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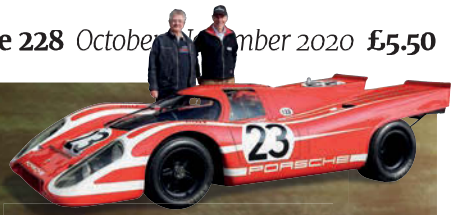

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12 TIPS FOR MORE ENJOYABLE DRIVING

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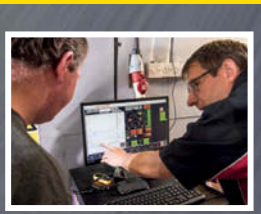

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THEN AND NOW...

2020 marks exactly fifty years since Porsche's most important victory in motorsport: winning overall honours at the 1970 24 Hours of Le Mans. Sure, the manufacturer had achieved class wins from its very first outing at Sarthe back in 1951, but scenes of the bright red 917 short-tail (driven by Richard Attwood and Hans Herrmann) taking the top spot kick-started a major story of success in France, resulting in nineteen overall wins for Porsche before the brand's exit from LMP1 in favour of Formula E at the close of the 2017 season.

We've brought together an overview of Porsche's most iconic Le Mans machines in this issue of *GT Porsche*, and though it's fun to look back on past glories, it's important for us not to lose sight of the road ahead, especially when it presents a radical new change of direction. I am, of course, talking about Porsche's all-electric Taycan, a ground-breaking sports car racking up awards left, right and centre. To find out if this brave new world of technology-on-wheels delivers where it counts, the following pages bring you our verdict on the driving experience delivered by the controversially named Taycan Turbo.

Many of you are feeling confident enough to venture into the wild following the easing of lockdown restrictions, with small-scale car meets popping up all over the place, each event satisfying a burning desire to scratch a long-irritating itch. It's great to see so many Porsches out and about, but do remain vigilant by continuing to observe social distancing at each destination. You might also want to use this new-found freedom to enhance your driving skills, thereby exploiting your Porsche's true potential. We've compiled our twelve top tips for more enjoyable driving on page 56. Have a read and try out our suggestions, but above all, stay safe.

Dan Furr Editor
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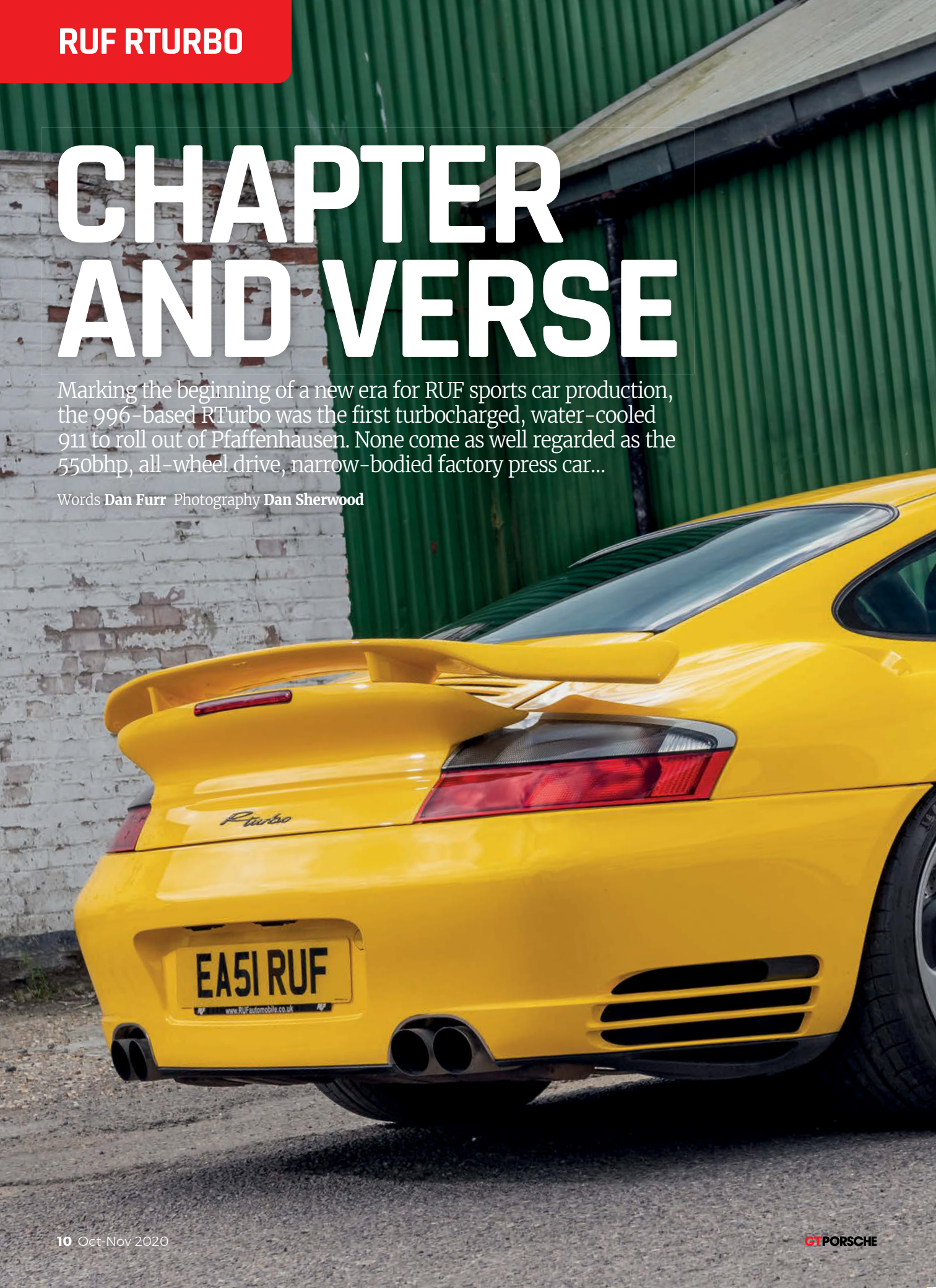
CHAPTER AND VERSE

Marking the beginning of a new era for RUF sports car production, the 996-based RTurbo was the first turbocharged, water-cooled 911 to roll out of Pfaffenhausen. None come as well regarded as the 550bhp, all-wheel drive, narrow-bodied factory press car...

Words **Dan Furr** Photography **Dan Sherwood**



A FAMILY AFFAIR

In 1939, Alois Ruf Sr opened Auto RUF, a general, all-vehicle service garage. Far from the Porsches RUF is associated with today, the first vehicle Alois built was a tourist bus. Surfing the rise of the travel age, the people carrier proved popular enough for a separate RUF bus company to be established in the late 1950s. Watching the steady expansion of his father's business was sports car fan, Alois Jr, who was allowed to service and repair Porsches from the company's premises as the 1960s drew to a close. He took control of the family business in 1974 and immediately drew up plans to reinvent the 911.

Back in 1977, when Commodore was unveiling its PET all-in-one home computer and the world was having its ears beaten into submission by the Sex Pistols, Alois Ruf Jr was busying himself with the launch of Turbo Number One, the first of many Porsche-based production cars to roll out of RUF's Pfaffenhausen workshop. Modelled on the ground-breaking 930 (911 Turbo), wearing Carrera RS 3.0 bodywork and dressed in dark green paint, Turbo Number One was a 930 on steroids – engine displacement was increased to 3.3 litres (well in advance of Porsche applying the same update to the 930), developing 303bhp at 5,500rpm, with 304lb-ft torque coming on song at 4,000rpm. Rolling on bespoke RUF rims and uprated Bilstein suspension, this mean green speed machine also upped the ante when it came to luxury – over standard 930 interior specification, Turbo Number One boasted additional air-conditioning, a heated rear-view mirror, lashings of dark green leather (including a perforated headlining) and trick footwell illumination only extinguishing when the driver's seat belt was locked into place and the ignition key was in its barrel.

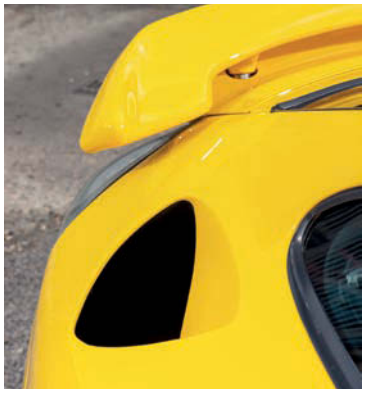
Transferring power to the road via a Getrag five-speed transmission twelve years before Porsche would get around to doing the same with the 930, Turbo Number One despatched the zero to 62mph dash in 5.1 seconds. Despite the extra ratio, refined suspension and the introduction of an eighty percent limited-slip differential, however, RUF's creation was still a handful, its nose being lighter than that of the 930 and relying on super-subtle movements of the driver's right foot to ensure corners were navigated start-to-finish without incident. Only four units were built.

SEA OF CHANGE

Based on the 911 SC and featuring a naturally aspirated flat-six with 3.2-litres of displacement (long before Porsche introduced the Carrera 3.2), 1978's RUF SCR preceded Alois' next take on the 930: the RUF BTR. Presented in 1983, the 190mph bruiser was powered by a 369bhp force-fed powerplant. The BTR was a far more rounded RUF than Turbo Number One and provided a taste of what was to follow with the now legendary twin-turbocharged CTR 'Yellowbird' of 1987, dubbed the world's fastest production sports car and capable of outrunning the era's most famous supercars, including the Ferrari Testarossa, the same manufacturer's F40, the Lamborghini Countach and, worryingly for Porsche, the 959. Indeed, CTR was the car that elevated the RUF name to the global stage, not least thanks to a highly publicised (though unofficial) record Nordschleife lap time, held for many years. It was also the model that served to herald a further decade of development work on Porsche's air-cooled 911 platform before the arrival of the 996-generation Neunelfer and its water-cooled flat-six.

At this stage of our story, those of you with an untrained eye might be wondering how what appears to be a modified 911 managed to be crowned the world's fastest production sports car. In short, this status is made possible by RUF's classification as a manufacturer by the German government. In essence, RUF takes unmarked Porsche bodies, which are then used to build entirely new cars. Free of Porsche chassis numbers, RUF vehicles are assembled using the Pfaffenhausen concern's own parts and materials. Granted, many of them are based on Porsche factory designs, but the level of redevelopment and bespoke engineering work involved in the build of each RUF ensures the company's cars stand alone, despite their oh-so-familiar silhouettes.

Of course, those already in possession of a Porsche can approach Alois and his team of talented technicians with a request for a conversion to RUF specification. We'll be showcasing a prime example of the result of this action in the next issue of *GT Porsche* (subscribe at *bit.ly/subscribegtp*), but it's fair to say the company's bare chassis builds are the headline event, as demonstrated by the achievements of the



WAS RUF'S ABILITY TO CONSTANTLY PUSH BOUNDARIES ABOUT TO END?

Above It might look like a narrow 996 in CTR fancy dress, but the RTurbo propelled Porsche's then new water-cooled 911 Turbo platform to a new level

Inset Fire up YouTube and search for the video of Stefan Roser's amazing lap of the mighty Nordschleife in this very RTurbo

Facing page Intake apertures were moved from the 996 Turbo's forward rear quarters to above the wheel arches

993-based CTR2, featured in the June edition of *GT Porsche* (grab a back issue at *bit.ly/issuesgtp*) and eclipsing the earlier CTR's status as the world's fastest production sports car. With a recorded top speed of 217mph, the CTR2 outperformed both the Ferrari F50 and mighty Jaguar XJ220. In fact, the world would have to wait until three years after CTR2 production ended for the record to finally be broken — the McLaren F1 reached a top speed of 241mph in 1998, making the CTR2 the second-fastest production car of the decade and one of the most important non-Porsche 911s ever assembled.

To have rewritten history once was impressive enough, but twice? Even Porschephiles were amazed, but was RUF's ability to constantly push boundaries about to come to an abrupt end with the discontinuation of air-cooled engines in response to newly introduced strict emissions legislation in many key Porsche sales territories? The RUF 3400 S of 1998 put paid to such worries.

Built on the then new 986 Boxster platform, the 3400 S — incidentally, the first RUF that wasn't a 911 — was Alois' reaction to the new roadster and its 996 stablemate sharing many of the same components. Sure, the Boxster is a mid-engined two-seater with a 2.5-litre beating heart, but the same-age 911's rear-mounted 3.4-litre lump represents a straightforward swap. Reading between the lines, Porsche doing the same would have been a disaster from a marketing perspective at a time when the company was trying to re-establish itself as a profitable concern after years of avoiding bankruptcy — to have blessed the Boxster with 911-esque power would have made the significant price difference between the two models difficult to justify, especially when the Boxster's mid-engine layout would have likely shone a light on how it had the potential to outhandle a 911. RUF, of course, had no such anxiety, which is why Alois wasted no time in fitting the flagship Porsche's flat-six in place of the Boxster's standard 2.5.

With a light engine tune (amounting to just ten extra ponies, but bags of extra torque), the 3400 S conquered the standard sprint to 62mph in 5.2 seconds, almost two seconds quicker than a standard Boxster. Once again, Bilstein suspension, a bespoke RUF transmission (six cogs) and striking RUF five-spokes formed part of the package, but what Porschephiles were really interested in was what Alois could do with the new 911 platform. Their queries were answered with 2000's RUF RGT, a 385bhp GT3-based build offered for sale in North America, where Porsche had elected not to ship the standard GT3 for fear of it becoming a flop in the face of tight speed restrictions on the nation's public highways. Again, Alois had »

no such worries and, recognising untapped sales potential, successfully marketed the RGT to a wanting audience. Moreover, where the GT3 was only available to buy in two-wheel drive configuration, RGT buyers could option all-wheel drive. There was a 395bhp lightweight RGT RS model on offer too, though the cost proved so prohibitively expensive that only two were produced. Nevertheless, the RGT proved RUF was more than capable of manipulating the 996 platform, though the company was still to answer questions concerning its plan to reinvent the period's 911 Turbo, which was unveiled at the highly anticipated 1999 Frankfurt Auto Show and released for sale in the USA at the same time as the RGT.

It didn't take long for RUF to once again wipe the smile from the faces of Porsche's marketing men. Launched in 2001, the RTurbo not only comprehensively outperformed the 996 Turbo, it was available in every 911 configuration: cabriolet, coupe, wide body, narrow body, two-wheel drive, four-wheel drive, manual or Tiptronic, though the standard build of a four-wheel drive, wide-hipped, manual coupe was the only way of failing to attract extra cost, despite the narrow body featuring wider front wings to accommodate extra radiators and oil coolers! Typically built from a blank Porsche shell, each RTurbo was equipped with a development of the 3.6-litre 'Mezger' flat-six derived from the 1998 911 GT1 Le Mans-winning race car and was kitted-out with modified KKK turbochargers, GT3 mounts, a revised intake system, an overhauled valvetrain, a bespoke exhaust (with bypass valve), a modified VarioCam system and altered ECU software. Offered with a stonking 520bhp and 546lb-ft torque, the RTurbo was also equipped with a heavy duty GT2 transaxle.

HANDLE WITH CARE

The push-in-your-seat torque of this 144bhp-per-litre lout kicks in at 3,500rpm, propelling the car's occupants to 62mph from a standing start in just 3.7 seconds, topping out at 214mph. To keep the car on the straight and narrow (literally) is RUF's time-served choice of Bilstein adjustable dampers and stiffer springs, dropping the ride height by 30mm. Carbon-ceramic brakes were a sensible addition to the RTurbo's options list, while optimised airflow was achieved by a modified front bumper design and intakes moved from Porsche's preferred lower rear quarters to the top of the rear wheel arches, making them nearer to each turbocharger's corresponding intercooler. But wait, there's more! Much more, in fact.

Not content with his team's mind-blowing

Above RTurbo flat-six came in 520bhp, 550bhp and 590bhp flavours, the latter two making use of much stronger internals and custom camshafts

Facing page A new RUF for a new era — parallels with the CTR 'Yellowbird' are clear to see

THIS 550BHP CUSTARD-COLOURED MODERN CLASSIC WAS KEPT BY RUF UNTIL 2007, WHEN IT WAS RELEASED INTO THE WILD, COMPLETE WITH A FULLY REBUILT ENGINE

autobahn stormer's performance, Alois developed a 550bhp RTurbo package, making use of titanium connecting rods, higher profile camshafts and a new map, combining to develop 575lb-ft torque and allowing the host RUF to hit 218mph. This was most definitely a new RUF for a new era of sports car production, but in an increasingly crowded marketplace, Alois needed a bold way of announcing the fact. The solution, he determined, was to dress a 550bhp four-wheel drive RTurbo coupe in Yellowbird-aping *blütengelb* and film it completing a flying lap of a deserted Nürburgring with RUF test driver, Stefan Roser, at the wheel.

The resulting footage, mercifully free of background music, can be viewed on YouTube. It's both mesmerising and jaw-dropping, such is the graceful way the brightly coloured RTurbo slides sideways around corners and flies like a rocket along straights. This is no lightweight race car, either. No, like most RUFs, the RTurbo was designed to be as comfortable and civilised as a top-end Volkswagen around town (to this end, air-conditioning and other creature comforts were standard equipment, pushing dry weight to 1,540kg), but capable of coming alive at the track. And as Roser ably demonstrates in the fantastic footage posted online, the RTurbo *really* comes alive when given permission to attack the asphalt.

Most sports car buyers with half an ounce of common sense about them know the promoted claim of "former factory press car" means the machine in question should probably be given a wide berth — contrary to the seller suggesting this makes the offering more desirable, the fact of the matter is a car handed over to heavy-footed journalists ends up on the receiving end of much abuse. Truth be told, many motoring hacks simply don't treat loan cars with any degree of sympathy, instead considering the poor four-wheeler as an all-terrain vehicle and kicking its teeth in at every available opportunity. Fortunately, Porsche and RUF cars are designed to withstand hard driving by those lucky enough to find themselves behind the wheel, which is why marque enthusiast, Jayesh Patel, had no hesitation in buying the very RTurbo Rosen battled around the Green Hell.

Built in 2002 from a blank 996 Carrera narrow body and subsequently featured on the cover of *Porsche and RUF Sports Cars* (a reference book documenting the production models of both manufacturers), this particular RTurbo didn't make its way to the UK until last year, as Jayesh explains. "The car was assembled for the purposes of being a RUF company demonstrator, before going on to form part of a private collection of sports cars owned by Gérard Lopez, an entrepreneur-investor in many motorsport concerns, including Lotus F1," he reveals. "Lopez became a significant shareholder in RUF through one of his capital venture companies and, considering he owns what many consider to be one of the very best private car collections in the world, an RTurbo was the perfect addition to his fast fleet."

If you're going to own any RTurbo, this is the one to have. "I've been lucky enough to be in possession of a number of 911s over the years, including a 997, a 930, a Carrera 3.2, various 964s and a Tiptronic-equipped 993 which I've owned twice," Jayesh continues. "One of the highlights was a 964 Turbo converted to RUF BTR 3.8 specification, but I always wondered what it would be like to own a production RUF. When a friend told me he was thinking of selling his RTurbo, and that »

Left A factory demonstrator for five years, this 2002 RTurbo was recently part of one of the world's most celebrated car collections and is presently available to buy direct from RUF Automobile UK

it was the company's famous press car, I knew I had to add my name to the yellow beast's logbook!"

Kept in exceptionally good condition despite having covered almost thirty thousand miles in the hands of previous owners, this custard-coloured modern classic was kept by RUF until September 2007, when it was released into the wild, complete with a fully rebuilt engine. Inside, GT3 buckets paired with Schroth Racing multi-point harnesses keep both occupants (there's no rear seating) firmly in place, while RUF-branded lightweight pedals, short shifter, steering wheel and dash clocks provide cause-and-effect as far as driver input is concerned.

HIDDEN TALENT

"Look closely and you'll see the roll cage," Jayesh smiles. It is, perhaps, one of the RTurbo's most impressive features – recognising not every buyer has the skill of Roser, RUF identified the need to increase safety by wrapping the cockpit in a custom cage. Where most add-on tubework is readily identifiable, however, the RTurbo's kit is neatly wrapped in black Alcantara and perfectly blended into the rest of the car's cabin, making the metalwork almost invisible.

Another benefit of the masked material is increased rigidity, though don't go thinking the RTurbo is likely to shake your fillings free – this is a surprisingly comfortable car offering confidence at every turn. The turbochargers are smart and punchy, not threatening to smack you in the back with delayed boost like the 911 Turbos of old, while the four-wheel drive system and enhanced chassis allow far more of the RTurbo's capabilities to be explored by those not possessing Roser's considerable talents. "With no electronic driver aids, like ESP or traction control, the two-wheel drive RTurbo must be incredibly twitchy," Jayesh grins. "The four-wheel drive variant, however, feels supremely planted. It's clear RUF doesn't approach build of its production cars with the idea of improving on only performance over the base model Porsche in mind. The preciseness of steering, braking and handling is miles ahead of the game. You can put your foot down, the car flies and you have total confidence that you're not going to lose the back end."

It's a very different drive to the 996 Turbo. With approximately three hundred updates applied by RUF over Porsche's standard specification, this should hardly come as a surprise, especially when so many of the RTurbo's components are the result of model-specific engineering projects in Pfaffenhausen. Even the 550bhp, instant-access torque of the motor powering Jayesh's not-so-mellow yellow monster was subject to regular redevelopment at RUF, with a range-topping 590bhp variant offered before model discontinuation in 2005. Not that the example displayed on the pages before you is left wanting.

The thrilling crackle of the engine signals the availability of all that power relatively low in the rev range, with showtime opening when those sharp snail-shaped bhp boosters wake up. Grip is spectacular, while the suspension, though dated by today's standards, does an excellent job of keeping the body in check when cornering hard. Feedback through the perfectly weighted steering is sublime, another quality confirming the RTurbo's ability to deliver totally usable power in spades and, dare we say it, far more convincingly than many far newer sports cars. Make no mistake, this is an utterly spectacular machine. Why, then, is Jayesh selling it?!

"I have to admit," he sighs, "it's just too modern for me. Forgetting the fact I feel a car like this needs to be in the hands of someone who can get the very best out of it, and notwithstanding my lack of track day experience, I just find myself far more at home in the hot seat of an air-cooled 911. That said, owning a RUF production car is likely to be a once in a lifetime experience, and though I'm glad I was lucky enough to achieve this ambition with none other than the factory RTurbo press car, it's time for someone else to enjoy time behind the wheel of this iconic 911."

Widespread modern acceptance of modified Porsche sports cars in any form makes the RTurbo arguably a more desirable proposition today than it was at the time of launch. The fact this extraordinary example, complete with its rich provenance, is about to come to market once again should see a wave of new interest in the model, which represents the beginning of RUF's adventures building water-cooled, turbocharged 911s capable of beating Porsche at its own game, a story that has yet to run its course.

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ARRIVAL OF NEW 572BHP 911 TURBO

This year marks the 911 Turbo's forty-fifth anniversary. The model has come a long way since the 930 burst onto the scene in 1975, though what was once the ultimate 911 is now positioned slightly down the pecking order thanks to the introduction of the higher-powered 911 Turbo S. We published our review of the 992-generation Turbo S in the last issue of *GT Porsche* (order a copy at *bit.ly/issuesgtp*), and almost as soon as we'd gone to print, a super-secret memo from Porsche revealed the imminent launch of the new 911 Turbo, which you see on the pages before you.

Where the 992 Turbo S pumps out a blistering 641bhp and begs its driver to make constant use of launch control, the lesser-powered Turbo uses the same basic powertrain (3.7-litre, twin-turbocharged flat-six, an eight-ratio PDK twin-clutch transmission and all-wheel drive) to produce 572bhp and 552lb-ft torque. The 'loss' of 69bhp might surprise prospective buyers, but considering the Turbo S will set you back at least £155,970, the Turbo's rather more agreeable £134,400 starting point seems like a fair price to pay when aftermarket tuners are already offering tuning packages to lift the Turbo beyond Turbo S power, all for far less cost than the amount of money you'll save by buying this new 911 Turbo. So far, so good.

The difference between a Turbo S and a Turbo isn't exclusively about the engine, though. The less expensive car doesn't come equipped with Porsche Ceramic Composite Brakes (PCCB) as standard, though these can be added to the optional equipment list. Instead, the Turbo makes use of cast iron discs (even Porsche's Turbo-badged SUVs run ceramic-coated rotors), and though adaptive suspension is carried over from the Turbo S, the Turbo loses its marginally older sibling's trick hydraulic anti-roll stabilising setup in favour of a passive system. Pity.

THE WHEEL DEAL

Turbo S owners enjoy centrelock wheels, while Turbo buyers will have to make do with a traditional multi-bolt arrangement. The important stuff is all here, though: Sport Chrono, that imposing (and aerodynamically important) wing, the giant dash-integrated display screen, the amazingly comfortable seats. Phew! For a second, we were convinced Porsche was trying to diminish the status of what was once the world's most desirable sports car.

45 YEARS OF 911 TURBO
IN OUR NEXT ISSUE
SEE PAGE 109

What is offered to 992 Turbo buyers is a classic-inspired choice of Lightweight Design and Sports options, removing creature comforts and replacing them with, er, lightweight alternatives. The aforementioned electric leather seats, for example, make way for buckets, the rears are ditched, as is cabin sound deadening material. The Sport package introduces a wealth of carbon-fibre to proceedings (and a tinted rear light strip). Exterior brightwork is eliminated. All in, we're talking about a drop in kerb weight to the tune of a whopping thirty kilograms.

Needless to say, when it comes to emptying your wallet, expect less to mean more. Much more. It's also worth noting it won't take long to reach the Turbo S's starting price if you get busy with your Porsche dealer's 911 Turbo options list. As much as we hate to admit it, that's food for thought. Perhaps the Turbo S isn't all that much more expensive after all?

SPEED MACHINE

Even in a standard state of tune, the new 911 Turbo is a force to be reckoned with, on the road or at the track. The dash to 62mph is completed in a swift 2.8 seconds, which is only 0.1 seconds 'slower' than the Turbo S. Power is down by 6mph, peaking at 199mph, but we doubt anyone outside a competition environment is going to notice. And if you do, speak to a trusted tuner about mapping the car.

Order books are now open for the new 911 Turbo, with UK deliveries expected to start in the coming weeks. We're looking forward to bringing you our 'first drive' report, and we'll be celebrating forty-five years of 911 Turbo in our next issue. Subscribe at *bit.ly/subscribegtp*

PORSCHE WORLD MOURNS DEATH OF HANS MEZGER

Designer of Porsche's most iconic engines remembered

Porsche owes a huge amount of its engineering success to Hans Mezger, who passed away on 10th June, aged 90. There's the air-cooled flat-six boxer engine, for a start, plus the overall construction of the Le Mans-winning 917 prototype (read all about this momentous achievement on page 76) and its mighty twelve-cylinder engine. As if that wasn't enough, Mezger also created the TAG Turbo Porsche Formula One engine and is responsible for overseeing many more of Porsche's most successful race cars and powerplants, including the 911 GT1-derived force-fed flat-six powering the 996 and 997-generation 911 Turbos, a unit given the nickname 'Mezger' in reference to the man himself, though it's important to note his career designing engines for Porsche stretched all the way back to the 1960s.

