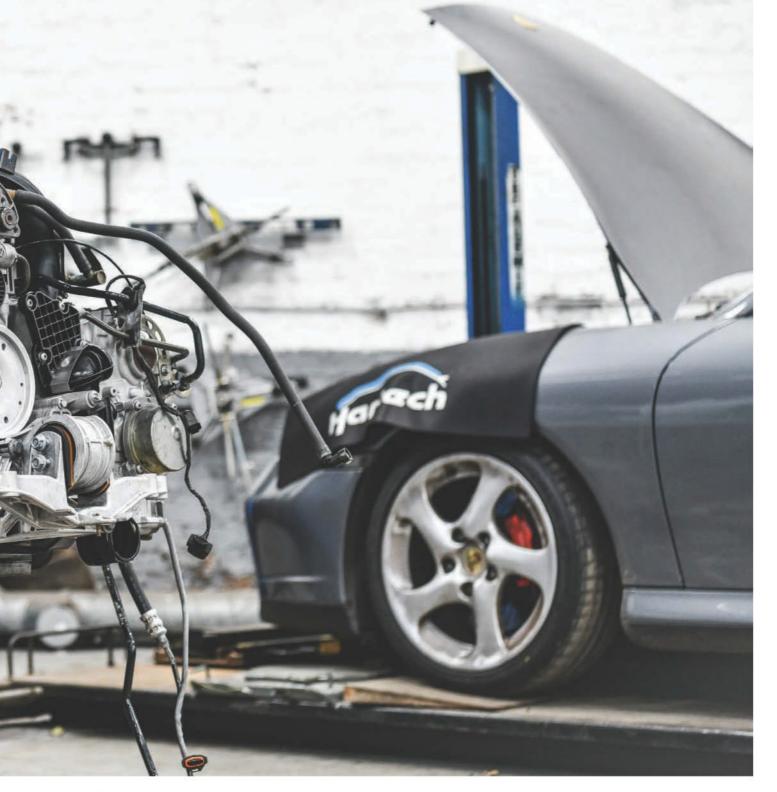




IN THE DETAIL

Drilling down on points raised in the last two issues of 911 & Porsche World, engine remanufacturing expert and Hartech founder, Baz Hart, continues his explanation of the thinking behind the company's exciting Eco-Power project...

Words Barry Hart Photography Chris Wallbank





ast month, when explaining the principles behind the workings of Hartech's Eco-Power technology, which is capable of

improving engine performance whilst simultaneously reducing emissions (and therefore not only helping in the battle against

global warming, but also prolonging production and remanufacturing of internal combustion engines), I explained how notwithstanding

valve overlap and ignition timing adjustments, pressure inside an engine when ignition is timed to spark is, in principle, a combination of three main factors. The first is atmospheric pressure (ATM), which none of us can control. Pity! The second is compression ratio (C/R), while the third is volumetric efficiency (VE), which is how much or what proportion of air an engine has trapped inside a cylinder (compared to a full cylinder at atmospheric pressure) before it starts to compress toward top dead centre (TDC). I appreciate some of you wanted a more detailed explanation, which is why I'll now attempt to present the finer points of this analysis.

Power at the wheels is close to the same in any gear – torque is what changes, but if you use less engine power to drive slower, then the throttle is closed to a greater extent, meaning less air is trapped in the cylinder. As

C/R MAKES A SMALL DIFFERENCE, BUT VE RANGES FROM ZERO TO A HUNDRED PERCENT, DEPENDING ON HOW OPEN THE THROTTLE IS

demonstrated by Boyle's Law (an experimental gas law describing the relationship between pressure and volume of a confined gas), trapping less air means it starts out being compressed at a lower pressure. Since C/R is the same, it then reaches a lower compression pressure when ignited. The whole principle of the Otto cycle (a hypothetical thermodynamic cycle describing the functioning of a typical spark ignition piston engine) is to suggest compressing air to a higher pressure (and therefore temperature per universal gas laws) releases more energy from the same amount of fuel than it takes to compress it, thereby leaving you with a net gain to exploit.

The limit is when the compression pressure reaches a temperature instigating detonation, which will occur when the most air is trapped e.g. at full (or almost full) throttle and in the

> rev range where the engine was designed to create its maximum torque. A graph of torque against revs has the same shape as a graph of Brake Mean Effective Pressure

(BMEP, a measure of an engine's capacity to do work independent of engine displacement) against revs. A graph of specific torque compares the resulting average combustion pressure on the expansion stroke. It therefore stands to reason that the higher the torque (or to compare different capacity engines, the specific torque or BMEP) has resulted from the higher the compression pressure, which is the product of the three main influences already outlined: C/R, VE and ATM (also referred to as boost pressure). Above Hartech's M96/M97 engine remanufacturing process, including its increased capacity upgrades, can be ordered with Eco-Power technology





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Using a compressor absorbs too much of the available power at very low outputs when cruising, so either negates the benefit of higher C/R or requires a lower C/R to begin with, which reduces

thermal efficiency when cruising even slower. The simplistic formula would be *C/R* * *VE* **ATM*, but for a normally aspirated engine, because ATM is relatively

constant, the compression pressure reached is a function of C/R * VE.

The C/R makes a small difference, but the VE ranges from zero to a hundred percent, depending on how open the throttle is and at what revs. To cruise slowly uses less power (less internal and external resistances), which is why you close the throttle from a higher speed. Less power at the wheels means less torque at the engine and lower BMEP, meaning the engine is running at a lower thermal efficiency and using more fuel to create the same engine is driven fast. With the exception of Nissan's clever variable stroke system, it seems developing such a product proved too expensive.

It would appear nobody thought

of varying VE (the amount of air trapped before compression) as an alternative to prevent knock. Despite high claims, manufacturers generally applied their ideas to smaller

MANY IN THE INDUSTRY SEEM TO HATE THE FACT NO MANUFACTURER OR ENGINEERING FIRM APPEARS TO HAVE EXPLORED THIS THINKING

power or torque it could have done if compression pressure was higher.

Three decades ago, the industry tried all manner of ways to mechanically vary C/R in order to increase compression pressure at low outputs (or loads), thereby improving fuel economy (and reducing emissions), before dropping C/R again to avoid knock when the capacity engines and then added turbochargers to match the high-end performance of larger powerplants, a move with limited benefits on account of smaller engines already having to work at a higher proportion of their maximum power output, even at slower cruising speeds.

Since there is little difference in the

Above Hartech is the leader in M96/M97 remanufacturing, delivering the industry's leading early water-cooled flat-six engines



power needed for small engines or high-output large-capacity engines to cruise at the same speeds, the bigger and more powerful the engine, the worse thermal efficiency is at slower cruising speeds. In other words, our beloved Porsches are extremely uneconomical at 30-50mph cruising speeds. Raising C/R makes a huge difference to the reduced amount of fuel you need to cruise, largely because the product of C/R * VE is much higher. It is, however, nowhere near the knock limit. As we at Hartech have found, it also improves acceleration, throttle response, economy and, of course, emissions.

PERPLEXING ATTITUDES

Many in the industry seem to hate the fact no manufacturer or engineering firm appears to have explored and applied this thinking before we did. Moreover, our findings are dismissed for reasons that are simply untrue. For example, some say nitrogen oxides (NOx, the group of gases formed during the combustion of fossil fuels) are worse when compression pressure is high, but they forget it is only as high at 30mph as it might have been at, say, 32mph, certainly hugely below the pressures at full throttle, when emissions become significant. Furthermore, reducing VE to limit knock means VE is no higher when driving fast than it was before. There are so many simple ways to reduce VE (therefore avoiding knock), but fitting high C/R pistons is no more expensive. It therefore puzzles me why the industry didn't try it, even during the enforced transition to electrification.

Getting back to the topic raised in the first instalment of this series focusing on the thinking behind Hartech's Eco-Power project, reducing speed limits from 30mph to 20mph (below mid-range speeds) delivers poor fuel economy and a greater volume of emissions. My personally owned PDK-equipped 911, for example, slips into sixth gear around 30mph when cruising, but is almost twice as economical cruising at 70mph because it needs higher compression pressures to overcome the increased resistances at higher speeds. In other words, it burns fuel more efficiently travelling at the higher cruising speed.

