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SUBSCRIPTIONS Uttimate Porsche is published every month\* UK annual subscription rate: £47.52 Europe annual subscription rate: £69.99 Canada annual subscription rate: £69.99 Canada annual subscription rate: £69.99 Rest of world: £76.99 \*twelve issues per annum

Find current subscription offers at: www.bit.ly/subscribeup Buy back issues at: www.bit.ly/backissuesup

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UK customer service team: 01959 543 747 Customer service email address: Subsidielsey.co.uk Subsidielsey.co.uk Utilmate Porsche Customer Service Team, Kelsey Publishing Ltd, Cudham Tithe Barn, Berry's Hill, Cudham, Kent, Thifo SAG, United Kingdom

DISTRIBUTION Seymour Distribution Ltd, 2 East Poultry Avenue, London, ECIA 9PT www.seymour.co.uk Tel: 020 7429 4000

PRINTING

William Gibbons & Sons Ltd

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"YOU DO NOT WIN LE MANS. LE MANS LETS YOU WIN." said Porsche LMP1 works driver and Ultimate Porsche quest columnist. Neel Jani. moments after 919 Hybrid #1 decided it'd had enough at this year's race. With more than nineteen hours under their belts and a seventeen lap lead over their nearest rival, it was an agonising case of 'game over' for Jani and his teammates, Andre Lotterer and Nick Tandy.

Fortunately, Toyota's trio of LMP1 machines had been reduced to a single car during the night, and Porsche still had 919 Hybrid #2 on the track. There was everything to play for. What followed was a stellar drive from Timo Berhnard, Earl Bamber and Brendon Hartley, the guys pushing the number two car to the limit in an effort that resulted in Porsche's historic nineteenth overall win at Circuit de la Sarthe. Toyota couldn't come close, having to settle for eighth place overall despite qualifying ahead of the Porsches.

What better time for us to take a trip down memory lane in order to have a look at our favourite manufacturer's amazing history in what is the world's oldest and most

challenging motorsport endurance race. It's been an absolute pleasure to spend time chewing the fat with Le Mans winners (including 1970 917K pilot. Richard Attwood) and to have had the opportunity to examine many of Porsche's classic Le Mans race cars in detail. Along with a profile of five-time winner. Derek Bell, we've presented a selection of these magnificent machines for your enjoyment in this special edition of Ultimate Porsche.

In addition to French fancies, we've got a great selection of fast-road cars for you to marvel at, including Jonathan Stevenson's 1966 911 restomod project, a 928 cop car and Frank Cassidy's awesome collection of tuned air-cooled classics. We've also written a 924 Turbo buying guide for those who enjoy our GTP cover feature so much that they want a turbocharged transaxle of their own!

Dan Furr Editor @DanFurr

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# BACKAND FORTH

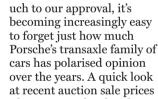
The UK's four Porsche Classic Partner Centres worked tirelessly over a six month period to restore this 1980 924 GTP Le Mans racer

WORDS Dan Furr PHOTOGRAPHY James Lipman









is all it takes to see clean 944 Turbos hurtling towards the forty grand mark, while 924 Carrera GTs are knocking on the door of more than twice that figure. The great unloved? Pah!

Regardless of whether you like or loathe front-engined Porsches, we can all agree that looking after a treasured four-wheeler is part of the joy of owning a classic car. Moreover, a recent hike in the value of transaxles has encouraged generous budgets for restoration and maintenance work, with Porsche Classic Partner Centres worldwide starting to see creeping numbers of old-school, water-cooled cars rolling into their workshops.

In the UK, there are four such sites: Porsche Centre Hatfield, Porsche Centre Glasgow, Porsche Centre Swindon and Porsche Centre Leeds, each home to specially-trained technicians able to care for older cars. "More than seventy percent of all Porsche vehicles ever built are still on the road today," explains Leeds-based Porsche Classic technician, Andy Wexham. "The Porsche Classic Partner programme was established with the intention of arming today's main dealer technicians with in-depth working knowledge of older models. In doing so, the scheme provides owners of classic Porsches with specialist centres they can trust to work on their cars, not to mention the opportunity to take advantage of a rapidly expanding range of genuine parts."



In a bid to highlight the existence of the service, Porsche Cars GB decided to embark on an ambitious restoration project, splitting the various tasks required for the job between its four Porsche Classic Partners. The car it decided to recommission? None other than 924 GTP chassis 002, the big bhp four-cylinder endurance machine driven by respected racers, Tony Dron and Andy Rouse, in the 1980 24 Heures du Le Mans.

## **MODEL BEHAVIOUR**

The choice of car is credited to Porsche Cars GB Owner Services Manager, Jonathan Mannell, who was given a model of the GTP as a gift to commemorate his first visit to Stuttgart. Back in Blighty, he thought long and hard about which car would make a suitable candidate for the restoration project, only to look down and see that the answer had been staring him in the face. "The model was sitting on his desk!" confirms Andy. "Jonathan made enquiries and was delighted to discover that 924 GTP 002 was tucked up in the Porsche Museum's storage facility. Little was known about



Above left The technicians at Porsche Cars GB's four Classic Partner Centres were unsure of 924 GTP 002's condition prior to taking delivery of the car from the Porsche Museum

Above and right 924 GTP 002 on its way to a well-earned twelfth place overall finish at Le Mans in 1980



the condition of the car, but arrangements were made for it to be shipped to England in order for the project to begin," he adds.

Three 924 GTPs were entered into Le Mans in 1980, each driven by a team from Germany, the USA or Great Britain. As a PR stunt, the turbocharged cars were decorated with the national flag of their drivers, resulting in chassis 002 being the only factory car to have ever been campaigned under the Union Jack. It's worth noting that Porsche sent no other works cars to France that year. No championship-winning 911 derivative, no outlandish aero-beast. Just three 924s. Commentators only too aware of the negative press the four-year old production model had been on the receiving end of thought super-successful factory motorsport engineer, Norbert Singer, had lost the plot.

Qualification places of 34th, 44th and 46th did little to convince spectators to the contrary, but a rapid rise through the ranks saw the cars finish sixth, twelfth and thirteenth overall. Granted, these weren't podium places, but they were considered to be a triumph in the face of engine complaints and stiff competition from



### 924 GTP 002 / ULTIMATE PORSCHE





the likes of Jacky Ickx's 908 and Dick Barbour's 935 K3, cars that finished second and fifth place in the race respectively.

After being brought to Britain at the back end of 2015, GTP 002 was sent to the Porsche Experience Centre at Silverstone Circuit where it was presented to its original drivers and representatives from each of the UK's Porsche Classic Partner Centres. Tony Dron revealed that while he hadn't seen the car since stepping out of it close to four decades earlier, he was sure he hadn't left it in such poor cosmetic condition. He wasn't wrong.

Following the car's performance at Le Mans in 1980, it was used to test various cooling setups and aero packages in advance of the following year's competition. The 180mph monster was officially laid to rest in 1982. In the years that followed, many of its components were 'borrowed', making the restoration much harder than anticipated. "It only had two instrument clocks!" gasps Andy. Parts were difficult to come by, and when they were located, they commanded a premium. "A replacement rev counter was being advertised privately at close to €8000! There was no way we could justify that cost. Instead, we spoke to the guys at Reap Automotive. They made a period-correct fascia for a new 10,000 rpm rev counter before it was recalibrated to suit the GTP," he says.

Purists might think that an odd move, but as the broken indicator stalk inside the car suggests, a sympathetic restoration was the order of the day. "Rouse remembered snapping the end of the stalk during the race," continues Andy. "He told us that he kept knocking it with his driving glove. Indicating on a race circuit suggests that fellow track users are safe to pass, which is potentially very dangerous if that's not the case. His solution to the problem was to ditch the offending part of the stalk. As far as myself and my colleagues are concerned, those kind of stories are key to the history of the car, so we've left the snapped part exactly as we found it," he adds.

# **BATTLE SCARS**

The same can be said of the original Dyno tape labelling each of the reinstated dials, but elsewhere, significant remedial work was required. New water pipework, bespoke braided brake hoses, replacement fuel lines and refurbished wiring were all jobs the chaps in Leeds were tasked with. Meanwhile, John Bradshaw, managing director of Porsche approved repair shop, Road and Race Restorations, prepared the car's body for fresh paint, a job that was easier said than done due to significant front clam damage sustained during the car's time as a development

Above The car's restoration was completed by the four Porsche Classic Partner Centres in just six months, a big challenge when so many original parts were missing



vehicle. Unsalvageable, the part needed to be created afresh with nothing other than period photographs to use as a point of reference.

Porsche Centre Glasgow took care of recommissioning suspension, brakes and wheels, but it was the technicians at Swindon who took on the mammoth job of rebuilding the car's '82-spec engine. The exhaustive disassembly, thorough reconditioning, pressure testing and reappointment of parts was rewarding for all involved, but work came to a sudden halt after the Porsche Museum received correspondence from a 924 restorer in the Czech Republic. He'd heard about the GTP project and wondered if those concerned would be interested in swapping the rebuilt '82 inline-four for a genuine 1980 Le Mans engine he had in storage. Crikey.

"You can imagine our surprise when the engine in Central Europe turned out to be the very same lump our GTP raced with when driven by Dron and Rouse in 1980!" roars Andy. And so the job of rebuilding chassis 002's beating heart started all over again. Many supporting parts (including the intercooler and its pipework) needed to be made from scratch. Additionally, extra measures designed to maintain the integrity of parts were introduced to promote further reliability, such as new oil feeds to keep turbo bearings in check.







# **Division Bell**

Derek Bell was supposed to have been 924 GTP 002's third driver at the 1980 24 Hours of Le Mans, but when one of the US team had to pull out following a nasty road accident, the Brit was drafted in to assist AI Holbert in 924 GTP 003. The car finished thirteenth, just five laps behind GTP 002. Meanwhile, 924 GTP 004 screamed ahead to take sixth place in the hands of Jurgen Barth and Mandred Schurti, covering a total of 316 laps. The restoration of any Le Mans car is a huge challenge, so hats off to the guys who worked tirelerssly to rebuild 924 GTP 002.



Andy spent a fortnight at Porsche Centre Swindon helping the site's senior technician, Kevin Allen, with the engine build and fitting while Hatfield's Simon Coath worked with his colleagues in Hertfordshire to refurbish the car's reinforced five-speed transmission. "On paper, each Porsche Classic Partner had a different role to play in the project, but it really was a group effort," he stresses, pointing out Andy's stay in Swindon and the time Hatfield's guys spent assisting with the initial strip of the car after it landed in Leeds.

# **BOX CLEVER**

Fortunately, the gearbox was in good working order. "Unlike the engine that was in the car at the start of the project, the transmission was an original part from 1980. Obviously, it was built to withstand the demands of endurance racing, so while it's true to say that we had very little information to go on regarding the unit's specification, we knew that it had been built with reliability in mind, which explains why it was in such good condition," explains Simon.