Mezger was born on 18th November 1929 in Ottmarsheim, a small village near Ludwigsburg on the outskirts of Stuttgart. The youngest of five children, he was fascinated by engineering from a young age. His grammar school studies took place in Besigheim, followed by German A-levels in Ludwigsburg. "In 1946, I experienced my very first car race. It was at Hockenheim, where old pre-war racing machines lined up, one driven by Hans Stuck, whom I photographed with my old camera."

Mezger studied mechanical engineering at what's now the University of Stuttgart. After graduating in 1956 (at the time of the German economic revival), he was given a veritable flood of job offers. “There were twenty-eight!" he laughed. "Sadly, Porsche was not among the interested parties. I wanted to join Porsche because the 356 inspired me. I even bought one to call my own! Eventually, Porsche offered me a job in diesel engine development. Until then, I didn’t even know the company produced such a thing. I envisioned working on sports cars. The board showed understanding and that's how I ended up in the firm's calculations department." A little later, in 1958, Mezger and his fiancée, Helga, were married. This was followed by the birth of their two children, Daniela and Oliver.

Mezger gained his first experience in Porsche sports car development with the four-cam Type 547 engine. He developed a formula for calculating cam profiles and became part of Porsche's first Formula One project in 1960. He retired in 1994, but kept close ties with Porsche and will be sorely missed by the entire Porsche fraternity.

NEXT PHASE OF COMMAND WORKS COMPLETED AT BICESTER HERITAGE SITE

Bicester Heritage, a Centre of Excellence for the historic motoring industry in the UK, has announced the completion of 'Building 141' in The Command Works – the latest development within the former RAF Technical Site. Built sympathetically and in-keeping with their Grade II-listed surroundings, the new buildings (ranging in size from 5,000ft² to Building 141's 17,000ft²) will create a host of new skilled employment and training. Occupying land which, just eighteen months ago, lay derelict alongside Skimmingdish Lane, The Command Works was once the location of the RAF Bomber Station's 'Works' buildings, rail and coal yards and is situated behind the Station Headquarters, home of the Station Commander's Office and Operations Block. This landmark development represents the first new buildings to be constructed at the best-preserved pre-war Bomber Station in more than eighty years.

DAKAR RALLY INTRODUCES NEW CLASSICS CATEGORY

From next year, the Dakar Rally's organising body will be introducing a new category for classic vehicles. Vintage cars and trucks that would have competed in the Paris-Dakar Rally, as well as similar events held during the 1980s and 1990s, will be allowed to compete, as well as period-accurate replicas of classic Dakar rally machines. A less gruelling course will be presented than that laid out for new vehicles, but the same start and end points will be observed. If all goes to plan, the Dakar Rally will take place 3rd-15th January 2021. Keep 'em peeled for 959s!

PIKES PEAK TO WELCOME 991 GT2 RS CLUBSPORT

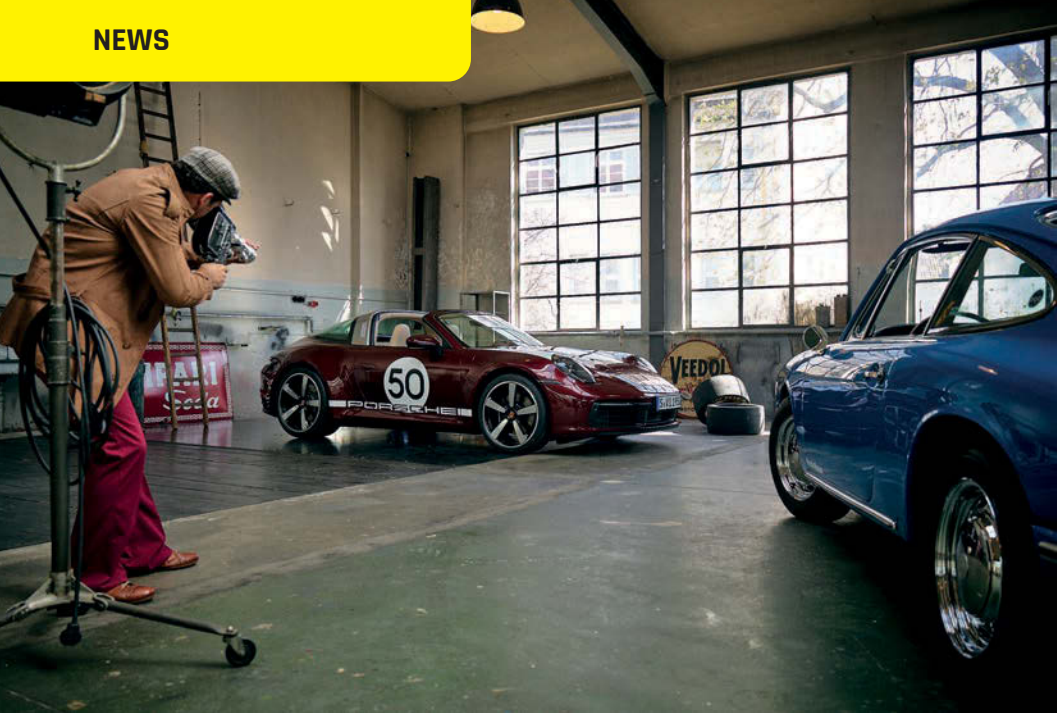
Stunning art car will compete in legendary competition

As team's prepare to take part in the 2020 Pikes Peak International Hill Climb, the Colorado time trial welcomes an unexpected entry in the form of the *000* art car: a 991 GT2 RS Clubsport driven by three-time King of the Mountain, David Donner.

Since 1916, Pikes Peak has been one of the world's most challenging motorsport contests. The 12.42-mile course's rapid ascent from its start line at 9,390 feet to the finish line at 14,115 feet taxes driver stamina and acuity. Donner is no stranger to its extraordinary challenges, having taken three overall wins and three class wins at an event that has long attracted top rally and racing drivers from around the world, many of them supported by manufacturer teams.

"I was never interested in returning to Pikes Peak unless I could drive a car with true racing pedigree, plenty of horsepower, traction control and ABS," says Donner. "The GT2 RS Clubsport checks all those boxes, but then you place this amazingly powerful 911 on Michelin racing tyres and we have a truly spectacular Porsche, and that's before we talk about its striking looks!"

The car's colourful wrap is the result of a collaboration between Michelin, detailing brand, Meguiar's, Swiss watch maker, Chopard, apparel brand, Champion, and was applied by Pro Graphics Install in Denver. Overseen by *000* co-founder, Pete Stout, the project will see Donner tread familiar ground – in addition to his own Pike's Peak legacy, his father drove an RS-61 to three wins on the mountain in the 1960s.



992 TARGA 4S HERITAGE DESIGN EDITION LAUNCHED

The first in a series of four releases from Porsche's Exclusive Manufaktur division

State-of-the-art 911 with design elements carried over from the 1950s and early 1960s. This is how Porsche presents the 992 Targa 4S Heritage Design edition, the first of four special models from its Heritage Design programme. In short, historically significant exterior and interior design elements have been reinterpreted and combined with the latest automotive technology in a bespoke 911 package from Porsche's Exclusive Manufaktur department. Limited to 992 examples, "the renaissance of Cherry Red and corduroy" (yes, really) will assault your bank balance for £136,643, which is almost thirty grand more than a standard Targa 4S. So, what do you get for the extra spend?

Well, there's the 992 Targa 4S Heritage Design edition chronograph, for starters. A mechanical watch with "an elegant and clean design, just like the car", it's also limited to 992 units and carries a retail price of £10,650, though the jury's out on whether this represents value for money. We suspect not, though perhaps you think the lashings of ribbed fabric covering the 992 Targa 4S Heritage Edition's seats and door trims, the Bordeaux Red leather, the classic-look calipers, the early 1960s frunk crest, staggered Carrera Exclusive five-spokes or the giant door numbers are worth your cash, regardless of the watch on offer. Either way, it's clear to see Porsche is trying to recreate the excitement and demand surrounding the launch of the similarly styled 991 Speedster, which sold out almost as soon as order books opened a couple of years ago. The new Targa is on sale now.

LEE MILNER

LITTLEHAMPTON TRANSAXLE MEET BRINGS FUN IN THE SUMMER SUN

Andy Gregory, PR and Community Manager at Heritage Parts Centre, arranged a transaxle-only meet in the coastal town of Littlehampton, near Goodwood Circuit, not long before we went to print. With social distancing measures in place, the event saw ten 944s and a trio of 924s (including the twin-tone Turbo pictured) turn out for the afternoon. With lockdown measures easing — not to mention enthusiasts keen to enjoy seat and show time with their Porsches before summer reaches its end — Andy is already planning the follow-up transaxle meeting. He hopes 968 and 928 owners will participate. Search for @Stuttgart_South on Instagram.

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HPtuners

RED HOT PRODUCT

PORSCHE PRODUCTS

Each month, we present exciting parts and services designed to benefit you and your four-wheeled friend. From audio to engine upgrades, we've got you covered.

SWINDON POWERTRAIN COMPACT HIGH POWER DENSITY (HPD) EV SYSTEM

Established in 1971, Swindon Powertrain is known the world over for the design and development of high-performance engines. The company began supplying Formula One teams before branching out into other disciplines of motorsport, including rallying and touring car racing. Regarding the latter, the firm's involvement in the British Touring Car Championship (a series hosting the evergreen Carrera Cup GB as support act) is well known, not least thanks to Swindon-powered tin tops dominating the grid for many decades.

Not a firm to rest on its laurels, Swindon continues its programme of cutting edge powertrain engineering, as demonstrated by the launch of the company's all-new High Power Density (HPD) EV system, an 80kW production unit ideal for sports, recreation and classic car conversions. Packaged complete with motor, transmission and differential (with options for cooling, inverters and the choice of a limited-slip differential), the HPD was devised in response to the lack of compact engineered EV systems available to the enthusiast market and smaller OEMs. Weighing just 49.9kg (loaded with fluids), this exciting new offering features a brushless, permanent magnet motor with a package size of just 441x384x228mm, making it the highest power/volume electric powertrain for automotive applications currently on sale.

With multiple installation points and the ability to site the inverter and cooling packs separately, as well as being waterproof, HPD offers more flexibility to fit in a wide range of vehicles. Two inverter options (depending on battery voltage) are available, though buyers can also use their own equipment. Dependent on tyre size and top speed goals, owners can decide between two no-cost gear ratio options after using Swindon's free-to-use online calculator.

Peak motor efficiency is quoted as 97%, with peak efficiency motor speed registered at 8,000rpm. Maximum motor speed is 10,500rpm, figures attracting significant interest from the enthusiast market, which has been woefully underserved by traditional suppliers. This neglect has resulted in typical EV conversions born out of scrapped electric cars. With a pleasingly agreeable starting price, Swindon's properly engineered EV solution comes complete with a twelve-month warranty. Initial deliveries are expected by the time this issue of *GT Porsche* lands on your doorstep.

Price From £7680
Visit *swindonpowertrain.com*
or call 01793 531321

WAVETRAC DIFFERENTIAL FOR 987 BOXSTER/ CAYMAN S

Simply put, Wavetrac is the only gear differential on the market not to lose all drive when one of the host Porsche's axles is unloaded. This feature is truly innovative and unlike any other torque biasing differential design. Offered as a 'fit and forget' maintenance-free solution, each Wavetrac diff features 9310 steel gears run in case-hardened billet or forged steel bodies, ARP fasteners throughout, a patented carbon-fibre bias plate for the pinions and a patented Wave Profile, eliminating the effect of zero-load conditions. Now available for the 987-generation Boxster/Cayman S (and Cayman R) from independent Porsche specialist, Ninemeister, this USA-designed and manufactured transmission upgrade will deliver greater traction and smoother delivery of power near the limit, making for predictable driving behaviour when you need it most. And for those of you not wanting to muck about with a tool kit, Ninemeister provides a first-class fitting service from its Warrington workshop. Give the guys a call!

Price £1560 for PDK or manual gearboxes
***ninemeister.com* or call 01925 242342**

GTECHNIQ EASY COAT CERAMIC BODYWORK COATING

Gtechniq, the company behind popular detailing products, Crystal Serum Light and Exo Ultra Durable Hydrophobic Coating, has released a new, easy to apply, hose-on ceramic bodywork coating. When applied to any painted or glass surface, Easy Coat provides excellent durability and protection from ultraviolet rays, harsh wash chemicals and weathering. The product has incredibly strong dirt resistance properties and effectively repels dirt and dust from the treated surface. Easy Coat is extremely versatile and can be applied to cool or hot surfaces. Non-hazardous, solvent-free and delivering protection for more than three months per treatment, it's offered in 500ml bottles (enough for two coatings of a medium-sized sports car) and is shipped with a handy dispenser and sturdy hosepipe connector.

Price £15.95, refills £11.95
***gtechniq.com* or call 01604 962553**

RACESENSE ADVANCED TYRE PRESSURE GAUGE

This advanced tyre gauge from RaceSense has been developed as an antidote to the poor accuracy of common tyre gauges offering little in the way of functionality. Combining a fantastically built precision pressure gauge with a pyrometer (all housed in a rugged case), the unit features clever software providing unique functions to save time, as well as the ability to automatically log pressures (initial and adjusted) and temperatures, the latter sampled using an optional Type K thermocouple probe. Readings can be easily synced to iOS and Android smartphones, as well as computers, with location and weather conditions captured – useful for regular trackday and pitlane inhabitants. An automatic multi-tyre mode allows all tyres to be checked without pressing any buttons. Thanks to the ability to export data to spreadsheets, there's no need to remember settings or scribble on bits of paper, either. Pressure units can be registered in psi, bar, kPa or kg/cm². Presented in a diecast powdercoated aluminium housing with a polycarbonate screen, sunlight-readable OLED display, stainless steel fixings, belt clip, brass valve and tyre chuck, this cool bit of kit allows seven presets (offering different settings for up to seven cars), shows maximum and adjusted pressures for each tyre (three temperatures per tyre), USB charging, auto-sensing GPS locations, wind and weather conditions and allows the user to add notes to stored data.

Price £250 (£325 with temperature probe)
***fastmateracing.com* or call 0333 577 9961**

AUTOGLYM ANTIBAC SURFACE SANITISER

Returning your Porsche to the road is all well and good, but remaining vigilant in these troubling times should be of paramount importance when it comes to cleanliness and preventing the spread of coronavirus. With this in mind, the car care experts at Autoglym have introduced this germ-killing weapon of mass destruction to their impressive portfolio of products. Killing 99.99% of all known nasties and conforming to standard EN 1276, this pleasant-smelling spray is safe to use on all plastics and washable vehicle surfaces, including those in the cabin. Ensuring a germ-free Porsche is but a wipe away, Autoglym's superb surface sanitiser is available in 500ml bottles.

Price £6.50
***autoglym.com* or call 01462 677766**

IPD PLENUM FOR FIRST-GEN 997

The 997 marked Porsche's return to the round headlights and curvaceous fenders reminiscent of air-cooled 911s. Although the newer model's picturesque styling was another milestone in Porsche design history, there remained room for improvement when it came to engine performance. IPD's Y-design Competition plenum replaces the factory T-style air distributor and provides substantial power and torque gains by means of more efficient airflow. The hike in horsepower ranges from 24 to 28 (depending on engine displacement and condition), with maximum power gains experienced in the midrange, where the flat-six is most usable and enjoyed. IPD's plenum not only delivers impressive enhanced engine output, but also creates a more linear power and torque band. Tiptronic owners even claim considerable improvements with more positive shifting after installing the product. Suitable for both 3.6 and 3.8-litre first-gen 997s, this powerful plenum performs even better when combined with an IPD 82mm Competition throttle body.

Price £638.18

design911.co.uk **or call 0208 500 8811**

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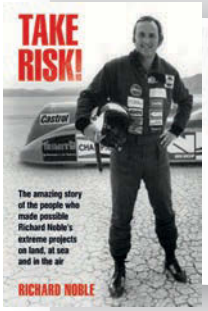

Richard Noble's ambition to see Britain excel in the field of engineering on the world stage has seen his achievements in the highly insecure world of record-breaking emphatically demonstrate his dedication to the cause. In 1983, for example, he drove the iconic Thrust 2 to 633mph, bringing the land speed record back to Blighty. Fourteen years later, he led the Thrust SCC team to achieve the first supersonic land speed record, recording a mind-blowing 763mph. In this fascinating book, Noble tells the extraordinary stories of his ground-breaking eleven projects in land and aviation speed record breaking, highlighting the work of the supportive individuals and companies who went out of their way to partner with him in his extreme endeavours. Packed into 256 pages and featuring a stack of photographs to accompany each tale, the book covers all of Noble's adventures, from the original Thrust speed machine to the recent Bloodhound project. A 'must read' hardback for all petrolheads.

Price £19.99

evropublishing.com **or call 01235 465521**

STUTTGART CLASSICA CENTRE FUEL FILLER FOR CLASSIC 911

CNC-milled from billet aluminium, before undergoing flash anodising and finished with an enamel inlay, this fantastic fuel centre fill kit from air-cooled Porsche accessories specialist, Stuttgart Classica, is supplied with a beautiful billet aluminium cap, which screws into an anodised aluminium neck. Complete with spillage bowl, rubber edging, pipework and clamps, the kit provides the perfect solution for those looking to position their classic 911's fuel filler in the middle of the car's 'frunk', and can be supplied as a standalone product or as part of a wider fuel system upgrade, including a new tank. Shipping worldwide is available when ordering direct from the Stuttgart Classica website.

Price From £2394

stuttgart-classica.co.uk **or call 01386 701953**

MEGUIAR'S AIR REFRESHER

Has your Porsche lost its fresh smell? Nasty niff greeting you whenever you hit the hot seat? Enjoy a refreshing scent every time you climb inside your car by eliminating unwanted odours with this air refresher from car care company, Meguiar's. Penetrating the entire interior by working its way through the ventilation system, across the headlining and into those hard-to-reach areas, each one-time-use aerosol leaves behind a clean smell that'll last for weeks.

Price £13

meguiars.co.uk **or call 0870 241 6696**

PORSCHE TURBO FLIP FLOPS

There really is no product Porsche won't personalise, as demonstrated by these Turbo-scripted flip flops recently introduced to the company's official store. Finished in navy blue and referred to as 'mules' by Porsche sales gumpf, they conveniently tie in with the launch of the 992 Turbo S, although the same-style script has been used on much older Porsches, including the force-fed 944. Available in a variety of sizes, though they won't make you walk any quicker.

Price £40

store.porsche.com

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ITG AIR FILTER FOR 970 PANAMERA GTS

Porsche's beastly Panamera GTS is no slouch from the factory, but why not embark upon the first step to additional performance by sliding a performance ProFilter air filter from filtration giant, ITG, into the OEM air box? Improved efficiency, sharper throttle response and long-term serviceable maintenance makes for an air filter leaving a lasting impression on the drive of any 4.8-litre mighty 'more door' missile.

Price £69.76

itgairfilters.com **or call 0247 630 5386**

PERFORMANCE ENHANCEMENTS FOR ROAD AND RACE


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ELECTRIC DREAM

If the glittering all-electric Taycan is anything to go by, Porsche's long-term future is assured. We get to grips with a Turbo-badged variant of the seminal machine...

Words **Matt Robinson** Photography **Porsche**

It's a moment of neck-snapping acceleration that truly puts the cherry on the Taycan's kinematic cake. Rolling off the M4 and onto the southbound A34, there's a brief 40mph speed restriction before the black-and-white striped national speed limit markers hove into view. Clear sighting, four lanes ahead, dry weather. Plant the throttle and... whoosh! We're doing 70mph. In what feels like significantly less than three seconds, the Taycan Turbo has effortlessly punched its way through the air to cruising speed as if it were operating in a complete vacuum.

It's not so much the shockingly cultured sensation of the Taycan's brutal-yet-smooth acceleration that astounds – anyone can predict a vehicle with 616bhp and near instant 627lb-ft of torque on tap will be seriously fast. No, it's more the juxtaposition that staggers you. Not just of the ridiculous numbers racking up on the speedo during full acceleration (laid against a confounding backdrop of the Taycan's near-silent operations), but more the manner in which a car that had been civilised beyond compare only moments earlier was now suddenly going at the horizon like a rabid dog after a rabbit.

You see, the other benefit of an electric vehicle, or 'EV' as they are most commonly known, is its otherworldly refinement. Without an internal combustion engine onboard – which, let's face it, is basically a series of controlled explosion chambers – you have none of the vibrations that a petrol or diesel lump would introduce into the cabin, nor none of the noise of it burning fuel for forward momentum. This makes the Taycan Turbo, which runs on twin-axle Adaptive Air Suspension with Porsche Active Suspension Management (PASM), an utter delight to travel in. It's unbelievably comfortable on the motorway, a joy around town and urbane in the extreme on steady flowing open roads. Like everything Porsche does, the major controls are judged to near perfection, so placing the car precisely where you want it to be and merely *driving* it are both such undemanding tasks that you might as well be commanding a supermini, not a six-figure luxury sports car. The Taycan is breathtakingly good in this department, irrespective of whatever motive force is powering any rival vehicle you care to pitch it against.

What's more remarkable about the Taycan family is that this is Porsche's bright, saintly future... and it's available to enjoy right now, dovetailing neatly with the rest of the manufacturer's 2020 product portfolio. There's a three-model Taycan line-up in the UK, kicking off with the Taycan 4S. This variant features two

WHAT'S REMARKABLE ABOUT THE TAYCAN FAMILY IS THAT THIS IS PORSCHE'S BRIGHT, SAINTLY FUTURE... AND IT'S AVAILABLE TO ENJOY RIGHT NOW

Above It may be an all new Porsche, but the Taycan's status as a close relative of the Panamera is clear for all to see

motors and all-wheel drive, as is the case with the two higher models of Taycan, but the 4S is rated at a peak of 523bhp, unless a buyer goes for the Performance Battery Pack (PBP) option, whereupon the 4S climbs to a maximum 563bhp and has the most quoted range (287 miles) on a single charge of any Taycan.

PRICE WARS

Intriguingly, prices for the 4S start at £83,367. On the face of it, the electric Porsche looks expensive — no other Porsche model range kicks off at the same money. The latest 911 comes closest, starting proceedings at £82,795. More pertinent, the broadly-Taycan-comparable Panamera has an entry point of £72,890. Mitigating the new model's asking price, however, is the fact there are (at the time of writing) more versions of the Panamera available than the Taycan, and a Panamera 4S will actually set you back at least £92,443, which backs up Porsche's claimed product strategy, suggesting the Taycan is viewed to be *below* the Panamera, despite its more advanced drivetrain technology.

Facing page It seems traditional controls are a long forgotten aspect of Porsche user interface design, with soft keys now the Taycan norm

Above the Taycan 4S is the controversially named Turbo (from £115,858) and the Turbo S (£138,826). We're well aware there will be those among you getting ready to send angry emails pointing out how an electric car can't be turbocharged. You're right, of course, but as far as Porsche is concerned, *Turbo* has long been a marketing tool, rather than a strict reference to the nuts and bolts beneath the bonnet of the host vehicle. All 911s, for example, are now turbocharged, but that doesn't mean they all wear a *Turbo* badge.

Porsche's PR team reckoned the brand's customers were familiar with what *Turbo* represents in terms of model hierarchy and, like it or not, felt it was appropriate to continue the same approach for the Taycan family of cars, despite the fact both Turbo-badged Porsche EVs lack, er, turbochargers. Nevertheless, both the Turbo and Turbo S make a standardised 616bhp when operating normally, but where the Turbo S differs is in its gigantic 751bhp peak output when running in 'overboost' Launch Control mode. The Turbo S also develops more torque (775lb-ft) and features more standard equipment, much of which is optional on the Turbo.

In the fullness of time, there will likely be rear-wheel-drive-only Taycans with even greater electric range and lower purchase prices than the 4S, while the tantalising prospects of a Sport Turismo estate offshoot and possibly even a higher-performance model than the Turbo S could also be in the offing. However, purely on the basis of the three-vehicle line-up Porsche's UK customers can now place an »

order for, it would appear the company is onto a sure-fire winner already – make no mistake, the Taycan is the best EV on the planet right now, bar none.

Its brilliance begins with its aesthetic appearance. Somehow, factory stylists have managed to make the Taycan look every bit a Stuttgart product, but altogether new at the same time. It's obviously a Porsche, what with its proportions and the general sweep of the roofline and the full-width light array at the back of the car, and yet it's also obviously a machine apart from the 718, 911, Macan, Cayenne and Panamera families. It's something about the Taycan's lack of obvious front air intakes (it needs less cooling than the combustion models, although its battery pack cannot do without airflow totally), more oblong-shaped headlights in its flatter nose (can we say *flachbau* without sounding trite?!), the smoother appearance of all its panels and slats... this is clearly an electric vehicle, yet it doesn't need to shout about the fact to every onlooker.

The cover story for the December 2019 issue of *GT Porsche* was an interview with Vice President of Style Porsche, Michael Mauer, where he spoke about the challenges of defining Porsche brand and product identity in the design of the marque's first all-electric sports car. You can order a copy of the magazine online at *bit.ly/issuesgtp*, suffice to say his team did a cracking job navigating their way through decades of world-famous Porsche design language when penning the Taycan. Step inside the car and things get even better. Again, the layout of the cabin will be familiar to those of you who've sat in any other recent Porsche product, and yet there are enough subtle and not-so-subtle details about it that make the Taycan's cabin stand alone. The cowl-less, 16.8-inch Curved Display instrument cluster, for example, is a feature with no analogue dials whatsoever. Then there's the nifty new digital touchscreen, sitting below the 10.9-inch Porsche Communication Management interface and used to control the motors situated deep within air vents. On the subject of controls, it's patently apparent there's hardly any 'physical' switchgear at all – two column stalks, a smattering of ancillary buttons on the steering wheel, the start/stop switch to the right of it and a hazard-warning-light lozenge are just about all there is. Every other function is digitally controlled. Even the daylight running lights are represented by soft keys sited on each side of the Curved Display, situated in banks of four running up and down the screen.

SIZE MATTERS

The Taycan is also pleasingly roomy – a six-foot passenger is easily able to get comfortable behind a driver of the same height, meaning this all-new Porsche not only ticks boxes as a sports car, it also fulfils its brief as a prestige form of executive transport. That said, its sloping rear roofline suggests taller individuals might struggle with headroom in the back, but, quite frankly, the solution is to make taller people sit up front! Factor in rear luggage space of 366 litres and a 'frunk' adding eighty-one litres, and what you have here is a perfectly practical car, which sacrifices nothing by having to accommodate the model-defining electric running gear and a huge 93.4kWh battery pack.

We drove the mid-level Turbo model, which totals £131,000 when a few choice options are fitted. Interestingly, that's still less than the base price of a Turbo S and is probably where our money would go, given you get greater range from the non-S Turbo and it's almost every bit as fast as the flagship. Unless you're in Launch Control mode, of course, but as mentioned earlier, both cars produce at least 616bhp, meaning it's just the extra 148lb-ft of torque (courtesy of a larger front motor) that makes the real difference in the Turbo S. Besides, adding features such as Porsche Dynamic Chassis Control Sport (PDCC Sport, £2,315), Rear-Axle Steering with Power Steering Plus (£1,650), twenty-inch Sport Aero wheels (£387), the Sport Chrono Package (£788), Night Vision Assist

Above Charging is a hassle-free affair, with an increasing number of IONITY 'filling stations' popping up all over Europe

Facing page Tell-tale signs you're not in charge (geddit?!) of a Porsche powered by a traditional motor appear throughout

(£1,566), Porsche InnoDrive with Adaptive Cruise Control (£2,172), advanced four-zone climate control (£581) and ParkAssist with Surround View (£1,002) gives you a Taycan Turbo with a generous kit list, without having to breach the Turbo S's price point.