It seems manufacturers were so obsessed with how much power they could get from their engines being driven flat-out, they forgot about the potential benefits of increasing compression pressure (where we drive most often) and finding a way to limit resulting knock at the top end (which we use less often). In contrast, as outlined in the previous two issues of 911 & *Porsche World*, we at Hartech found this easy to accomplish.

Suffice to say, as described last month, the heart of Hartech's work on the Eco-Power project is recognition that although the latest internal combustion engines have improved bottom end compressions, widely adopted methods of manufacturing don't allow for a high enough improvement to make much difference to fuel efficiency at the lower revs and throttle openings most people drive their cars with on the public road. Eco-Power addresses these failings. Below Constant evolution is a hallmark of Hartech's approach to engineering, hence the company's wide range of services for owners of M96/M97powered Porsche road and race cars







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DON'T MESS WITH THE BEST

Michael Mauer is on the verge of celebrating twenty years in post as Porsche's Chief Designer. What does he think the future holds for the brand's products? In this exclusive interview, 911 & Porsche World gets the lowdown on his vision for what's next in the Porsche timeline...

Words Neil Briscoe Photography Porsche Corporate Archives

ichael Mauer's mouth is moving, but there are no words coming out, only disjointed

sounds. The cheeky grin attempting to reach up to the corners of his eyes tells me our Zoom link is holding up fine. He must be pulling my leg. Why the practical joke? A few moments ago, Mauer dangled a massive, juicy carrot before me. We were discussing the potential

future of Porsche product design. "We have new models coming," he said. "Models without a predecessor. We've been playing around with new design elements." When I

pressed him for clues relating to what these new Porsche products might be, so began the performance of mimicking interrupted internet connectivity.

Mauer might be having fun with me, but he's deadly serious about taking Porsche into a new realm of styling. "When I started my career as a designer in the 1980s, a car was usually created as a package before development of design," he reveals. "Essentially, we were told to make the package look nice, to give it a nice wrapping. Over the course of the past two or three decades, however, designers have been involved in early development of a new model, primarily because there is now an understanding style helps to *define* the package. It's where everything starts."

Mauer's tenure as Porsche's Chief Designer has been marked by the traditions of gentle evolution, best exemplified by the 992-generation 911, which is significantly bigger and more muscular than the 901 of sixty years ago, but displays a clear chain of stylistic progression linking the two Porsches. The same is true of the Cayenne and Macan, which — once aggressive initial styling was softened for the secondgeneration Cayenne — have matured elegantly. At this juncture, it's worth mentioning the Panamera. This is, after all, a far more handsome car today than

BACK FROM THE BRINK OF EVER-ENLARGING CARS, RESULTING IN A RETURN TO SMALLER, LIGHTER MODELS

it was at launch. Mauer clearly has an eye for shapes capable of aging well.

He also has ambition. Ambition to take Porsche in dramatically new styling directions, aided by the fact electrification means the proportions of a car - any car - can be changed utterly. I venture a suggestion the now famous Renndienst concept (a proposal for a tall Porsche MPV) was Porsche's first step in this direction. "I wish," he smiles. "Given expectations of performance from the products of sports car manufacturers, you would need to install a pretty big engine in the front or the back of the Renndienst to satisfy buyers. This design is well loved for its silhouette, but this wouldn't have been possible with installation of an internal combustion engine. To produce the Renndienst, EV technology is a prerequisite."

Having dangled one large carrot already, Mauer ties another root vegetable to the end of his reel. "I wish we had taken the decision to further develop the Renndienst for production, but no such ruling was made. We always include the model in our presentations, and with new powertrain technology, anything is possible." Maybe the Renndienst isn't a concept car deadend after all? Production is certainly a mouthwatering prospect.

In the massive-selling Taycan, EV

technology has already allowed Mauer to create a dramatic-looking electric production Porsche. "Before EV tech came on the scene, my team was already

suggesting Porsche could make a fourdoor super-sports car. A kind of hypercar with four seats. Given we have a wealth of expertise relating to rear-engine layouts, our initial thoughts focused on this format, but with battery technology at our disposal, it was easier to bring our ideas into the real world by way of electrification."

He wishes to further exploit EV technology. "What are the possibilities?" he asks. "This is the most interesting question we can ask. As designers, do we believe we can use vehicle electrification as the catalyst to dramatically change the proportions of a car?" Radical change may be pushing the envelope further than the general car-buying public can get its head around, but there's certainly scope for challenging the norm.



Volkswagen Group

Facing page Michael

Mauer. Head of Style

Porsche and the man in charge of the entire



It's tempting to think such technology could bring us back from the brink of ever-enlarging cars, resulting in a return to smaller, lighter models, but Mauer pours cold water on the suggestion. "We can't bring batteries into the cloud," he frowns. "I love driving my old 911, but I look at how thin the A-pillars are and I start to worry about my safety in the event of an accident. Regardless of whether you can think of a modern composite material capable of increased rigidity, even with a similarly slim A-pillar, there are limits to how much we can downsize in the modern age." Crash protection comes first.

"Going back thirty years, a mobile telephone needed a battery the size of a suitcase. Technology no longer defines size, which in the case of a smartphone, is chiefly concerned with ergonomics — you could produce a mobile phone much smaller than those we have today, but it wouldn't be usable, not in the true sense of a smartphone. If we come to a point where batteries and electric motors are much smaller than they are in the present, then, maybe, we will have the freedom to work on new vehicle packages and proportions, but usability has to be at the forefront of our thinking."

Mauer goes on to highlight how vehicle weight and aerodynamics are the two most important considerations when talking about EV range. "There is much pressure to get these aspects of modern vehicle design correct. Of course, as designers, we can look at making individual components smaller and lighter, which is key for brands such as Porsche, Lamborghini and Ferrari - the high speeds one associates with these cars requires a considerable amount of engineering, especially in the face of increasingly strict legislation." The rationale is simple: smaller parts could equate to smaller overall vehicle dimensions. Additionally, the increasing number of people interested in autonomous driving lends itself to the design and production of smaller and lighter cars, putting the

recently launched, track-only 911 GT3 R Rennsport into sharp relief.

It certainly seems as if Mauer is preparing for major changes at Porsche. Will we see new track-only models to swerve tougher road-car legislation? How about a production Renndienst? These questions may currently be unanswered, but one thing remains constant — the 911 is sacrosanct.

"I always say a new 911 must first and foremost be recognised as a 911, and then immediately as a new 911," Mauer continues. "Whether you have been a Porsche customer in the past, or are about to become one, it's safe to assume you'd like to own a 911, but as everyone Above Mauer with the new 911 Carrera T on model launch a few months ago

Below Always sketching, always creating new ideas for vehicle styling





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knows, we are in deep discussion about the future of the internal combustion engine. People want to know whether the 911 will remain free of electrification." Is a 911 EV really a 911, though? Mauer pauses for a moment before answering. "We can spend hours discussing the importance of a 911's engine sound, but as a designer, I'm thinking about how new powertrain technology might allow us to come closer to the shape of the original 911 concept."

FORENSIC EXAMINATION

In the meantime, before a decision is made regarding the production 911's future power source, there is much work to be done, not least in standing up to mounting competition from Chinese manufacturers. Granted, none has yet become a true Porsche rival, but Mauer has more responsibility than just Porsche — he's the over-arching head of design for the entire Volkswagen Group. As such, he feels it's primarily he and his team who need to see off threats from Chinese upstarts.

"There are always possibilities, chances and risks," he says. "I think the big advantage for European brands is their strong history and heritage, which is a solid foundation and why their output is liked by so many motorists. It's important to treat these legacies sympathetically. That said, there are many examples of a car maker considering it counterproductive to make changes to a successful product, only to find the competition moving in a different direction and making progress at rapid rate. All of a sudden, the successful product is no longer on shopping lists."

How to navigate such tricky waters? "Vehicle stylists have to observe design language associated with the brand they're working for, but do so in a progressive way. I think of it like throwing a stone into the future – I must not throw the stone too far away, else the potential customer will not be able to find it. Put simply, there are numerous examples of car companies with innovative ideas rejected because they were too far ahead of their time."