Top quality titanium internals were overhauled, reset and refitted. "We had to be sure that a Le Mans class winner could punish the car around a race circuit without fear of gearbox failure," he laughs. Sure enough, Tony Dron did exactly that with a demonstration lap at the Porsche Experience Centre when the finished car was revealed to an expectant motoring press a few months back. Le Mans magicians, Jurgen Barth and Derek Bell, pilots of the other 924 GTPs in 1980 (Bell stepped in to help the American team when one of its drivers fell ill) were also in attendance. "After driving the car, Dron expressed his enthusiasm



for how well it performed, telling all present that it was like stepping back in time. It was amazing to hear his positive feedback, and all Porsche Classic Partner technicians involved in the project took his words as recognition of a job well done," concludes a suitably smiling Andy.

At the time of writing, 924 GTP 002 is sitting in Porsche Centre Hatfield's showroom where it's about to be joined by the 928 restored and raced by the four Porsche Classic Partners in the Historic Sports Car Club's 2017 1970s Roadsport Championship. If the big V8 is anything like as impressive as its four-cylinder stable mate, then we can't wait to see it in action when 1970 Le Mans winner and Porsche brand ambassador, Richard Attwood, gets behind the wheel of the car over the summer. All that's left for us to do is wonder what the next restored classic racing Porsche will be!

**Top left** Tony Dron, Jurgen Barth and Derek Bell were present for the car's unveiling at the Porsche Experience Centre. Silverstone Circuit



# Porsche 964 Turbo 3.3 £134,990

Porsche Classic Partner Leeds is proud to present this meticulously maintained 964 3.3 Turbo (1992). Its history and service record has been recorded mostly by official Porsche Centres and it comes complete with a Porsche Certificate of Authenticity. Finished in Grand Prix White with a Matador Red special leather interior, the car has covered just 48,486 miles. Specification includes: limited slip differential, electric sports seats, sunroof and the original Blaupunkt symphony radio.



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**NEWS & EVENTS** 

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# **'Race Against Time' campaigner, Chris Drummond, mourned**

**Popular Porsche personality loses battle with cancer** 

t's with deep sadness that we report on the passing of our friend, Chris Drummond. Regular readers of Ultimate Porsche will remember Chris's 'Race Against Time' cancer awareness campaign from his guest column in our launch issue. Detailing how he was using his passion for Porsche to raise funds for Stand Up To Cancer, his message resonated with readers who recognised that despite his battle with advanced secondary cancer of the liver, the quietly-spoken vachtsman was keen to ensure others consulted their GP if they were in any doubt about their health.

Initially, Chris used his Autofarmtuned late 911 Carrera 3.2 as a way of promoting his campaign to members of Porsche owners clubs, but various media outlets and Porsche AG picked up on the story, posting links to his Facebook fundraising page (you can find it at *facebook.com/RATP88*) across their social media channels. This support gave Chris's spirits a huge lift during his final days. He knew that if his efforts encouraged other petrolheads to get cancer diagnosed early, then he will have had a positive impact on the ongoing fight against this devastating disease.

Of course, there was a target set for his fundraising activities; £30,000 was the sum he hoped to raise for charity. We urge you to text *RATP88* £1 to 70070 (or visit Chris's Just Giving page at *bit.ly/ratp88up*) and together we can honour his memory by generating enough in the way of donations to make a significant difference to the lives of others.

Our thoughts and condolences go out to Chris's family. Keep 'em peeled for his specially-decorated 911 as it makes its way around various motor shows before being auctioned for charity later in the year.



## Your Porsche at the PEC

In conjunction with the 2017 Silverstone Auctions Porsche Sale, Porsche Club GB members are being offered the exciting opportunity to drive their own cars at the Porsche Experience Centre. Silverstone Circuit, Friday 20th October. The forty-five minute driving experience will see members partnered with a professional driving consultant. Breakfast, lunch or afternoon tea will be provided, and as part of the event, members will have access to the Silverstone Wing to view Porsches consigned to the sale. The price is £95 and bookings can be placed online by visiting bit.ly/pecauction



### FIA Porsche homologation papers released

The FIA's online database has recently been updated to include all homologation papers held for classic Porsches. Ranging from mild to wild, the cars and their modifications can be viewed in detail by visiting historicdb.fia.com and punching in the desired model. The paperwork on offer (in downloadable PDF format) makes for fascinating reading and covers models including vintage 911s, the 924 Carrera GT and 928 S2 motorsport machines.

## 928 fortieth birthday bash at Brooklands

More than 150 928s gathered at Brooklands on Sunday 28th May to celebrate the fortieth anniversary of the legendary V8-powered GT. Led by event organiser and Porsche Club GB 928 Register secretary, David Hemmings, examples of the model covering its entire lifespan were arranged on the venue's famous banking. Earlier in the day, David led a series of discussions about the 928 with key industry figures, including racing driver, Tony Dron, whose only victory in a 24hr race was from behind the wheel of a 928 S2!

Mike Cotton joined Porsche Cars GB as Press & PR Manager in 1976, a year before the 928 was launched. His presentation included a series of pre-production photos and images of vehicle testing. Similarly, Porsche Club GB motorsport manager, Steve Kevlin, provided a 'behind the scenes' insight by drawing on his experience as a Porsche Cars GB employee involved in the launch of the 928 at the Birmingham NEC Motor Show.

The celebrations continue with a series of events throughout the year, including a special 928 stand at the forthcoming Fast Car Festival, Donington Circuit, Sunday 2nd July. Visit *bit.ly/fastcarfest* for event information and to order tickets.



# See you there...

FAST CAR FESTIVAL

Once again, our colleagues at Fast Car magazine will be descending upon Donington Park for the annual Fast Car Festival. From classic Porsches to monster trucks, there will be a huge variety of automotive joy to marvel at, with owners clubs, magazines and the motorsport fraternity presenting a fabulous selection of cars, track action and entertainment throughout the day. The event takes place Sunday 2nd July. Tickets can be purchased online at bit.ly/fastcarfest

### CHATEAU IMPNEY HILL CLIMB

Motorsport returns to Chateau Impney once again this summer when more than two hundred competitors strive to write their names in a new chapter of the venue's race history across the weekend 8-9th July. Regarded as one of the UK's most unique hill climb courses, the Droitwich environs were immediately hailed as "the most picturesque of this country's sprint venues" after its first hill climb event took place in 1957. Tickets . are available to buy at bit.ly/impneyhc

### YORKSHIRE PORSCHE FESTIVAL

Our friends at independent Leeds-based Porsche specialists, Strasse, and Specialist Cars of Malton welcome more than 400 Porsches onto the Lotherton Hall estate for a celebration of all things Porsche, including a highly anticipated concours competition. Club displays, a retail village, live music and a hog roast are all on offer. Cost of entry to the event is just £6 per car if booked in advance, and entry fees include admission to the hall and estate. Visit *bit.ly/yorkshirepf* for more information.

### **PLANET** PORSCHE

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# PILOTI 'CIRCUIT' LE MANS FOOTWEAR

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Pictured here is the low-cut Piloti 'Circuit'. This stunning leather shoe takes its design cues from vintage Le Mans racing cars. It features an attractive race stripe in French national colours and a woven French flag next to raised event branding. A 100% leather upper in white is joined by a black leather heel decorated with a red band, while a further nod to racing can be seen in the tread pattern of the shoe's detailed 80% rubber, 20% leather sole.

The attention to detail and quality construction of this excellent driving shoe is bound to be a big hit with lovers of Porsche, especially as 'Circuit' can be worn as comfortable casual footwear. UK sizes available range from 6.5 to 12.5. Gents, start your engines!

Price: **£158** www.bit.ly/pilotilemans







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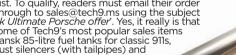
Since 1991, Richbrook has been designing innovative automotive accessories. The company's dedication to quality, fit and finish explains why it is the first-choice OEM equipment supplier for many leading car manufacturers. Its range of tailored floor mats for classic Porsches is a prime example of these high standards at work; cut and styled specifically to match the host vehicle's footwells, each mat is made from hardwearing, soft-touch, deep-pile 980g premium carpet with binding leatherette trim. The required fittings for your car are supplied with each set of mats, while anti-slip backing material prevents unwanted movement. Models catered for include 924, 928, 944, 911s of all ages Since 1991, Richbrook has been designing catered for include 924, 928, 944, 911s of all ages and many modern Porsches, with a range of colour options including beige, black, grey and a variety of trim colours. Best of all, these top-notch mats will set you back less than forty quid. Amazing value for a fantastic product.

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# TECH9 DISCOUNT OFFER FOR ULTIMATE PORSCHE READERS

Liverpool-based independent Porsche specialist, Liverpool-based independent Porsche specialist, Tech9, is offering a generous 15% discount on any Dansk/JP Group products during the months of July and August. To qualify, readers must email their order wish list through to sales@tech9.ms using the subject line *'Dansk Ultimate Porsche offer'*. Yes, it really is that simple! Some of Tech9's most popular sales items include Dansk 85-litre fuel tanks for classic 911s, 944 exhaust silencers (with tailpipes) and body panels, but anything made by Dansk qualifies for this most excellent offer. Visit the Tech9 website to view the company's the Tech9 website to view the company's full range of available products.

www.tech9.ms/parts



TURBO-SPEC TRACK ROD UPGRADE FOR CLASSIC 911

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## BRUMM 1:43 1971 LE MANS 917 K

LE MANS 917 K As detailed elsewhere in this special edition of Ultimate Porsche, the works 917 K driven by Helmut Marko and Gijs van Lennep roared across the finish line at Le Mans to take first place in 1971 following Porsche's first overall victory at the event a year earlier. It's fair to say that you're never going to own the championship winning '71 car (sorry about that), but you can soften the blow by buying this Brumm 1:43 scale model instead. Supplied with the front damage visible on the full size car when it crossed the finish line, this superbly detailed die-cast is limited to just 1000 units and is yours for a budget-busting twenty-five notes. **Price: £25** 

www.bit.ly/917brumm

### SPARK 1:43 LE MANS 964 CARRERA 2

The Team Paduwa 964 Carrera 2 was driven to 26th place at Le Mans in 1993 by Bruno Llien, Alain Gadalk and Bernard Robin. It may not have reached the podium, but that doesn't mean that you can't pay tribute to the team by affording their wide-arched 911 pride of place on your mantelpiece! That's right, die-cast model maker, Spark, has created a 1:43 version of the red racer. The car is presented in a presentation case and features detailed livery, as well as a wingmounted air intake true to the real deal. Visit the Racing Models online store where the model can currently be bought with a 15% discount.

### Price: £43 www.bit.ly/paduwa964

A HIGH TECH RADIALS



The BF Goodrich 924 Carrera GTR was raced to sixteenth place by the trio of Jim Busby, Marcel Mignot and the fabulously named Doc Bundy at Le Mans in 1982. In recognition of the team's efforts in the face of stiff competition, Truescale has released a 1:18 resin model of the car. Highly detailed and supplied atop a presentation plinth, this superb model even features period-correct safety harnesses complete with strap stitch patterns! **Price: £130** 

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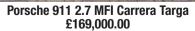
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# **EBONY**AND IVORY

This Light Ivory 1966 911 restomod was once a formidable rally weapon known as 'The Black Rocket'

WORDS <mark>Dan Furr</mark> PHOTOGRAPHY <mark>Matt Woods</mark>







uy with your head, not with your heart. That's what they say, isn't it? Well, nobody told Jonathan Stevenson, the owner of the Light Ivory 911 you see on the pages before you. "I first viewed the car in the dark," he

admits. "I had very little idea what I was looking at or listening out for due to not having much experience of 911s. I'm a 928 owner that was on the hunt for a 356, but here I was, trying to make sense of a tired rally car in low level light. It looked cool. It was an early 911. I was awestruck. And yes, I did exactly what everyone says not to – I paid the full asking price. As if that wasn't bad enough, I agreed to buy the car without so much as a test drive!"