Other options include charging upgrades, such as the 150kW DC onboard connector (£294), Mobile Charger Connect (£767) and awesome motorised exterior charging port covers (£443), items that slide up and down electrically to a touch of the Taycan's small side spars. Asking £210 for a Type 2 public charging cable seems a bit much on a £116,000-as-standard car, though. Take note, Porsche!

There are two options we think are essential additions to the Taycan experience: thermal and noise-insulated privacy glass (£1,301) and Porsche Electric Sport Sound (PESS, £354). The first of these only augments the Taycan's refinement levels to the realm of peerless, as there's precious little wind or tyre noise (normally the first things you can ascertain at motorway speed when you're not dealing with a combustion engine) to report in the cabin of the Turbo at 70mph. But it's the PESS that makes this Porsche EV a 'proper' Porsche.

While it is to be expected that a Porsche is fast (Taycan: check) and, thanks to the likes of the brand's SUVs and the Panamera, comfortable and refined »

NEW BEGINNINGS

When asked how he and his team approached the design of a completely new Porsche, Vice President Style Porsche, Michael Mauer, told us, "it was, without doubt, one of the most exciting and challenging tasks of my career with the manufacturer, simply because we didn't have an existing model to use as a starting point. That's not to say we were working entirely from scratch. After all, it was important for us to ensure the new car was recognisable as a Porsche at first glance, meaning Taycan needed to embody the company's long-standing brand identity. It was also of the utmost importance for us to pursue the Porsche strategy of offering the sportiest vehicle in every segment in which the marque is represented. In terms of design, this was initially expressed in Taycan's proportions — sports cars tend to have a more dramatic width-to-height ratio than any other type of vehicle. I'd even go as far as to say we've managed to redefine the architecture of purely electric vehicles."

too (Taycan: double check), the crux of the matter here is that the Taycan Turbo handles like a Porsche and captivates its driver like a Porsche. At first glance, a hefty kerb weight of 2,305kg appears as if it may blunt the fun in the corners, but the car soon allays any such fears once you're on a quiet, twisting road. Over crests and through compressions at speed, its damping never runs out of ideas and the Porsche can enact phenomenally assured flick-flack changes of direction without feeling like its mass is ever lumbering. The steering weights up beautifully in Sport and Sport Plus modes and, in general, the Taycan Turbo feels like it has the chassis chutzpah to match the best vehicles in the business. Yet it's the PESS that makes the experience so enjoyable. It only activates in Sport Plus mode (so if you want to whirr around in discretion while travelling quickly in the Taycan Turbo, you can), when PESS amplifies the noise of the Taycan's electric motors doing their thing. This is a stroke of genius from Porsche, because it has deliberately chosen *not* to ape the soundtrack of a combustion engine and, therefore, be accused of incongruent artificiality. Instead, the company's engineers have created a whole new noise for fast-road driving. We we adore it! It's a rich, thick buzzing sound that's electric in nature and electrifying in effect. It's a noise thoroughly emphasising how sporty and rewarding driving the Taycan Turbo at speed truly is.

In summary, Porsche has once again demonstrated its impeccable engineering might. With hardly any history in making electric cars (notwithstanding the nineteenth century's Lohner-Porsche prototypes, of which there's one in the Porsche Museum in Zuffenhausen), the company has only gone and made the finest example of the current EV breed at its very first attempt. The Taycan is built to the highest standards, it operates with the levels of genius you'd expect of the marque, it maintains all the company's dynamic traditions and yet it comes with all of an EV's prerequisite strengths. If the future of all motoring is pure electric, and if all electric motoring can be anything like as edifying as the Porsche Taycan, then driving enthusiasts like us are in for extremely exciting times ahead.

Below It may have a *Turbo* badge attached to its rear end, but don't go thinking the car in front is making use of forced induction

FAST FACTS

MODEL	Taycan Turbo
DRIVETRAIN	Twin permanent magnet synchronous electric motors plus 93.4kWh lithium-ion battery pack
TRANSMISSION	Front single-speed reduction-gear transmission, rear two-speed reduction gear transmission, Porsche Traction Management, all-wheel drive
POWER	616bhp regular, 671bhp on 'overboost' Launch Control
TORQUE	627lb-ft
FUEL ECONOMY	23.6kWh/62.5 miles, electric range 281 miles
CO^2 EMISSIONS	0g/km
TOP SPEED	161mph
0-62MPH	3.2 seconds

911 Carrera 4 S (993)

Arctic Silver • Black Leather Sports Seats • X51 Power Kit (300 BHP) 18" Turbo Wheels • Turbo Brakes & Suspension • Electric Sunroof Porsche Certificate of Authenticity 7,146 miles • 1998 (S)

£159,995

911 GT3RS (996)

Carrara White • Black Nomex Bucket Seats • One of just 113 UK-Supplied Cars • Factory Roll Cage • Paragon Service History Air Conditioning • 20,919 miles 2004 (53)

£139,995

911 GT3 (996)

Guards Red • Black Leather Bucket Seats • 18" Sport Design GT3 Wheels • One of just 106 UK-Supplied Cars • Air Conditioning Paragon Service History • 29,552 miles • 1999 (V)

£79,995

911 Turbo (997 GEN II)

Jet Black • Black Leather Seats PDK Gearbox with Paddles • Bose Sound • Parking Sensors • Sport Design Steering Wheel • Bluetooth Phone • 19" Turbo II Wheels 34,027 miles • 2012 (12)

£67,995

911 Carrera 2 GTS (997 GEN II)

GT Silver • Cocoa Heated Leather Sports Seats • PDK Gearbox with Paddles • X51 Power Kit (408 BHP) Sport Chrono • Switchable Sports Exhaust • Parking Sensors • 28,486 miles • 2011 (11)

£59,995

911 Carrera 2 Targa (993)

Turquoise Green • Marble Grey Leather Seats • 285 BHP VarioRam Engine • Air Conditioning • 17" Targa Wheels • Porsche Classic Navigation • 3rd High Level Brake Light • 71,789 miles • 1996 (N)

£59,995

911 Carrera 4 (993)

Arctic Silver • Classic Grey Leather Sports Seats • Manual Gearbox Air Conditioning • 17" Cup Wheels 285 BHP VarioRam Engine • Dark Blue Power Hood with Tonneau 61,259 miles • 1997 (P)

£59,995

911 Carrera 2 S (991)

Basalt Black • Black Leather Sports Seats • PDK Gearbox with Paddles Switchable Sports Exhaust • 20" Carrera S III Wheels • Touchscreen Satellite Navigation • Bose Sound 22,832 miles • 2012 (62)

£54,995

Cayman T (718)

Carrara White Metallic • Black 918 Bucket Seats • 20" Carrera Sport Wheels • Switchable Sports Exhaust • Touchscreen Satellite Navigation with Apple CarPlay 1,669 miles • 2019 (69)

£52,995

911 Turbo (996)

Seal Grey • Black Leather Seats Tiptronic S Gearbox • Bose Sound Electric Sunroof • Parking Sensors Red Stitching • Previously Sold & Serviced by Paragon • 59,357 miles • 2004 (53)

£41,995

911 Carrera 2 S (997)

Guards Red • Black Leather Sports Seats • Tiptronic S Gearbox 19" Carrera S Wheels • Satellite Navigation • Parking Sensors Bose Sound • 53,923 miles 2005 (05)

£25,995

Cayman S (987 GEN II)

Basalt Black • Heated Black Leather Seats • Touchscreen Satellite Navigation with Bluetooth Phone • Parking Sensors • 19" Carrera S II Wheels • Sport Chrono 50,062 miles • 2009 (09)

£24,995

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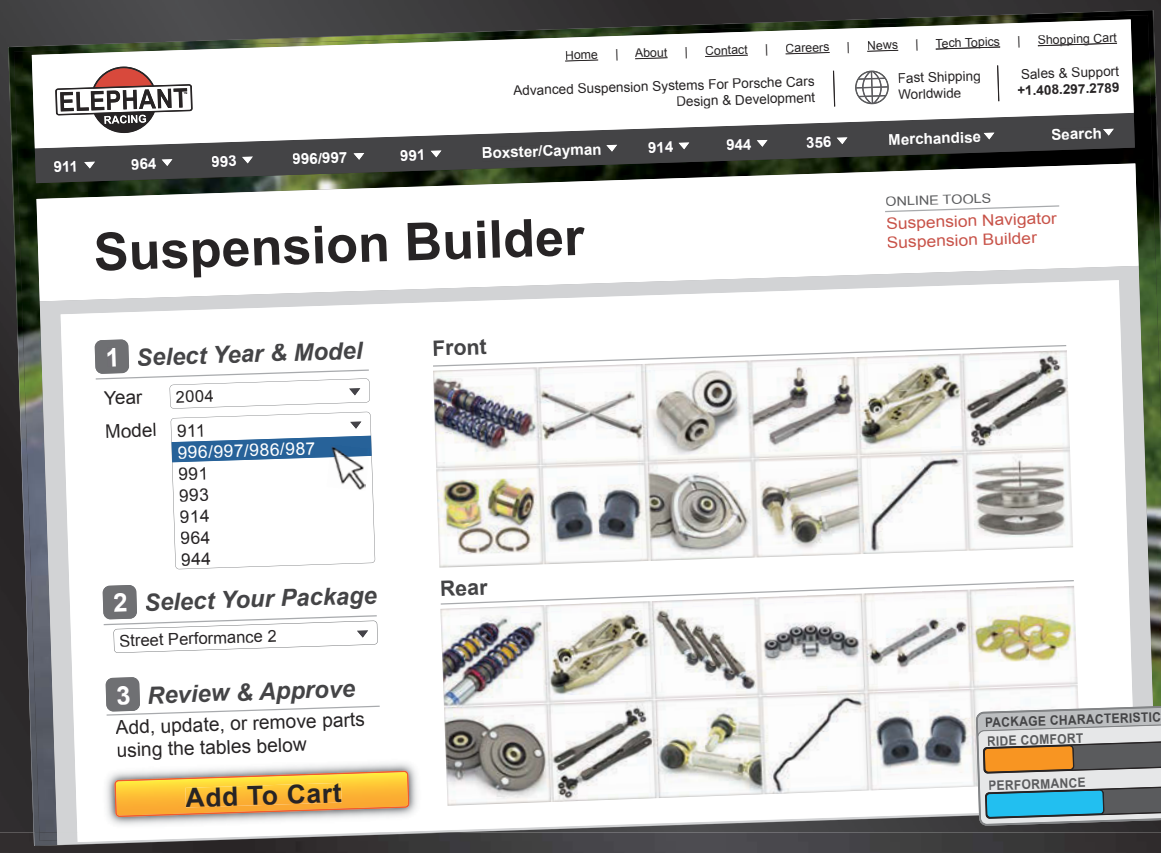

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TIM HARVEY

After months of lockdown, motorsport is making a comeback, albeit under very different circumstances to what we're used to...

How wonderful is it to have racing back after what seems like an age without motorsport?! Thank goodness for irrepressible HAAS F1 team principal, Guenther Steiner, on *Drive to Survive* for keeping us amused during lockdown. He's a breath of fresh air in an otherwise corporate paddock and I urge anyone who hasn't seen the series to tune in.

We've now had circuits operating for just under a month with new protocols, initially including no spectators, family or friends in attendance. I circumvented this by simply going racing with family and friends! As mentioned in a previous *GT Porsche* guest column, I signed up to race in the increasingly popular EnduroKa endurance series in order to fulfil the long-held dream of racing alongside my son and one of his friends, David Tan. We, therefore, took part in the very first meeting organised by MSVR at Snetterton post-lockdown, and what a blast we had. It was never my expectation to win, thinking of the event as simply an opportunity to enjoy ourselves, but, after Friday testing, we were running quick times and qualified seventh out of thirty-six cars. All of a sudden, competitive urges were flowing. In every championship, there will be the regular, knowledgeable front runners, many of whom probably would have been terrific professional drivers had opportunity and finances permitted, which is why one should always remember past achievements are no guarantee of success. It seldom happens where one 'parachutes' into an established series and is competitive from the off. This is why, just a few laps into the twelve-hour race, when we found ourselves lapping as fast as anyone and moving up the order, we started to take things more seriously.

After four hours, we were running second and had the pace to win. Sadly, the racing gods brought us down to earth with a broken exhaust and a compromised gear linkage, costing us ten laps and no chance of a good result. It was time to revert to plan A and head back out simply to enjoy ourselves! The little Ka proved to be a well-balanced, fun car to drive. Having really got to grips with the compact Blue Oval, all three of us were lapping quickly, with David setting the fastest lap of the race. Not bad with more than 145 drivers in the field across the full twelve-hour event!

Of course, professional racing has also bounced back. Sadly, right on the evening of the first BTCC meeting of the season, the government classified the series as an elite sport, meaning no spectators were allowed to attend. This was a huge blow for TOCA, the BTCC's organising body, and circuit owners, MSVR, who had worked hard to ensure the required safety protocols were in place. Events unfolded in a very subdued paddock, not least because BTCC teams and drivers are used to personally engaging with fans and sponsors across race weekends. On TV, however, everything looked great and, thankfully, the racing was fantastic. The only things missing were on-board cameras and Louise Goodman sticking her microphone in drivers' faces while asking the important questions! My own working practices have changed due to being confined to the ITV compound with the rest of the team – I'm not allowed inside the paddock, media centre or pit lane. This is usually where I get juicy gossip and keep my finger on the pulse of what's going on. It's the part of the job I love.

In Porsche news, I'm delighted to be involved in a pair of special builds at RPM Technik, which has been commissioned to build two Manthey Racing race cars – a GT2 RS MR and a GT3 RS MR! I can't wait to help with the final spec and set up in the build of these two fantastic machines.

Tim Harvey is best-known for being 1992 British Touring Car Champion and for being crowned Carrera Cup GB victor in 2008 and 2010. He's contested the 24 Hours of Le Mans four times, competed in British GT and currently serves as a presenter for ITV4's extensive BTCC coverage. He's also a driving consultant and brand ambassador for respected independent Porsche specialist, RPM Technik.

Twitter @timharvey7
Instagram @timbo_harvey

IT'S WHERE I GET JUICY GOSSIP AND KEEP MY FINGER ON THE PULSE OF WHAT'S GOING ON

PHILIP RABY

Lockdown may have caused alarm bells to ring as far as car sales specialists are concerned, but many dealers have been able to draw positives from the situation...

Life is wonderfully unpredictable, a fact we've all realised these last few months. However, in the car business, I've long since given up trying to predict what's going to happen. For example, it's often said August is a quiet month for car sales due to people being away on holiday, but I've never found this to be the case. Similarly, January is traditionally a slow month, but we had our busiest time of the year last January.

I have to be honest, at the start of lockdown, I was feeling quite pessimistic about our sales business and, as expected, sales slowed. We closed up shop and kept things ticking over at home, working away at social media and other marketing to keep the Philip Raby name in front of people on FaceBook, Instagram and so on. It was a worrying time, but I kept things in perspective: it was important to remain safe and well, and I was in a far better situation than many people around the world. Away from work, I made the most of quiet roads and did lots of cycling (both on and off road) as part of my permitted daily exercise. I even managed to lose a stone in weight, not that I'm smug or anything!

As lockdown eased, enquiries started to come in thick and fast. We'd tweaked our marketing to offer live video chats and home deliveries, which proved popular. People were buying cars over the phone, via FaceTime and through emails, and my colleague, Will, was kept busy travelling the length and breadth of the UK towing a trailer with our trusty Cayenne. Other dealers were busy, too. Who could have predicted?! I guess people had been stuck at home with nothing to spend their money on and, unable to go on holiday, the thought of treating themselves to a Porsche was just too appealing.

One particularly memorable customer was a chap who I exchanged emails with about a lovely 997 Gen II Carrera S we had in stock. He agreed to buy the car and, when Will delivered it, the customer admitted to him the reason he'd bought from us was because we offered delivery – he simply didn't have time to travel around looking at cars. The buyer later emailed to say he was delighted with his new Porsche and I thought that was that. Then, a few weeks later, I received another email from the gentleman, saying he'd experienced no problem with the car, but had decided it wasn't for him. His other vehicle was a Range Rover SVR (very nice!) and he realised a low-sitting sports car just wasn't his thing. He also admitted he knew he'd take a hit selling the 911. We agreed a fair deal and Will collected the car ready for us to market again. It's not unusual for people to want to sell after, say, a year or two, but a month? That's a first for us!

Lockdown was a good opportunity to sit back and assess the business. Car sales had been strong over the past few years and we'd built an enviable reputation for good customer service, but I'd long felt we were missing out by not offering servicing for Porsches. We've always worked with a local specialist, but we believed we could offer a better experience for customers. So, that's just what we've done! Our new service centre is in a pretty hamlet just outside Chichester. Our first technician, Ollie, has a Porsche background, and we've hit the ground running with some great cars. As with sales, we're doing things differently, with a cosy lounge reception area and sensible, honest advice about servicing and maintaining Porsches.

At the start of lockdown, I'd never have predicted we'd have come out the other end with an exciting new branch to the business, though I realise not everyone has been so lucky. Whatever your situation, do continue to stay safe and well.

Philip Raby has forged an enviable reputation as a trusted specialist Porsche dealer and marque consultant. With many years spent in the magazine business, he wrote hundreds of articles and several books about Porsches before establishing Philip Raby Specialist Cars, selling Porsches and other prestige vehicles.

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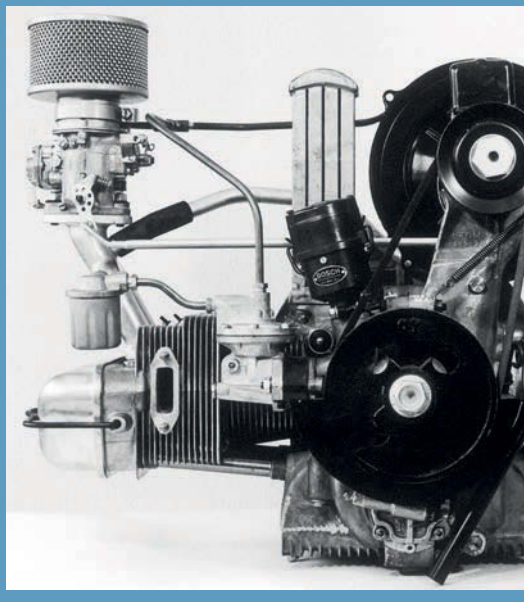
FOUR REAL

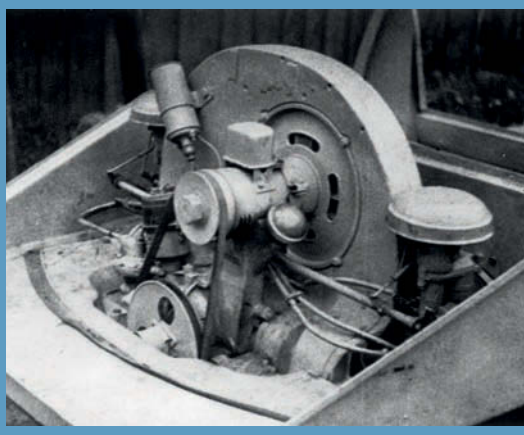
Porsche's flat-four boxer engine may have started out as a close relation to that of the Volkswagen Beetle, but it was a Porsche creation from the start...

Words **Shane O'Donoghue** Photography **Porsche**

This may come as a surprise to many of you, but the development of Porsche's flat-four boxer engine pre-dates the Adolf Hitler-driven project that, ultimately, resulted in the creation of the Volkswagen Beetle. While the four-cylinder air-cooled engine is a major part of the Beetle story, Ferdinand Porsche was responsible persevering with the unit from its much earlier beginnings, which we can trace back to 1931, when Zündapp (a major German motorcycle manufacturer) financed a project by Porsche to create a relatively small and affordable car. By the following year, three prototypes of the Porsche Type 12 were produced, each with a different engine – a five-cylinder radial design, a two-stroke two-cylinder and Porsche's own four-stroke flat-four. Sadly, the project failed to progress any further, but it marked the starting point of the beloved Porsche boxer we know and love today.

War-related activity kept Ferdinand occupied in the years that followed, but a notable milestone during this period was the contract awarded to him by Hitler





Above (L-R) Porsche mechanic, Hugo Heiner; Ferdinand 'Ferry' Porsche; VW and Porsche engine development manager, Hans Klauser; Ferdinand Porsche enjoying flat-four testing

Far right (L-R) Hans-Peter Porsche; his father, Ferry Porsche; his brother, 911 designer, Ferdinand Alexander 'Butzi' Porsche; his youngest brother, Wolfgang Porsche, all marvelling at the flat-four in 1953

Far left The Porsche-designed Zündapp Type 12 compact car

Left Factory engineer and racing driver, Herbert Linge, shows Ferdinand Porsche the first finished Porsche flat-four cylinder block produced in Stuttgart

for the development of a 'people's car' (loosely translated as *volkswagen*), duly delivered before the end of the decade and, owing more than a passing nod to the Type 12 in both styling and mechanical underpinnings, came complete with a petrol-powered flat-four engine. Porsche soon shifted his focus to developing a sports car based on the Volkswagen's underpinnings, resulting in the creation of the so-called Type 64, a model set to compete in the subsequently cancelled 1939 Berlin to Rome race. Thanks to bigger valves, a higher compression ratio and dual carburettors, the assembled Type 64 motorsport machines had a whopping 32bhp at their disposal.

CHANGE OF DIRECTION

Interestingly, by this point in time, Porsche had already given up on trying to secure a supply of parts from the government for his first sports car. He and his son, Ferdinand 'Ferry' Porsche, instead started working on a ground-up design named Type 114, but as was the case with so many projects of the era, the war put paid to the possibility of completing development. As it happened, production of the first civilian iteration of the Volkswagen was suddenly halted, too – Wolfsburg assembly line activity was switched to build of the *Kübelwagen* compact military vehicle. In fact, it wasn't until the close of conflict that the Type 1 Volkswagen rolled off the Wolfsburg line in meaningful numbers. Porsche's engine powered each of those early cars, though the distinctive flat-four unit produced a rather underfed-sounding 24bhp.

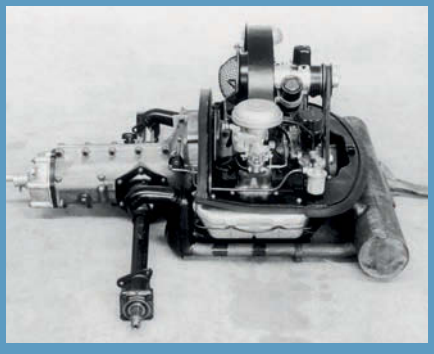
Due to their efforts assisting the German military in the creation of motorised weaponry, both Ferdinand and Ferry, along with Anton Piëch, the family lawyer and husband of Ferry's sister, Louise, were imprisoned as criminals of war when 1945 drew to a close. Without trial, bail for each prisoner was set at a huge 500,000 francs. Ferry was first to be liberated, and promptly set about continuing transfer of the Porsche company's operations from Stuttgart to the family farm in Gmünd, Austria, a move initiated some »

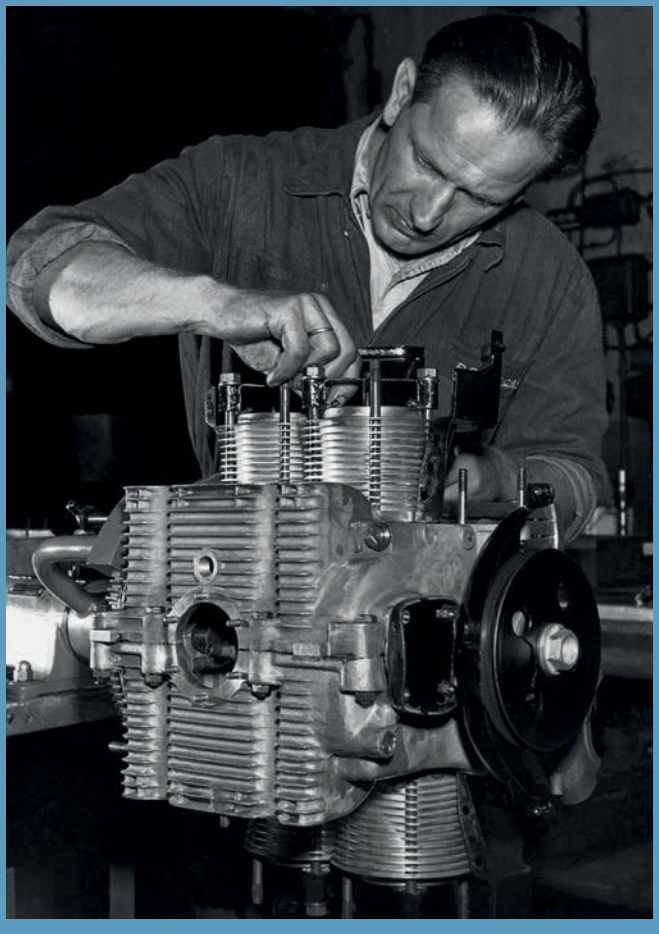
time earlier to escape aerial bombings of Stuttgart by allied forces, which had already destroyed the last surviving Type 12. The Gmünd site initially operated as a vehicle repair workshop and hosted a flurry of non-motoring engineering projects, yet Ferry never lost his desire to create a sports car bearing the family name. Indeed, technical drawings authored in the late 1940s look remarkably close to the realisation of his dream – the legendary Porsche 356.

The style of the new car followed on from the Type 64, but Ferry's biggest concern was power. To his mind, a Porsche sports car had to be twice as powerful as its closest relative, the first post-war 'Beetle'. In other words, he was aiming for a minimum of 48bhp. Luckily, due to its use across a myriad of German military vehicles, including troop carriers and assault boats, a considerable amount of flat-four engine development had been carried out in the preceding years – versions of the unit featuring overhead camshafts, hemispherical combustion chambers, larger displacement, bigger valves and even turbocharging were used. Ferdinand Porsche is even said to have toyed with a design completely free of valves.