Being too careful, too timid, is an equal and opposite danger. It's something Mauer learned early on in his career, when working alongside legendary automotive designer, Bruno Sacco, who served as head of styling at Daimler-Benz from 1975 to 1999. "I remember presenting a selection of new designs. Sacco told me one of them could be rolled straight into the Mercedes museum. He was trying to teach me a new car design will not hit the road for at least three years, meaning a new design can be considered old from the moment it is finished. I come back to the stone. It's about picking a starting point. As a designer, you can do one of two things: you can start from what you have and try to project forwards, or you can think as far ahead as you can and

Above Mauer with the 911 T and the 992 Carrera T, although as we have talked about in these pages previously, there is very little to link these cars, not only from a technological standpoint, but also insofar as what each vehicle represents, the latter being the lowest-output 911 ever manufactured





Above Illustrating Porsche Design DNA by way of sketches

Below Celebrating the Mission X premiere at the Porsche Museum in Zuffenhausen, 8th June 2023 try to work back to the present. With the second approach, you will end up a little bit further into the future than you would if starting with what you have today. In

the end, a vehicle stylist must ask themselves whether their designs have gone too far."

When it comes to competition from China, Mauer believes

this design-in-depth approach gives Volkswagen Group brands an edge, but warns the position European car makers have enjoyed at the head of the table is constantly under threat, especially in the field of new technologies. "With the 911, we have this little box at one end of the car. In it sits is a flat-six engine delivering big power, perhaps near 700bhp. This is something you can't put together

WORKING ALONGSIDE LEGENDARY AUTOMOTIVE DESIGNER, BRUNO SACCO, WHO SERVED AS HEAD OF STYLING AT DAIMLER-BENZ FROM 1975 TO 1999

> over a weekend. You can't just decide to make greatest combustion engine of all time. There is, however, a strong argument for not needing this kind of expertise in the modern age, especially when you consider increasingly stringent



emissions legislation, high-volume traffic and autonomous driving. In days of old, certainly in Germany's automotive manufacturing industry, technology

was important for buyers of new cars, whereas styling is now key to the brand experience. Thankfully, across many years, Porsche was able to forge a positive

brand perception, largely based on older values. This is a good starting point. If you have a start-up company, you are beginning from scratch, which in some ways is an advantage, but you must build credibility as a first step." The upshot of all this is how, for different reasons, the work of automotive stylists is crucially important to new and established manufacturers alike.

I suggest a certain comfort in an uncertain world, where retro designs present shapes and styles we're familiar with. "It's true, we have the opportunity to revisit classic designs. The Volkswagen ID Buzz is, in my opinion, the most successful example of this," says Mauer, referencing the Wolfsburg concern's recently launched part-MPV, part-van, allelectric take on the classic VW camper. "We can bring back iconic designs. Think of the Type 2 van. The volume and the shape of the vehicle changed when the



decision was made to move the engine from the rear to the front. Due to the ID Buzz being an EV, we were able to return closer to the original Type 2 design, which boasts a fantastic silhouette.

Our challenge is to leverage new technology, while always keeping an eye on identifiable design cues and, of course, ensuring a product is profitable. We must

also differentiate between brands in the Volkswagen Group."

This comes down to a system highlighting the design principles of each company, providing their respective stylists with a launchpad on which to create fresh designs, whether concerned with a vehicle's interior, exterior or even electronic user interfaces, such as touchscreens for infotainment equipment, all while keeping an eye on the styling of legacy products. "There's so much negativity in the world right now," Mauer shrugs, "but good design, familiar design, can evoke warm memories."

He stresses, however, leaning too heavily into retro designs is dangerous.

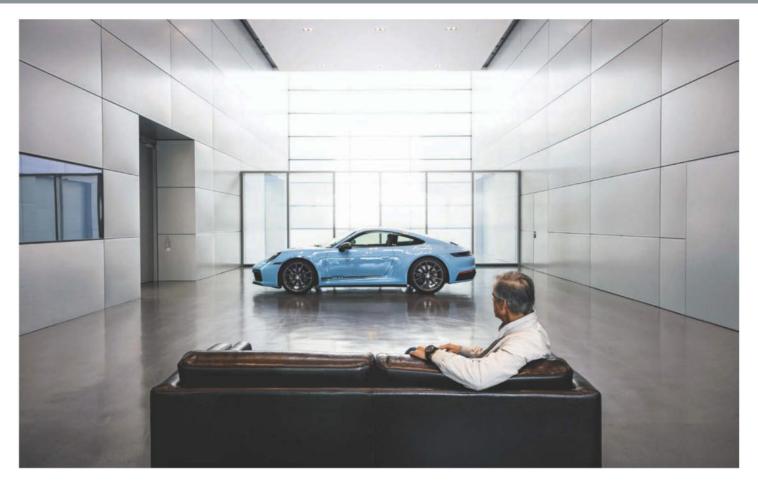
A CERTAIN COMFORT IN AN UNCERTAIN WORLD, WHERE RETRO DESIGNS PRESENT SHAPES AND STYLES WE'RE FAMILIAR WITH

"It's like trying to forecast the value of stocks and shares. You can reference the past and you can look at the present. Doing so might give you a good idea of what the future holds, but it doesn't always work. Automotive designers have to understand what made iconic cars successful, what the ingredients were, and then translate and transform yesterday's design language into the future. They must also be aware of the competition, particularly new companies not restricted by the trappings of heritage, allowing for the development of entirely new ideas. Basically, I'm trying to tell you the tasks of car designers are complicated and challenging, so much so we all need to be paid more." I note

> the crinkle of a grin around Mauer's eyes. He's come a long way, not merely in his career as a professional designer, but as a car owner — the man who can currently ask for the

keys of almost any Porsche, past or present, started driving in something very humble indeed. Mind you, it was also ambitious. "My first car was a Nissan 160," he says, immediately preparing a defence for his teenage self's choice. "It was good in two ways. First, it was cheap. Second, it produced 85bhp at a time my friends drove Beetles and Polos with half the power. I grew up in the southern part of the Black Forest, where winters are harsh. The Nissan was rearwheel drive, making it ideal for drifting Above Mauer suggests an EV's lack of combustion engine affords automotive designers the opportunity to radically rethink the way a car looks





Above Reassuringly, Mauer tells us the 911 isn't the Porsche product with which to exercise experimental new design language

Below Immortalising the Porsche brand at the Frankfurt Stock Exchange in 2022 in snow. It was very good in this regard, although I had to fight all my Beetledriving friends to reach the white stuff they enjoyed much better traction. I must admit, my 160 was an ugly car. It was green on the outside, beige on the inside. To my mind, the Nissan was all about horsepower. And, of course, I liked the fact that it was cheap, a result of nobody else wanting a 160, or so it seemed." Mauer's journey from cheap, unloved Japanese saloon to Porsches so desirable the company can charge what it wants for limited-production variants is quite something, but he remains grounded. "I've worked for Mercedes, I've worked in Japan, I've worked for SAAB and I've worked for General Motors," he relays. "After accepting employment with Porsche, however, I was struck by how knowledgeable the brand's customers are. They always seem to know more



about the company and about its cars than I ever did. A customer could be talking about, say, a 1971 911, and will ask if I knew it came in this colour or that trim level or whatever. Because of enthusiasts like this, and I'm talking about people who love the brand and therefore look at it with a critical eye, the role of designer can become a little more complicated than it would at a different manufacturer - these customers love Porsche products, but they don't have to think about what a Porsche will look like ten years down the line. Porsche stylists need to be aware of how highly the company's customer base rates heritage, but not feel constrained. They should know what direction the public is pointing in, but must not risk failing to jump far enough into the future."

Will the 911 will always be a 911? "Porsche now has a wide portfolio of products," says Mauer. "We have the opportunity to play around a little, but the 911 is not the product to do it with. Specifically, the 911 isn't the car we should be developing with our most progressive design. With new products, we have the possibility to push the envelope further." Here's to the next seventy-five years of Porsche vehicle styling and the 911 remaining a 911.

TECH: HOW TO



NUMBER CRUNCHER

Many 968 owners, as well as those in charge of a 944, 964, 993 or a late G-series 911, including the Carrera 3.2 and late-model 930, will have experienced their car's odometer suddenly refusing to work. Often, the problem can be traced to a driver resetting their car's trip counter when on the move, causing the teeth on one of the odometer's gears to break. These teeth are plastic and become brittle with age. Fortunately, the fix is low-cost and requires little more than a few screwdrivers and a 24mm socket...