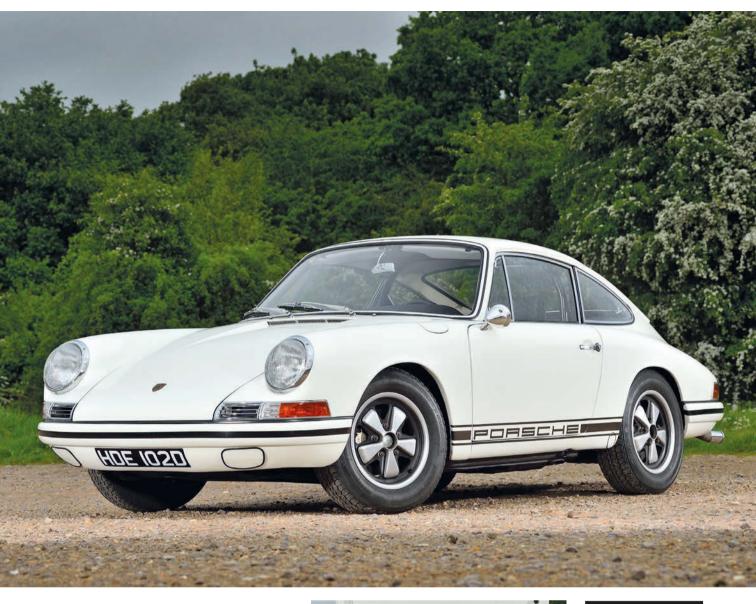
His purchase took place three years ago after the search for a 356 failed to yield an example that wasn't rusty or overpriced or rusty and overpriced. It was while idly scanning the classifieds on *carandclassic.co.uk* that he stumbled upon the advertisement for the 911. At that point in time, it was a black mud machine that was covered in stickers advertising the services of a Welsh waste disposal firm. Nice!

"I bought the car from Terry Brown, a rally driver who campaigns a 250bhp Group 4 Mk2 Ford Escort. He fancied trying his hand flying across dirt in a classic Porsche, a desire that led to his decision to import the 911 from Finland back in 2011," explains Jonathan. In the land of a thousand lakes, the car had been put through its paces by Eugen Damstedt, a competitor in the historic class of the immensely popular European Rally Championship.

Eugen had affectionately named the car 'The Black Rocket' after importing it from California and ditching its original Light Ivory paint job in favour of solid black. He ripped out now-valuable interior trim, fitted polycarbonate windows, chassis protection plates, mudflaps and a roll cage. Following the flying Fin's decision to invest in a 911 SC many years later,

**Above** Beautifully presented Light Ivory body does nothing to suggest that the car was once an angry mud machine

**Right** Every part of the '66plate 911 has been overhauled



Terry bought the '66-plate Porsche before participating in 2012's Harry Flatters Historic Rally, the Wydean Stages Rally and the Pirelli Historic Rally in Kielder Forest, but no matter how competitive the car was, he found it difficult to bond with.

## **RISKY BUSINESS**

"Terry missed the tail happy antics of his Escort," confirms Jonathan, shortly before telling us that in the space of four hours, he went from sitting at home scrolling through online car sales ads to standing in a village in deepest, darkest Wales, agreeing to empty his wallet in exchange for an old Porsche. What could possibly go wrong?!

Money transferred, collection was arranged and Terry agreed to apply a fresh MOT to the car. Jonathan – weary after his impromptu road trip, an overnight stay in Wales, a dash back home at silly o'clock in the morning, a rushed change of clothes and a day at work spent in a nauseous daze – kept staring



A family affair Ferdinand Alexander Porsche, known to many as 'Butzi', son of Ferry Porsche, grandson of Ferdinand Porsche, was the designer responsible for the success story that is the Porsche 911. While Butzi's father and grandfather were engineers, he was more concerned with aesthetics, keen to create a sports car that transcended fashions. "I wanted to design a completely neutral car free of anything fancy," he said after the launch of the 911. It was tradition that every generation of the Porsche family took part in the creation of a new generation of cars. Job done... and then some!







JONATHAN STEVENSON

Occupation Lawyer

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Best thing about your 911 restomod The sound it makes about 3500rpm

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# Road and race

In 1966, Porsche introduced the 911 S. The model featured a 158bhp engine and the now legendary Fuchs five-spoke forged alloys. In motorsport, the car's engine was refined and used in another of Butzi's designs, the Porsche 904. Contrary to popular belief, the 904 is the design Butzi was most fond of. It needed to be given the green light by homologation officers shortly after build in order to qualify for the same year's race season. There was no time for anyone to make changes to the car, which means that the 904 represents Butzi's most original. unaltered creation.

★ at the gloomy photos he'd taken on his smartphone. "I really didn't know much about 911s. I thought the car represented a good deal, but I'm not convinced that I was in a position to be able to determine if that really was the case. Was I mad? Probably," he sighs. He was also worried about what his wife would think, especially after she informed him that "Kate Moss drives a black 911". You wouldn't have found Kate Moss in Jonathan's 911. Actual moss, perhaps, but no sign of a supermodel in amongst the considerable amount of Finnish and Welsh mud filling what seemed to be every one of the car's cavities.

## SPECIAL DELIVERY

Both Stevensons were nervous the day the car arrived at their home in Harpenden. Fortunately, both loved what rolled off the trailer and onto their driveway. Many hours were then spent removing the aforementioned body stickers. And cable ties. Hundreds of them. It was while Jonathan was getting up close and personal with his new toy that the significant amount of rust he inherited with his purchase began to reveal itself. Oscillating between "what the hell have I bought?" and "what a cool car!", he was unable to work out whether he'd forever kissed goodbye to his hard-earned, especially when his first experience behind the wheel of the rusty rally weapon was "fairly sickening".

He tells us that his new 911 was in bad shape. "It featured a short shifter that required every gear change to be accompanied by serious physical exertion. The steering was utterly knackered. The car darted to the middle of the road whenever I loosened my grip on its steering wheel. I asked a local restorer to fix various niggles and remove miles of superfluous wiring in a bid to make the car roadworthy, but then came a loud clunking noise from the rear end.



Worried that I'd bought a wrong 'un, I looked to the internet for advice and quickly discovered that there's no such thing as a cheap 911!"

Despite being terrified by stories of sixfigure restoration budgets, he was reassured after a conversation with Chris Flavell at Fenn Lane Motorsport. Chris's 'can do' approach to mechanical repairs immediately put the 43-year-old lawyer at ease, and the pair of petrolheads came to an agreement that would see Jonathan remove the engine (with the assistance of elbow grease delivered by his mate, Sean, and instructions from Pelican Parts) before delivering it to Fenn Lane Motorsport's Nuneaton workshop.

Left with an impotent 911, Jonathan couldn't help put prod and poke until he was able to ascertain the extent of the rust inhabiting his car's shell. It quickly became clear that

Facing page and above The

car's life spent rallving means

that much of its original trim

was missing, a feature that

allowed Jonathan to apply a mix and match of furniture

and engine components from

across the range of classic 911s



# OVER THE COURSE OF **FIVE DECADES**, THIS BRILLIANT 911 HAS BEEN A STANDARD SPORTS CAR, A **RESTOMOD** AND A **GLOBETROTTING** RALLY WEAPON

new sills and floor metal would be needed. Chris had a look and confirmed corrosion had spread even further. To say that the car's chassis lacked structural integrity would be the understatement of the year.

After much soul searching, Jonathan decided that the car deserved to be saved. The rust was sorted, closely followed by a return to Light Ivory paintwork. The fact that so much original trim was missing meant that he could play with a mix of parts from various classic 911s. For example, the car's engine is a 'bitsa' comprising a '65-spec case, 2.2-litre cylinder heads and fiendishly expensive S-spec Weber 40 IDS carburettors. An estimated 170bhp is managed by a standard dog engagement gearbox. Custom Fenn Lane Motorsport parts feature throughout.

### ΤΟΡ ΤΟ ΒΟΤΤΟΜ

"Pretty much everything has been replaced or refurbished," beams Jonathan. "Chris has been great. He doesn't sugar coat bad news, and he understood my wish for a capable fast-road 911 within the means of a modest budget. His extensive experience of building and repairing classic 911s has been critical in the development of the car as it stands today," he adds.

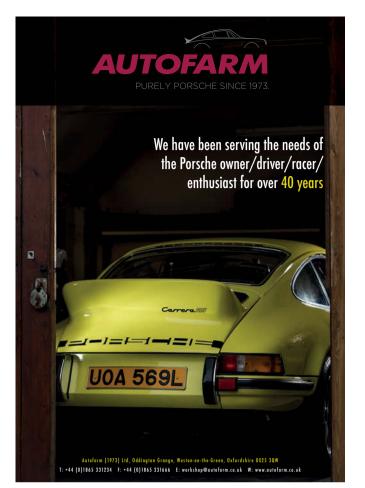
Its interior remains free of rear seats, the space they once occupied now interrupted by a

911 R half-cage. A MOMO GT steering wheel, an eBay-sourced mahogany dash, bucket seats, Willans safety harnesses (complete with period correct Britax labels), lightweight carpets, replacement door cards, a new headlining, reinstated switchgear and gauges have been installed, as has a new heater system that keeps Jonathan's ankles nice and warm.

"I'm thrilled with how the car has turned out. It's taken two years to sort, but it's been worth the wait. I wanted to be able to use my classic Porsche without worrying about affecting its financial worth, and I've got a car that fits the bill perfectly. Chris and his team at Fenn Lane Motorsport have done a fantastic job, and I'm grateful for their attention to detail," he smiles.

Over the course of five decades, this brilliant 911 has acted as a standard sports car and as a globetrotting rally weapon. Today, it performs as a 'sports purpose' machine. Jonathan's efforts amount to what we imagine somebody in the 1960s may have done to their stock 911 in order to prepare it for weekend track time. Thankfully, its current custodian has been sensible enough to update the pokey Porsche without eradicating its motorsport history (the car still wears pop rivets applied during 'quick fix' rally repairs). It's very much 'The Black Rocket' at heart... just on't expect it to be wearing any cable ties!

**Above** No whale tail, no big bumpers, just a clean, early example of a classic Porsche





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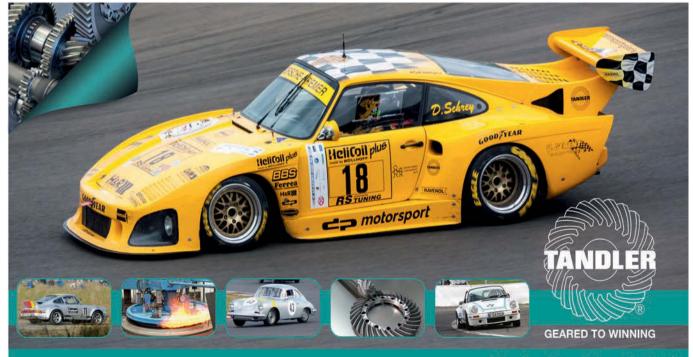


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# **Torque Driver**



# **Richard Attwood**

Porsche's record-breaking number of overall wins at Le Mans started with Richard Attwood's emphatic victory behind the wheel of a 917K in 1970. Today, the veteran racer can be found in the cockpit of a 928...