BLOWN AWAY

Among the different versions of the flat-four was the Type 115, a design making use of dual overhead camshafts and a Roots-type supercharger, which hugely appealed to Ferry, but was impossible to secure for production without interruption. The Type 366, based on the Volkswagen series production unit and boasting a swept capacity of 1,131cc, was determined to be a more realistic choice. The engine was upgraded with separate intake manifolds for its cylinder banks and was bolstered by an extra carburettor. Compression ratio was upped from 5.8:1 to 7.0:1 and peak power close to 39bhp was considered possible if the engine was pushed to 4,000rpm. Even





Above Ferry Porsche (bottom right) with his father, Ferdinand Porsche (top right) and engine constructor, Leopold Jäntschke, in Porsche's Stuttgart design office in 1950

Left Assembling a flat-four for the 356

Bottom left Ferdinand Porsche standing next to the 356 Gmünd Coupe after completion of the build in 1950

Facing page Ferdinand Piëch with an early Porsche flat-four and, far right, Ferdinand Porsche with the Volkswagen Type 30 prototype, which featured an all-steel body, steel running gear components and the familiar flat-four four-stroke engine

Next spread Shoehorning a flat-four engine into a 356 B at the plant in 1960

PORSCHE COMMISSIONED ALBERT HIRTH TO MAKE A COMPLICATED CRANKSHAFT COMPRISING A THIRTEEN-PIECE DESIGN

so, 34bhp at 3,500rpm was deemed a more reliable output. Both figures were well below Ferry's target of 48bhp.

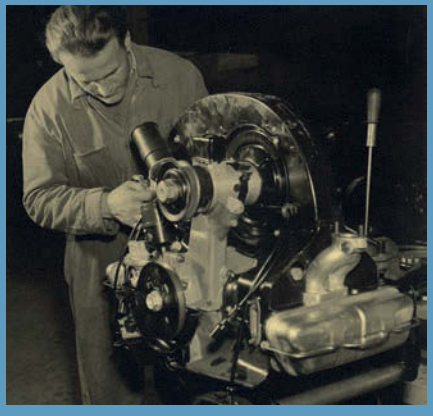
While the development of the 356 was ongoing, Porsche's engineering team (led by Ferry) worked on the ambitious Type 367 engine. Based around a 1944 series production Volkswagen engine crankcase, the cylinder heads were completely redesigned to allow for larger intake valves and greater airflow. A high specification and finish for the valvetrain, camshaft, cylinder linings and crankshaft most likely resulted in the unit easily reaching the 48bhp goal. We say 'most likely' because no official power rating for this engine exists and it too was abandoned. Sources within Porsche suggest production intricacy proved impractical and cost ineffective from within the confines of the small workshop in Gmünd, and that the finished engine would have required regular expert mechanical attention. This need was in complete contradiction to Ferry's determination to build a sports car suitable for everyday use and requiring little more than simple maintenance to keep in tip-top operating condition.

The solution lay somewhere between the Type 366 and 367 engines. It would be named Type 369 and went into production in 1948, lasting until 1954. The unit's bore was reduced from the 75mm of the Volkswagen engine to 73.5mm, though the 64mm stroke was kept, meaning a capacity of 1,086cc, which suited Ferry's ambition to race Porsche sports cars in 1.1-litre class formulae. The Type 369 had less complex and expensive components, but Ferry and his team were able to alter the design of the rocker arms to allow the inlet valves operate at a vee angle, which in turn, allowed for larger valves and greater airflow. Due to the fact this setup resulted in a modest 39bhp at 4,000rpm (and 52lb-ft torque at 3,300rpm) with a compression ratio of 6.5:1, it's assumed Ferry was forced to give up on his twice-the-power-of-a-Beetle target in the interests of finally getting his new sports car to market.

In 1949, not long after 356 production began in Austria, the Porsche family were approached by Volkswagen to head up engineering of the Beetle project for future development. This was an important milestone in the growth of Porsche as company, not least because the agreement not only included a share of Beetle profits and use of the global Volkswagen retail and repair network, it also allowed Porsche easy access to Volkswagen components for use in the construction of its own vehicles. It also led to the reestablishment of Porsche operations in Stuttgart, where production of the 356 began in 1950.

By the end of that year, Porsche was looking forward to celebrating the completion of the five-hundredth 356, but Ferry wasn't resting on his laurels. Karl Rabe, his chief designer, recorded a meeting of the two in November 1950, where it was decided a thousand examples of the 356 would be built in 1951. Additionally, focus was to be diverted to the development of a new 1.3-litre flat-four. A few interesting tidbits came from that meeting, such as the intention to use a single carburettor, thermostatic control of engine cooling air, 'nosed' pistons to reduce knock and, last but not least, cylinders of chrome-plated light alloy. Ferry favoured many carryover details, though, including 6.5:1 compression ratio and no change to the length of the engine's fan belt. Within weeks, however, the engine program had been ambitiously expanded to include four distinct units: the 1.1-litre as before, two variants of the 1.3-litre (one of them running two carburettors) and a range-topping 1.5-litre powerplant.

Larger engines were desirable for their performance potential, of course, but Ferry recognised their ability to make the 356 more marketable in North America, a rapidly expanding export market for European sports cars. The development of the 1.3-litre flat-four was relatively straightforward. It kept the 1.1-litre unit's 64mm stroke and made use of »



bore increased to 80mm, delivering a capacity of 1,286cc. The valvetrain was strengthened and the nosed pistons were provided by Mahle (though these caused oil consumption issues due to their unbalanced design and a rocking motion in operation). Labelled Type 506, the engine was produced from 1951 until 1954 and produced 43bhp at 4,200rpm, accompanied by 60lb-ft torque. That's the dual-carb version, incidentally, as it appears the single-carb iteration didn't offer enough of a performance gain over the 1.1-litre lump for it to be considered a worthwhile option. The 1.3-litre engine was presented at the Frankfurt Motor Show in early 1951, where Porsche revealed the pushrods, valve lifters, fuel pump, fuel filter, cooling air shrouds and blower ratio were all different to those of the 1.1-litre Type 369.

Creation of the 1.5-litre engine wasn't so simple within the confines of the Volkswagen crankcase – an increase in stroke was severely limited by the close position of the camshaft under the crankshaft, hence a bore increase was considered. To achieve a capacity of 1,453cc with the 64mm stroke, the bore had to be 85mm. Unfortunately, the standard space for a cylinder sleeve was only 86mm, meaning the case openings had to be enlarged to about 89mm. This was attempted, despite Ferry insisting the maximum safe bore size achievable within the Porsche flat-four was 80mm. Codenamed V-000003, the experimental engine's design only served to convince the team it wasn't capable of being developed into a reliable and robust power source.

PUSHING BOUNDARIES

With Ferry's accepted maximum bore of 80mm, stroke needed to be increased to 74mm. To accommodate the change, Porsche commissioned engineering firm, Albert Hirth AG, to make a complicated and expensive new crankshaft comprising a thirteen-piece design with roller bearings for the connecting rods. This eliminated the need for connecting rod caps and gave the engine the required extra 10mm in stroke. The Type 502 was born, a 1,488cc unit producing 54bhp at 5,500rpm and 78lb-ft of torque. Details are hazy on when the Type 527 replaced that short-lived engine, but we know it took place in or around 1951. The newer engine used twin carburettors and managed 59bhp at nearly 5,000rpm (again, records vary), though it stuck with the Hirth roller bearing crankshaft.

The Type 527 turned out to be awfully expensive to build and not particularly robust, which is why Rabe worked on his own alternative design, returning to plain bearings for the crankshaft. This was made possible by forging the bolt that's needed to connect the connecting rod to its cap within the cap, considerably reducing the amount of material needed and freeing up space to ensure the longer stroke could be retained. The design was a success – the Type 546 engine was unveiled in 1954.

In parallel, however, Porsche was developing its 550 competition car. At its first outing (the 1953 Carrera Panamericana endurance race), two 550s were powered by the Type 528, a version of the Type 546 referred to as the 1500 S. It produced 68bhp, which was no match for Porsche's racing rivals. Two subsequent developments of the 550, however, showed promise, even if their unproven Type 547 engines ultimately resulted in regrettable race retirements.

The 547 engine is now nothing short of iconic. It's referred to as the 'Fuhrmann engine' due to its fiendishly complicated valvetrain being the brainchild of Porsche engineer Ernst Fuhrmann (later, chairman of Porsche between 1972 and 1980), though many others will know it simply as the 'Carrera engine'. It used a series of bevel gears and shafts to drive the double overhead camshaft valvetrain. Dual ignition and dry sump lubrication featured, too. Output was quoted as 109bhp at 6,200rpm and 86lb-ft, with the design allowing for much higher revs than previous flat-fours were capable of. Eventually, a 133bhp variant was developed for the 550, evolving into 148bhp for the 718 race car, but these were specialised racing engines that took a long time to build, which is why they didn't have a significant effect on the specification of Porsche's production cars.

Of more significance to the engine's further development was the decision, taken in 1954, to design a new crankcase for the flat-four, finally replacing the borrowed Volkswagen component, which had become too limiting. Porsche constructed a three-piece aluminium case with a much larger sump. From thereon in, it became easier to engineer larger capacities with significantly increased performance, and Porsche engines moved further and further away from their humble beginnings. Be sure to pre-order the next issue of *GT Porsche*, when we'll be documenting the next chapter in the fascinating flat-four story.

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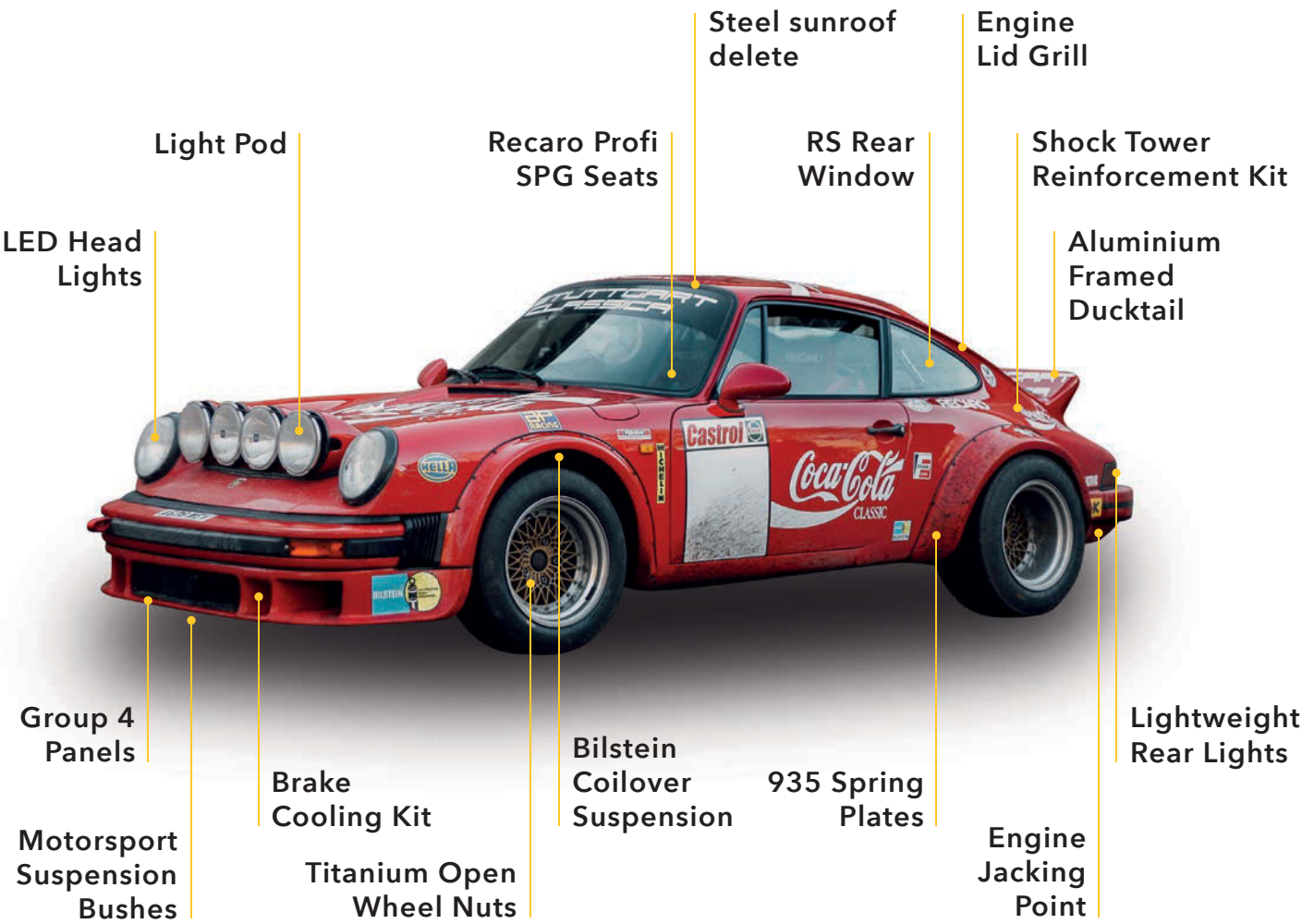

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KEEP ON ROLLIN'

In the first part of our guide to rolling roads, we highlight how to best prepare your Porsche and what you can expect to happen when it's strapped to a dyno...

Words **Dan Furr** Photography **Dan Sherwood**

DYNO DAY PREPARATION PART ONE

Don't miss part two!
bit.ly/subscribegtp

Many owners of modified motors think about taking their cars to a rolling road in order to discover how much power has been achieved after a series of engine modifications have been applied, but it's just as important to get a reading in advance of any work being carried out. This way, you can be absolutely sure the car was operating without fault before you started tinkering. It's also of vital importance to be able to compare and contrast dyno graphs (ideally registered on the same rolling road) before and after tuning has taken place, thereby giving you the opportunity to see what impact the changes you've made have had on the performance of your Porsche, where there might be room for improvement, and whether or not the results have met your expectations.

Even if you're keeping an older car in a standard state of tune, it's worth submitting it to a rolling road to see if factory prescribed poke is at the level it should be. If not, you'll know corrective work needs to be done in order for you to get maximum enjoyment from your four-wheeled pride and joy.

We popped along to Dyno Developments, a company celebrated for the design and supply of premium two-wheel drive and four-wheel drive rolling roads (rated at 1,200bhp and 2,400bhp respectively) to many of Europe's top tuners. The company's chassis dynamometer control systems are respected as the fastest and most stable in the industry, with super-fine load control and update speeds of an impressive 50,000 times per second.

Under the guidance of boss, Mike Gurney, Dyno Developments has forged a reputation for the accuracy and high quality of its hardware, software, training and customer support. With this in mind, it made perfect sense for us to head straight to the firm's Hertfordshire headquarters to discover more about dynamometers, how they work, what they do and, crucially, how to interpret the information they provide.

THE CAR

Barrie Powell kindly provided his 944 Turbo as our test subject. A former *GT Porsche* feature car (read all about it by ordering a copy of our October 2019 issue from *bit.ly/issuesgtp*), he's owned the stunning transaxle for many years, and though we were bowled over by its pristine condition, he doesn't mind admitting the car hasn't always looked this good. "It was a dog when I first laid eyes on it!" he howls. "Parts were missing, rust was doing damage and the engine was barely running!"

That was then, this is now. After a significant amount of work bringing the car back to its best, Barrie was keen to find out what effect the fitting of ProMAX ECU chips and a manual boost controller have had on his modern classic's engine output. There was only one way to find out!

PREPARATION

Put simply, a chassis dynamometer (commonly referred to as a rolling road) measures force and is primarily used to tune performance vehicles and/or to see how well they behave under load. It's vital your Porsche's engine and associated equipment is well maintained to ensure the best possible results, so don't think you'll be able to rock up in a bag of bolts and leave with a graph showing a power figure worthy of the latest NASA space rocket.

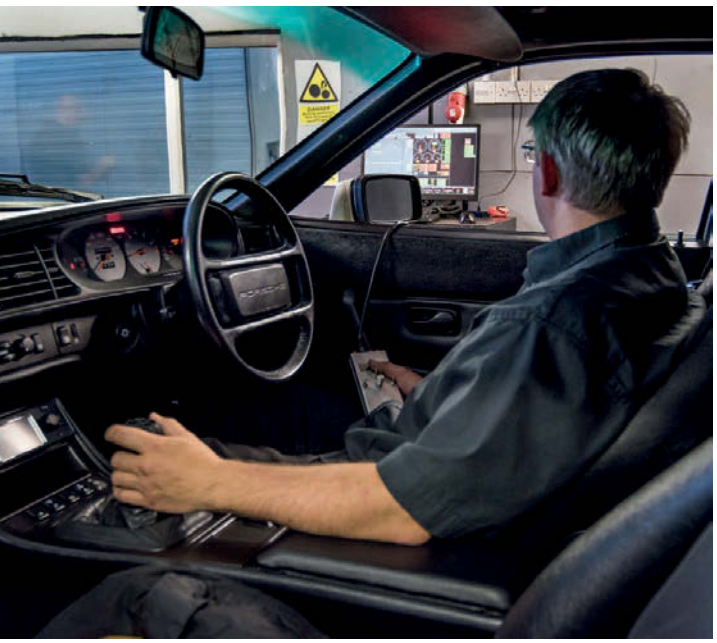
The dyno operator will check to make sure your Porsche is in good working order before it's driven onto the rollers. It's advisable to treat the engine to a service (including fresh fluids, filters and spark plugs) before you arrive. Similarly, make sure you've been running the car on the correct grade fuel – super unleaded is recommended for many turbocharged and tuned vehicles. It won't do you any favours to fill up on a tank of the good stuff minutes before your car is due to be tuned on a rolling road if you usually drive around on low octane supermarket petrol.

Ensure any fault codes are identified and cleared before booking your slot on the dyno. Any underlying electrical issues, not least dodgy sensors, may inhibit the performance of your car under load. Worse, the dyno operator may refuse to allow your car onto the rolling road. Talking of which, make sure your Porsche's tyres are filled to the correct pressure and, if travelling a short distance, get the engine up to normal operating temperature before you arrive – cold powerplants are likely to produce less power than those working as they would in regular driving environments.

WHAT TO EXPECT

If the dyno operator is happy with the condition of your Porsche (they'll soon tell you if they have concerns!), it'll be driven onto the rollers and strapped down to avoid any movement under load. This is an essential part of the process – the last thing you want is your car to break free when it's fast closing in on its rev limit.

An evaluation of the car then takes place. This involves various readings, from tyre pressure (this can have a massive impact on the results registered) to oil temperature, along with ambient temperature at the point the test takes place. Additionally, a device will be attached to the car's exhaust to monitor the air-fuel ratio.



TESTING, TESTING!

Contrary to popular belief, even on a busy dyno day organised by an owners club (if you're interested in arranging one, Dyno Developments hosts them at its headquarters in Stevenage, Hertfordshire), your car will be subjected to a series of tests before a power figure will be registered.

In the first instance, a calibration run is undertaken. This is a 'baseline' test, where the dyno operator is looking for any underlying problems. Is the engine is running lean? Is the fuel mixture too rich? Is the clutch slipping? A calibration run will reveal all. It'll also let the operator know what the rev limit is set to and, where forced induction is at play, when boost kicks in. This data is vital, because the health of the engine is of paramount importance.

If there's nothing to worry about, the gathered information will be fed into the rolling road's computer system ready for a power run. A large fan – Dyno Developments designs and sells its own to complement the company's range of premium rolling roads – is placed in front of the car. This provides the same flow of cool air to the engine it would be subjected to if driving at speed on the road.

POWER RUN

If the Porsche being tested is your road car, the chances are you've never seen or heard it hit full throttle all the way to the redline. This is exactly what you'll experience at the rolling road, and it can be quite alarming. Dyno Developments has its own custom dyno chamber, complete with carefully designed acoustics and a giant exhaust gas extractor, but even hearing your car roaring at full chat through the thick glass of a separate viewing area can be worrying first time around. Fret not. If you've prepared your Porsche as outlined earlier in this article, then there should be nothing to worry about. Besides, the rev limiter is there to protect your car's nuts and bolts from killing themselves!

The dyno operator will position themselves inside your car and work their way through gears from a steady pace all the way to the redline. They'll then back off the throttle and let the car return to the speed they started at. Some rolling road operators may even carry out an additional 'coast down' run to further help measure any transmission losses.

We're not done yet, though! The operator will carry out two or three runs until your Porsche fails to produce power better than what's already been registered. It's worth noting, a turbocharged vehicle's best results tend to be on its first or second run, with three repeat performances usually being sufficient to get the job done, but with a dedicated fan channelling a constant supply of cool air to the front of the car, the operator may be able to keep going without concern for the possibility of rising engine operating temperatures.

NUMBERS GAME

Once power runs are finished, the computer attached to the rolling road will process all the information fed into it. Engines are sensitive to ambient temperature, so information relating to this will be included in the system's final calculation. This is important, because cooler ambient temperatures result in denser air, which produces more power when sucked into an engine. In other words, two different dyno sessions – one on a cold day, one on a warm day – might produce different power graphs, even when the same car, rolling road and dyno operator are used. It's not that the engine is capable of producing any less or any more power, it's simply the case that atmospheric pressures have changed.

If external factors like these are left unchecked, inconsistencies creep into the results presented by the rolling road. This is why ambient temperatures and barometric pressures are monitored carefully by operators throughout a dyno session. After all, weather conditions can change quickly in a short space of time, perhaps even while your car is on the rolling road. It's essential they don't skew the results you're about to be presented with. Ah yes, the results...

THE MOMENT OF TRUTH

It's time for that all-important set of numbers. What exactly are you interested to know? Peak performance? That's only part of the story. Take Barrie's 944 Turbo, for example. During a session at Dyno Developments, the car registered 275.99bhp and 277.27lb-ft torque. That's a perfectly respectable result and gives him a rock solid point of reference to measure against when he adds more tuning equipment and returns for another dyno session in the not too distant future. Numbers alone, however, reveal nothing of how a car behaves throughout the rev range, how it delivers its power and its overall driveability. And as we all know, these are the things that, ultimately, make piloting a Porsche so enjoyable.

To understand how well a car performs, we need to look at the power graphs produced by the rolling road's computer. It's surprising how much information we can gather from such a simple-looking diagram – the valuable data provided will indicate where there's room for improvement and when your Porsche's engine hits its sweet spot. In the next edition of *GT Porsche*, we'll look at power graphs and explain how to read the information presented on them. Subscribe for just £9.99 and get the next three issues of the magazine delivered direct to your door at no extra cost. We'll send you links to digital copies, too. Simply punch the following website address into your browser and place your order: *bit.ly/gtp999sub*

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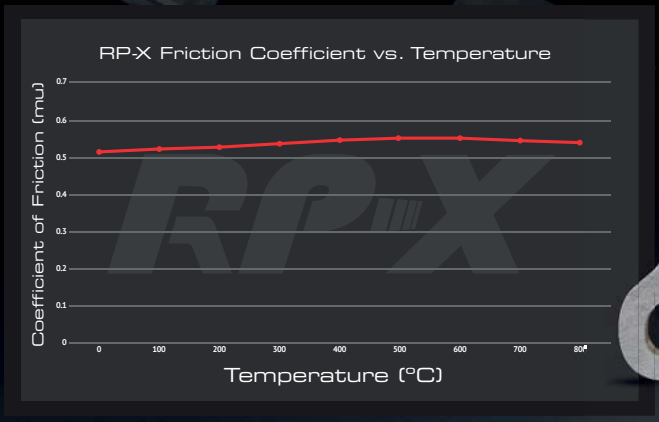

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12 TOP TIPS FOR MORE ENJOYABLE DRIVING

Words **Neil Furber** Photography **Dan Furr, Neil Furber, Dan Sherwood, Cuttie Williams, Porsche**

In many ways, owning a Porsche is far more special than being in charge of a 'regular' car. Beyond a means of getting from A to B, Stuttgart-crested speed machines provide us with many different emotions and pleasures. Moreover, *GT Porsche* readers cover a wide spectrum of owners – some enjoy the process of a comprehensive restoration, others simply love being able to hit the road in their very own Porsche. Whatever your persuasion, the myriad sensations provided by driving and interacting with one of these sensational sports cars is what it's all about. With this in mind, we've summarised our twelve top tips for getting even more enjoyment out of your car. And if you want to read any of them in more detail, you can order *GT Porsche* back issues at *bit.ly/issuesgtp*

AT THE WHEEL: WITHIN YOUR PORSCHE

High speed, low speed or sitting motionless, more often than not, the best time spent with your car is when you're inside it. Let's take a look at three ways to improve interaction with your Porsche, with focus on how you use its controls.

1 STEERING GRIPS AND TECHNIQUES

If you've ever played golf, you'll know how important it is to address that oft-frustrating ball on the tee correctly. It's the same with driving. How you sit in your car and where you set the steering wheel (in relation to your body) can make all the difference. Furthermore, how you hold the wheel dictates how effectively you can use it. Without considering all the muscle efforts and ergonomics here, the salient point to take away is that your distance from the wheel will affect your comfort when exercising certain grips and techniques. These, in turn, are responsible for how well you steer your car. It's one of the most overlooked aspects of driving, but precision, smoothness, comfort and lack of fatigue are all a product of good steering wheel positioning and, crucially, how you use it.

Learning to select the right technique for each and every situation (as opposed to a one-size-fits-all approach) is one of the most powerful 'driver upgrades' you can make. Understanding the relevant merits and limitations of fixed grip, pull-push and rotational steering techniques whilst learning how to use them all – both effectively and seamlessly – will make your Porsche feel infinitely better. Improved precision, control and feedback from the chassis are all available once you get this bit right.

For step-by-step guides to each of these techniques and advice regarding seating position, take a look at the detailed driver coaching article published in the July 2019 issue of *GT Porsche*.

2 SMOOTHNESS, MECHANICAL SYMPATHY AND TIMING

Simple operation of a machine is a skill, but most of us appreciate driving as an art. You can demonstrate an elegance in your own driving as you evolve your basic skills into the art. Much of this artistry is created through smoothness, mechanical sympathy and good timing. Developing intuition for when to select or blend different skills adds another layer of depth.

We all like being driven smoothly in somebody else's car — nobody likes being shaken up! Ensuring you do your best for passengers when at the wheel of your Porsche is a worthwhile consideration and can be very satisfying. Fundamentally, though, there's a difference between driving gently and driving smoothly. Being gentle is low intensity: light brake pressures, subtle acceleration and low cornering forces. Smoothness refers to the transition from one driving action to another: a gentle start to steering, braking and acceleration with a progressive approach as you build intensity. If you think of a flowing analogue waveform, smoothness is the curvature at the top and bottom, intensity is the size of the peaks and troughs.

Progressive transitions for smooth driving require extended time. Add time for braking and changing gear as you approach corners. This way, you can slow your inputs for added smoothness. Good timing also encourages mechanical sympathy when changing gear (manual transmissions) and a gentle start to smooth progression. Top racing drivers and true artists in the road environment make it look easy. They've developed great timing and exude smoothness.

For further tips on developing finesse for braking and gear selection, check out the coaching article in the August 2019 issue of *GT Porsche*.

3 SHIFTING GEARS... OR NOT!

These days, the breadth of Porsche models available – and owned by readers of this magazine – is astounding. Although older cars had manual gearboxes, many of the more recent Porsche products come equipped with Tiptronic or PDK automated options. When pulling each issue of this magazine together, we have the pleasure of meeting avid fans of the newer, electronically controlled systems, as well as die-hards only satisfied by the classic way to swap cogs. Whether you prefer stick, buttons or paddles, if you opt to take charge of shifting, what gear to choose and when to select it is a complex process. Throw in double de-clutching, heel-and-toe and the ankle gymnastics of throttle-blipping when swapping gears manually, and you can see why gear changing merits its own section in this article.