Words and photography Dan Furr



This image shows the faulty gear assembly causing the odometer to stop registering mileage. As you can see, the amber planet gear is missing one of its teeth. Another gear tooth is ready to break free. This is a common fault on Porsches manufactured between the mid-1980s and the mid-1990s, but rest assured the repair can be carried out by a competent DIYer at home.



Independent Porsche parts retailer, Design 911, offers replacement odometer gears at low cost. Furthermore, the company provides a one-piece replacement odometer pod (pictured), which replaces the fragile two-piece pod playing host to the broken planet gear. Count the number of teeth on your car's odometer pod and look for part OGSMPOD at design911.co.uk.



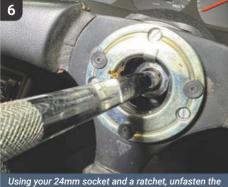
The only tools you will need for the job. Pictured is a 24mm socket, a selection of standard crosshead screwdrivers with different length handles, a small flathead screwdriver and a magnetic pick-up tool.



We are performing the repair on Editor Furr's 968 Sport. The process is largely the same for all affected Porsches, but refer to your owner's manual if removing a steering wheel with an airbag.



For non-airbag cars, pull the horn push free of the steering wheel and disconnect the spade connector from the rear of the horn button.



Using your 24mm socket and a ratchet, unfasten the nut and washer holding the steering wheel in place.



The nut should come free without putting up a fight. Use your magnetic pick-up tool if you drop the nut behind the horn button during removal.



Now remove the washer. As before, use your magnetic pick-up tool if you drop the washer behind the horn button.



You can now pull the steering wheel away from the dashboard. Note the red stripe painted on the end of the steering column. This will help you correctly align the steering wheel during reassembly.



To the left of the steering column cowl, above the headlight switch, is a screw threading into the bottom of the dashboard binnacle and air vent assembly. Remove the screw and its washer.



To the right of the steering column cowl is another screw feeding into the dashboard binnacle and air vent assembly. Remove both the screw and its accompanying washer.



Three more crosshead screws can be found in the roof of the binnacle. Use a stubby screwdriver to remove the screws and their washers.



Move to the end of the binnacle and air vent assembly furthest away from the instrument cluster. Remove the single screw hidden in the vent aperture above the digital clock and hazard light switch.



Two further crosshead screws can be found in the vent aperture closest to the instrument cluster. One screw is located above the trip counter reset button, the other screw is hidden below. Remove both.

TECH: HOW TO



You can now pull the binnacle and air vent assembly away from the dashboard. Start with the binnacle end. You might need to apply slight pressure to its base to clear the steering column cowl.



With the binnacle end pulled forward of the steering column, move to the vent end and pull the entire assembly free from the dashboard.



The instrument cluster is held in place by four crosshead screws. Two are located to the right of the unit. Remove them.



The other two are to the left of the instrument cluster, next to the trip counter reset button. You can part unfasten the screws and slide the cluster to one side, although removing them might be easier.



With all four screws removed, carefully pull the instrument cluster away from the dashboard. Be mindful of the fact a number of electrical connectors are attached to the rear of the unit.



The rear of the instrument cluster features a classic ribbon-style circuit board, which is tough, but can tear if handled unsympathetically. You will need to remove three electrical connectors from the cluster.



To do so, lift the locking levers on the rear corners of each connector and pull them outwards. This will unlock the connector from the cluster and push it away from the unit, allowing removal.



With all three electrical connectors removed, you can extract the instrument cluster from the dashboard and place the unit on your workbench.



Position the instrument cluster face-down on a protective surface and remove the nine crosshead screws holding the cluster unit to its front cover.



With all nine screws removed, you can pull the instrument cluster away from the cover. This stage of the job presents the perfect opportunity to clean the inside of the cover prior to reassembly.



The odometer is held in place by four flathead screws. Remove the screws, but be careful not to allow the odometer to fall out of the instrument cluster assembly.



With the screws removed, you can carefully lift the odometer out of the instrument cluster. Be mindful of the trip counter reset plunger — do not allow this part to become detached during removal.



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TECH: HOW TO



The odometer's needle is fragile. To avoid it breaking or coming loose during the repair, take a tea towel and roll it from its left and right edges, creating a 'valley' in which the needle can sit.



Gently place the odometer face-down on the tea towel, making sure the needle is positioned in the 'valley' you've just created. The towel's rolled edges will ensure the needle is suspended between them.



The odometer's circuit board is held in place by three rubber o-rings. You might be able to remove them by hand. If they prove stubborn, use your small flathead screwdriver to carefully release them.



With all three rubber o-rings removed, carefully lift the circuit board away from the back of the odometer. A series of wires will be tucked tight in a retaining channel. Gently pull each of them free.



With the wires away from their retaining channel, you will be able to pull the circuit board to one side, allowing access to the odometer motor.



The motor is held in place by two crosshead screws. Unfasten them, but be mindful of the motor falling out of the odometer.



Note the wires connecting the motor to the main assembly. Do not pull on them. Incidentally, the gears might be stuck in the odometer assembly or, as pictured, will remain attached to the motor.



As expected, the odometer planet gear has failed. The part has become brittle. One of its teeth has detached and is stuck in the main assembly. Thankfully, no further damage has been done.



Obviously, the broken tooth needs to be removed. A pair of tweezers is the perfect tool for the job.



Carefully slide the odometer gear assembly away from the motor spindle.



Old and new planet gears side by side. Count the number of teeth (including missing teeth) on the old planet gear. Head to design911.co.uk and look for part OGTOOTH. Select the correct number of teeth.



The number of teeth differs between mph and km/h cars. Make sure you order the correct part. Apply a dab of grease and slide the new planet gear onto the new one-piece gear pod.



The new one-piece pod and the new planet gear are manufactured from far stronger plastic than the original Porsche parts. Slide the complete gear assembly onto the motor spindle.



We can now begin the process of reassembly. Slide the motor back into the odometer assembly and fasten it in place with the two previously removed crosshead screws.



Carefully feed the circuit board wires through their retaining channel.



Gently press the circuit board onto its three locating pins and reinstall the rubber o-rings.



Carefully lift the complete odometer assembly away from the towel and slide it into the instrument cluster. The trip counter plunger should slide <u>directly into the corresponding aperture</u>.



Being careful not to allow the odometer to fall out of the instrument cluster, fasten it in place with the four flathead screws removed earlier.



Now is a good time to find out if the odometer is working. Without refitting the cluster's front cover, attach the electrical connectors and steering wheel. Go for a drive. If all good, jump to the next step.



Carefully place the instrument cluster inside its front cover. Incidentally, if you encountered problems during the previous step, try firmly pushing the cluster's electrical connectors.



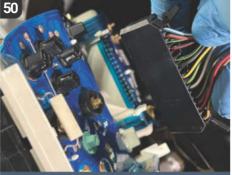
Fasten the instrument cluster to its front cover with the nine crosshead screws removed in step 23.



If your 968 (or similarly aged Porsche) is suffering from a lack of instrument cluster illumination, consider replacing the unit's three main light bulbs prior to reinstallation. Look for bulbs tagged '297'.



Each of the instrument cluster's supporting light bulbs is tagged '286' and comes as a complete bulb and holder assembly. If in doubt, consult the team at Design 911, who will be happy to assist you.



Return the instrument cluster to the car's dashboard and reattach the electrical connectors. Push them firmly back into place and then push their locking pins inward, thereby forcing a tight fit.

TECH: HOW TO



If applicable, test the light bulbs you've just replaced. If some fail to illuminate, the electrical connectors may need to be pushed firmer. Reinstall the cluster with the four previously removed screws.



With the instrument cluster in place, carefully push the binnacle and air vent assembly back into the dashboard.



Screw the assembly to the dashboard, first by returning the crosshead screws and washers located above and below the trip counter reset button in the vent aperture.



Return the single crosshead screw and washer to the vent aperture above the hazard light switch.



Using your stubby crosshead screwdriver, reinstall the three screws and washers fastening the top of the binnacle to the dashboard.



Remember to reinstall the screws and washers either side of the steering column cowl.



These screws hold the base of the binnacle to the dashboard. If you've misplaced any of the screws and washers previously removed, contact the team at Design 911 for replacement parts.



With the dashboard back together, you can now reattach the steering wheel. Slide it over the end of the steering column. Use the painted stripe as a guide to ensure the steering wheel is on straight.