017 marks forty years since the Porsche 928 made its debut. In the four decades since the frontengined, V8-powered GT first went on sale, it has carved a special niche in the admiration of Porsche enthusiasts around the world. To celebrate this significant anniversary, Porsche Cars GB and its four Classic Partner Centres (Hatfield, Swindon, Glasgow and Leeds) have followed their excellent work restoring 924 GTP chassis 002 – as seen on the front cover of this magazine – with a project designed to give an early 928 a new lease of life.

The car in question has been specially prepared for racing in this year's Historic Sports Car Club (HSCC) 1970s Roadsport Championship. In addition to the time I spend between instructing at the Porsche Experience Centre Silverstone and working as a Porsche brand ambassador at historic motorsport events, I've been invited to drive the 928 as it challenges for silverware at some of the UK's best-loved motor racing circuits.

My first outing with the car took place at Silverstone. It rained. A lot. I was already aware of the fact that our big, heavy GT was pitched against nimble, lightweight cars (including MGB GTs, Datsun 240Zs and various offerings from Lotus). In the dry, I'm not sure I'd have been able to finish in the third place I achieved at race end, but the 928's weight acted like downforce in the wet, affording me the upper hand.

Cadwell Park was a different story. It was the first time I'd raced at the 'mini Nürburgring'. The tight turns and twists of the tree-flanked section of track after The Mountain were well suited to the other cars on track, but the 928 struggled to be match their competitiveness. It's a Porsche that comes into its own on long, high-speed straights, but with so few of those left (many are now interrupted by chicanes in a move to make them safer for drivers and spectators) I'm left wondering if my podium place at Silverstone is as good as it's going to get for the 928 this season. Only time will tell!



This isn't the first time I've campaigned a 928. In 1984, I accepted an invitation to drive alongside Vic Elford, Howard Meister and Bob Hagestad for Brumos Porsche in the Daytona 24-hour Classic. The car was largely standard and super-reliable. We finished fifteenth overall, which was a really good result considering how powerful many of the cars we were up against were that day.

With assistance from Road and Race Restorations (a Porsche approved body shop and race car preparation firm in Manchester), the 928 I'm driving today has been completely stripped, reconditioned, resprayed and readied for racing. The car's engine has been overhauled and returned to pristine condition. In every respect, all modifications respect series rules laid down by the HSCC. Point your browser at *www.bit.ly/928calendar* for a full list of dates and venues the car will be appearing at. I look forward to seeing you at the track! Above Each Porsche Classic Partner Centre involved in the preparation of Attwood's 928 will act as pit crew and support team for the rounds of the '70s Roadsport Championship that are closest to their workshops

We finished fifteenth overall, which was a really good result considering the cars we were up against

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B

# Torque Owner



# Alice Tabner

The public parking area at a steam rally provided 356 drop-top enthusiast, Alice Tabner, with her first glimpse of the classic Porsche she's spent the rest of her life in love with...

lat-sixes. Weissach axles. Turbochargers. For all their bells and whistles, the cars that make use of these performance parts are supplementary to requirements in the eyes of a growing group of motoring fans dedicated to the first true sports car to be presented as a Porsche. I am, of course, referring to the 356.

As Germany recovered from the war, and as the 1950s beckoned with the hope of a brighter future, a small workshop in Gmund, Austria, started churning out beautifully curved cars the likes of which hadn't been seen before. A prototype came first, but after the production costs were calculated as being economically unviable (an expensive space frame was the main culprit), a box-section framework was developed on which to load a modified Volkswagen Beetle engine and perfectly contoured body panels.

Ferdinand Porsche and his son, Ferry, were engineers, not coachbuilders. Their focus on innovative car assembly didn't help when it come to body building (no, not that kind). Sensibly, they enlisted the help of a number of third parties to assist, with 356 panels subsequently formed at small body shops in Vienna and Switzerland.

The 356 was revealed to the world at the Geneva Motor Show in 1949. It went down a storm. My own first experience of the model was when my parents took me to a steam rally as a kid in the 1980s. There was a dog show, a tractor display and a collection of classic cars to look at. Border collies were more my twin sister's thing, whereas I was interested in what I now recognise as sports cars. While my dear sibling went to look at sheep being rounded up, I walked around the retro rides. Many years later, my mum told me that I was, in fact, simply plodding around the car park close to where she'd left her Fiat Strada.

Nevertheless, among the boxy motors lined up on what was presumably a farmer's field lending itself to the event, I spotted a beautiful car like no other. It was a 356 Cabriolet,



although I didn't know it at the time. I have only my mum to tell me that "it wasn't a Beetle", although in fairness, she'll be the first to admit that she has less than an encyclopaedic knowledge when it comes to cars. Maybe I was looking at a replica? I just remember being struck by how different the drop-top was to the boring family hatches I'd been brought up with.

I imagine the sense of wonder I felt at seeing my first 356 was similar to the emotion experienced by those attending the Geneva launch in '49, the difference being that I wasn't in a position to make sense of what I was looking at, let alone reach into my pocket and place an order for one of the first 356s to be built! Today, however, I'm part of a community of enthusiasts who share our love and stories about the 356 on forums and across social media. I'm also lucky enough to be able to claim ownership of my dream drive - a 356C Reutter Cabriolet. As for my sister, she's currently the owner of four dogs. One of them is called Shep. Perhaps I wasn't the only one to have had a life-changing experience that day?!

**Above** A Porsche 356 (yes, we know it's a Speedster), not parked up at a steam rally







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# Torque Enthusiast



# **Russell Osborne**

Porsche's desire to keep winning at Le Mans helps successive generations of motorsport fans fall in love with endurance racing, suggests Russell Osborne...

'll never forget watching my first Le Mans. It was 1987. I was twelve years old, and my Dad (a massive motorsport fan) managed to hook up the television in our front room so that he could see the drama unfold from the comfort of his armchair. I'll admit that I had no prior knowledge of the race, let alone Porsche's dominance of it in the preceding years, but I was immediately captivated by the cars I was watching on the small screen. The Rothmans Porsche 962C was particularly fascinating. I'd never seen a car like it! Even the striking yellowand-blue Williams machines being driven by Nelson Piquet and Nigel Mansell in Formula

One looked tame in comparison. Porsche had remained unbeaten at Le Mans since 1981. It was a fantastic run of results, especially when you consider the fact that the team managed to win world endurance racing titles during the same years. Jaguar, however, were hell-bent on making life difficult for Porsche. In the lead up to the 1987 24 Hour of Le Mans, the British team's Silk Cut XJRs were the cars to beat. Was the 962 too old to keep up its winning streak? Porsche didn't seem to think so, building four works cars in readiness for war on the track in France.

Unfortunately, one of the cars was wrecked by Hans-Joachim Stuck during testing. Another was destroyed during practice in France, leaving two cars for the race. Jochen Mass, Bob Wollek and Vern Schuppan took turns in 962 #18. Stuck, Derek Bell and Al Holbert were in charge of car #17.

After almost an hour of high-octane action, 962 #18 was out of the race after one of its cylinder banks threw in the towel. Porsche had one car left and more than twenty-three hours left on the clock. Adding to the frustration of the works mechanics, it started raining, but where the Jags carried on with caution, Stuck put the pedal to the metal and spent three hours pushing the car to the limit until he stepped out of it with a lead amounting to more than full lap over the closest XJR. As the race progressed, two of the big cats bowed out (one with a burst



tyre, the other with mechanical complications), leaving a single XJR to hunt down 962 #17.

Thankfully, Stuck, Bell and Holbert held their nerve and won the race with a twenty lap lead against all odds. It was a magnificent victory in a year that asked serious questions of the 962's ability to keep winning races. Porsche answered in style. More importantly, it notched up another highly valued win at Le Mans.

Watching the closing stages of the race was incredibly exciting, and my younger self became immediately hooked on the spectacle of endurance motor racing. Today, I'm even more thrilled to bear witness to what goes on at Le Mans, having made the trip out to France to watch the action no fewer than five times. And if the 919 Hybrid's recent hat-trick of wins is anything to go by, I'll bet that many of today's youngsters are getting bitten by the bug just as I did all those years ago. Here's to next year's attack of that hallowed asphalt! **Above** 1987 24 Hours of Le Mans winning car, 962C #17, part of a special display at the Porsche Museum in Stuttgart

A magnificent victory in a year that asked serious questions about the 962's ability to keep winning



Porsche people



B20 RSR

We ventured to the South East of England to meet Frank Cassidy and his collection of tuned air-cooled classics

WORDS Dan Furr PHOTOGRAPHY Alan Schaefer



Porsche people

t's safe to say that one person's idea of automotive heaven is another's idea of automotive hell, and that's certainly true when it comes to the wonderful world of classic Porsches. On the one hand, vou'll find an army of diehards who will state in no uncertain terms that a Ferdinand speed machine should be kept in its original state of tune and true to its factory trim. After all, the manufacturer spent hundreds of millions developing its cars to be the best they can be, so why bother changing anything? Countering that argument, an increasing number of modifiers are swapping wheels, changing colours, reconfiguring chassis and adding big bhp upgrades in an effort to personalise their rides. There's nothing wrong with altering a classic Porsche in order for it to suit the tastes of the individual, they argue.

These two camps are unlikely to ever see eye to eye, but it's worth delving deeper than their respective headlines in an attempt to find out why such a clash of opinions exists. For the former, maintaining originality is often a desire driven by an eye on the classic car market, where owners don't want to lose money tied up in a car by tinkering with its standard specification. We've also spoken to proud Porsche pilots who feel that changing the mechanical or cosmetic configuration of their cars is akin to being disloyal to the brand.

#### **GO YOUR OWN WAY**

Tuners disagree wholeheartedly. Yes, their tinkering may impact the financial value of the cars they're playing with, but they'll tell you that there's little to complain about when it comes to personalising a Porsche in order to suit its owner's driving style. These guys claim that a passion for Porsche should be about the driving experience, not a return on investment. Besides, many modifiers use neglected cars as the starting point for their restomod projects. Ergo, the time and money being invested in them is affording many classic Porsches a new lease of life where they would otherwise be driven into the ground.

We visited a lock-up deep in the Oxfordshire countryside to meet Frank Cassidy, the owner of an impressive fleet of air-cooled sports cars, most of them wildly different from the way they looked and behaved when they rolled off the production line. "It's easy to forget that only a few years back, the 964 was the 911 that nobody wanted," he points out. "When I started personalising Porsches, you could buy a high mileage 964 for very little money compared to what they command today. They simply













JPM 80V

This page What started out as a pair of rear wheel arches soon turned into this lovingly built 3.5-litre 1973 RSR tribute





FRANK CASSIDY

First Porsche 1989 964 Carrera 4

Favourite Porsche Black Betty, my 1990 964 Carrera 4

Best thing about Porsche ownership The driving experience

Worst thing about Porsche ownership The cost of parts at main dealers can be eye-watering!