Learning more about how manual and automated transmissions work and how to improve gear selection adds a very satisfying bonus to any journey. PDK-equipped sports cars boast clever features, including a 'throttle whip' action to block-change to the lowest suitable gear. They can also select neutral by pulling and releasing both paddles at the same time. If you're willing to put in the practise, learning to rev-match, double de-clutch and blip the throttle during heel-and-toe down changes provides numerous benefits. These range from smoother, faster shifts, to less wear-and-tear and reduced stress on mechanicals, not to mention fabulous satisfaction when you get things just right.

If you'd like to know more about how modern electronic rev-matching works, or how to heel-and-toe, take a look at the driver coaching article we published in the September 2019 issue of *GT Porsche*. All back issues can be found at *bit.ly/issuesgtp*

THE OPEN ROAD: INTERACTION WITH TRAFFIC

For the vast majority of us, our Porsches are driven primarily on the public road. Protecting ourselves (and our investment!) requires a strong ability to read the road ahead and interact with other road users. Core skills include observation, anticipation and maintaining a good attitude. Here are three areas in which you may be able to improve, thereby enriching your road-driving experiences.

4 VISION AND PLANNING

Observation and anticipation starts with good vision – where to look, what to look for and when to look for it. Anticipation requires taking what you have seen and considering what's likely to happen by drawing on experience or considering 'what if'. Many of you will have heard of Advanced Driving, a higher standard of driving developed originally for the British police in the 1930s and, these days, available to the public through both books and training. Essentially, it's all about improved vehicle control and safety by increasing how far you look ahead, thinking more about your driving in relation to hazards and a systematic approach to changing speed or direction. Here at *GT Porsche*, we consider it less 'advanced' and more 'essential' if you want to drive safely on today's busy roads.

To get started, next time you head out for a drive, try to make a conscious effort to look as far as the eye can see and 'scan' across a much wider field of view than simply the car ahead. Work your eyes back towards your car in a side-to-side motion, looking for sign of hazards. Then, look back to the far distance and repeat. You may be surprised how much earlier you see things, what you would have missed otherwise and, importantly, how little detail you lose in your immediate vicinity.

If you've not read it already, there's a detailed application of Advanced Driving methods applied to cornering in the February 2020 issue of *GT Porsche*.

5 DEFENSIVE DRIVING

Good vision and planning help you make timely decisions, becoming proactive rather than reactive. This is great for the smoothness and timing we covered earlier. Defensive driving is all about adding more space around your car and ensuring you have options if other road users are looking to invade it. More space will keep you further from potential collisions, means less stone chips to the front of your precious Porsche and takes much of the stress out of modern driving.

We introduced this important topic in the last issue of *GT Porsche*, and cover 'escape routes' (and useful shortcuts you can add to your driving) on page 74 of the very magazine you're holding in your hands!

6 OVERTAKING

If you drive a higher-powered Porsche, overtaking is tempting even if, truthfully, often unnecessary. Sometimes, of course, overtaking is required or, as most of you will appreciate, will provide precious moments on the open road without interruption. Even so, simply closing up, hitting the gas and pulling out isn't how to do overtake well or safely. Good technique involves maintaining a sensible following distance while looking for options, the build-in of a patient pause after pulling out (but before opening the throttle) and the use of time for proper evaluation of when, where, if and how. Then, it's decision time.

Our top tip for when to decide if an overtake is 'on' is this: consider a lunatic in a high-powered sports car coming the other way flat-out, yet within their car's stupendous levels of grip and positioned completely on their side of the road. If you're not 100% sure you've got time and it's safe, wait for a better spot.

We covered good overtaking technique in detail in the pages of the April 2020 issue of *GT Porsche*. Check it out!

THE PERFECT CURVE: PLEASURE FROM GETTING IT RIGHT

Porsche-flavoured acceleration generates great sounds and sensations, but it's in the twisty stuff where these cars come alive. The feeling of how the chassis moves when entering a bend, the sensation of grip or slip and the precision of changes in direction are instrumental in our enjoyment. Developing good cornering technique, learning how to balance your car and mastering minor throttle adjustments in the bend unlock the magic of the perfect curve.

7 UNDERSTAND CORNERING

The more you understand about cornering and how to do it well, the greater your enjoyment. We're sure you've heard somebody proclaim you shouldn't brake in corners. Well, perhaps unsurprisingly, it's not quite as simple as that. That said, as a general rule, getting your braking done in a straight line before a corner is usually the best way for most situations, and is certainly true on the road. The System of Car Control found in *Roadcraft* (the police driver's handbook) and circuit driving techniques taught at beginner and intermediate levels make use of a structured process from the end of one straight to the middle or exit of a bend. This logical one-step-at-a-time approach pays dividends by easing your workload at the wheel, improving stability and building a strong safety margin.

As a simple overview, plan your braking early, aiming to do all of it and any gear changing completely before you turn the steering wheel. This includes getting the clutch up to avoid coasting. Now you've got the right speed and gear, squeeze the throttle pedal gently, just enough to maintain your speed. Hold it steady. You're ready to start steering into the curve, but smoothly does it! As you approach the exit of the bend, try to blend smooth unwinding of the steering with patient, progressive acceleration. Get it right and the technique feels fabulous — the smoother the technique, the better the chassis movement will feel.

If you're after more detail on good 'core' technique, you'll find it in the October 2019 issue of *GT Porsche*.

8 STEERING ON THE THROTTLE

If you've mastered core technique, you'll be looking for a little more interaction with your Porsche. Steering on the throttle is just that. At the limit of grip (or as you work towards it on a circuit), steering using the throttle can be very pronounced. It's less evident at sedate road speeds. Even so, within the range possible to enjoy your Porsche safely on the public road, subtle changes in pedal pressure will shift your car's dynamic weight proportions. This alters the grip available at both front and rear. Seemingly minute changes can tighten or open the radius of your trajectory to improve precision without the need to make any adjustments with the steering wheel. This is hugely rewarding when you get it right!

We covered the ins and outs of all this in the June/July 2020 issue of *GT Porsche*. Check it out!

FINDING THE LIMITS:
GRIP AND UNDERSTANDING YOUR CAR

When it comes to driving sports cars, many people have a fear of the unknown. Of course, we're talking about the limit of grip. Until you have been to it, through it and beyond it, it's difficult to know how it feels or what happens. For obvious reasons, we don't recommend hunting for the limit whilst on the public road, but learning how to recognise you're approaching it – and what a car will do once you reach it – is a worthwhile endeavour. If you have the right knowledge and experience, you can avoid going there by accident, keeping things safe, tidy and never dramatic. Some understanding of modern electronic aids (if your car has them!) and the inherent characteristics of your specific Porsche will help you stay out of trouble and get the best from your car.

9 WALKING THE TIGHTROPE

The many Porsche Experience Centres across the globe are well worth a visit and represent excellent value for money if you're looking to explore your car's limits in a safe, controlled environment. With help from Porsche's professional driving consultants, you can experience what happens once you reach the limit of grip and, importantly, start learning how to control things when you get there. Prevention, however, is better than cure – it's a structured approach to learning to feel when you are approaching the limit and how to leave margin for error which may prove the most useful. Get this right and you'll stay safe without sacrificing driving enjoyment.

Read the driver coaching article we published in the March 2020 issue of *GT Porsche* and start appreciating what happens at the 'limit' and, crucially, how it feels. Visit *bit.ly/issuesgtp* today.

10 TRAIL BRAKING

For those of you who've already got a handle for the basics of the limit of grip and are starting to explore circuit driving, you'll be interested in how to push the limits of your Porsche in that environment. Understanding how to stretch what your Porsche can do before you lose traction and slip off the edge is most rewarding and opens the door to competitive racing. Learning your racing lines is engaging, but mastering how to steer on the throttle at the limits (introduced previously) and the art of trail braking can take you from quick to really quick!

An introduction to trail braking was covered in the May 2020 issue of *GT Porsche*.

11 ELECTRONIC SAFETY SYSTEMS

An anti-lock braking system (ABS) and Porsche Stability Management (PSM) are electronic systems bringing drivers an additional line of defence. Sounds good, but what do they do and how are they useful? Well, ABS will help you retain steering control during an emergency stop or heavy braking on low grip surfaces. If you're running out of room whilst trying to stop and need to avoid an obstacle, keep your foot hard on the brake and steer smoothly. Your car will follow what you're asking of it. PSM will limit unnecessary wheel spin and lend a hand if you've let things become a little too wayward. Just be aware that these systems aren't magic and won't defy the laws of physics!

A full rundown on these systems is available in the November 2019 issue of *GT Porsche*.

12 UNDERSTAND TRAITS IN YOUR CAR'S HANDLING

Within the Porsche range of products, we've got rear-wheel drive with engines in the front, middle and rear, plus four-wheel drive variants to boot. Specific cocktails for drive type, engine location and model-specific mechanicals provide many different driving sensations and require minor changes to technique if you wish to use all their performance on track. Getting to grips with the general behaviour of your Porsche and how to tweak your style to suit one or more can be a real pleasure. Maximising the available traction of a 911 Carrera 4S or dialling-in to a Boxster's mid-engined hip-rotating magic reinforces just how good these cars are.

For detailed explanation of why these cars are different and how to play to their individual strengths, order copies of the Autumn 2019 and January 2020 issues of *GT Porsche* from our online store, which can be found by visiting *bit.ly/issuesgtp*

AT A GLANCE

All *GT Porsche* driver coaching articles published to date:

JUL 2019
Seating, steering techniques, grips

AUG 2019
Developing finesse for braking and changing gear

SEP 2019
Mastering heel-and-toe and automated rev matching

OCT 2019
Core cornering technique

AUTUMN 2019
Rear and mid-engined handling

NOV 2019
Electronic driver aids

JAN 2020
RWD and 4WD 911 handling

FEB 2020
Vision and planning for cornering

MAR 2020
Learn to feel the limit of grip

APR 2020
Safer overtaking technique

MAY 2020
Understand trail braking

JUN-JUL 2020
How to steer on the throttle

AUG-SEP 2020
An introduction to defensive driving

Order all *GT Porsche* back issues online by visiting *bit.ly/issuesgtp*

TRUE BLUE

After years of speculation surrounding its identity, this recently restored 964 has been confirmed by former Porsche factory engineer and legendary racing driver, Jürgen Barth, as being one of two surviving prototypes assembled under his watch back in 1990...

Words **Dan Furr** Photography **Dan Sherwood**

NEXT GENERATION

At model launch in 1989, Porsche claimed the 964 to make use of fewer than fifteen percent of the parts used during production of the outgoing Carrera 3.2. The first 964 released was the all-wheel drive Carrera 4. The two-wheel drive Carrera 2 arrived in 1990. Either configuration could be ordered with coupe, Targa or cabriolet body styles. Along with a new appearance (including more integrated bumpers than those of the G-series), the 964 introduced a new naturally aspirated 3.6-litre flat-six to Porsche dealer showrooms.

For many 911 enthusiasts, the 964 is as good as it gets. Granted, the 993 was the ultimate evolution of Porsche's original air-cooled 911 concept, and there's no denying the technological developments the model brought with it, but it's a softer design when compared to its predecessor, a 911 which strikes the perfect balance of performance, reliability and quintessential classic Porsche looks. And if you're going to invest in a 964, then the one to have is the Carrera RS, right? Absolutely, but did you know the RS came in different flavours to suit different applications? As a case in point, the lesser spotted N/GT was the period's truest race car for the road.

Porsche achieved huge success in the FIA's Group C motorsport category, a formula introduced in 1983, primarily for the World Endurance Championship (WEC), its pinnacle being the 24 Hours of Le Mans. The 956/962 proved dominant and, as the decade drew to a close, the series was verging on eclipsing the popularity of Formula One, not least because of the colossal performance achieved by participating cars and the inherent danger involved in keeping them planted to the asphalt. Development objectives were aerodynamics for maximum speed with relatively low lift, the least possible weight and optimum stability, enabling each car's engineering to withstand constant maximum stress over the duration of punishing endurance races.

THE END OF AN ERA

The beginning of the end for Group C came in 1999. Technically, the then new Mercedes CLR was based on the CLK-LM, a car which had been tried and tested during the 1998 season. The model's components were then enhanced and, in some cases, reinforced for CLR use. Everything was going well for the Benz boys until they arrived at Le Mans. The team's lead driver and current Porsche brand ambassador, Mark Webber, experienced front axle lift during qualifying. His CLR then became airborne at Indianapolis. Understandably, everyone watching was taken aback, but the general consensus was they'd witnessed a freak accident unlikely to be repeated. It certainly wasn't enough to stop the team running.

Thankfully, Webber was uninjured, but to avoid a repeat of the incident, contact pressure on the remaining two CLRs was increased by a massive twenty-five percent through altered aerodynamics. Happy with the alteration, the team then proceeded to repair Webber's damaged car.

All three CLRs completed qualifying, but during Saturday morning preparations, Webber was once again airborne, this time over the brow of the Mulsanne Straight. Worryingly, his car rolled »

onto its roof before sliding to a stop. Needless to say, it was immediately withdrawn from the race, though the remaining two CLRs were readied for action regardless of Webber's misfortune, none of it achieved through driver error. As a precautionary measure, his teammates, Nick Heidfeld, Peter Dumbreck and Christophe Bouchut, were told not to get too close to the car in front for fear of encouraging aerodynamic instability in slipstream.

When you're travelling at 200mph, what's too close? A hundred metres? Fifty metres? Twenty metres? Dumbreck was fighting hard for second place. It was the seventy-fifth lap and he was catching a Toyota GT-One as both cars approached Indianapolis, the site of Webber's first off. What happened next is remembered by Dumbreck as "seeing sky" — the CLR's nose lifted in dramatic fashion, before the car was thrown high in the air. It pirouetted several times before being fired through nearby trees at rapid pace. Amazingly, the car landed on all fours and Dumbreck suffered only minor bruising, luck he attributes to pre-race logging taking place at the narrow area of trees his CLR was hurtled through at warp speed.

Unlike Webber's mishaps, Dumbreck's accident was broadcast live through media outlets all over the world. Mercedes immediately withdrew the CLRs and dropped out of sports car racing altogether, much like it had done after the death of eighty-three spectators at the 1955 24 Hours of Le Mans. Predictably, in the wake of Dumbreck's potentially fatal accident, the Mulsanne Straight, a part of the circuit where cars were regularly approaching 250mph — and where Team Welter Racing's Peugeot WM-P88 broke the Le Mans speed record by registering an astonishing 253mph in 1988 — was promptly reconfigured with a chicane, designed specifically to eliminate mammoth speed and prevent further incident.

AWESOME ACCOMPLISHMENT

The FIA promptly decided to rewrite Group C regulations by restricting the performance of competing cars. The changes benefited teams using new Formula One engines, but put privateers in charge of race cars assembled to original Group C specification, such as the 962, at severe disadvantage due to the immediately escalating cost of preparing an eligible race car satisfying the revised rulebook. Group C dropped in popularity without delay, resulting in the 1993 season being cancelled through a lack of entries, though qualifying cars would

AT THAT TIME, BARTH'S ROLE AT PORSCHE WAS CHIEFLY TO DEVISE NEW METHODS OF CONSTRUCTING PRODUCTION CARS AND THEIR RACING STABLEMATES

Above
This historically significant 911 is currently on display at Porsche Centre Hatfield

Facing page
Interior screams 'race car for the road', just as its designer, Jürgen Barth, intended

continue to be campaigned at Le Mans for the 1993 and 1994 seasons, the latter won by Dauer Racing, a German outfit which had successfully transformed the 962 into a road car. By Porsche exploiting a loophole in revised Le Mans race regulations for production-based cars, a Dauer-prepared 962 was entered into the GT1 category and, much to the anger of rival teams, won top honours. The 962 was banned from the competition thereafter.

The writing had been on the wall for Group C from the moment Dumbreck reached for the sky. Porsche was well aware of what was to come and, through a desire to return to GT racing with the 911, commissioned four-time Le Mans winner and factory motorsport engineer, Jürgen Barth, to develop a powerful street-legal 964 eligible to compete in both Group N (essentially lightly modified production cars) and GT categories. By 1990, a limited run of 964 Carrera Cup cars was already in the works, but with little in the way of headline sponsor interest, not to mention Carrera Cup being a closed series, Porsche needed a more 'privateer friendly' 911 motorsport machine that would garner wins and, importantly, improve brand visibility in a range of race and rally competitions worldwide.

At that time, Barth's role at Porsche was chiefly to devise new methods of constructing production cars and their racing stablemates. Much like the 964 Carrera RS, the N/GT he created was based on the Carrera 2 platform. A lightweight narrow-body free of creature comforts, the N/GT was a pure 911 driving machine — gone were the fancy electrics and heaps of sound deadening material (and passenger sun visor!), in were thinner windows, seventeen-inch magnesium five-spokes, lightweight bumpers, carefully placed seam welds to stiffen and strengthen the chassis, wooden footboards in place of carpets and the option of a larger-than-standard fuel tank. The familiar Recaro bucket seats were trimmed in flame-resistant fabric and loaded with Schroth multi-point safety harnesses, while twin fire extinguishers and an in-cabin engine kill switch were added for good measure.

READY TO ROLL

As had been the case with Porsche competition machines for some time, a fully integrated Matter roll cage wrapped itself around the N/GT's sparse cockpit. This was the epitome of the clubman race car and, once the resulting 290 production units began to roll off the assembly line, quickly became recognised for the being the purest form of Porsche's ideal of a car which could be driven on the road to a circuit, before being let loose in a competition environment and »

driven home again without incident. Given factory option code M003, the 964 N/GT was the third in a fantastic sequence featuring M001 (Cup) and M002 (RS Lightweight).

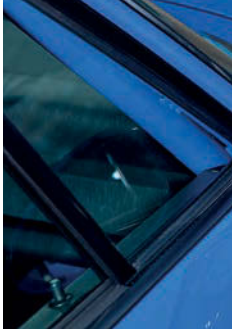
More or less matching standard RS specification as far as the nuts and bolts are concerned, the 964 N/GT was powered by a 260bhp 3.6-litre flat-six mated to a five-speed close-ratio Getrag G50/10 transmission with a limited-slip differential and steel synchros. The RS was already 155kg lighter than the Carrera 2, but the N/GT took Porsche's blueprint of adding power and shedding weight to a new level, resulting in an air-cooled, road-legal race car now considered an essential entry in Porsche's fruitful portfolio of true performance products.

That's the backstory taken care of, but what makes this particular N/GT so special? Enter Des Sturdee, a lifelong 911 fan who counts five RS-badged 964s among the forty-one Porsches he's owned to date, starting with a 911 E 2.4 bought for him as a gift from his father more than forty years ago. Des is also the organiser of Porsche Club GB's Modified register and was lucky enough to previously own a Mint Green N/GT. He first encountered the Maritime Blue example on these pages more than twenty years ago.

"At the time," he recalls, "I was Assistant Secretary for the club's 964 RS register, a role which involved giving inspections and valuations of member's cars. I was asked to visit the workshop of GT Classics in Hampshire, where company boss, Paul Mclean, had been given custody of a Maritime Blue N/GT for a customer curious to know the true identity of his car after it had been labelled a fake." The accusation concerned the presence of a Carrera 2 chassis number. "It didn't make sense to me that anyone would convert a standard 964 to this specification when, back then, the difference in price between a Carrera 2 and RS was about five grand! Why spend more than that on magnesium wheels, let alone the rest of the car's equipment? I was looking at so many idiosyncrasies. Consequently, I urged the owner to get in touch with Porsche in Stuttgart with a request to hunt out the car's build records."

FRIENDS REUNITED

His advice fell on deaf ears and the car changed hands. Repeatedly. Des lost track of its whereabouts, until six years ago, when he returned to GT Classics to collect the 964 Carrera RS Lightweight he'd bought. There, parked in Paul's workshop, was the Maritime Blue 964 suffering an identity crisis. It was also available for purchase. "Having just bought the RS, I



LADY LUCK CAME TO HIS AID WHEN SUNCOAST PARTS LAUNCHED AN ONLINE SERVICE PROVIDING DETAILED BUILD INFORMATION FOR EACH SUPPLIED PORSCHE CHASSIS NUMBER

Above
The awe-inspiring attention to detail in this prototype's restoration is second to none

Inset
Jürgen Barth talks to RPM Technik's Technical Director, Ollie Preston, as the amazing build gets underway

Facing page
Few 911s ooze performance and style as well as a Maritime Blue 964, let alone an example as special as this

wasn't in a position to buy the blue car on my own, which is why I joined forces with my good friend, Paul Ward, and secured joint ownership. We reasoned the car would make an excellent club racer for us to enjoy track days, though as its new co-owner, I was now more interested than ever to discover the story behind the build."

The then available Certificate of Authenticity from Porsche Club GB didn't reveal anything Des didn't already know ("it confirmed the car as a Carrera 2 with a limited-slip differential"), but Lady Luck came to his aid when Californian Porsche specialist, Suncoast Parts, launched an online service providing detailed build information for each supplied Porsche chassis number. It was probably the best $10 Des ever spent. "My earlier suspicions were confirmed!" he beams. "There, in big, bold lettering, the car was identified as an N/GT prototype with a build date of August 1990!" Not only does this give the car status as a Porsche of historical significance, it also marks it as one of the rarest 911s ever assembled – just eleven prototypes were put together (this being the sixth), but only two are known to survive to the present day. One (based on a Carrera 4 chassis) is in the Porsche Museum in Zuffenhausen, the other is the very car you see here, formerly Porsche's N/GT demonstrator and the star of the model's promotional brochures.

Realising they'd found themselves in charge of a super-special 964 (and one kept in Porsche's clutches for four years after construction), Des and Paul promptly changed their earlier plans to hammer the car around the track. Instead, a painstaking process of restoration was the preferred course of action, but not before the leading authority on N/GTs provided extra reassurance regarding the pretty Porsche's origins. "Jürgen Barth was in the UK for a club event," Des explains. "He kindly came to inspect the car and confirmed it as one of his prototypes. Even so, though we had his glittering endorsement and the Suncoast-supplied build sheet, we really wanted meat on the bones, which is why we were thrilled when Jürgen said he'd trawl through Porsche's archives to provide all information about the car held on factory files."

Led by Technical Director, Ollie Preston, the restoration team at Hertfordshire-based independent Porsche specialist, RPM Technik, was given the task of bringing the blue belter back to its best – a mammoth undertaking lasting more than five years. "Ollie and his team did a brilliant job," Des smiles. "The car was stripped to a bare shell and rebuilt from the ground up. Mechanically, the engine, transmission, suspension and brakes were completely overhauled, but to ensure accuracy, we brought in Jürgen as consultant to offer advice »

every step of the way, thereby ensuring the work carried out was as true to being period perfect as possible." Only components (including a Cup fuel tank) matching this particular N/GT prototype's specification were used, including genuine Porsche items wherever applicable. This was easier said than done at a time Porsche Classic was still finding its feet and had yet to introduce many 964 parts to its catalogue. "The wait for genuine body panels was one of the biggest hurdles we faced," Des sighs. "One of the rear quarters took two and a half years to source! Additionally, the more parts Ollie removed from the car, the more wear and tear he identified in need of repair. We don't know much about the history of this 964 following its early life at Porsche, but it was clear to see the car had been used in anger over the years."

HERTS OF THE MATTER

The Schroth harnesses working their way around the Nomex-trimmed Recaros are new parts commissioned by Des and Paul specifically for this project. Matching the harnesses originally fitted by Jürgen back in 1990, they demonstrate just how important attention to detail has been to this car's obsessive owners. The results, of course, speak for themselves and were approved by Jürgen during his recent visit to Porsche Centre Hatfield, one of the UK's four official Porsche Classic Partner centres (the others being Swindon, Glasgow and Leeds) and where the finished restoration is currently on display.

Left Every one of this Porsche's components was restored during the five-year build

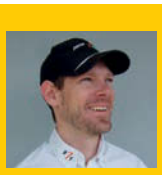
It's also the Official Porsche Centre which has been tasked with selling the car.

"Paul and I had a great time with Jürgen during his last visit," Des grins, remembering how impressed the former factory racing driver was with the finished build. Moreover, a short video was filmed on the Hatfield dealership's classic car stand during Jürgen's attendance, capturing the Porsche legend confirming this amazing 964's history, as well as him scribbling an autograph on the Maritime marvel's roof. "It's as close to a new N/GT as you're ever likely to see. It really is box fresh and, following the recently carried out 'first service', is ready to be enjoyed by a new owner," smiles Des, suitably pleased with a job well done. "The passion Paul and I were able to get from this project was the honour of being able to correctly identify and rejuvenate an undeniably significant 911 that could have been lost forever. It's now time for someone else to take care of this rare beast," he adds. True blue? You'd better believe it!

Below RPM Technik's extraordinary work means this 'as new' 964 N/GT prototype is ready for its new owner to step straight into the hot seat

THE GREAT ESCAPE

Building on last issue's driver coaching article introducing the basics of defensive driving, we now introduce 'escape routes' and regular 'shortcuts' you can add into your time behind the wheel...



DRIVING FORCE

Neil Furber is *GT Porsche's* resident driving expert. With a background as a mechanical engineer in Formula One, he brings a unique technical insight to driver coaching. Splitting his time between the French Alps and the UK, Neil coaches drivers through his brand, Drive 7Tenths (*drive7tenths.com*) and is also a Porsche Driving Consultant at Porsche Experience Centre Silverstone. Have a question about driving? Email him at *enquiries@drive7tenths.com*.

AVOIDING CHECK-MATE

When you think about it, some of driving is very similar to playing chess. This is a useful analogy — you can think several moves ahead for all potential scenarios which may play out. Just like in chess, you don't want to get trapped into a potentially dangerous position.

A good example would be the following high-risk situation: picture yourself stopped at the back of a queue of traffic on a high-speed road. You're waiting, stationary, for a set of traffic lights at a junction ahead. Your side of the road has two lanes and a speed limit of 60 or 70mph. The closing speed of a vehicle coming up from behind could be as high as this. If that vehicle is heavy, even at a lower approaching speed, the momentum and energy involved can be monumental. Consider an articulated lorry, fully laden travelling at 50mph. As you look in your centre mirror and spot this behemoth bearing down on you, imagine the horror of seeing the driver looking down at their phone. Worse still, imagine them asleep at the wheel!

You're the last in a queue of five cars with an equivalent line of traffic in the adjacent lane. You're sandwiched between them and a side barrier. What will you do? When the beast hits, it'll plough through all these cars like a pet dog running through a house of cards. We're talking about a life-and-death situation here. Check-mate, indeed.

If it's come to this, there isn't much you can do. You may be lucky and have just enough width between the queues of traffic to hit the gas and head for safety. A scrape down the side of your car or losing a wing-mirror is a small price to pay. Sadly, the others are still in the wrong place at the wrong time. Better to have had a proactive plan. You can develop this by reading the situation well before you become a sitting duck. As an experienced driver, usual traffic movements are not unknown to you. Maintaining space around your car whilst at speed is a good start and provides a good view of the road ahead. If you've formed the habit to look far into the distance on a regular basis as part of systematic scanning of the situation ahead, the junction and traffic lights are easy to spot well in advance.

PLAN A OR PLAN B?