Slide the spade wiring connector over the tab on the rear of the horn button.



Slide the steering wheel retaining nut's washer over the end of the steering column and, using your 24mm socket, reinstall and tighten the nut.



Your 968's odometer is now operating without fault. The process of repair is the same for 'oval dash' 944s, with only a slight difference in dashboard disassembly/reassembly for 'square dash' models.

THANKS

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TECH: THE FLEET

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



A good few weeks tinkering with all my Porsches: odometer repair for my 968 Sport, seat updates for my 944



pdates for my 944 Turbo and intake upgrades for my 997 Carrera 4S. More of the latter next month.

RICHARD ROBERTS 991 GTS, 968 SPORT

Had fun writing about Jan Frickel's 986 Boxster for last month's issue of 911 & Porsche World. Perhaps I



World. Perhaps I should be referring to both of his Boxsters?! Either way, great cars, excellent value.

JOHNNY TIPLER 987 BOXSTER S

Head down, writing about classic Porsches and celebrating the release of my latest book about Lotus sports



cars. Enjoying time in my son's 987 Boxster following the sale of my green Boxster S.

DAN SHERWOOD 996 GEN II GT3

My GT3's radio has been on the blink ever since I bought the car. I've since acquired a single-DIN, retro-look head



unit with Bluetooth functionality. Installation will be outlined in next month's issue.

CHRIS WALLBANK 981 GT4, 981 BOXSTER S

A busy month nipping back and forth to Malta, where I've been shooting Porsches for forthcoming



magazine features. Meanwhile, my 981 Boxster has been treated to a gearbox service.

IN THE HOT SEAT

Dan Furr's restored 1986 944 Turbo returns to Awesome Auto Trimming's Cambridgeshire workshop for an update to the car's custom-finished seats...



egular readers will be familiar with my 944 Turbo. Dragged out of undergrowth following a half-decade spent in a state of

suspended animation, the car was treated to comprehensive restoration. Even so, short of a photo shoot for this magazine when the Guards Red rocket finally returned to the road, and notwithstanding a second photo shoot carried out when the car was being worked on at chassis tuning specialist, Center Gravity, I've done very little with this turbocharged transaxle since its resurrection. In part, this is because I subsequently bought a 968 Sport there is obvious overlap between these Porsches. One could argue they do the same job, despite presenting very different driving experiences. There's also the fact the Sport is very much a 'get in and go' car, whereas I'm guilty of treating the Turbo with kid gloves. Preservation follows restoration, right?!

Sitting motionless is not what Porsche intended for my 944 when it was manufactured. I need to get out of

the mindset of this car being too nice to use and chuck some miles at it. If it's going to see some action, however, there are a number of jobs I want to take care of first. Obviously, a major service is on the cards - there is always the danger of minor moisture ingress in engine oil if a car has been sitting for long periods. I'm also going to overhaul the cooling system. For the short period I was driving the car, which amounted to visiting specialists all over the country for various jobs to be undertaken, the coolant temperature ran high. Moreover, if the car was left standing with the engine running for any length of time, the expansion tank made itself known by allowing boiling anti-freeze to escape.

I've obviously conducted a head gasket sniffer test. No problem there. I also installed a new expansion tank filler cap, just to be on the safe side. I suspect a stuck thermostat and possibly a trapped air pocket. Why stop at a new thermostat, though?! Go large or go home! Yep, I've got a CSF high-performance alloy radiator and fan shroud kit to install. Expect to see a fitting guide in a forthcoming issue. Above Front seat bases were carefully removed and stripped in order for the soft leather of each centre panel to be glued to the cushion beneath

SUBSCRIBE TO 911& **Porsche** SEE PAGE 124

OR DET











Above Awesome Auto Trimming is no stranger to Porsche interiors – the company's workshop constantly plays host to air-cooled 911s and modern-classic Porsches, including transaxle models



I also wanted to address the car's front seats. Originally finished in Linen half-leather and occupying a cabin comprising cream carpets and brown plastics, they were totally compromised by the Porsche's leaking sunroof seal, which was allowing rainwater to fall into the cabin during the car's extended stay in hedgerow. One of the first specialists I consulted with during the restoration was Cambridgeshire-

the restoration was Cambridgeshirebased premium automotive trimming firm, Awesome Auto Trimming (*awesomeclassicandcustom.com*). These guys have a wealth of experience working on classic and modern-classic Porsches and have produced interiors for countless magazine cover cars.

NOW AND THEN

The work Awesome did in transforming my 944 Turbo's interior from zero to hero is nothing short of staggering. Taking influence from Porsche's modern GTS range of products, the team lavished Alcantara on the dashboard, door cards, headlining and centre console, which now accommodates a Pioneer touchscreen double-DIN head unit. Two different leathers were also used during the retrim. One is a slightly lighter colour than the other, thereby providing a subtle contrast between the seat centres, outer sections and piping. Perfectly perforated panels are complemented by red double stitching, which appears on everything

THIS IS THE COMPANY RESPONSIBLE FOR TRIMMING MY 968 SPORT'S INTERIOR, RETURNING IT TO AS-NEW CONDITION

from the seats to the steering wheel. As you can imagine, I was (and still am) thrilled with the Awesome team's awesome work, so much so I've since

commissioned the company to work on my Jaguar XJ40 Sovereign 3.6, my BMW E31 840ci Sport and my Rolls-

> Royce Silver Shadow II. And, as many of you will know, this is the company responsible for trimming my 968 Sport's interior, returning it to as-new condition at the request of the car's previous owner. With all this taken into

consideration, what could I possibly want to alter in my 944 Turbo's cabin? Well, here's the thing. The leather used throughout is wonderfully soft,



TECH: THE FLEET









giving huge amounts of comfort and a gorgeous look. I refer you to my earlier reference to kid gloves. You see, I'm concerned about creasing the seat base panels through extensive use (read: dragging my arse in and out of the car). With this in mind, I drove to the Awesome Auto Trimming workshops near Huntingdon and asked the team (Greg, Glenn, Phil, Mark and Carolyn) if the leather covering the seat base centres could be glued firmly to the cushions beneath. This wasn't common practice when my Turbo was originally assembled, presumably on account of factory materials being so stiff.

POSITIVE RESULT

Not long after my arrival, Awesome wheeled the car into the company's vehicle assembly/disassembly bay and set to work removing the front seats. Thereafter, they were transferred to workbenches, where the seat bases were carefully stripped before the leather covering their centre sections was sympathetically glued to the cushions beneath, thus hugely reducing the chances of me introducing creases to the pristine material.

To say I'm pleased with Awesome's work is an understatement. Whether engaged in creative thinking or the execution of ideas, the team always makes the customer service experience pleasurable, which is why so many other Porsche owners, not to mention independent specialists, use Awesome for their trimming work. Put it this way, during my car's brief stay in the workshop, it shared floorspace with a stunning 1971 911 2.4, an early 928, a 911 SC Targa, a 964 Carrera 4 and a G-series 911 S restomod, each undergoing major personalisation at the request of enthusiastic owners. For those of you wondering where the promised results of my 968 Sport's oil analysis sample are, I'm afraid I have to let you down. I bought the required vacuum oil sampling pump, but the sample tube broke on first use and I didn't have time to order another before this issue of 911 & Porsche World went to print. I'll endeavour to get the job done in advance of next month's issue. In the meantime, I'm off to speak to the Awesome team about ideas for updating my 997's interior. Exciting stuff! ● Above and below The Awesome team did an amazing job of transforming the Turbo's interior into a showstopper





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TECH: THE FLEET GEAR TODAY, GONE TOMORROW

Editor Furr's 2006 997 Carrera 4S throws a tantrum and dumps its gearbox fluid...



y 997 Carrera 4S ownership experience will soon reach its fifth anniversary. This car has

been brilliant throughout the time my name has appeared on its logbook. European road trips, car shows, commuting, days out. You name it, I've done it in this 911. Granted, I haven't yet taken it to a track. Maybe this is something I should consider for 2024? After all, as many of you will know from the fleet updates and 'how to' guides published in these pages, a huge amount of work has been done to ensure this Basalt Black beauty is in tip-top condition. You can take the car's servicing history as proof - in my custody, despite averaging little more than three thousand miles each year,

this 911 has been treated to four major services, the same number of minor services and five transmission services.