#### "I'VE **BOUGHT AND MODIFIED** A VARIETY OF PORSCHES TO FURTHER MY UNDERSTANDING OF **THE 911'S EVOLUTION**"

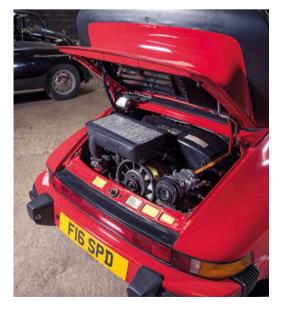




FIG SPD



#### Series link

Our 'Porsche People' series gives you the chance to showcase your collection of classic Porsches in a magazine read all over the world. Got a pair of 968s in the garage? We want to know about 'em! Use a 924 as your daily while your 356 stays out of the rain? Tell us more! Use editor Dan's contact details (they can be found accompanying his introduction to this issue of *Ultimate Porsche*) or hit us up with photos and an overview of each car by messaging us through our Facebook page. We look forward





Facing page Lightly modified Guards Red 930 Turbo is in immaculate condition and offers a perfect balance of handling and raw engine performance

This page 1963 356 Super 90 was a lucky auction buy and is destined for hot rod mods

didn't have a value that would be impacted by the introduction of aftermarket tuning equipment," he reasons.

His first Porsche was a Carrera 4 that pumped out smoke and dumped its oil at every given opportunity. Frank didn't care – he was finally driving his own 911! "I loved that car, but it was a complete dog," he sighs. Eventually, the smoker made way for a black Carrera 4 that is still in his possession today. Heavily modified and delivering massively enhanced power through its four-wheel drive transmission, the car remains its owner's firm favourite and has been with him through thick and thin. And then there's the rest of his collection...

"I've bought and modified a variety of Porsches and Porsche-designed motors to further my understanding of the 911's evolution. Driving and working on cars as old as the Beetle and the 356 gives me an insight into the progression of air-cooled engines and the vehicles they power. In turn, this tangible feedback equips me with knowledge that helps me to get the best out of my 911s from both a driving and tuning perspective," he explains.

His Beetle is a USDM Californian import loaded with a 1914cc turnkey twin-Weber lump and Motorsports Tulsa pulleys. Retaining much of its original brightwork, the car is best described as a 'Resto Cal' (an American VW scene label used to reference a slammed and modified Bug decorated with chrome and exterior accessories, such as wing mirrors and fog lamps). It's a rapid machine, a fact that led Frank to install big ol' Wilwood anchors.

His 356 is more sedate, taking the shape of a 1963 Super 90 bought at auction in







Milan last year. Destined to be stripped of chrome, dropped, given bigger wheels and powered by a hot rod engine, the black beauty has led an interesting life. "It belonged to a wealthy Italian businessman jailed for tax evasion," says Frank. "His estate was seized and sold at auction by the authorities in an attempt to recoup lost treasury income. I wasn't the winning bidder, but after the fella offering the most money failed to come good on the deal, I was given the chance to add the car to my collection," he smiles.

#### WILD HORSES

It's a compilation of classics that includes a gorgeous 1989 Guards Red 930. Trick camshafts, a K27 turbocharger and a Borla exhaust provide the car with a welcome hike in horsepower. Frank has resisted tampering with its chassis, instead opting for an OEM+ approach to tuning the tidy Turbo. "Stiffening its suspension would make for a less than comfortable ride. It's an animal, and it needs to be treated with respect, especially when the back end squats. I don't want to compromise the car's status as a useable fast-road racer," he stresses. He's been less restrained with the build of his 1973 RSR-inspired Signal Red road rocket. The project started out with a set of metal RSR rear quarters that were soon looking for a 911 to be attached to. A 1980 Carrera 3.0 shell – an abandoned restomod project – was sourced and packed off to Dorset-based 911 restoration specialist, Canford Classics, with an instruction for a comprehensive body and transmission build, while Neil Bainbridge at BS Motorsport was charged with the assembly of a high output 3.5-litre flat-six (yes, you'll have to ignore the 2.4 badge on the car's engine cover!) topped with independent throttle bodies.

Bilstein dampers, thick anti-roll bars, beefy brakes and Braid wide wheels wrapped in super-sticky Pirelli Corsa rubber keep the car on the straight and narrow (literally), while its interior has been stripped of all creature comforts save for beautifully trimmed buckets and new carpets. We'll be featuring this car in more detail in a forthcoming issue of *Ultimate Porsche*. In the meantime, Frank is busy 'running in' the new engine before he can let rip. "I've got 800 miles to go before Nick will check valve clearances and release

This page 'Resto Cal' Beetle is a Californian import and delivers plenty of smiles to the mile thanks to a tuned 1914cc lump



679 BAD



#### Can you help?

Can you help? When asked which car he'd like to add to his collection next, Frank doesn't hesitate to tell us about the 1983 Carrera 3.2 Targa his father used to own. Going by the reg plate A513 YGH, the red 911 wore Teledials and was sold to a friend of the Cassidy family in France, only for Frank's father to buy the car back years later. Eventually, it was sold to a UK buyer. Today, Frank is keen to know of the car's location so that he can make his interest in buying known to the current owner. If you think you can help, email us or contact Frank directly by searching for him on social media. Look for his handle: blackbettyandco for his handle: blackbettyandco

Above and below Stunning 3.6-litre 964 Turbo is producing 360bhp. The car had to be de-cluttered of RSR gear after Frank bought it, resulting in a return to more standard specification (albeit with a derestricted exhaust system). The car is one of many 964s that Frank has owned, his favourite being the black Carrera 4 he refers to as 'Black Betty'

"I'VE GOT A **911T** ON THE GO, PLUS VARIOUS OTHER **AIR-COOLED PROJECTS** THAT AREN'T HERE"



➤ currently stifled ponies," he remarks. "After that, I'll explore the potential for major chassis upgrades and more focused suspension geometry settings."

More brutal than the Signal Red 911 is his Acid Yellow '74 RSR tribute. Described by its master as "three pedals and a steering wheel", the fully forged 3.5-litre monster is pumping out a solid 350bhp from an engine built around a boat-tail crankcase, Carillo rods, ported and polished heads, sprint cams, a titanium valvetrain, ITBs and direct injection. It'll spin its wheels in third, the noise it makes is deafening and Frank's fiancée refuses to step inside it.

#### **RED ALERT**

"I spotted the car during a visit to Redtek, the air-cooled Porsche engine specialist operated by recognised supercar performance guru, Nick Fulljames," recalls the magnificently maned petrolhead. "I was immediately reminded of the Le Mans footage I was glued to as a kid. Nick told me that the car's owner was thinking about selling, and I didn't hesitate to register my name on its logbook."

Featuring a lightweight fibreglass body, zero soundproofing, giant BBS split rims, polycarbonate windows, Bilstein coilovers and a strengthened 915 gearbox, the car is an absolute riot, and one we'll be returning to in a future

Below A life spent in the dry and use only for hill climb competitions meant that this ace 285bhp 964 RS was in tip-top condition when Frank bought it a short while ago edition of *Ultimate Porsche*. For the time being, however, we've got a tasty-looking pair of 964s to inspect. Yum!

679 BAD is a radiant red 3.6-litre Turbo that wore RSR body decoration prior it landing at Frank's gaff. He's since returned the car to more or less standard specification (although a big bore exhaust encourages enhanced airflow), and he cites its 360bhp as perfectly matched to the model's refined handling. It's a far cry from RSR 57R, the left-hand drive Summer Yellow RS that has spent most of its life as a hill climb racer. Frank spotted the car buried in online classifieds and spent the following two years dipping in and out of a sympathetic restoration that sees the 285bhp belter wear restored or replaced motorsport-oriented kit, including Cup-spec ported and polished cylinder heads, Recaro Pole Position bum huggers, BBS rims, Yokohama AD08 black circles, a colour-coded roll cage, a performance clutch and silencer deletes. Due to a life spent racing, the car has never seen road salt, meaning that its body was completely free of corrosion before being rebuilt.

So what's next on Frank's wish list? "I'm constantly working to improve the specification of my black 964. Additionally, I've got a 1973 911T on the go, plus various other air-cooled Porsche projects that aren't here right now," he reveals. Automotive hell? What rot!



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Porsche 911T 2.4L 1972 Coupe Manual Gearbox, LHD, Slate Grey with Red leather interior.



Porsche 911T 2.2L 1970 Coupe 5 Gear Manual, LHD, Signal Orange colour code 1414 with Black leather interior.



Porsche 911T 2.2L 1970 Coupe Manual Gearbox, LHD, Irish Green with Brown leatherette interior.



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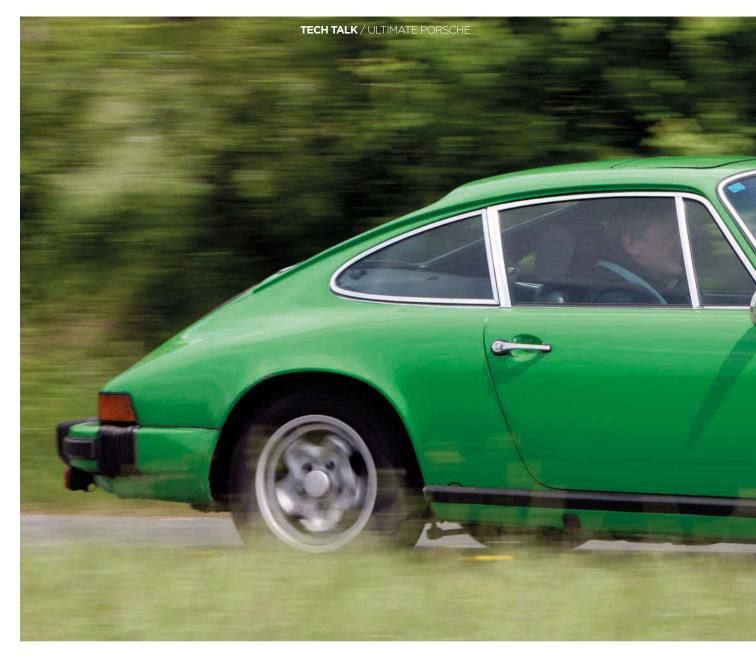
Porsche 911E 2.2L 1971 Targa Manual Gearbox, LHD, Tangerine Drange with Black interior.



Porsche 912 1966 Coupe Manual Gearbox, LHD, Bahama Yellow with Black interior.

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In addition to making your Porsche look pretty, alloy wheels deliver performance and handling advantages. Here's the first instalment of our two-part guide examining the benefits of the right rim...

# Wheels in motion







s we all know, the right wheels can make or break the look of a car, but they can also deliver

significant improvements to the way it handles, accelerates and stops. Wheel design has much more of an impact on performance than many people give it credit for; unsprung weight, the cooling efficiency of your brakes and the geometry of your suspension are all affected by the rims you fit. The design of a wheel is essential in the search for peak performance, so it pays to be armed with knowledge when buying your car a set of alloys. Let's take a closer look...