Once you've identified the junction, you'll know the change in speed required. Get the timing right and you may not need to stop fully after all. Here's an example of how you can ask yourself questions to form a plan to deal with the situation:

- **Junction spotted, but what's the traffic density? Will any queue ahead be gone by the time I get there?**
- **Mirror check. Who's at the rear? Are they close? Are there any high-risk vehicles (lorries, large vans or high-speed cars) closing in from behind?**
- **Maintain speed and aim to slow nearer the junction? Or should I ease off straight away and reduce speed gradually?**
- **How would these options interact with traffic around me and the timing of the lights sequence?**

This is another example of the Visual Link Cascade I've mentioned in previous articles in this series. Good vision and observation allow you to anticipate likely developments, forming links between what you see and cascading through questions. The process helps to make decisions for proactive changes in speed or position. Don't forget, you can have a backup option if you need it: plan B.

For this scenario, I prefer to ease off early, giving more time to watch how things will play out. A high-risk vehicle – the lorry described earlier – can close up the gap without frustration if the timing is right. As the vehicle does so, there's still plenty of time and distance to confirm the driver is fully engaged. If they start to slow and reduce the rate at which they approach, the potential risks are much reduced. If phoning or sleeping, at least there's time for you to take other measures before potential impact.

If the road behind is clear for some distance during approach, your best protection comes from slowing your car early and maintaining a modest speed with lots of space in front. If the lights go green, you can close up the gap and join other traffic. If it doesn't, you can continue slowing, closing the gap gradually, but maintaining space — a huge gap in front can't upset anybody. Once others start building a 'shield' behind, you can continue to reduce your space by trundling forwards. The aim: keep your car rolling with your space and options matched to risk.

SAFETY SHORTCUTS

ESCAPE ROUTES

In the scenario we've just outlined, your primary escape route is the plentiful space ahead in both lanes. In less enclosed scenarios with lower speed differentials, a good car length or two between you and the stationary vehicle in front may be enough. Keeping an attractive verge or layby to the side as a pre-prepared escape route can make all the difference should something untoward develop.

You may have heard the expression 'tyres and tarmac'. It's a mental picture to help remember space when in stationary traffic. If you can see all of the car in front, including the rear tyres and a strip of asphalt between them and your car, you should have enough space. This equates to at least one car length of free air. The gap protects against vehicle roll-back and provides a pedestrian space to cross the road and a 'safe haven' for cyclists. Moreover, if something unpleasant develops – an attempted carjacking being one of the worst we can think of – you've got space to accelerate and steer around the car ahead in one swift movement. Use your escape route! Under certain circumstances, you may feel that mounting a kerb and dinging an alloy wheel is a small price to pay. By contrast, if you've only a couple of feet between you and the car in front, you're boxed in. We're back to check-mate!

TAKE THE SHORTCUT

Thankfully, most situations aren't as serious as the lorry incident described here. Nevertheless, the open road is a fluid environment, and I'm sure you wish to protect yourself and your Porsche, no matter where you go. On your usual journeys, you'll experience plenty of recurrent situations. Using the Visual Link Cascade (observation, anticipation and plan forming) regularly will help you to plan and develop shortcuts and good habits, as well as dealing with events out of the ordinary. Here's a couple of shortcuts you may wish to borrow or adapt:

- **Negotiating multi-lane roundabouts**

The most important thing is to avoid the 'pinch'. If there's a vehicle alongside, don't sit between them and the inner edge of the roundabout. They could cut in and force a side impact with your Porsche. Long vehicles will do this because they have to — avoid being meat in the sandwich! If you're going straight ahead at a roundabout on a multi-lane road, a vehicle to your outside and slightly ahead may cut right across your nose for a later exit. I've avoided that one a few times by expecting the worst and staggering with them.

- **Slip roads and service stations**

On multi-lane roads with slip road entries and exits, traffic isn't always easy to spot early on. As you pass an 'off' ramp, usually, there will be an 'on' ramp straight after. When you have a couple of lanes travelling in your direction, a well-planned lateral move away from the slip roads can make things easier for all involved. Sometimes, there's plenty of distance for vehicles to get up to suitable joining speed, but at other times, these are very short, leaving insufficient space for heavy vehicles to get up to speed.

Start a series of mirror checks, then check over your shoulder as you pass the 'off' ramp. You can decide if moving out is worthwhile or likely to cause greater trouble for faster vehicles in the other lane. When it's completely clear behind (and you can spot joining traffic), moving out early helps everyone. When there's a car behind starting to overtake and joining traffic is not easily visible, you may choose a different approach. Rather than move, Plan B may be to reduce your speed ready to slot in behind the overtaking driver before the 'on' ramp presents itself.

These ideas may not be news to you, but it's the specific timing and subtle changes in speed that differentiate a rushed, reactive manoeuvre from a smooth, flowing and event-free series of moves. This is where you may find some improvement. Until next time, keep working on your vision and anticipation and, above all, stay safe.

SEEING IS BELIEVING

Fire up YouTube and see for yourself what can happen in check-mate, as highlighted by this crash test video from the road safety experts at DEKRA. Simply visit ***bit.ly/dekravideo*** *or scan the QR code to open the link on your smartphone. Remember, the road is a dangerous place for you and your Porsche. Think smart and take care.*

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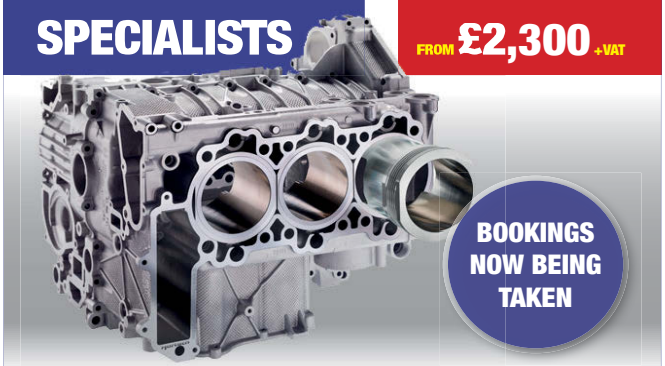

986 I 987 I 996 I 997 Cayman

996	3.4-3.7	Capacity Conversions
996	3.6-3.9	
987.1	3.4-3.9	
986	3.2-3.7	

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A STORY OF SUCCESS

Celebrating exactly fifty years since Porsche's first overall victory at Le Mans, we take a look at the marque's record-breaking achievements in the world's oldest active endurance sports car race...

Words **Dan Furr** Photography **Porsche**

Porsche is the only manufacturer to have contested the 24 Hours of Le Mans every year since 1951. Sixty-nine years without a break is a remarkable achievement, and one rewarded by no fewer than nineteen overall wins and more than a hundred class victories. This unrivalled success in one of the world's most challenging races has made Le Mans as much a part of Porsche as the world-famous three-digit nomenclature, nine-one-one.

The first 24-hour event at Le Mans took place in 1923. Grand Prix racing was the dominant motorsport force in Europe, leading to the introduction of a different type of test for man and machine: the focus wasn't on a manufacturer's ability to produce the fastest car, but its ability to build the most reliable, achieved through the deployment of innovative engineering. The development of ground-breaking fuel efficiency technologies was also a key aspect of what competition organisers had in mind — endurance racing demands cars to spend as little time as possible being attended to in the pit lane, whether through necessary repairs or refuelling.

Adding to the challenge of demanding a car that could quite literally go the distance, the Le Mans track layout was designed to encourage extraordinarily high speed. The Mulsanne straight, for example, has gone down in history as being one of Europe's fastest and longest stretches of racing asphalt, a feature requiring competing manufacturers to think carefully about aerodynamics and overall vehicle stability. Furthermore, because much of the Le Mans circuit incorporates public roads, these stretches of the track lack the smooth surface finish of a closed circuit. This means chassis components are subjected to huge strain, emphasising the need for participating cars to be built with steadfast reliability in mind.

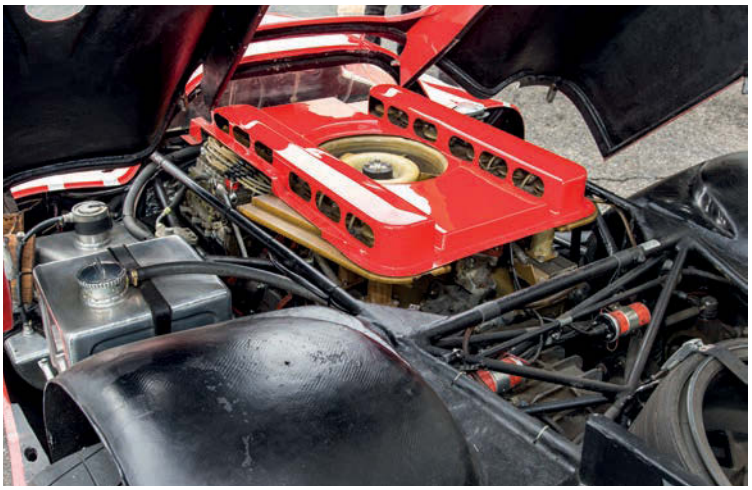
Needless to say, technology developed for racing at Le Mans has trickled down into production models over the years, leading to ever faster, more aerodynamic sports cars available for the general public to buy from main dealer showrooms. More recently, the increased demands of fuel efficiency in motorsport has seen huge manufacturer spend when it comes to the design and development of hybrid and all-electric powertrains. As we can see from the Taycan Turbo test drive report on page 28 of this very magazine, Porsche is leading the charge.

IN 1968, FOR THE FIRST TIME IN ITS HISTORY, THE WORKS TEAM ACHIEVED FASTEST QUALIFYING LAP AT LE MANS

At the suggestion of Porsche's official importer in France, Auguste Veuillet, the Stuttgart concern was the first German marque to enter Le Mans after World War II. A brace of aluminium-bodied 356s were readied for action. Sadly, one of the cars was destroyed during a practice session, but in a happier result, the surviving 1.1-litre racer took class victory and finished twentieth overall. As the decade drew on, 356s competed alongside 550 Spyders, racking up numerous class wins along the way, but it wasn't until the arrival of the 718 RSK that Porsche began to experience serious success in Sarthe. Indeed, in 1958, the manufacturer's first podium in overall classification arrived thanks to the power and reliability of the 718 at the hands of star drivers, Jean Behra and Hans Hermann, who finished third. The pair's car also managed to achieve a first-place victory in the two-litre class, but it was Porsche's results as a constructor that impressed the most: the Stuttgart brand took third, fourth, fifth and tenth-place overall, challenging the efforts of aggressive marque rivals, Ferrari and Aston Martin.

Riding high on the positive results of '58, Porsche fielded three 718 RSKs in 1959, while privateer teams readied another two examples of the same car, as well as a 550A RS. The race was a rare and embarrassing failure for Porsche — all six cars retired with a mix of engine and transmission complaints. In fact, it would be almost ten years and the start of Ferdinand Piëch's reign overseeing Porsche motorsport programmes before Le Mans glory would return to Zuffenhausen.

In 1968, for the first time in its history, the works team achieved the fastest qualifying lap at Le Mans, a feat made possible by the driving skills of Jo Siffert and Hans Hermann in the 908. Porsche cars occupied »



second and third podium spots at race end. It was a superb achievement, and one that paved the way for the sports car maker's first overall win, a result regarded as the most important in the marque's motorsport history and one achieved exactly fifty years ago, in the summer of 1970.

Contrary to popular belief, the 917 made its debut at Le Mans in 1969, but clutch failure forced early retirement after what had been a strong start. The story was very different at the beginning of the new decade. Porsche racing stalwart, Hans Hermann, partnered with Le Mans and Formula One veteran, Richard Attwood, to hammer the no.23 917K (the K being *Kurzheck*, roughly translated as 'short-tail') across the finish line in an eventful race marred by heavy rain. Only sixteen participating cars reached the end. Porsches occupied first, second, third, sixth and seventh place. The prodigal Piëch's dedication to investing in the development of championship-winning cars capable of beating Ford's 'unlimited budget' GT40 was paying dividends.

"The first time I sat behind the wheel of a 917 was in 1969, during qualifying for Le Mans," says Attwood. "Make no mistake, the car was incredibly difficult to drive. Its aerodynamics were wayward and I detected worrying lift at speed. Thankfully, by 1970, the guys at the factory had ironed out these complaints. We were now ready to go racing in a fully sorted Porsche. The event itself was full of incident, lots of crashes and retirements, bad weather, aquaplaning, the works. Surprisingly, these terrible driving conditions worked in our favour, allowing us to take the lead after just ten hours. It was ridiculous position to be in, primarily because Hans and I were by no means piloting the fastest car on the track."

Despite battling electrical problems and misfires caused by falling rain, Hermann and Attwood managed to secure Porsche's first overall victory at Le Mans. It was a momentous occasion, and one that took on growing significance with each subsequent overall win Porsche would go on to achieve in France. Talking of which, another works triumph at Le Mans arrived twelve months after the distinctive red-and-white Salzburg-liveried 917 bagged sports car racing's ultimate prize. It was also exactly two decades after the aforementioned 356s heralded the start of our favourite manufacturer's commitment to the world's most famous endurance contest.

GRID LOCKED

Thirty-three of the forty-eight starters were Porsches in 1971. In other words, a Stuttgart win seemed highly likely from the off. Motorsport fans were kept entertained with Porsches achieving record-breaking qualifying laps, fastest race laps, fastest average speed

917K #23 HAMMERED ACROSS THE FINISH LINE AT THE END OF AN EVENTFUL RACE MARRED BY HEAVY RAIN

and the longest distance travelled (3,315 miles to be exact). Fittingly, Ferdinand 'Ferry' Porsche dropped the start flag. Attwood finished second in his Gulf-liveried 917, close behind the KH coupe driven by Helmut Marko and Gijs van Lennep. Of the thirteen cars that finished in classification, ten were Porsches.

It would be another five years before Porsche hit the top spot. Dressed in Martini Racing livery, the works team fielded a 935 and a 936, the latter driven by Jacky Ickx and van Lennep. The car romped home to first place, with Ickx returning to try his hand at achieving the same result for Porsche in 1977. This time, the works team campaigned a pair of 936s, but things didn't go according to plan: Ickx's car lost power early on, while the remaining Porsche trailed behind in forty-second place.

Rather than kick his heels in the pit lane, Ickx temporarily dismissed the drivers of the surviving 936 and drove flat out all night, regardless of adverse weather. Amazingly, he managed to propel the car to fifth place by the time he handed it back to chief pilots, Jurgen Barth and Hurley Haywood. Inspired by what they'd witnessed, both men drove quicker than expected, but disaster loomed large, as demonstrated when, in the final hour of the race, their hardworking steed developed a serious engine problem. Swiftly, the team's mechanics identified the car's number five cylinder as being the cause of complaint. Their quick thinking enabled a fix (removal of fuel injection from the offending cylinder) that saw the faulty engine continue to run just long enough to finish the race. Amazingly, it did so in first place. Cheering crowds witnessed a surprising end to what had been an undeniably exciting event.

1978 saw Porsche field the Martini-dressed 935 'Moby Dick', nicknamed in recognition of its stretched body panels, bright white paintwork and long tail. Unlike cars designed to compete in multiple sports car and endurance racing championships, this final incarnation of the 935 was designed specifically for Le Mans. Water-cooled cylinder heads were introduced to the proceedings, mirroring what Porsche was doing with its then new line of production cars. »

Above The Salzburg-liveried 917K campaigned to Porsche's first overall win at Le Mans by Richard Attwood and Hans Herrmann

Facing page In response to seeing many of his colleagues die behind the wheel while racing, Herrmann (top right) promised his wife he'd quit if he won Le Mans in 1970. True to his word, he did exactly that

Facing page 1971 winner, Gijs van Lennep, pictured with the #22 917K that bagged Porsche's emphatic second overall victory at Le Mans

Displacement was increased to 3.2 litres, enabling a twin-turbocharged power output of up to 845bhp. Weight was reduced to just 1,030kg, while the driver's seat was shifted over to the right to achieve better weight distribution. This change also had the benefit of giving drivers a better view around the clockwise circuit's right-hand bends.

The car qualified third in the hands of Manfred Shurti and Ralf Stommelen. Lap times were an astonishing fifteen seconds quicker than they had been in 1976. A recorded speed of 228mph on the Mulsanne straight highlighted this outlandish 935's immense power, but its engine refused to live up to expectation — Porsche was forced to settle for an eighth-place finish.

As an exercise in promoting the brand, the following year proved more profitable: a mix of privateer and works 935s and 936s dominated the grid. Heck, even the 928 made an appearance, albeit as pace car. Le Mans was looking more and more like a Porsche Cup competition! As if to prove the point, the winning machine was the Kremer-built three-litre 935 K3 (driven by the famous partnership of Klaus Ludwig and the infamous Whittington brothers), with second-place taken by celebrated actor, Paul Newman, and his co-drivers, Stommelen and Dick Barbour, in the latter's privately entered 935. The final podium place was gobbled up by another Kremer car, namely a 935 driven by the French trio of Laurent Ferrier, Francois Servanin and Francois Trisconi.

The 1980s was supposed to be the decade the 911 marched off quietly into the sunset. Porsche's commitment to its transaxle family of products was clear to see when it fielded three 924 Carrera GTRs in the 1980 Le Mans GTP class. Qualification of thirty-fourth place and a best final finish of sixth overall was hardly the stuff of headlines, though Ickx fared better with a Martini Racing 936, producing an amazing drive to wow spectators until gearbox failure ensured a regrettable second place was the best the team could hope to achieve. The Belgian's frustration was relieved in 1981, when he shared driving duties in one of two

2.6-litre 936s with Derek Bell, a pairing resulting in an overall win and the Ickx name in the record books as a five-time Le Mans champion. It was the start of another phenomenal chapter in the history of Porsche at Le Mans, and one that saw the arrival of the all-conquering 956 in 1982.

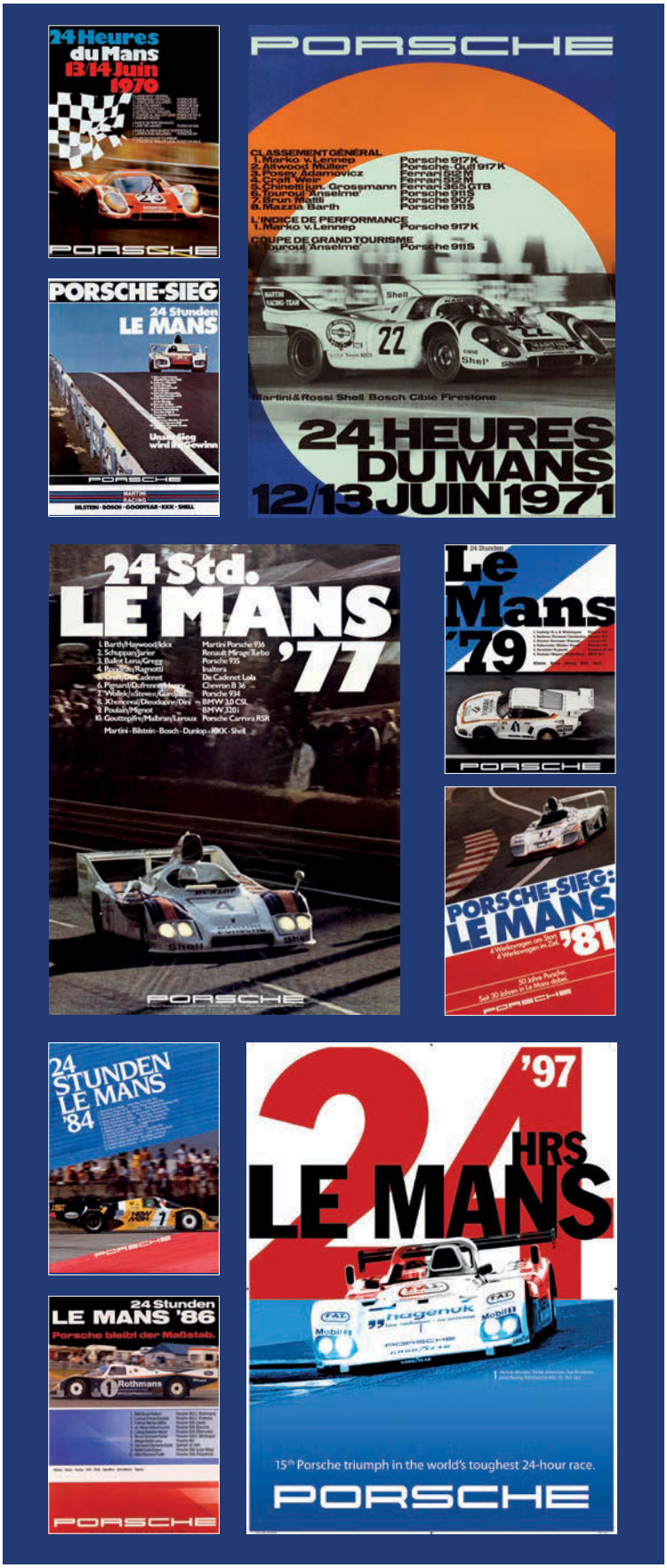
The FIA introduced new race regulations for the 1982 motorsport season, encouraging Porsche motorsport mastermind, Norbert Singer, to design a new car to replace the 936 that had been used to great effect in sports car racing all over the world. Featuring an aluminium monocoque chassis (a first for Porsche), the new machine inherited the same turbocharged 2.65-litre flat-six design used to great effect in Ickx and Bell's title-winning 936 a year earlier. Turning back the clock, the engine can trace its roots back to the 935, before it was modified for Indycar racing. Eventually, to Ickx and Bell's benefit, the unit was called into action for build of the 936, won Le Mans in 1981 and then volunteered itself for the job of propelling the 956.

The car made its debut at the 1982 Six Hours of Silverstone, before the Ickx-Bell dream team campaigned the monster in France. Their cherished chariot remained in first place for the entire twenty-four hours, resulting in the overall win. Two additional works 956s followed close behind, meaning Porsche secured first, second and third place at Le Mans in the new car's debut season. A staggering performance and one which demonstrated just how much of a huge leap forward the 956 was from Porsche's earlier

ENGINE DISPLACEMENT WAS INCREASED TO 3.2 LITRES, ENABLING POWER OUTPUT OF UP TO 845BHP

prototype racers — other than the origins of its engine, the 956 was a significant departure from the design of the 936. Ground-effect aerodynamics and a cleverly designed carbon-Kevlar shell combined to deliver three times the downforce of Attwood's race-winning red 917, while the newer prototype's beating heart was equipped with smaller, punchier turbochargers in an attempt to significantly diminish fuel consumption. Even with these relatively small bhp boosters, the striking Porsche managed to develop more than 620bhp in race trim.

Decorated in Rothmans race livery, the 956 achieved four consecutive outright Le Mans wins between 1982 and 1985, simultaneously crushing competition in »



Previous spread The 935 'Baby' (top) preceded the triple Le Mans-winning 936 Spyder (middle) and the awesome 935/78 known to many as Moby Dick (bottom)

Above According to the theory of downforce, when the 956 reaches 321.4km/h, it should be able to drive on ceilings

Right 911 GT1 took top honours at Le Mans in 1998, though is far from a 911 in race trim

sports car racing across the globe. Ten works examples were supported by more than a dozen privateer 956s, many ending up in the USA, where the now-defunct International Motor Sports Association (IMSA) GTP championship mirrored the regulations of the 956's natural habitat, Group C. Eventually, changes to the car needed to be made for it to be able to continue to race Stateside, leading Porsche to develop an evolution of the 956 in the form of the 962.

Even though it was essentially a modified 956, the 962 was presented as a new model with an extended wheelbase designed to position the front rims ahead of the pedal box after complaints from North American motorsport governing bodies concerning the position of the driver's feet ahead of the 956's front axle centreline. Other amendments included a steel roll cage integrated into a new aluminium chassis, promoting rigidity and further driver safety. In total, Porsche built ninety-one 962s between 1984 and 1991. Sixteen of those were produced for the works team, the rest were sold to privateers.

The factory 962s immediately followed the 956's success by winning Le Mans in 1986 and 1987, contributing to an uninterrupted streak of seven overall Porsche wins in France dating back to 1981. What's more, modified and privately operated 962s won the World Sportscar Championship in 1985 and 1986, the IMSA GT Championship every year from 1985 to 1988, the Interserie Championship every year from 1987 until 1992, all four years of the Supercup series

from 1986 to 1989, the All Japan Sports Prototype Championship from 1985 until 1989, and Le Mans all over again (under the Dauer Racing banner) in 1994. And this is just a small selection of the model's mind-boggling array of triumphs.

One cannot overstate just how amazing the 956 (and its later variant, the 962) is. It's a car that won its first and last outings at Le Mans (races that were an astonishing twelve years apart from one another!) and for many years, held the record for being the fastest car to lap the Nürburgring, a feat achieved in 1983 with a time of 6:11.13s (eclipsed in June 2018 by the 919 Hybrid Evo's 5:19.55 minute smash of the Green Hell). In a world where motorsport technology progresses at astonishingly quick pace, the fact the 952/956 enjoyed virtually unrivalled success for more than twelve years is phenomenal. The story doesn't end there, though. Porsche WSC-95s won Le Mans in 1996 and 1997. The works 911 GT1 achieved the same in 1998. Following a sixteen-year break from Sarthe, Porsche returned to Le Mans in 2015 with the 919 Hybrid, winning overall honours and going on to do the same in 2016, when Toyota's speed merchants were pipped to the post in dramatic fashion by a trio of talented drivers, including *GT Porsche* guest columnist and current works Formula E star, Neel Jani.

EVOLUTION REVOLUTION

Porsche withdrew from LMP1 in favour of concentrating on its Formula E programme at the close of the 2017 season, but not before the 919 Hybrid scored the brand its nineteenth overall win at Le Mans, a result made possible thanks to the sterling work of drivers, Timo Bernhard, Brendan Hartley and Earl Bamber. Porsche's GT cars continue to dominate the field, but whether we'll see another overall win for the Stuttgart brand remains to be seen. What we can enjoy, however, is a look back on almost seventy years of success in Sarthe and an unrivalled number of wins, with special attention paid to that significant first overall victory exactly five decades ago. Mr Attwood and Mr Hermann, we salute you!

THOSE 19 OVERALL LE MANS VICTORIES

1970
917K
Hans Hermann
Richard Attwood

1971
917K
Helmut Marko
Gijs van Lennep

1976
936
Jacky Ickx
Gijs van Lennep

1977
936/77
Jacky Ickx
Hurley Haywood
Jurgen Barth

1979
935 K3
Klaus Ludwig
Bill Whittington
Don Whittington

1981
936
Jacky Ickx
Derek Bell

1982
956
Jacky Ickx
Derek Bell

1983
956
Vern Schuppan
Al Holbert
Hurley Haywood

1984
956
Klaus Ludwig
Henri Pescarolo

1985
956
Klaus Ludwig
Paolo Barilla
John Winter

1986
962C
Derek Bell
HJ Stuck
Al Holbert

1987
962C
Derek Bell
HJ Stuck
Al Holbert

1994
Dauer 962 LM
Yannic Dalmas
Hurley Haywood
Mauro Baldi

1996
TWR WSC-95
Manuel Reuter
Stefan Johansson
Tom Kristensen

1997
TWR WSC-95
Michele Alboreto
Stefan Johansson
Tom Kristensen

1998
911 GT1-98
Laurent Aiello
Alan McNish
Stephane Ortelli

2015
919 Hybrid
Nico Hulkenberg
Earl Bamber
Nick Tandy

2016
919 Hybrid
Marc Lieb
Neel Jani
Romain Dumas

2017
919 Hybrid
Timo Bernhard
Brendan Hartley
Earl Bamber

Top Richard Attwood reunited with his winning 917K

Below Jürgen Barth takes the 936 Spyder for a spin

WELCOME TO THE CLUB

It took twenty-five years for a 911 GT2 to be assembled as a pure racing machine following the discontinuation of the 993 bearing the same name. Believe us when we say the near 700bhp 991 GT2 RS Clubsport was worth the wait...