This is far more considerate than even the most aggressive of 997 servicing regimes. What gives? Well, I make sure all my cars get a major service every year they're on the road, irrespective of mileage. The guartet of minor services is a consequence of fluids being flushed when other work is being done. As for the transmission services, one was carried out alongside a major engine service, another was performed for the purposes of producing a step-by-step guide in these pages, a third was done when the car's engine was removed at the beginning of last year (because why not?!), which brings us to the most recent fluid and filter flushes. Yes, there were two. The photograph at the head of this page hints at the reason why.

I'd returned home after a thrilling few days away on location for 911 & Porsche World photo shoots. Specifically, the good folk at Porsche Cars Great Britain handed me the keys to a 992 Carrera and a 992 GT3 Touring. Both cars featured in our bumper October issue, celebrating Above Off to visit the team at PIE Performance

Below Spyder Performance lowtemp thermostat









Above Replacing the rubber resonator pipe delete cap with a hard anodised aluminium part

Right and below The car's engine bay with the new aluminium resonator pipe delete cap in place

the 911's sixtieth anniversary. I had a great time testing them, but was eager to jump back into my 997, a more compact, more analogue Neunelfer.

The three-and-a-half-hour nighttime journey from the company's headquarters in Reading to my home in Norfolk was a blast. Deserted roads, my 911 was totally on song. I jumped out of the car appreciative of just how involving a drive in a 997 really is. You feel an integral part of the machine, certainly more so than when piloting a 992, regardless of how awe-inspiring today's Porsche engineering might be.

BACK TO THE RANCH

As I approached my house, I activated my garage's electric roller door and drove inside. Bright LED strip lights illuminated the driveway. What's this? Oil?! I stepped out of the car and was immediately hit by the unmistakable smell of transmission fluid. Not at all good.

Removing the nearside rear wheel, I shone a torch into the belly of the beast to find out what the problem was. Driveshaft seal failure? Had the transmission oil cooler split? It was difficult to nail the source of the leak because there was a great deal of fluid making a mess. I contacted Chris Lansbury, founder of Suffolk-based independent Porsche specialist, PIE Performance (*pieperformance.co.uk*), for his thoughts on the matter. Predictably, a WhatsApp exchange of photographs and videos proved inconclusive. "Get the car to us and we'll sort it for you as soon as we can," he offered. Invitation accepted.

The next morning, a Macan-owning neighbour contacted me to say he'd seen a long trace of oil stretching from my driveway to the nearby main road (a good half-mile away) and a significant distance along it thereafter. Of course, the trail was to my house, not *from* it. "I thought you'd driven off with an engine ready to implode," he chuckled. The jury's out on whether this was educated commentary on the reputation of M96/ M97 flat-sixes.

Shortly after this exchange, I arranged for transportation of the car to PIE Performance (a journey of more than two hours) on the back of a low-loader. Chris and his team then set about inspecting the car, but could find no evidence to suggest the transmission oil cooler was compromised. The problem, so it seemed, was more serious than either of us predicted. Now, PIE Performance is adept at most things Porsche-related,



TECH: THE FLEET



but it isn't a Tiptronic transmission specialist. To get to the bottom of the issue, Chris recommended sending the unit to a firm specialising in the repair of these gearboxes. PIE Performance, would, he promised, remove the transmission, send it away for diagnosis and any necessary repairs, and then take care of installation following the fix.

The problem turned out to be a failed gearbox oil pump causing all sorts of problems, including the ejection of transmission fluid through seals as a result of a built-up pressure. With the gearbox in pieces, it made sense to go for a full rebuild. To this end, save for new ratios, pretty much everything has been replaced — a new oil pump was obviously top of the list, closely followed by new seals, new thrusts, a new valve body, a new torque converter, plus new clutch drums, steel plates and friction plates for all gears.

The rebuilt transmission was returned to PIE Performance and duly installed. During testing, however, the problem presented itself once again. Out came the gearbox and off it went, back to the transmission specialist, who dismantled the unit for a second time, only to confirm the brand-new oil pump had failed. Of all the rotten luck, a duff pump!

With another new oil pump installed,

the gearbox was reassembled and returned to PIE Performance, whereupon it was bolted into place, thoroughly tested and confirmed to be operating good as new. Phew!

Coincidentally, Chris's father had agreed to buy my classic SAAB 900 S Cabriolet, making his journey over to my workshop the perfect opportunity to give the 911's refreshed gearbox a longdistance shakedown. "This is one of the very best 997's I've ever driven," Chris remarked, when stepping out of the car. "It performs absolutely brilliantly."

As you'd expect from a 997 with a freshly rebuilt semi-automatic transmission, shifting is super smooth, perfectly complementing the beautifully performing engine and the refreshed suspension (all components are renewed, save for the PASM dampers, which I'm thinking about upgrading).

Incidentally, while the car's engine and gearbox was out, I bought a Spyder Performance (*spyderperformance.co.uk*) low-temperature (70°C) thermostat, allowing the flat-six to run cooler, reducing the chances of temperature gradients forming and the associated bore scoring that might result. The PIE Performance team installed the part while the car was in its care.

As you will have seen in last month's

issue of 911 & Porsche World, I've since installed a GT3 throttle body, an IPD Competition plenum (ipdplenums.com) and a K&N air filter (knfilters.co.uk). I was immediately taken aback by the throatier intake noise and the more responsive throttle, but I wasn't keen on the plenum kit's rubber airbox resonator delete cap. The primary benefit of removing the resonator box from within the air filter housing is to increase airflow across the surface of the air filter, thereby aiding mid-range acceleration. Available for the 996 and 997, Spyder Performance's resonator blanking cap is manufactured from high-grade aluminium and is hard anodised for a long service life. It's a more elegant solution than the rubber cap previously installed and looks great in my 997's engine bay.

That said, in the interests of further airflow experimentation, I've ordered a Fabspeed (*fabspeed.com*) carbonfibre competition intake system. I'm looking forward to comparing and contrasting the car's performance with the stock intake setup, that of its current configuration and with the Fabspeed equipment in place. I'm hoping to secure time on a rolling road in order to precisely gauge the impact of each arrangement. I'll be sure to share my findings with you in a coming issue. **Above** Back on the road and fighting fit with a rebuilt gearbox

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TECH: THE FLEET MIXING OIL AND WATER

Chris Wallbank returns to RPM Specialist Cars, this time with his 981 Boxster S, which is treated to a transmission service and roof drainage inspection...

alta has been my home for most of December. I've been travelling to and from the central

Mediterranean archipelago, where Editor Furr asked me to photograph a series of cars for forthcoming *911 & Porsche World* and *Classic Porsche* magazine features. In between my travels, I had a couple of spare days to treat my 981 Boxster S to a round of maintenance in advance of the black two-seater being retired from the road during winter.

The jobs I was keen to see taken care of were an oil change for the PDK gearbox and clutch, as well as the all-important cabriolet roof drain hole inspection and clean. Truth be told, I couldn't be sure if either of these jobs had been done in the car's lifetime. Strictly speaking, according to Porsche's official servicing schedule, the 981's PDK transmission should be subjected to an oil change every twelve years or 120,000 miles, whichever comes first. My Boxster S is a late 2012 build with nowhere near that many miles on the clock, meaning the work didn't really need addressing until next autumn. Nevertheless, I wanted it done as a precautionary measure sooner rather than later.

Getting the soft top's drain holes cleaned in order to eliminate the risk of blockage is something I've noted many 981 owners doing in recent months, certainly if online forum posts are to be believed. As these cars get older, if sunroof drains are left to clog up with dirt, leaves and other detritus, rogue rainwater can find its way to various electrical modules controlling functionality in the rear of the host Porsche. Audio amplifiers are prime targets, resulting in damage with the potential to cost owners thousands of pounds in repairs.

I booked my car into the workshops of Knaresborough-based Porsche indie,

Below The team at RPM Specialist Cars stocks all grades of Motul lubricants

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Above Recalibrating PDK's dual clutches

Top right Two of the four roof drainage valves were being hindered by dirt and small leaves

Right Draining the old oil in advance of a treatment of fresh fluid, carried out earlier than required

Middle right It isn't necessary to remove body panels in order to access the roof drain valves

Bottom right Treating the twin clutch system to fresh oil

RPM Specialist Cars (hope online and visit *rpmspecialistcars.co.uk*). These guys have worked on both my Boxster and my Cayman GT4, as documented in previous issues of *911 & Porsche World*. They certainly know their way around the 981 platform.