#### **UNSPRUNG WEIGHT**

The term 'unsprung weight' refers to any mass on the road side of your Porsche's suspension springs. Typically, this includes hubs, driveshafts, brakes and wheels. You can reduce unsprung weight by fitting alloys in place of steelies. Doing so will result in quicker turn-in, sharper steering response and better braking. In rallying and other motorsport disciplines (where suspension components are worked hard), having a lighter unsprung weight puts less stress on dampers, meaning they'll perform better and last longer.

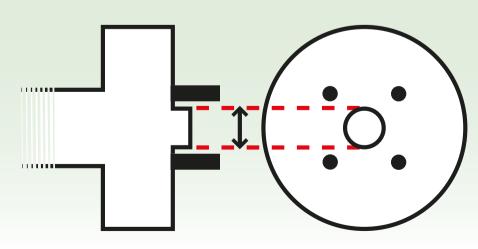
#### DIAMETER

Large diameter wheels are often considered to be more aesthetically pleasing than smaller rims, but that's not why they're used in motorsport applications. The truth of the matter is that bigger wheels provide space for bigger brakes. It's a given that beefy calipers loaded with large discs offer better braking performance than smaller stoppers. In order to run a big brakes, you need big wheels to wrap around them. It's as simple as that!

That's not to say that fitting the biggest set of wheels you can find is necessarily the best idea in terms of performance. Bigger wheels require low profile tyres to keep the rolling radius as close to the original wheel and tyre measurement as possible. In theory, this keeps gearing correct, speedos accurate and suspension geometry unaltered, but bigger wheels weigh more than their like-for-like smaller counterparts, increasing your car's unsprung weight.







#### **CENTRE BORE**

The centre bore of a wheel is the diameter of the hole that fits onto the flange of the hub. Most modern wheels are hubcentric, meaning that they'll fit tightly onto the hub, transferring the vehicle's load as they do so. With this fitment, vibration is massively reduced and the accompanying studs or bolts do nothing other than hold the wheel firmly in place.

When it comes to lugcentric wheels, the studs or bolts take the load of the car because the centrebore isn't a snug fit onto the hub. This type of wheel is uncommon and requires regular replacement of the studs or bolts.

Many mass produced aftermarket wheels feature a larger-than-required centre bore. In these instances, the bore can be shimmed by fitting spigot rings.

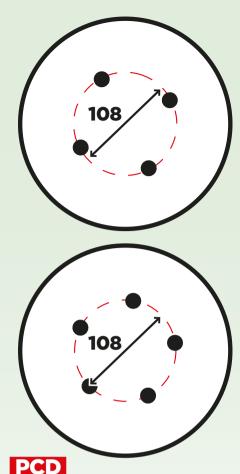


# WIDTH

The main reason for fitting wider wheels is to be able to appoint wider tyres that offer greater grip through a bigger contact patch with the road. Contrary to popular belief, rim width is measured from inside lip to inside lip (as opposed to the overall outside dimensions of the wheel) in order to take the thickness of kerb lip out of the equation. It's not uncommon to see modern 4x4 alloys with a kerb lip of over 20mm thick, making the outside measurement of an eight-inch rim appear to be more like nine-inches!

It's not always the case that wider wheels are the best choice for a car. For example, twelve-inch wide wheels may work well at the arse end of an air-cooled 911 due to the amount of weight over the rear axle (and the amount of downforce generated by the car's aerodynamics), but the same size wheels at the back of a Vauxhall Astra? There simply isn't enough weight at the back of a typical hot hatch to warrant fitting them. Without weight spread across the tyre, it won't generate enough heat to work properly.

The surface the car is likely to be driven on is also an important consideration. A silky smooth race track offers lots of contact with a tyre, so wider wheels work better here than they would on loose gravel or on a poorly maintained public highway (and it's safe to say the United Kingdom has more than its fair share of those!).



Pitch Circle Diameter (PCD) refers to the bolt pattern of the wheel. It is the diameter of the circumference of the centre line of the drilling holes. Imagine drawing a perfect circle that went through the centre of all the bolt holes. Measure the diameter of the circle you've just drawn. That's the PCD. It's a standard unit of measurement used to identify the bolt pattern of a specific wheel. It is always quoted as the number of bolt holes followed by the diameter of the circle we've just mentioned. For example, an early 924's 4x108mm PCD has four bolt holes on a 108mm diameter circle, whereas the 928's 5x130 PCD has five bolt holes on a 130mm circle. Some aftermarket manufacturers offer 'multifitment' products, where two sets of bolt holes are machined on the same wheel.



#### TECH TALK / ULTIMATE PORSCHE

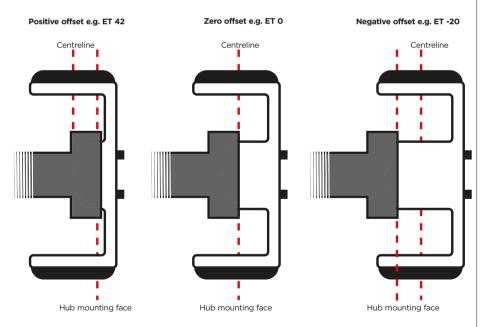


#### OFFSET

Referred to by the term ET (an abbreviation of *Einpresstiefe*, the German word for 'insertion depth'), the offset of a wheel not only dictates whether it will fit a particular application, but it also influences the handling abilities of the host vehicle. Offset measurements can easily confuse people, so let's try to explain them here.

The easiest way to understand offset is to draw an imaginary line directly down the centreline width of the wheel. If the hub mounting face is directly on this line, the wheel has an ET of zero. If the mounting face is nearer the outside face of the wheel, the ET is positive. If the mounting face is nearer the inside edge of the wheel, the ET is negative. Cross reference these descriptions with the diagram below.

Changing to a different offset can have a huge impact on the way a car looks and handles, with most modifiers opting for an offset which increases overall track width so that wheels fill their arches. However, many wheel manufacturers suggest you keep offset as close to OEM specification as possible, especially when playing with a road car. Standard wheels will have been developed in accordance with factory geometry settings, and would have been extensively tested and developed to eradicate any unwanted characteristics, such as bump steer, under steer or torque steer. By changing the offset of your wheels, you may unwittingly alter your car's geometry. You can apply aftermarket equipment to correct the change, but in the ideal world, you would look to increase wheel width equally either side of the centreline in order to ensure the offset remains unchanged. This is not always possible when you're doing battle with brake caliper clearance, damper positioning or uncompromising wheel arch cavities. In these instances, the changes you make are a compromise between the width of your replacement wheels and the of choice of offsets available at the point of purchase.



The changes you make are a compromise between the width of your replacement wheels and the offsets available

#### **RIM PROFILE**

Rim profile is the shape of the wheel between the inner and outer kerb edges. It features a well that allows the tyre to be fitted to the rim. This is essentially a cutout which gives the inside edge of the tyre somewhere to go when its outside edge is being fitted. Most standard wheels have a shallow and progressive tyre well. This makes tyre fitting easy, but the way a tyre well 'dishes' can reduce the amount of space available to accommodate larger brake discs and calipers. Motorsport wheels tend to use an aggressive rim profile to maximise the amount of space inside the wheel. It's worth noting that different applications attract their own rim profiles. In fact, there are standardised measurements for different rim profiles to highlight their compatibility with specific tyre sizes. The most common automotive rim profile is known as 'J' (hence a 7J alloy), but there are many other designators for specific applications.

#### FACE DESIGN

Looks are usually the reason someone buys a particular design of wheel, but the face of a wheel can offer far more than cosmetic appeal. Wheels with an open spoke design (such as a Teledial) aid brake cooling and heat dissipation by encouraging increased airflow around the brake assembly. In some instances, the shape and angle of the holes or spokes actually creates a turbine effect, sucking in vast volumes of air to aid cooling.

Many motorsport-oriented wheels, including the Compomotive TH and similar designs from OZ Racing, feature a disc-like blank with small cooling holes around the outer edge. These are great where braking and chassis equipment needs to be protected from harmful debris (e.g. gravel on a rally stage). Fifteen52 Tarmac and Bola B10 designs feature chunky spokes to ensure even more airflow with maintained strength and rigidity.

#### MORE NEXT MONTH!

In part two of our guide to wheels, we take a look at alloy composition, the casting process, flow-formed and forged wheels, split-rims, centre-locks, various finishes and wheel cleaning products. Subscribe to *Ultimate Porsche* and receive your copy before it hits newsstands: *bit.ly/subscribeup* 

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# A STORY OF SUCCESS

In the immediate aftermath of this year's 24 Hours of Le Mans, we take a look at Porsche's record-breaking achievements in what is the world's oldest active endurance sports car race

WORDS Dan Furr PHOTOGRAPHY Porsche AG

#### PORSCHE AT LE MANS / ULTIMATE PORSCHE



orsche is the only manufacturer to have contested 24 Heures du Mans every year since 1951. That's sixty-six years without a break! It's 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 three-digit combination, 911.

The first 24hr event at Le Mans took place in 1923. Grand Prix racing was the dominant motorsport force in Europe, leading to the introduction of what was hoped would be 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 a reliable sports machine through the deployment of innovative engineering and fuel efficiency technologies. After all, endurance racing demands cars to spend as little time as possible being attended to in the pit lane!

Adding to the challenge of producing a car that could last long distances, the Le Mans track layout was designed to encourage high speed. The Mulsanne straight has gone down in history as being one of Europe's fastest and longest stretches of racing asphalt, a feature that requires competing manufacturers to think carefully about aerodynamics and vehicle stability. Furthermore, because much of the Le Mans circuit incorporates public roads, the track surface was never intended to feature the smooth 'billiard table' finish of a closed track. This means that chassis components are subjected to huge strain, emphasising the need for participating cars to be built with uncompromised reliability in mind.

Needless to say, tech 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 Joe Public to buy from main dealer showrooms. More recently, the increased demands of fuel efficiency in endurance racing has seen huge manufacturer spend when it comes to the design and development of hybrid engines. And as always, Porsche is leading the charge (geddit?!).

#### **BACK TO THE START**

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, although 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, but it wasn't until the arrival of the 718 RSK that Porsche began to experience serious success in France; 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. The car also managed to achieve first place in the two-litre class. Impressively, Porsches took overall third, fourth, fifth and tenth place behind key rivals, Ferrari and Aston Martin.

# "In 1968, the works team achieved the fastest qualifying lap for the first time in its history"



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 and a 550A RS. The race was an embarrassing failure for the manufacturer – 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 Piech's reign at Porsche before Le Mans glory returned to Germany.

In 1968, the works team achieved the fastest qualifying lap at Le Mans for the first time in its history (a feat made possible by the driving skills of Jo Siffert and Hans Hermann in the 908) and its 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 in 1970.

The 917 made its debut at Le Mans in 1969, but clutch failure forced early retirement after what had been a strong lead. The story was very different at the start of the new



"917K #23 hammered across the finish line at the end of an eventful race marred by heavy rain"





decade. Porsche racing stalwart, Hans  $\rightarrow$ Hermann partnered with Brit, Richard Attwood, to hammer 917K #23 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. Piech'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 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, 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 a 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 PORSCHE AT LE MANS / ULTIMATE PORSCHE



Attwood managed to secure Porsche's first overall victory at Le Mans. It was a momentous occasion, and one that takes on growing significance with each subsequent overall win that teams in charge of Porsches notch up in France. Talking of which, another works triumph at Le Mans arrived twelve months later, exactly two decades after the aforementioned 356s heralded the start of our favourite manufacturer's commitment to the world's most famous endurance race.