Words **Dan Furr** Photography **John Rampton**

RAPID TIMELINE

Motorsport is constantly evolving, a result of manufacturers continually fine-tuning their cars and testing the boundaries of each competition's rulebook. SRO Motorsports Group has been at the forefront of sports car racing for a quarter-century, establishing itself as the leader in GT racing. Established in 1995 by CEO, Stephane Ratel, SRO first organised the Lamborghini Supertrophy, before becoming promoter of the then new FIA GT Championship in 1997. From there, the company has taken over the promotion of many different Formula and GT championships, with its GT2 concept next in line.

The arrival of water-cooled flat-six powerplants for the launch of the Boxster and 996-generation 911 marked the biggest change in direction for Porsche since its inception as a sports car maker almost fifty years earlier. Beyond arguments concerning 'fried egg' headlights and 'proper' Porsches, however, were changes to the company's GT-badged offerings, with the naturally aspirated 996 GT3 arriving in 1999 as a homologation model for cars entered into the FIA's exciting (and enduring) GT3 motorsport category, which Porsche continues to dominate to the present day.

Successive generations of GT3-derived 911s have become hot property, but back in the mid-1990s, Porsche was preparing to participate in the then new GT2 racing class. To achieve its goal, the 993 GT2 was launched and, as the FIA's rulebook dictated, a small number of related road cars were built to satisfy homologation requirements. Consequently, fifty-seven units (thirteen of them right-hand drive) were readied for street use, resulting in one of the most valuable and collectible 911s of all time.

Featuring suitably wide bolt-on wheel arch extensions (the kind Liberty Walk and RAUH-Welt Begriff would be celebrated for 'introducing' to the Porsche scene many years later), a giant rear wing with integrated air intakes and a fully stripped interior, the 993 GT2 road car was powered by a twin-turbocharged 3.6-litre six-banger producing »

in excess of 420bhp. Model revisions in 1998 saw that number rise by more than twenty ponies, with maximum torque registered at 432lb-ft. The standard sprint from rest to 100km/h (62mph) took just 3.9 seconds, with period reviewers clocking top speed a smidge under 190mph. Even today, fresh in the wake of the 992 Turbo S completing the same time trial in just 2.8 seconds, the 993 GT2's achievements are eye-poppingly impressive, but in the 1990s? They were utterly extraordinary.

ACCELERATED DEVIATION

This is all well and good, but we shouldn't lose sight of the fact the 993 GT2 was built primarily as a pure Porsche racing machine. The road car offshoot was simply a requirement of satisfying the FIA's rulebook, unlike the subsequent 996 GT2 which, following the switch to GT3 as Porsche's sports car racing platform of choice, was developed as a road car. Immediately, the 993 GT2's hero status was assured, though that's not to say the 996 GT2 was a shrinking violet by comparison – the model is often considered a 996 Turbo on steroids, ditching four-wheel drive and delivering more than 450bhp from its twin-turbocharged 3.6-litre flat-six (a descendant of the Le Mans-winning 911 GT1's engine), rising to almost 480bhp in later production. Once again, wide bodywork (integrated, rather than bolted into place), a lowered ride height, a stripped interior and an exaggerated rear wing visibly separated the GT2 from its stablemates, as did the presence of carbon-ceramic brakes as standard equipment. Notably, this was an industry first. It was also a telling inclusion – ten percent more powerful and seven percent lighter than the 996 Turbo, the GT2 was a force to be reckoned with, even on paper, but the absence of Porsche Stability Management

NOT LONG AFTER THE START OF ASSEMBLY, SRO ANNOUNCED GT2 AND GT3 CARS WOULD BE RUNNING IN THEIR OWN SEPARATE CHAMPIONSHIPS

Above Almost 700bhp and weight of just 1,390kg make for an amazingly quick 911 race car

Facing page Functional Porsche race car office includes only the bare essentials

(PSM) and accompanying driver aids made it a difficult beast to tame, with inexperienced drivers finding themselves running out of talent far quicker than they'd anticipated. Needless to say, it didn't take much for the 996 GT2 to inherit the classic 911 Turbo's nickname, *Widowmaker*.

By November 2007, the 997 GT2 was arriving in main dealer showrooms following its unveiling at the Frankfurt Motor Show. Again, designed as a road car and, once again, a take on the same-generation Turbo, the new 911 was crowned the most powerful Porsche of its kind. The 3.6-litre force-fed lump was now making use of variable geometry turbochargers (VGT), assisting the release of more than 520bhp and 502lb-ft torque. A top speed of 204mph and a dash to 60mph from a standing start in just 3.3 seconds wowed an expectant motoring press, with two-time World Rally Championship victor and Porsche brand ambassador, Walter Röhrl, using the new GT2 to great effect by smashing a lap of the Nürburgring on a public day in just seven minutes and thirty-two seconds. As the Peter Parker principle famously exclaims, however, with great power comes great responsibility. To this end, where the 996 GT2 left its drivers to rely on pure skill, the 997 GT2 was far more forgiving, coming with specially calibrated Porsche Active Suspension Management (PASM) and a PSM system which could be configured by the driver to deactivate lateral or longitudinal stability control. This was also the first 911 equipped with launch control.

Clearly, Porsche was taking no chances regarding the mortality rate of its 997 GT2 client base. Even so, helping to avoid accusations of the brand softening its approach, a limited run of even-more-lightweight GT2s arrived with the addition of an RS badge in 2010. Featuring lashings of carbon-fibre and reworked suspension, the five-hundred units built boasted top whack of 205mph thanks to a further developed flat-six with an output of 612bhp and 516lb-ft torque.

COME INTO PLAY

But wait, we're still talking road cars! Indeed, even the 991-generation GT2 RS was pitched alongside the Turbos S Exclusive Series as a road-ready range-topper when launched at the 2017 Goodwood Festival of Speed. Gone was the manual transmission of yore, instead replaced by a seven-speed dual-clutch PDK gearbox, deemed necessary to handle the requirements of a 3.8-litre flat-six chucking out a massive 691bhp and 533lb-ft torque. Once again, the GT2 badge was being used to announce the arrival of the most powerful 911 ever built, with claims of a zero-to-sixty time of 2.7 seconds and a top speed of 211mph helped by a mix of lightweight magnesium and »

carbon-fibre body parts, as well as thin polycarbonate windows. Unsurprisingly, a host of lap records around the world soon fell.

A year later, at the 2018 24 Hours of Spa, GT2 running as a class alongside GT3 was introduced as an idea by SRO Motorsports Group, the organisation responsible for the development and implementation of GT3 and GT4 regulations, and for promoting and organising championships welcoming of both professional and amateur competitors. Four months later, at the year's Los Angeles Auto Show, Porsche unveiled the 991 GT2 RS Clubsport. Finally, the 993 GT2 had a true successor! The new arrival's engine and transmission remained the same as the 991 GT2 RS road car, but updated PSM and ABS (controlled by dashboard dials), centrelock GT3 R wheels, the same model's integrated colour information display screen, a full FIA roll cage, a single bucket seat, a carbon-fibre steering wheel, the removal of all soundproofing material and the deletion of any remaining unnecessary interior trim knocked a significant eighty kilograms off the road car. Porsche announced production would be restricted to a strict two-hundred non-homologated units, all built to the same specification. Not long after the start of assembly, SRO announced GT2 and GT3 cars would be running in their own separate championships.

RACING EXCELLENCE

The 991 GT2 RS Clubsport you see here, unused and still wearing much of its plastic protective wrapping, was photographed at the workshop of Porsche race car preparation and sales specialist, GT Classics (*gtclassics.co.uk*), and is the seventeenth Clubsport built. Being charged with taking care of the car for its lucky owner saw company boss, Paul Mclean, invited to Porsche for factory training in anticipation of full realisation of SRO's GT2 project. Audi has helped increase appeal by building the R8 LMS GT2 and, announced not long before we went to print with this issue of *GT Porsche*, Austrian manufacturer, KTM, has confirmed its new X-Bow GT2 will begin deliveries this autumn, setting the scene for an exciting grid in 2021.

Though the Clubsport made its debut at the 2019 Bathurst 12 Hour, the GT2 series concept was first put into practice at the same year's 24-hour endurance race at Spa, where the monster 911 took part in the Porsche Motorsport GT2 Supersportscar supporting race. Famously riven by six-time Olympic cycling champion, Sir Chris Hoy (read about his experience by ordering a copy of the October 2019 issue of *GT Porsche* from *bit.ly/issuesgtp*), the ballistic 911 was joined on the asphalt by the new 935. Audi's challenger also drew welcome attention when it participated in the GT Sports Club Europe finale in Catalunya a couple of months later. While motorsport has taken a beating in recent months, it's reassuring to see on-track opportunities for GT2 racing machines continue to expand — the 991 GT2 RS Clubsport is eligible for Pro-Am and GT Sports Club classes of GT World Challenge Europe, non-competitive GT2-themed trackday events and the continuation of Porsche Motorsport's own GT2 Supersportscar weekends, all in anticipation of 2021's GT2 Sports Club Europe running as a standalone series.

With the latter promising a calendar consisting of at least five events, drivers will be able to compete in pairs of Pro-Am or Am-Am, though an Am driver can opt to fly solo if preferred. A pair of one-hour races will be staged at each event, affording the Clubsport, Audi's offering and the new KTM the best opportunity to strut their stuff in a competitive environment. Already, Porsche is offering GT2 upgrade packages to meet fine-tuned race regulations in advance of the series, which we can't wait to witness for ourselves. The 993 GT2 might be a distant memory to some, but its spirit looks likely to live long into the future.

Above Free of any racing livery, this brand new 991 GT2 RS Clubsport is the seventeenth of two-hundred

THE FINAL FLING

The last front-engined Porsche before the arrival of the Cayenne, the 968 was billed as "the next evolution" to prove you really can teach an old dog new tricks...

Words **Richard Gooding** Photography **Various**

RAINBOW WARRIOR

One of the most desirable 968 colours is Speed Yellow. It's also one of the rarest, particularly in North America, where only ten of the 'L12G' brightly-hued 968s are said to reside. Originally a standard no-cost colour, cars in this vibrant shade now attract a premium on the used 968 market. Club Sports, meanwhile, mostly came in eye-popping shades of Grand Prix White, Guards Red, Maritime Blue, Speed Yellow and Black. During 1994 and 1995, however, most of the standard 968's colour palette, including the very vibrant Riviera Blue, could be optioned. Club Sport cars specified with M346 trim featured silver wheels, as opposed to colour-coded rims.

The 944 enjoyed success as blistering as its sills. After the release of the S2 in 1989, factory bosses made plans to develop the model even further. The next-gen 944 was set to wear the S3 designation, but so extensive were the proposed changes, it became clear the resulting car would be more or less an entirely new Porsche. With this in mind, the decision was made to forge ahead with a path that followed the chosen route, but ended with a fresh model. Adopting its development programme codename, the 968 was born.

Launched in August 1991 for the 1992 model year, the new sports coupe from Zuffenhausen comprised a mix of around eighty percent new parts and design elements when compared to its predecessor. Even so, lineage back to the 924 of 1976 was clear to see – the basic profile and window silhouette from the 968's curvaceous wheel arches upwards was inherited from the first model to be listed in Porsche's transaxle range of cars. Keen to forge a 'family resemblance' between its line of products as the 1990s got underway, however, our favourite manufacturer blessed its new model with 928-esque visible headlamps, complete with pop-up functionality and frog-like looks were activated.

SMOOTH STYLE

The 944's wide rear quarters remained, though now boasted more integrated bumpers, smoother lines and gently curved edges. Neat touches included carefully considered wing junctions, as well as door handles and mirrors that'll be familiar to fans of the 993-generation 911 (they debuted on the 968 before the air-cooled car, fact fans!). There was a Fuba 'bee sting' aerial, plus subtle Porsche script between all-red rear light lenses. 968 nomenclature sat rear-top-centre, though blink and you'd miss it – Porsche's new sports machine romped from rest to 62mph in just 6.5 seconds thanks to an upgraded version of the 944's four-cylinder sixteen-valve engine. Displacement was now 2,990cc, with a power figure of 240bhp in a standard state of tune. New exhaust and induction kit ensured the more powerful engine could breathe easily, while updated engine management electronics and a dual-mass flywheel also enhanced the basic package, delivering super-smooth operation.

Big news concerned the introduction of Porsche's new VarioCam variable valve timing system. Debuting on the 968, the VVT arrangement would become a feature – some would say a defining one – of the 993. Applied to the 968's M44/43 powerplant, VarioCam came on song between 1,500rpm and »

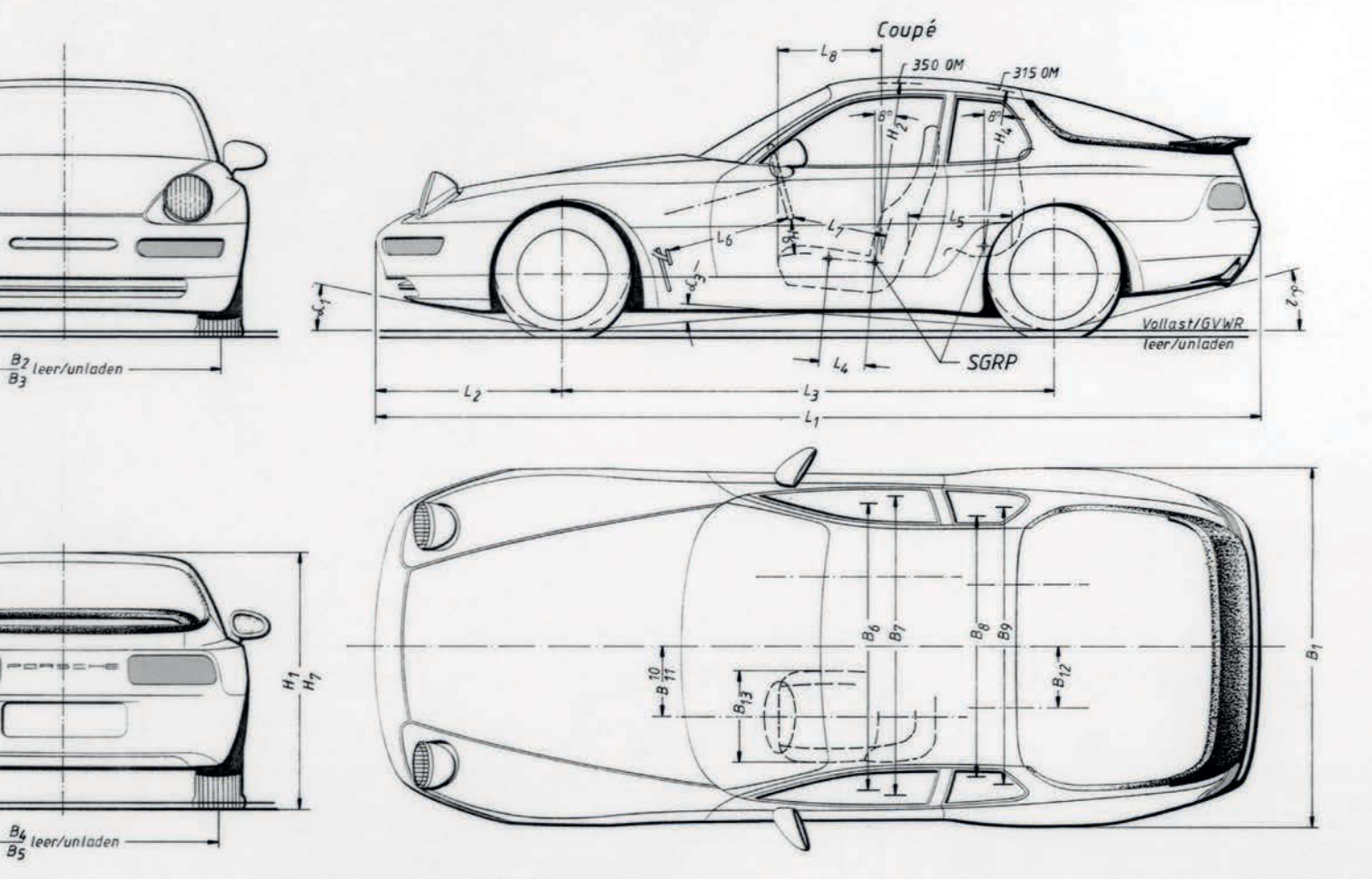
5,500rpm, assisting the production of 225lb-ft torque at 4,100rpm. The last four-cylinder Porsche until 2016's 718-series Boxster, the superb 968 had both the power and the technology to match its streamlined appearance.

A new six-speed gearbox was a ratio up on the outgoing 944's transmission. Non-purists who were less than thrilled at the prospect of stirring a stick shift were offered the then three-year-old Tiptronic system as a cost option. Familiar equipment remained, however, in the form of a chassis inherited from the 944 S2, one that could trace its roots back to the introduction of the 944 Turbo; like the boosted 944, the 968 included Brembo four-pot calipers, while extensive use of aluminium suspension components kept kerb weight down to an acceptable 1,370kg.

TRADING PLACES

Production was moved from the 944's home at Audi's Neckarsulm plant to Porsche's Zuffenhausen facility. Echoing the 944 family, both hard-top coupe and convertible versions of the 968 were available to buy, but unlike the 944, the newer transaxle looked less 'clumsy' with its roof down, the result of a much sleeker profile and careful consideration of where stowed canvas would reside. To the surprise of the period's motoring press, performance was undiminished when the new rag-top was pitched against its coupe-bodied sibling. Indeed, those brave enough to have their toupees ruffled could reach 62mph from rest in the same 6.5 seconds as those safely ensconced in a closed-roof 968.

The first example of Porsche's new speed machine hit UK shores in May 1992. The interior of both soft-top and hard-top models was almost 'identikit' 944, but no matter – all the essentials were present and correct. Moreover, if anyone dared dismiss Porsche's new offering as 'same old, same old', they were very much mistaken. As if to prove the point, *Autocar* declared the 968 as "the world's best-handling car." *Car* added its voice to the debate: "there has never been a better-balanced front-engined, rear-drive car than the 944 Turbo, yet the 968 is just as good. Fast, sure-footed and manoeuvrable, it's thoroughly entertaining on winding roads." The deal was sealed. Porsche had done what seemed like the impossible – it had developed the 944 (the most successful model in the Stuttgart car maker's back catalogue up until the arrival of the Boxster) into a model even



Above A technical drawing from Porsche's styling department, authored 25th February 1992

Facing page Work begins to mould and refine the 968 coupe body shell in 1991

more admired by the world's leading automotive journalists. Sales success seemed guaranteed.

While there was little to be found wanting with the standard 968, an appetite for a more focused version of the Stuttgart-badged newcomer resulted in the lightweight 968 Club Sport in 1992. Borrowing its name from more extreme earlier Porsche models, this fresh, track oriented 968 offered a purer driving experience thanks to the dismissal of standard luxury equipment, including heavy sound deadening material. Tipping the scales at 1,320kg, the Club Sport was obvious in its intentions. The model's colour palette was limited to more standout shades, while seventeen-inch Cup alloys were colour-coded to match the host vehicle's body panels. Thanks to 20mm lowered suspension, 225-profile tyres tidily filled their enveloping wheel arches.

The theme continued inside the car. Manual cranks replaced electric window mechanisms, lightweight Recaro buckets with manual adjusters and body-coloured backs took the place of power pews, while an airbag-free three-spoke steering wheel added a racier look. The same weight-saving regime saw the 968 coupe's rear seats binned, as well as the appointment of a small battery and an 'essentials only' wiring loom. This hoon-tastic »

ROAD TO RECOVERY

Back in 1992, Porsche experimented with the design of a 968 Roadster, a concept produced to evaluate the enticing prospect of a more glamorous open-top Porsche than any of the company's other *al fresco* offerings. A beautiful one-off penned by Porsche Style legend, Harm Lagaay (the same man responsible for developing the 944 into the 968 to begin with), the model featured fixed headlights, a Speedster-inspired lower windscreen rake and a widened rear deck. Speedline split rims were borrowed from the 964 range, while vivid Tahoe Blue paintwork and a colour-coded dashboard insert were also added to the experimental Porsche. Despite the Roadster being marked as something special, however, slow 968 sales did little to encourage Lagaay's superiors of the Roadster's merit as a full-on production car. Instead, attention turned to the development of an all-new Porsche. Revealed to the world as the Boxster, its massive success ensured the company's survival.

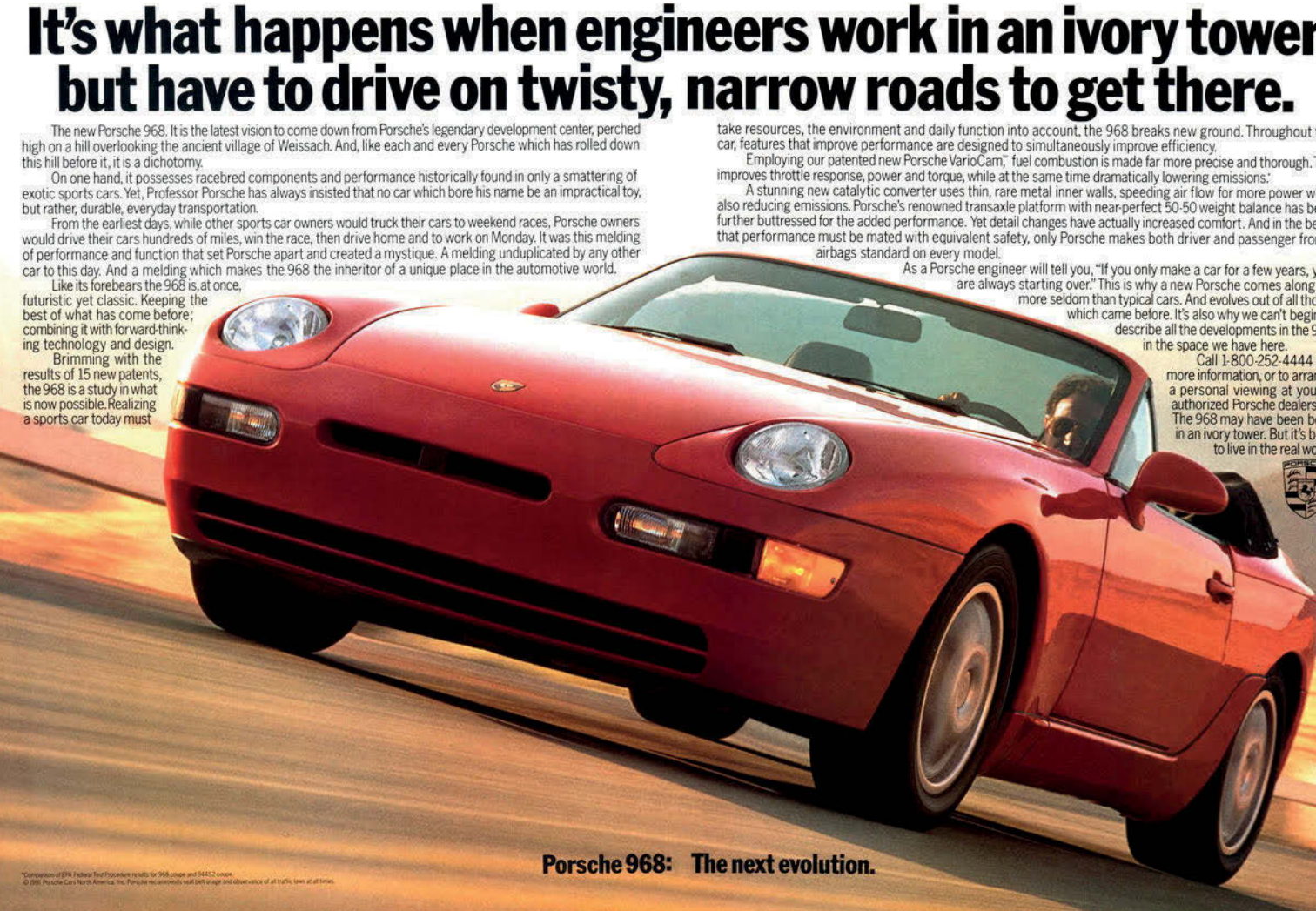
968 couldn't be more focused on its enhanced fast-road and track-friendly abilities, qualities it announced to the world in the form of giant model-identifying body graphics. The benchmark 0-62mph dash was achieved in 6.2 seconds. Top speed was registered at 157mph. An M220 option of limited-slip differential made sure all 240 of the Club Sport's ponies galloped without falter, whatever the ribbon of tarmac they happened to be travelling along.

EARNING RESPECT

Just like the standard 968, the Club Sport attracted rave reviews when it was tested by the motoring media. Crowned with a Performance Car of the Year award by Performance Car, the only complaint seemed to be the fact Porsche's new offering wasn't available for all to enjoy: the lightweight Porsche was only available in the UK, Australia, Europe and Japan. The first examples touched down in January 1993, priced at £7,000 less than the stock 968 – the cost of joining the Club Sport club was listed as £29,975 in 1994.

Buoyed by the warm welcome received by the gym-fit 968, a 968 Sport model was sold exclusively in the UK from 1994 to 1995. Essentially a Club Sport with selected creature comforts reinstated, the £32,995 Sport was priced £5,500 less than a standard 968 and £3,000 less than the Club Sport. Equipment included central locking, cloth Comfort seats, electric windows and the return of rear bum huggers. The Sport's lean-and-luxury personality proved popular, as demonstrated by the model outselling the standard 968 by almost seven-to-one. Even so, only 306 Sports ever found homes, highlighting just how low 968 production was. Even today, outside of Porsche circles, many don't even know the model exists!

THE SPORT'S LEAN-AND-LUXURY PERSONALITY PROVED POPULAR, AS DEMONSTRATED BY THE MODEL OUTSELLING THE STOCK 968 BY ALMOST SEVEN-TO-ONE



Above Pop-up headlamps were a key feature of the 968, carried over from the 944, but banned for new vehicle production on the grounds of safety by the time of the 986 Boxster

Right Wolfgang Heinz Porsche, the youngest son of Ferdinand 'Ferry' Porsche, with a blue-on-blue 968 Cabriolet in 1995

Facing page The 968 was the subject of a big push from Porsche's marketing department, with the model memorably billed as "the next evolution" in print

Sport-focused 968s weren't the ultimate incarnation of Porsche's '90s transaxle offering. That accolade is reserved for the 968 Turbo S. Limited to just sixteen units, the 305bhp quasi-racer looked similar to the Club Sport, but could be correctly identified by its NACA bonnet scoops, brutish front spoiler and adjustable rear wing. The car's three-litre 944 S2-style engine block featured an eight-valve single overhead-cam cylinder head which encouraged prodigious performance: the 968 Turbo S only needed 4.7 seconds to hit 62mph from a standing start, while top speed was 175mph – 18mph up on the Club Sport! Monster torque of 370lb-ft ensured power wasn't far off the beginning-to-be-developed 996-generation 911.