HIT THE ROOF

The first job of the day was to address the roof drainage holes. I was surprised to learn cabriolet roof drain inspection and subsequent cleaning isn't as involved as I'd been led to believe. I'd seen online photo diaries of owners removing side skirts and wheel arch liners in order to access the drain valves, but RPM Specialist Cars technician, Andy Carling, demonstrated how this isn't necessary. There are two valves either side of the car, just ahead of the air intakes. It took Andy around an hour to ensure water was running freely through all four channels. He confirmed two were hindered by a slight build-up of grime and small leaves, but they were nowhere near as bad as some he's seen in recent times. He also highlighted how garaged Boxsters (and 911 Cabriolets) don't tend to suffer from blocked roof drainage channels anywhere near as frequently as open-top Porsches exposed to the elements year-round.

Many owners will clean the valves and refit them, but the RPM Specialist Cars solution to ensuring the problem doesn't rematerialise is to ditch the valves altogether. They serve little purpose and can cause large repair bills. Whether you're in possession of a 981, 987 or even a 986 Boxster, make sure you ask RPM Specialist Cars or your local independent Porsche garage to inspect the car's roof drainage system. For the sake of less than an hour's labour, there's no reason to risk the onset of avoidable damage.

Next up was the PDK gearbox and clutch oil change. Some of you may recall a fleet update documenting the same work being applied to my GT4 at RPM Specialist Cars a few months ago. As was the case then, I decided the Boxster should be treated to Motul Gear 300 LS oil, which I have been very impressed with. Independent tests have shown this particular lubricant to significantly reduce wear in Porsche race car gearboxes. I've certainly noticed reduced transmission whine and more satisfying shifting in my GT4, hence not hesitating to use the same product for the Boxster.

It's a fully synthetic 5w-90 lubricant designed specifically for highperformance transmissions and







TECH: THE FLEET



911& Porsche



Above Sitting pretty outside the RPM Specialist Cars workshops in Knaresborough

Below Unfastening the top of the side panel provides access to the neighbouring roof drains (two on each side of the car)

Facing page Filling up with a supply of fresh Motul lubricant meets Porsche's recommended GL-5 standards. For the PDK unit's twin 'wet' clutches, I opted for Motul Multi

Double Clutch Transmission Fluid (DCTF), which also meets OEM standards. As before, I ordered both products from the website of Octaneologists,

one of Motul's leading UK stockists. It's worth noting how RPM Specialist Cars is also very impressed with these products, hence the company having all grades of Motul oil in stock and ready to use. In total, the Boxster took three litres of gearbox oil and close to 5.3 litres of clutch oil. PDK transmission fluid

NOTHING IS EVER TOO MUCH TROUBLE AND THE TEAM IS ALWAYS HAPPY TO TALK THROUGH THE WORK BEING DONE

changes are definitely more involved than changing the oil on a manual 981 gearbox — once the dual clutch oil is replaced, it has to be 'blended out' and taken to a specific operating



temperature before the fluid level can be accurately read. A clutch recalibration procedure using special diagnostic

> tools also needs to take place. During this process, the transmission can be heard finding its biting points. After Andy confirmed he was happy with the

recalibration, he took the car for a test drive and subsequently told me the gearbox was working good as new. I have to say, dealing with RPM Specialist Cars is always a pleasure. Nothing is ever too much trouble and the team is always happy to not only talk through the work being done, but also to explain the benefits. Put it this way, I always come away with fresh knowledge about how my cars work, for which I'm very grateful to Andy and his colleagues.

Unfortunately, the drive home was characterised by terrible weather, which prevented me from pushing the transmission hard, but on first impressions, shifting is silky smooth. I'll be sure to provide a detailed road test report when the car returns to the road in spring.

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TECH: MARKET WATCH AUCTION NEWS

Representing a truly unique collection of Porsches, The White Collection generated a staggering thirty million dollars from enthusiastic buyers registering bids from all over the world...

> uch had been written about The White Collection, RM Sotheby's impressive showcase of fifty-six

rare white Porsches, all offered from a single owner. The sale took place at the beginning of December and was bolstered by the vendor's extraordinary collection of Porsche memorabilia. Observers expected the lowmileage air-cooled cars in the sale to fetch top dollar, but the included modern Porsches shattered expectations and proved market vitality by setting new world records.

Bidders hailed from around the globe, contributing to sales total of more than \$30,000,000. As impressive as this sum is, consider the fact the auction's 2015 918 under the hammer for an eye-watering \$2,397,500, proving how 911s from Porsche's GT product line are maintaining their robust momentum in a somewhat softening marketplace. Similarly, the sale's 2016 991 R (a rare 911 with just 19.7 miles registered on its odometer) shifted for a staggering \$1,105,000.

The auction's 2019 991 GT2 RS Weissach Edition generated another surprise result by shifting for \$1,006,000, well above the pre-auction estimate. Similarly, the event's 964 Turbo S X85 Flachbau sold for \$1,462,500. One of thirty-nine examples built for the US domestic market in 1994, this hand-built, highperformance, air-cooled special boasts a lavishly appointed interior with Rootwood treatments and Cashmere







CONSIDER THE FACT THE AUCTION'S 2015 918 SPYDER WEISSACH EDITION ACCOUNTS FOR NO LESS THAN \$3,937,500 OF THE FINAL FIGURE

Spyder PHEV Weissach Edition accounts for no less than 3,937,500 of the final figure. This sale price is almost a million more than the car's upper estimate and exceeds the previous auction record for the 918 by – wait for it – nearly two million dollars.

This particular 918 Spyder was delivered new to The White Collection by Porsche Centre North Houston and has covered only twelve miles from new. Finished in Paint to Sample (PTS) Grand Prix White with colour-matched magnesium wheels, the car features an interior finished in extended Leather to Sample (LTS) Yachting Blue hide and Bianco Leda piping, custom-specified at a cost of more than \$96,000. This premium was accumulated largely on account of extensive bespoke tailoring from Porsche Exclusive Manufaktur, complementing the optioned Weissach package. A true one-off, this is the only 918 Spyder produced in this exacting configuration.

Also of note is the event's 1997 993 GT2. Finished in Glacier White over extended black leather, the air-cooled classic went Bridge leather. Believed to be one of two Grand Prix White examples of the X85equipped 964 Turbo S, the car smashed its pre-auction estimate of a million dollars.

Almost a thousand individual bidders participated in the sale, which was held in Houston, Texas, and resulted in 190 sales (cars and memorabilia) contributing to a sell-through rate of 99.82%. Of particular interest was the 1973 Carrera RS 2.7 Lightweight on offer. This rare USA-delivery 911 was specified with the coveted Lightweight package (option code M471) when new, with headrests for both driver and passenger, a heated windscreen and three-point safety belts. The car retains its original engine and gearbox and is finished in its factory colour of Grand Prix White over red body graphics and a black leatherette interior. The final sale price? After a bidding war, \$1,875,00 was reached.

Interestingly, of the auction's registered bidders, strong participation was noted from individuals in Asian and Middle Eastern markets. Additionally, fifty-five percent of







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TECH: MARKET WATCH

those clamouring for the auction's amazing lots were first-time bidders with RM Sotheby's. "The White Collection captured the world's attention," says Gord Duff, the company's Head of Global Auctions. "We knew these cars would do well, but the results are incredible, as highlighted by the many record-breaking sales, such as that of the 918 Spyder. Such prices set benchmarks, which will follow these cars and similar models for life. This was a landmark event, enabling the auction's cars to be cherished worldwide, marking a special moment for RM Sotheby's, but also for Porsche enthusiasts across the globe."

The memorabilia lots did especially well, contributing more than a million dollars in

944 Turbo, the car was in the possession of just one owner (based in Ohio) prior to becoming part of The White Collection and is believed to be one of eleven 944 Turbo Cups produced for Sports Car Club of America (SCCA) competition use in 1987. Boasting low mileage typical of the sale, the car has covered just 19,635 miles from new, encouraging final sale price of \$162,400.