#### **GRID LOCKED**

Thirty-three of the forty-eight starters were Porsches, so a Stuttgart win seemed highly likely from the off. Motorsport fans were kept entertained by Porsches achieving recordbreaking qualifying laps, fastest race laps, fastest average speed and the longest distance travelled (3315 miles to be exact). Fittingly, Ferry Porsche dropped the start flag. Attwood finished second in his Gulf-liveried 917 behind the KH Coupe of Helmut Marko and Gijs van Lennep. Of the thirteen cars that finished in classification, ten were Porsches. Whichever way to you look at it, it'd been a good few days at the office!

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 '71 winner, van Lennep. The car romped home to first place, with Ickx returning to try his hand at doing the same 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 in spite of adverse weather. Amazingly, he managed to propel the car to fifth place by the time he handed the car back to its chief pilots, Jurgen Barth and Hurley Haywood! Inspired by what they'd witnessed, both men drove quicker than expected, but disaster loomed large. In the final hour of the race, their hardworking steed developed a serious engine problem.

The car's number five cylinder was identified as being the cause of the problem. 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. Incredibly, it did so in first place. Cheering crowds witnessed a surprising end to what had been an exciting event. Top left Le Mans winners, Richard Attwood and Hans Hermann. In response to witnessing many of his colleagues die behind the wheel, Hermann promised his wife he would quit motor racing if he won Le Mans in 1970. True to his word, he did exactly that (but not before presenting the winning car at a parade in Stuttgart!)

Above 917K #23, the car Attwood and Hermann used to win Porsche's first overall victory at Le Mans in 1970

Bottom left 1971 Le Mans winner, Gijs van Lennep, pictured with the car that bagged the top spot, 917K #22











1978 saw Porsche introduce what is  $\rightarrow$ now one of the most famous Le Mans racers - the Martini-dressed 935 'Moby Dick', nicknamed in recognition of its stretched body, 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 production cars at the time. Displacement was increased to 3.2-litres, enabling a twin-turbocharged power output of up to 845bhp. Weight was reduced to just 1030kg, while the car's driver's seat was shifted over to the right in order to achieve better weight distribution. This change also had the benefit of giving drivers a better view around the clockwise Circuit de la Sarthe's lofty number of 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 ol' Moby's immense power, but its engine

#### "Displacement was increased to 3.2-litres, enabling a power output of up to 845bhp"



**Above** 935 'Baby' preceded the triple Le Mans winning 936 Spyder driven by Jacky Ickx

Left It may not have won Le Mans in 1978, but 'Moby Dick' has gone down in history as one of the greatest endurance racing cars of all time

Facing page Three of Porsche's most striking Le Mans cars: the 956, 911 GT1-98, and 935/78 'Moby Dick' refused to live up to expectation. Porsche was forced to settle for an eighth place finish. Drat!

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 threelitre 935 K3 (driven by the famous partnership of Klaus Ludwig and the Whittington brothers), with second place taken by American actor, Paul Newman, and his co-drivers in the Dick Barbour Racing 935. The final podium place was gobbled up by another Kremer car – a 935 driven by the French trio of Laurent Ferrier, Francois Servanin and Francois Trisconi.

»

The 1980s were supposed to be the decade that the 911 marched quietly off into the sunset. Porsche's commitment to its transaxle range was clear to see when it fielded three 924s in the 1980 Le Mans GTP class (have a look at our feature about the recently restored 924 GTP 002 on page eight). The cars didn't perform terribly well, with a qualification of thirty-fourth place and a final finish of sixth being as good as it got. Ickx, however, fared better with a Martini Racing 936, producing an amazing drive to wow spectactors until gearbox failure ensured that second place was the best he could achieve.

His frustration was relieved in '81 when he shared driving duties in one of two 936s with Derek Bell (see our profile of the great man on page 74), a pairing that resulted in an overall win and 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.

One cannot overstate just how amazing the 956/962 is. It's a car that won its first and last outings at Le Mans (races that were twelve years apart from one another!) and it still holds the record for being the fastest car to lap the Nürburgring. If you fancy having a go at trying to steal its record, then you'll need to put in a time at the Green Hell quicker than 6m 11.13s. Good luck with that.

#### **EVOLUTION REVOLUTION**

At this point in our tale, a bit of background information wouldn't go amiss. The FIA introduced new race regulations for the 1982 motorsport season, encouraging Porsche's engineering 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. The engine can trace its roots back to the 935 before it was modified for Indycar racing. Eventually, much to Ickx and Bell's benefit, the potent powerplant was shoved into 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 that Porsche secured first, second and third place at Le Mans in the new car's debut season. A staggering performance.

The 956 was a huge leap forward from the endurance racers that came before it; other than the nature of its engine, the car was a significant departure from the design of the famous 911-derived race cars. Ground-effect aerodynamics and a carefully-designed carbon-



kevlar shell combined to deliver three times the downforce of Attwood's 1970 917K, while the 956's engine was equipped with smaller turbochargers than the 936 in order to improve fuel consumption. Even with what were perceived to be relatively small bhp boosters, the car managed to chuck out more than 620bhp in regular race trim!

Decorated in Rothmans graphics, the 956 achieved four consecutive outright Le Mans wins between 1982 and 1985. It crushed the competition in sports car racing across the globe. Ten works examples were supported by more than a dozen privateer 956s, many of which ended up in America 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



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

**Right** 1998 Le Mans winning car, 911 GT1-98, bears a clear resemblance to the Porsche endurance race vehicles of old



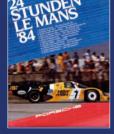


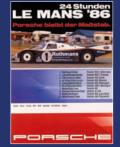


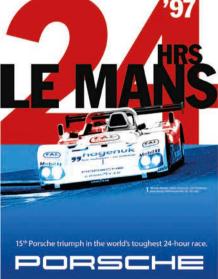


ART ATTACK Porsche victories at The 24 Hours of Le Mans have generated some striking celebratory poster designs











position the front rims ahead of the pedal box after complaints from US 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 that was integrated into a new aluminium chassis to promote 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 sold to enthusiastic privateers.

The factory cars immediately followed the 956's success by winning Le Mans in 1986 and 1987, meaning that they contributed 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 that's just a small selection of the car's triumphs.

In a world where motorsport technology progresses at an astonishingly quick pace, the fact that the 956/962 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 GT1-98 achieved the same in 1998. Following a sixteen-year break from the royal league of racing, Porsche returned to Le Mans in 2015 with the 919 Hybrid. It won overall honours and then went on to do the same in 2016 when Toyota was pipped to the post in dramatic fashion by a trio of talented drivers, including Ultimate Porsche columnist and current works pilot, Neel Jani.

Two days before we were due to go to print with the magazine you're reading right now, the number two 919 Hybrid scored Porsche its nineteenth overall win at Le Mans. Here's [UP] hoping for a twentieth victory in 2018!

Above It was fantastic to see a selection of Porsche's classic Le Mans machines gathered together for this recent photo shoot at the Hockenheim Ring

Right top Attwood back where Porsche's astonishing record of nineteen overall wins began to take shape

Right bottom 1977 Le Mans winner, Jurgen Barth, and the 936 he drove with Jacky Ickx and Hurley Haywood



#### **THOSE 19 OVERALL LE MANS VICTORIES**

956

956 Klaus Ludwig

956 Klaus Ludwig

962C

962C Derek Bell

Henri Pescarolo

1985

Paolo Barilla

John Winter

1986

Derek Bell

Al Holbert

1987

**HJ Stuck** 

Al Holbert

1994

Mauro Baldi

annic Dalmas/

**HJ Stuck** 

1970 917K Hans Hermann **Richard Attwood** 

1971 1984

917K **Helmut Marko** Giis van Lennep

1976 936 Jacky Ickx Giis 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



1983 1996 TWR WSC-95 Vern Schuppan Al Holbert **Hurley Haywood** 

**Ianuel Reute** 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 Dauer 962 LM 919 Hybrid Hurley Haywood Timo Bernhard **Brendan Hartley** Earl Bamber





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1993 Porsche 928 GTS, Auto, Midnight Blue w/grey Leather, high spec, £37,495



1978 Porsche 911SC Coupe, Turbo body, White with black leather/tartan, 61k mls, Sportomatic, £55,995



1970 Porsche 911 T 2.2, Black with Black interior, fully rebuilt and in pristine order, £79,995



Porsche Tractors, always around 10 in stock, mostly restored, most models, see website, £POA



1996 Porsche 993 Turbo 4, Black/Black, good history, standard car, high spec, Uk rhd, £149,995



1973 Porsche 911 Carrera 2.7 RS, 3 cars available, please email or call for info, £POA



1999 Porsche 996 GT3 mk1, 34k miles, UK rhd, Black/Black, full history, standard car, £69,995



1987 Porsche 924 S Le Mans, 1 of 37 made in white, UK car, 71k miles, full history, £9,995

# **True colours**

When it comes to Porsche, life is just as colourful as it is fast...

#### WORDS Achim Peitzmeier and Dan Furr PHOTOGRAPHY Everyone else

t's difficult to think of a colour that doesn't suit a classic Porsche. Pure white, refined black, strident yellow, cheeky orange, rich green, radiant red, dignified blue. No shade unsuitable, no finish too intense. Indeed, you only have to look as far as the 911 to see that bold factory colours have remained popular throughout the decades that have followed their introduction. Furthermore, many of Porsche's car and colour combinations have become highly sought after by collectors.

Perhaps the easiest way to understand a classic 911's ability to wear any colour without fear of falling out of fashion is to recognise that the design of the car has remained largely unchanged for more than fifty years. In this regard, the 911 hasn't followed eradefining fads (save for the occasional trim or cosmetic updates, mostly made in the name of road safety), and its wide range of colour options has been carried through successive decades without seeming tired. As if to prove the point, we featured a beige 1973 911 2.4 T Targa in our last issue (order your copy at bit.ly/droptopspecial). Yes, you read that correctly. Beige. The car looks just as great today as it did when new. Try saying the same about your neighbour's turd brown Austin Ambassador.

German colour television made its debut on August 25th 1967, less than three years after the arrival of the 356's successor, the 901. When Porsche presented its new sports car at the Paris Motor Show in October 1964, Peugeot objected to the model's name (factory bosses in France had already patented a three-digit automotive designation with a zero as its middle character). The 901 was soon renamed as the 911. It wouldn't take long for the rich catalogue of colours that Porsche has become known for to be beamed into the homes of tellybox owners all over Europe.

#### **STAR POWER**

The fact that there was hardly any time for the 911 to be immortalised in black and white media means that almost all library images of early examples are in colour. And what colour! Ruby Red, Champagne Yellow, Iris Green and Signal Red featured alongside Light Ivory and Slate Grey neutral tones, plus four special finishes of Togo Brown, Bali Blue, Black and Dolphin Grey. Interestingly, the prototype 901 of 1962 was finished in simple white. By 1966, however, the choice of colours available for buyers of the 911 included thirty special shades, not least of all four metallic paints in the form of Dark Red Metallic, Blue Metallic, Silver Metallic and Dark Green Metallic, Ooosh!