FOUR OF A KIND

Adding to the Turbo S's legacy, a quartet of 968 Turbo RSs were built by Porsche's Motorsport Research and Development division. Essentially a stripped Turbo S, the RS was conceived for Porsche's customer racing teams and offered in two variants. First was a 337bhp car built to meet the rules and regulations laid out by the German ADAC GT series. Ballast was added to bring the car up to a minimum weight of 1,350kg. Second was a 1,212kg 'international' spec race car making use of a KKK L41 turbocharger assisting with the development of 350bhp. Each of the four Turbo RSs was painted a different colour (red, yellow, black, white) and are recognised the world over as the rarest 968s ever produced. Perceived demand, however, encouraged Australian-based engineering outfit, Fitzgerald Racing Services, to build four of its own RS-themed 968s using factory-sourced RS parts and Club Sport chassis. Each car was priced at more than AU$225,000 and came customised in accordance with the requirements of each well-heeled buyer.

The 968 proved Porsche's transaxle line still had a decent amount of life left in it, but all things must pass, and along with discontinuation of the 928 GTS, production stopped in 1995 after 12,776 968s were built (8,402 coupes, 4,374 drop-tops). This low volume assembly means the 968 is, today, more of an exclusive find than the 944, and like buried treasure, its riches will reward those lucky enough to find their name on a 968's logbook. Best of all, used 968 purchase prices have remained sensible (a mint-condition Club Sport will empty your wallet for the same sum as a ropey 911 SC), so get out there and secure a delicious slice of performance Porsche from the marque's excellent front-engined, water-cooled family of sports cars.

CAYENNE TURBO GEN 1

With the price of a first-gen Cayenne Turbo starting at five grand, now's the time to buy this super-SUV...

Words **Dan Furr** Photography **Dan Sherwood**

The introduction of the Cayenne in 2002 was a genius move by Porsche. The first V8-propelled product from the Stuttgart stable since the demise of the 928 GTS seven years earlier, the sensational SUV was based on a common VW Group platform (thereby saving on production costs) and appealed to emerging Asian markets, ultimately resulting in China becoming Porsche's biggest export territory, a title held for decades beforehand by North America. The first off-road Porsche (though quite how many are used in this fashion is anyone's guess) since the Porsche-Diesel tractors of the post-war years, the first-gen Cayenne was also the first production Porsche with four doors.

Though the Cayenne is a rollicking great fourby, it was available to buy in Turbo trim from the off, providing Porsche-loving speed freaks (with kids, dogs, shopping and large amounts of luggage in tow) the ability to enjoy driving a powerful Porsche offering the perfect balance of practicality and performance. First came the 955 Turbo, offering just shy of 440bhp and 457lb-ft torque from its 4.5-litre twin-turbo V8. Then, for the 2008 model year, the 957 (first-gen facelift) Turbo landed, upping the ante with increased displacement of 4.8-litres and other revisions, resulting in engine output of 486bhp and 516lb-ft. It's this model on the pages before you.

Much like 996 and early 997-generation 911s, the first-gen Cayenne has a reputation for cylinder bore wear. It's a rare occurrence, hugely amplified by online reports from those unlucky enough to have suffered engine failure as a consequence of the problem. A noticeable knocking noise from the front end will tell you if there's cause for concern, which amounts to a complete engine rebuild or, best case, the installation of a donor engine. Walk away from any Cayenne you suspect is being propelled by a busted lump. Thankfully, Turbos feature under-piston oil squirters which pretty much negate risk of damage, but make sure you listen carefully when the engine is operating under load and at idle before agreeing to buy.

The low cost of an early Cayenne Turbo (early 4.5-litre examples are available for less than the cost of a 924 S, while facelift models can be bought for ten grand) is very appealing. We caught up with Gary Conway, head of Notting Hill-based premium sports car specialist, GCAP Performance, to find out what you should be aware of when considering an example to call your own.

Right 957 styling has aged much better than that of the earlier 955

Below Mission control is a plush place to be, whether carting the kids to school or hammering along the autobahn

NUMBER CRUNCHER

The 957 Cayenne Turbo was unveiled at the 2008 Beijing Auto Show. Alongside it was the updated Turbo S, producing 532bhp and a sprint to 60mph from rest in 4.7 seconds.

THE CAYENNE SUV RESULTED IN CHINA BECOMING PORSCHE'S BIGGEST EXPORT TERRITORY, A TITLE HELD FOR DECADES BEFOREHAND BY NORTH AMERICA

ENGINE

"The biggest concern under the bonnet concerns the V8's cooling system," Gary tells us. "Early Cayenne Turbos feature plastic coolant pipes which send fluid to the turbochargers, as well as to the engine itself. These pipes are weak and become brittle with age. Facelift models feature aluminium parts, but a small number of early 957 Turbos managed to roll off the production line with the troublesome plastic pipes in place. It's essential buyers check the condition of these pipes on any prospective purchase." He goes on to explain how Cayenne header tanks can also split over time ("they're VW expansion tanks in a super-hot Porsche engine bay") and how coolant loss can be experienced by the crossover pipe between heads at the rear of the engine. "It's crudely glued into place. The adhesive softens, resulting in a loss of fluid. Porsche redesigned the coolant manifold to cure the problem, but it's an expensive part to buy. Some owners bodge the fix with a grub screw. GCAP offers a well designed, two-part screw-in pipe which eliminates any risk of failure and is significantly cheaper than buying a new manifold from Porsche."

Oil changes should be observed every five-thousand miles and, though Porsche claims timing chains last the life of the V8, Gary recommends not letting the host Turbo run on its original chain kit for more than 100k miles.

HISTORY

Make sure you paw through all documentation supporting claims of servicing and maintenance in accordance with Porsche's recommended intervals. Demand to see receipts or invoices proving the seller's suggestion of repair work and replacement parts. Be wary of any unexplained periods of the Cayenne you're looking at being off the road. If in doubt, have a full inspection carried out by a marque specialist. If you're in an owner's club, check to see if this is a service you can take advantage of as a benefit of membership.

Enter the Turbo in question's details into the DVLA's online vehicle enquiry service (visit *bit.ly/dvlaenquiry*). It's free to use and will give you key information about the Porsche you're looking at. Take a few minutes to view information held on the DVLA's excellent MOT history database (*bit.ly/dvlamot*). Another free service, it'll provide you with information relating to all passes, fails, advisories and mileage at the time of each test. Check to make sure details match what's on the car's paperwork.

THE WIDEMOUTH BUMPER IS A MAGNET FOR LEAVES, SMALL STONES AND A GENERAL BUILD-UP OF DIRT, MEANING IT'S THE PRIMARY CAUSE OF DAMAGE TO RADIATORS AND INTERCOOLERS

ANCILLARY SYSTEMS & BODYWORK

While either of the Turbo's V8s (the 955's 4.5 or the 957's 4.8-litre unit) require little maintenance other than an oil change every five-thousand miles, the ancillary systems can prove problematic. The widemouth front bumper, for example, is a magnet for leaves, small stones and a general build-up of dirt, meaning it's the primary cause of damage applied to the radiator, air-conditioning radiators and intercoolers. "If the car you're looking at doesn't have functioning air-conditioning, have a look at the radiators up-front before assuming a gas recharge is all that's required," Gary advises. "Replacement parts can be expensive."

He also suggests checking the passenger footwell for water ingress. "Panoramic sunroof drains get blocked along the A-pillar, while scuttle drains are also known to overflow and empty their contents into the footwell," he continues. "This is where the main earthing points reside, as well as many modules for core vehicle functionality, including the operation of the dashboard instrument cluster. If these modules get wet, you may find yourself in charge of a Cayenne Turbo refusing to move." The fix involves the removal of all relevant interior components, including seat, carpet and underlay. There's also the not insignificant matter of replacing damaged modules and renewing affected wiring.

"Check air-con pipework at the rear offside wheel arch," Gary adds. "It's exposed and can easily corrode."

LOSING CONTROL

Cayenne Turbos with a Tiptronic gearbox may suffer transmission valve body failure, where fluid pressure for the control system drops. Unfortunately, the fix is a replacement (and expensive) control system. Check shifting is as it should be before parting with your cash.

BRAKES, SUSPENSION & PROPSHAFT

"The Turbo's six-piston Brembo calipers are excellent and more than up to the task of stopping such a powerful SUV," Gary reveals. "Brake pads, however, wear quickly on these Porsches, which is why I recommend performance aftermarket parts from the likes of EBC or Ferodo, all of which are available to buy direct from GCAP."

Cayenne Turbos are heavy on their front ends, which is why drop links, ball joints, subframe mounts and the top torque mount can wear faster than you might think. "Where possible, I recommend replacing tired rubber with polyurethane parts," Gary continues. "It's a fit and forget solution that'll radically improve the quality of the ride through reduced engine and chassis movement."

Air suspension compressors are known to fail, but can rebuilt, thereby saving significant cost over replacement parts. The same is true of the propshaft bearing, which can deteriorate with age or high mileage, but can be repaired with a two-piece replacement part fitted to the car in situ. Again, the part is available to buy from GCAP, which also offers a drive-in 'replace and repair' service.

ELECTRICS

Beyond basic radio functions, PCM features (including sat-nav, telephone, external amplifier, TV tuner etc.) are linked through a fibre-optic network. This means that if one module fails, all of them become unavailable to use. Check to make sure everything is working correctly. Similarly, check the tailgate-mounted reversing camera. "It's hidden behind a motorised flap prone to failure through a build-up of dirt," says Gary. "Broken assemblies have to be replaced as a complete unit, which is expensive. Make sure the flap and the camera itself work without fault. Factor the cost of repair into the purchase price."

FOUR-WHEEL DRIVE SYSTEM

The Cayenne Turbo's fourby setup can produce a worrying error message if the traction control system believes it's a detected a faulty transfer box servo motor. Before you panic, consider the health of the host vehicle's battery. Weak units can cause all sorts of problems, from alarm activation to random dashboard messages. If the battery is fine, you'll need a new servo motor. The price from Porsche is expensive, but consider the fact the first-gen Cayenne is based on the Volkswagen Group PL71 platform, shared with the VW Touareg and Audi Q7. This means many of the Porsche's parts are available under a different part number for VW use, saving you a fortune. Best of all, replacement of the motor is a straightforward job, though for those that don't have the time or inclination to get their hands dirty, GCAP is on hand to help. "We're also available to carry out Cayenne Turbo tuning services," Gary smiles. "650bhp with minimal hardware upgrades, which are primarily uprated intakes and recirculation valves, is easily achievable."

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MIXING AND MATCHING

A spare Linen leather interior comes up trumps during the further development of Dan's restored 944 Turbo's custom cabin space...

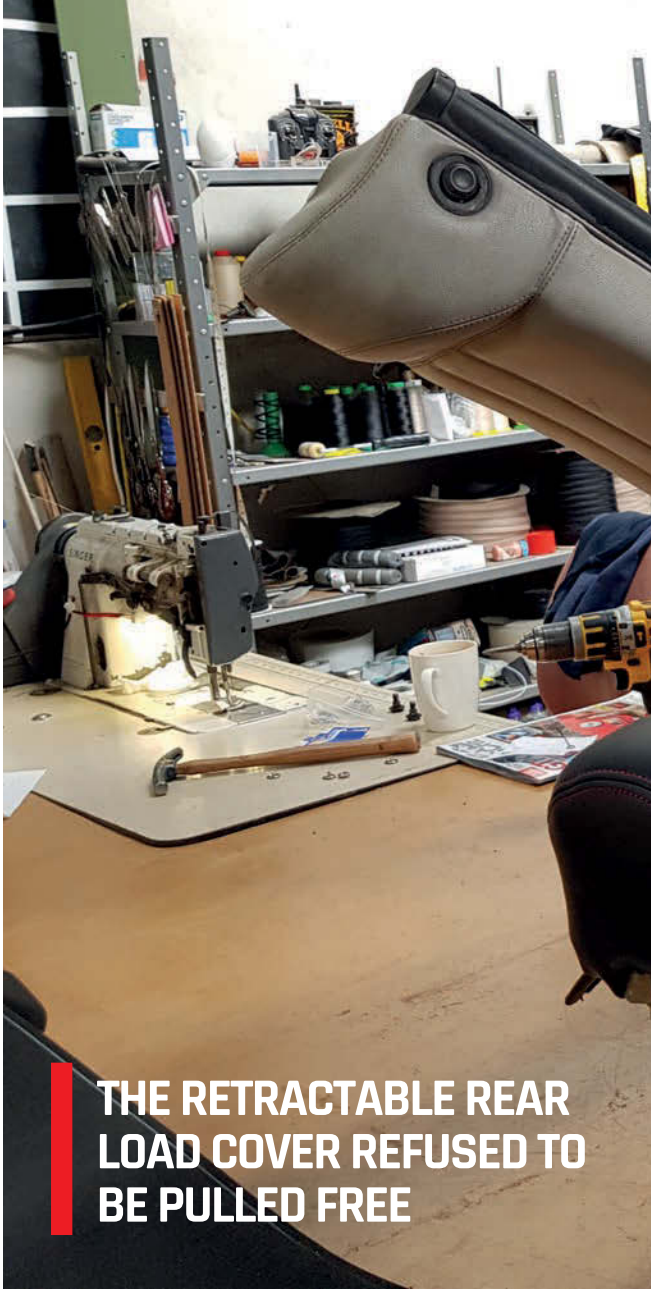
DAN FURR

Those of you who have been following my 1986 944 Turbo restoration project (since I introduced the car to *GT Porsche* back in July 2019) will recall the horrific state of the tired transaxle's Linen half-leather seats, which were completely ruined thanks to a leaking sunroof seal letting water into the cabin during the five years the car spent festering in a hedge. While the leather outer sections of each 'tombstone' acted as a waterproof membrane protecting their corresponding foam interiors, the fabric centre of each seat was completely rotten. Worse still, everything below was completely obliterated, including the seat runners.

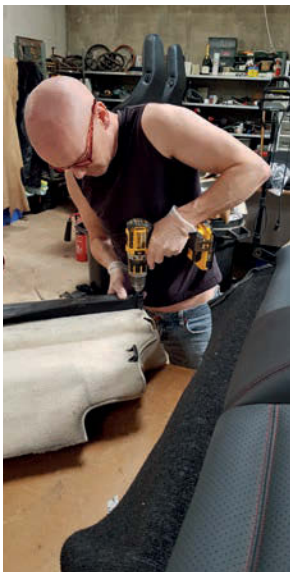
What you might not know is that I bought a complete set of Linen full leather seats to replace the rotten parts I inherited with the car. The donors were a bargain eBay buy (half what I was expecting to pay), though showed signs of cosmetic bolster wear. The imperfections weren't enough to lose sleep over, but they were certainly enough to annoy me every time I laid eyes on them. It was this complaint that led me to the door of premium automotive upholstery specialist, Awesome Classic & Custom, where discussions quickly escalated from the topic of minor repair to that of a complete retrim! In fact, reasoning it made sense for any overhaul of the seats (as well as the car's door cards, dashboard, carpets, headlining, centre console, quarter panels and pretty much anything else that can be covered in soft leather or Alcantara) to be based on the knackered original components, company bosses, Glenn and Greg Ward, suggested I sell the full leathers and let them work their magic on the ruined furniture.

IN THE DRIVING SEAT

As regular readers will know, the transformation of my Guards Red road rocket's cabin from zero to hero has been nothing short of astonishing, though I've yet to part with the donor seats I bought. Largely, this is because I haven't allowed myself the time to take photos and shove the light-coloured leathers back on eBay. My laziness in this regard, however, has proved useful in the long term. Indeed, it was while head trimmer, Greg, was conducting the transition of my Turbo's rear seats from what I first saw when I laid eyes on the car to the mix of new foam, Nero soft leather hide, perforated grey leather panelling and double red stitching, that we appreciated having the donor parts lying around. In the



THE RETRACTABLE REAR LOAD COVER REFUSED TO BE PULLED FREE



first instance, we suspect one of the motors on the newly trimmed front seats might be on the blink. Having parts to lift from the donor seats will immediately enable us to identify and fix the issue. We also noticed the retractable rear load cover attached to the original rear seats refused to be pulled free. Having a complete spare 944 Turbo interior at my disposal allowed for a surprisingly straightforward fix.

A series of simple screws is all that holds the complete load cover assembly to the back of the rear seats. With the part's end caps removed, Greg swiftly removed the offending part and swapped it »

New seat belts and associated hardware were ordered direct from Reflex Safety Systems

with the fully functioning load cover assembly from my impotent donor interior. Luckily, both covers are black (though, interestingly, feature different embossed graphics around their edges), making the donor part fit perfectly with what will soon be bolted into the car's cockpit.

Talking of interior upgrades, one modification I was keen to make as soon as Greg, Glenn and I started talking about the design of my Turbo's new cabin was the customisation of each safety belt. The front belts, fast approaching their fortieth birthday, were showing signs of cosmetic wear, while the rears were aftermarket three-point fixed harnesses in place of the factory lap belts. Deciding I want them in a uniform shade of red to match the double stitching elsewhere in the car, not to mention the coat of Guards Red freshly applied to repaired bodywork by the team at 944 restoration specialist, Retro Restorer, I contacted Stuart Quick, head of safety belt manufacturer, Reflex Safety Systems, with my request. I was surprised at how pleasingly affordable a full set of fresh belts with new tensioners, retainers and brackets was! I'll report back with photos of fitting and the belts in situ (along with the new seat levers, clips and oil filler flap I bought from the guys at Design 911) in due course.

THANKS

Awesome Classic & Custom
awesome.eu.com

Reflex Safety Systems
reflexsafety.co.uk

Design 911
design911.co.uk

Retro Restorer
retrorestorer.co.uk

RETURN OF THE BLACK

Dan's 997 Carrera 4S is back on the road after lockdown restrictions are lifted...

DAN FURR

When lockdown first kicked in, I made the decision to temporarily retire my 911 from the road. Lady Furr was told to work from home on a full-time basis (she usually has a 2.5-hour commute to the office) and *GT Porsche* photo shoots, test drives and other scheduled work due to take place outdoors was immediately off the cards. There seemed little point in paying out for road tax on a car I couldn't use.

With SORN secured, I proceeded to alter the car's insurance policy. All twelve of the vehicles on Furr's Fleet (visit *furrsfleet.com* and look for @FurrsFleet on social media) are covered by RH Specialist Insurance, which offers no-cost mid-term amendments to its policies. Taking full advantage of the fact, I switched my 997's cover from a regular 'use it as much as you like, even for work' policy to 'it's stuck in the garage, laid up for the foreseeable future'.

This money-saving exercise made perfect sense and enabled me to temporarily mothball my Basalt Black beauty until a week before we went to print with this very issue of *GT Porsche*, when the car returned to the road, albeit on one of RH's limited-mileage classic car policies. Qualifying as another cost-free policy amendment, the change ensures I'll be able to get use out of the car for the remainder of the summer, before it's time to return

BATTLE DRESS

Available in two-wheel drive or four-wheel drive, the S-badged first-gen 997 features a bigger engine (3.8 litres) than the standard Carrera, as well as bigger wheels, Turbo brakes, a sports exhaust, bi-Xenon lights, aluminium cabin trim and PASM. Output was increased to 355bhp and 295lb-ft torque.

The 997-generation 911's looks are still fresh sixteen years after launch

Compromised door seals are a common 997 problem

the all-pawed Porsche to a state of suspended animation in winter.

I couldn't wait to get back into the driving seat of this awe-inspiring 911. Being behind the wheel, darting into corners, launching out of them, experiencing the superbly responsive and perfectly weighted steering for the first time in weeks and hearing the distinctive sound of the flat-six roaring from behind my ears was nothing short of thrilling.

Getting so much enjoyment out of the car understandably provides me with the urge to use it as often as possible, covering as much ground as I can, though I'll have to remain mindful of the 5,000-mile limit I've placed on the cover. That said, with overseas trips off the cards, I doubt I'm going to get anywhere near that figure before the cold snap arrives and the car is tucked away until spring, after which, I'll probably end up back on the phone to RH's customer service team requesting further policy changes (sorry, guys!).

CRYSTAL BALL

Of course, none of us really know what the coming months have in store, so predicting what I'll be doing with my beautiful 911 next year is close to impossible. What I can say for sure is that as far as Porsches are concerned, absence certainly makes the heart grow fonder – I know I'll feel elated hopping back into the car (after what I hope is its absence from the public highway through choice, rather than one born out of necessity).

In the here and now, however, I need to draw up a list of jobs to busy myself with while the sun is shining. The car's annual service is due before the next issue of *GT Porsche* lands in your hands, plus I'm experiencing the age-old problem of a wet lower offside door card after rainfall or a deep clean. A failed door seal is the chief suspect. I might as well attack the thing while it's dry outside. Off to work I go!

Above In need of a clean, but back on the road (or, as far as this photo is concerned, taking pride of place inside the Furr's Fleet workshop!)

Facing page We don't want to suggest this 997's time away from action has given it delusions of grandeur, but is the odometer trying to tell us the car is a Group B legend in disguise?

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DROP THE HAMMER

From chump change to premium price tags, here's our look at what's hot (and what's not) in auction rooms...

ONE TO WATCH OUT FOR

NINEMEISTER 964 9m11ST

Cast your mind back to the November 2019 issue of *GT Porsche* and you'll remember the stunning 964-based 9m11ST featured on the pages within. The most accomplished 911 from the 9m custom build department of Warrington-based independent Porsche specialist, Ninemeister, this perfectly proportioned reimagining of a classic 911 is no bigger than a 911 S, despite the major challenges involved in achieving such compact dimensions when dealing with a much larger base model (1991 Carrera 2). This goes some way to highlighting just how extraordinarily engineered the 9m11ST is, and that's before you discover 400 hours were taken up with fabrication and a further 600 hours were invested in the beautiful blue paintwork. Final assembly in autumn 2019 required another 350 hours, which doesn't include preparing the car's mechanicals!

A 3.8-litre flat-six featuring 993 RS pistons, cylinders and cams, as well as specially manufactured 9m billet heads, produces 325bhp with a performance objective of 100k-mile dependability. This really is as close to a zero-risk air-cooled Porsche engine as you're likely to get. Stiffness to the body shell is achieved through seam welds and reinforcement throughout, thereby reducing flex, moving torsional energy to the KW V3 coilovers, custom Fuchs-style wheels (the rears linked by a 9m narrow axle to allow the use of deep dishes on the 964 platform) and tyres.

Auction house, Bonhams, is offering this jaw-droppingly good air-cooled 911 without reserve at its Goodwood Speedweek auction on 17th October. Visit *bonhams.com* for all the details.

1974 914 1.8

Imported from California in 2018 and UK registered the following year, this beautiful blue 914 has recently been treated to a chassis overhaul, including new hub carriers, brake discs, Aeroquip hoses and renewed engine mounts. Offered at the Anglia Car Auctions June Classic Car Sale, the air-cooled classic's original L-Jetronic fuel injection system remains, though having not been used regularly for many years, the car's engine is in need of a full service and tune to get back to its best. Nevertheless, this mid-engined marvel has only covered 33,707 miles from new and was supplied to the winning bidder with a fresh MOT certificate and all relevant paperwork. A bargain buy.

SOLD FOR £10,800

SOLD FOR £164,250

1991 944 S2 CABRIOLET

Made famous on the first episode of the hit Channel 4 television series, *Mission Ignition* (presented by Take That's Howard Duncan and ex-racer, Dario Franchetti), this Grand Prix White drop-top was restored by three ladies (Tine, Sharlie and Lorraine) from the British Women's Drivers Club, before being gifted to the trio at the close of filming. An attractive transaxle with the popular interior and roof finish of dark blue, the car remained with the three until they decided to enter it into the Classic Car Auctions recent online sale, with a promise of all proceeds going to charity. Sadly, this star of the small screen failed to find a new home.

UNSOLD!

1993 964 TURBO 3.6

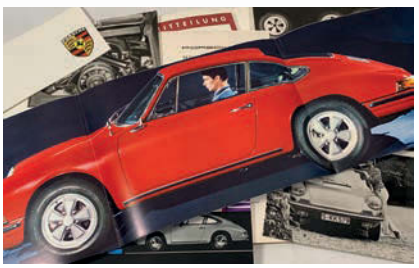
Showing fewer than 58k miles, this unmodified 964 Turbo 3.6 boasts an excellent service history with Porsche specialists, beginning with AFN, before continuing with Graypaul and Charles Ivey, as well as including a bill for £4,228 from Paragon Porsche for a complete brake system overhaul. Since coming into the seller's tenure in December 2001, this stunning air-cooled classic has been serviced on a mileage basis. The engine and gearbox are described as very good, while the Slate Grey paint and Marble Grey leather interior are in excellent condition. The car was offered by Bonhams with original book pack, data sheet and sales brochure, with a final sale price contributing to the company's most successful online sales event held at Bicester Heritage to date.

1986 924

When Volkswagen stopped producing the two-litre blocks used to power the 924, Porsche opted for a detuned version of the naturally aspirated 944's 2.5-litre powerplant and re-released the 924 with an S badge in 1986. Along with 148bhp, the 924 S also came with upgraded suspension, five-stud hubs and bigger brakes, though retained the original model's 'square' dashboard. Offered at Anglia Car Auctions earlier this month and having covered only 116k miles from new, this early 924 S has been the recipient of refurbished wheels, a reconditioned power steering rack, new braking equipment, belts and wishbones. A lot of Porsche for the money.

SOLD FOR £4,590

SOLD FOR $11,700



1966 911 S FACTORY PRESS KIT

Regular readers will recall the cover of the June-July 2020 issue of *GT Porsche*, starring the recently unearthed red 911 S factory press car (order a copy of the magazine at *bit.ly/issuesgtp*). The very same air-cooled classic stars in the original model promo pack produced by in 1966. Comprising a basic sales brochure, colour chart, technical data, press photographs and paperwork announcing the launch of then new Fuchs five-leaf alloy wheels to the 911 line-up, this super-rare set of documents was offered as part of the aforementioned RM Sotheby's memorabilia sale, which featured 210 rare Porsche collectibles offered entirely without reserve from a highly regarded, single-owner collection. In total, the lots on offer generated a whopping $199,392, with this brochure kit contributing a shade under twelve grand. A 356 A Derrington steering wheel led the pack, selling for $6,300.

1994 968 CABRIOLET

'Tis the season for fun in the sun, and what better way to enjoy the great outdoors at high speed than from behind the wheel of a gorgeous Porsche drop-top? The 968 Cabriolet is undoubtedly one of the very best-looking *al fresco* models our favourite manufacturer has ever produced, and seeing this Tiptronic-equipped Midnight Blue beauty presented for sale at the recent Silverstone Auctions live online sale did nothing to convince us otherwise. Beautiful from every angle and cared for during 43,475 miles from new, the three-litre stunner was recently subjected to a mechanical refresh totalling £5k. The car's five-spoke alloys and black fabric hood are in excellent condition, as is the Marble Grey leather interior, features which encouraged a bidding war within a whisker of cracking £20k. A good result for a great 968.

SOLD FOR £19,800

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