We were pleased to see many of The White Collection's cars offered with freely available paint depth reports. Yep, RM Sotheby's took care of thorough examination of each car's bodywork and paint in order to provide interested parties with confidence regarding originality before bidding commenced. One car subjected to

A SELDOM SEEN MODEL WHEN NEW, LET ALONE NOW, THIS SIX-CYLINDER, MID-ENGINED, TARGA-TOPPED ROADSTER SOLD FOR \$89,600

sales. For example, a Kusch & Co Series 8080 918 Spyder Edition lounge set by Porsche Design sold for \$81,000. Porsche dealership exterior signage sold for \$63,600, while two 911 Juniors sold for a combined price of \$69,000. An accompanying 936 Junior fetched \$48,000.

Back to the cars. Championing Porsche's transaxle family of products was a stunning 1987 928 S4 with just 12,285 miles showing on its odometer at the time of cataloguing. Finished in Grand Prix White (of course) over Crimson leather, the five-litre 'land shark' is equipped with a rare manual five-speed gearbox, limited-slip differential and sportspecification shock absorbers. This terrific V8 sold for \$112,000.

Built to celebrate Porsche's 1976 World Sportscar Championship victory and the company's successful partnership with Martini & Rossi, the sale's 1977 924 Martini Championship Edition caused a stir (no pun intended) by exhibiting only 24,769 miles covered from new. Accompanied by owner's manuals, an original warranty booklet and assorted accessories, this Police White wonder found a new home for \$29,120.

At ten thousand dollars more, the sale's Alpine White 944 S2 Cabriolet — a frontengined, four-cylinder, water-cooled Porsche showing just 16,064 miles — attracted plenty of bidders, as did the available 944 Turbo Cup. A Weissach-prepared race car stripped, strengthened and modified for improved performance over the standard this extra level of scrutiny was the auction's 1970 914/6, purchased new via Al Holbert's Warrington Porsche dealership, as proved by period correspondence between the original purchaser and Holbert, a storied Porsche endurance racer. Powered by its matching-numbers engine and gearbox, the car joined The White Collection in 2018 and has been given monthly start-ups and testing to ensure all mechanical components operate as intended. A seldom seen model when new, let alone now, this six-cylinder, mid-engined, Targa-topped roadster sold for \$89,600.

Of all the air-cooled cars on offer, the 1993 964 Carrera RSR 3.8 attracted most attention in the lead-up to the event. Arguably the wildest 964 ever ordered by a Porsche VIP, this truly incredible 911 is the last of fifty-one examples of its kind and the second of just two Straßenversion RSRs built by Porsche Motorsport with a fully appointed leather interior. Delivered new to the UK in March 1996, rediscovered in 2015 and currently showing just forty-three miles from new, this superb 964 retains not only its original engine and gearbox, but also its original tyres! A true collector-grade car comprehensively documented in Sportfahrer's Jürgen Barth-authored Carrera RS 3.8 hardback, this as-new 911 sold for \$2,073,000. Will we see the like of The White Collection again? Watch this space.















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2003, 58776 miles, £16,500. 2003 PORSCHE 911 edition with low mileage of 58k. Full Porsche owner manuals and literature folder. No receipts with the car so cannot say what preventative maintenance work may have been done (ims and rms etc) Up to date service book. Please call 01443 206597, Wales. 111109

PORSCHE 997 911



2010, 66000 miles, £64,999. Gen 2 997 turbo with FPSH. Basalt black with black leather interior. PDK and sports chrono. Other extras include an LSD, heated seats, sunroof and parkassist. Plenty of tread Bridgestone tyres. Comes with a fi tted Porsche cover and has an active Porsche tracker. Had the car for three years and had a major service last year at Porsche Perth. Please call 07942357932, Scotland 114651

PORSCHE BOXSTER



2001, 77450 miles, £7,500. MOT June 2024. New hood - 2 family owners. Please call (951) 846-0503, South East.

PORSCHE BOXSTER 2003



2003,£57,000. Registered new in May 2003 as a Porsche Boxster 986 2.7, this particular car was transformed into this homage of the original 356 Speedster by Iconic Autobody. With its retro bespoke coachwork there is still the modern drivetrain and chassis of the original Boxster, therefore the same driving characteristics have been maintained. Finished in Porsche Please call 07577 575770, South East. (T)

PORSCHE BOXSTER



2006, 67000 miles, £11,250. My car is in Arctic Silver with Sand Beige leather interior, registered in November 2006. It's a Tiptronic with Sport Chrono which is a "must have" option with the auto as it makes it more lively and responsive than without. It's in great condition. T Please call 07909923202, South East.

PORSCHE BOXSTER



1998, 121000 miles, £5,495. Possible Swap? 07957186048, orsche boxster 986 convertible, £5495 px swap ?rare red in colour and triptronic with steering wheel shift, as can be seen in photos the car is in very nice condition for its age, been in family for yrs ,Please call 07957186048, East Midlands. 116146

PORSCHE BOXSTER



2003, £9,750. 2003(03) Porsche Boxster 3.2 S. Metallic Basalt Black with Black leather and Black power soft top. Facelift model with the glass heated rear window and clear indicator lenses. 6-speed manual, power steering, ABS, Porsche stability management, automatic airconditioning, headlamp wash, factory alloy wheels, xenon headlights. Please call 01277365415, East of England. (T) 113353

PORSCHE CAYMAN



2010, 67500 miles, £25,000. My 295 bhp, 3.4 Cayman S has more bang for its buck than any other car in its price range. People stop and stare. Colour? absolutely unique. In terms of upkeep, MOT Aug 2024. Following on from a 40,000 mile service by SCS Porsche in Honiton, 4 brand new Pirelli's (19 inch) discs, pads, front and rear, all fitted July 2023. Please call 07508001304, South West.

120710

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PORSCHE 993/964/944 CUP 2 WHEELS AND TYRES



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PORSCHE 992 INDOOR CAR COVER



2020, £285. Classic Additions. 14 months old (£394 cost new). Please call 07803122312, East Midlands. 121440



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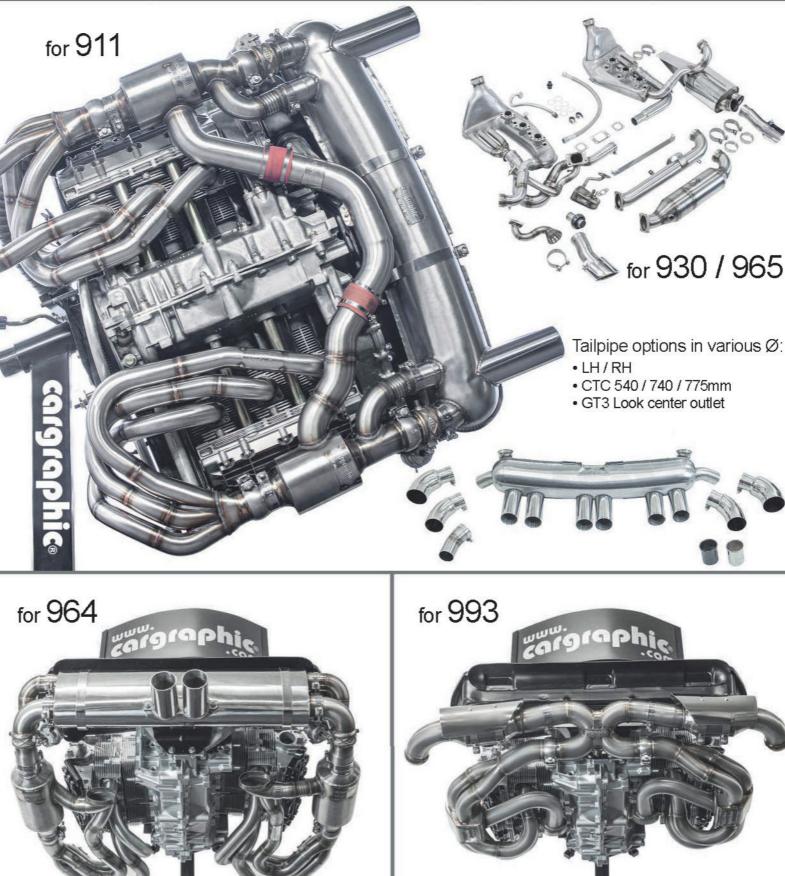


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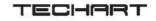
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