This new blaze of colour on the road triggered public debate. UK traffic cops pleaded with government to introduce





legislation that would see all new cars painted white. *Auto, Motor & Sport* magazine suggested yellow, red and orange should be the reserve of fast cars. Meanwhile, *Automobile Engineer* expressed its editor's concern that black and grey cars could be considered unsafe. More specifically, he argued that they could "easily be developed into a camouflaged weapon". Seriously.

Fortunately, the automotive world was spared from legally-imposed monotony, and colours as striking and powerful as Canary Yellow, Blood Orange and the dark Albert Blue set the beat, while muted tones (such as Bahama Yellow and Sepia Brown) continued to promote the delicate side of the 911. Unsurprisingly, the kaleidoscope of Porsche colours continued to grow as the years went by. Even louder shades materialised (Viper Green, anyone?!), while the quieter Gemini Blue came with a softer touch.

Derived from the world of racing, the classic Gulf Blue emerged, as did the appearance of body graphics,



Above and below Owning and updating a classic Porsche allows you to make a statement of self-expression, where bright colours and personalised trim options, engine modifications and aftermarket chassis components can be applied to ensure you're in possession of a car that truly reflects your character as an individual and as a driver

including those displayed down the side of the Carrera RS 2.7. While the preferred colour for the car was Grand Prix White, 'Carrera' splashed along its flanks could be ordered in blue, red, green or black and colour-matched to the car's painted wheel centres. Innovative stuff. Not to be outdone, the 914 also forged a reputation for making a bold statement on the road.

#### **OFF COLOUR**

When the G-series 911 arrived in the mid-1970s, Porsche opted for a calmer colour selection. Darker, more sedate tones came to the fore, with shrill, candy-like finishes finding a surprisingly diluted appreciation among car buyers. Understatement and a cautious view of resale values supplanted the 911's formerly extrovert exterior. Porsche also needed to make use of colours that could be applied to its new transaxle range of cars. Taste, however, is a fickle friend; the 1980s brought loud and brash back with a bang. Neon and pastel tones became just as popular as Ray Ban Wayfarers, Shakin' Stevens and suit jackets made out of static worn over T-shirts.

Soon enough, this thirst for fresh colour encouraged Porsche to revisit its swatch books. The results speak for themselves; we defy you not to love a Rubystone Red 964, a Maritime Blue 944 or an Amaranth Violet 928. The trend continued with the arrival of the bright green 997 GT3 RS, but for any

#### UK traffic cops pleaded with government to introduce legislation that would see all new cars painted white



Porsche fan who thought they'd seen it all, the guys and girls in Stuttgart had a surprise in store for the 2009 model year: the 911 Sport Classic was released in a solid light grey. At first glance, this awesome road rocket looks like it has been covered in a coat of primer, yet the strictly limited 250 units produced sold out within forty-eight hours of going on sale, once again proving that a 911 – along with all classic Porsches – looks good in any colour.



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# Norbert Singer

No celebration of Porsche success in endurance racing can pass without paying tribute to Norbert Singer, the engineer involved in each of the manufacturer's overall Le Mans victories between 1970 and 1998



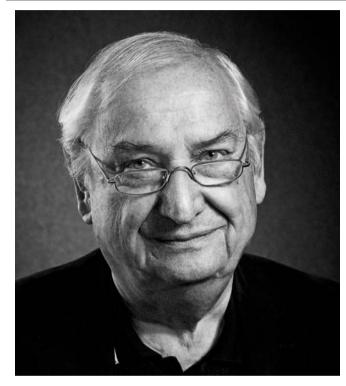
s a young graduate of the Technical University of Munich, Norbert

Singer's first important role at Porsche was to work out how to keep transmission temperatures low on the powerful 917s being campaigned in France at the close of the 1960s. The cars had failed to live up to expectation in '69, with the number twelve car of Vic Elford and Ultimate Porsche guest columnist, Richard Attwood, retiring after 327 laps. Singer met the challenge he'd been set head-on, resulting in the 917 dominating Le Mans for the next two years, winning Porsche its first overall win in 1970 followed by another triumph in 1971. Let the good times roll!

#### WINNING WAYS

Singer was then asked to turn the 911 into a race car. The programme he operated became a significant driver of Porsche technical development, with the German's training in aerospace technology enabling him to interpret technical regulations in such a way that those who wrote them were dumbfounded by his approach to designing what would go on to become championship-winning cars. His skill at manipulating vehicle aerodynamics was way ahead of its time, enabling his creations to dominate sports car racing throughout the 1970s and 1980s. The 911 Carrera RSR,

#### WORDS Paul Hardcastle PHOTOGRAPHY Porsche AG



Singer had designed in the past. Following in their fabled tyre tracks, the car bagged Porsche a sixteenth overall victory at Le Mans.

#### **OVER AND OUT**

The 1999 24 Hours of Le Mans was without a Porsche presence. The manufacturer's coffers looked decidedly empty at that point in time; the massive cost of racing in France was not something the board in Stuttgart felt comfortable with (despite claiming to be engaged in the design of a new endurance racing car!). Efforts to develop the Cayenne were deemed to be more important, a move that allowed Audi to dominate at Le Mans up until 2015 when Porsche revealed the 919 Hybrid and set the controls for a hat-trick of victories,

### *"For forty years, Singer was the mastermind behind Porsche's sports car success all over the world*"

the 935, 936, 956 and 962 all rank among the racing Porsches he designed.

Thanks to Singer's understanding of aerodynamics, the 956/962 won no fewer than seven overall victories at Le Mans, cornering at speeds that had previously been considered impossible. By 1986, the ground-effect racer had won ten world championships. It seemed unstoppable, and is cited by many motorsport commentators as being the greatest race car of all time.

In the 1990s, Singer engineered the WSC, but he also made a name for himself as a mentor to young drivers, sharing his immense knowledge with up and coming motorsport heroes as they prepared for a career at full throttle. His last win at Le Mans came in 1998 with the 911 GT1-98, an all-new car designed to match the abilities of Toyota's GT-One and the Merdeces CLK-GTR. The GT1 bore more than a passing resemblance to the traditional sports prototypes

the most recent being this year's dramatic win.

For forty years, Singer was the mastermind behind Porsche's sports car success all over the world. He retired in 2004, but has since acted as advisor to the Le Mans governing body. Today, his legacy is respected by all involved in professional motorsport, not to mention those of us who love road cars that have benefitted from the tech developed under his watch. Mr UP Singer, we salute you!

# BLUES AND S2s

Woop-woop! That's the sound of da Polizei! This 928 is a feel-good fancy dresser that doesn't take itself too seriously!

WORDS Emma Woodcock PHOTOGRAPHY Matt Woods











#### 928 COP CAR / ULTIMATE PORSCHE



Left 928 Polizei has become a popular promotional tool for Fraser's 928 spares business

**Below** S2 nuts and bolts remain pretty much as Porsche intended







eep in the heart of wildest Cheshire, beyond the realm of the faun, the centaur and the Real Housewife, there lives a man you'd like very much. They call him Mr 928, and with good reason. He loves and lives

classic Porsche GTs, collecting, restoring and selling them at his website, *www.mr928.com*. He has a dozen 928s at his premises at any one time, and yet, even amongst a sea of manualgearbox V8s and flawless Pascha trim, one of his Porsches stands out above all others. All alarms and surprises, it's the 928 Polizei.

Okay, okay... don't get your hackles raised. We're well aware that this isn't one of the original German police cars that cruised the autobahn catching crims (right-hand drive is something of a giveaway!), yet that doesn't make this 1984 S2 any less exceptional.

The white whale belongs to Fraser Pemberton. It serves as his project car and as a useful promotional tool for his business. In a world where some settle for get-yourselfunnoticed-grey – and where others value obsessive originality down to air in the tyres – his 928 Polizei is a razzmatazz riot looking for a ruddy good time.

"The one thing about classic cars," Fraser muses, "is that they need to be fun. I see no point in having a car you can't drive simply because it's considered to be too precious or valuable. You might as well invest in a painting and hang it on your wall. Polizei is far from the perfect Porsche, but it's if I ever need cheering up, a quick spin in the car puts a smile on my face, not

#### Club sandwich

Iwenty-odd years ago, a 968 Club Sport saw active service with the police here in the UK. The car was tested as a traffic law enforcement vehicle and worked on the M4 motorway over an eighteen-month period. The two officers lucky enough to drive the car received specialist training from Porsche. Unfortunately, the crim-catching 968 was retired from duty when the authorities decided to return to more conventional (boring) cars soon after. Bah!

#### Mean machine

In recent years, a variety of modern Porsches have seen service as UK police vehicles. A number of 996, 997 and 991 generation 91s have fulfilled community outreach duties, but the coolest car of them all entered service just a couple of months ago when Norfolk Constabulary took delivery of a Cayman GT4 from the Lind Trust, a local children's charity. The 3.8-litre track-oriented coupe won't be used for normal police business, but will instead be used to help officers connect with young drivers in a move to reinforce important road safety messages.







to mention those of passers-by. To me, that sums up what classic motors are all about." Porsches have always been an obsession for the Pemberton family. His family ran Wessaich warriors throughout the 1970s, and his uncle, Gio, was never without a 928. Fast-forward to the present day, and Fraser's personal collection includes 928 Polizei, a 993 Targa, a 996 Turbo and a diesel-powered Cayenne that takes on the role of family workhorse. He even remembers the first 928 he travelled in – a very early 1978 4.5-litre with pretty Pascha upholstery.

#### **TOOLS OF THE TRADE**

As soon as he'd gained his driving license, he immersed himself in the world of Volkswagens. "It's a passion that has seen me build a string of seriously fast Beetles!" he laughs. His first Porsche (a 964 Carrera 4) followed in 1993. The motor trade beckoned at the same time, and so he established a leasing company focusing on 911s. For various reasons, he ended up buying the occasional car back from customers, resulting in a small stockholding of Porsches.

Above Well used cockpit features analogue PA system and plenty of period-correct accessories, including giant mobile phone and aviators Eventually, he bought his first 928. The bug bit. Hard. He liked the car so much that he bought another. The second car was rather lovely too, so he bought a third. And a fourth. Then a fifth! Very soon, Fraser had no fewer than twelve 928s to his name.

"It got a bit out of hand!" he confesses. "I bought a number of early examples and found myself in the position of being the UK's leading independent supplier of 928 spares. It was at that point that I decided to turn my passion for the model into a business."

Around the same time, he was offered an ex-Rijkspolitie Dutch police 911. The concept of an '80s Porsche decked out with flashing lights and sirens certainly appealed, but an asking price of €80k took most of the fun out of the idea! A tribute seemed like a less expensive route to the same sense of whimsy, and our man was soon planning the build of a 911 Carrera 3.2 cop car. That was three years ago. Sadly, timing is everything, and the 911's supersonic rise in value meant that the idea was promptly laid to rest.

Sweet serendipity stepped in two years later. Fraser was preparing to buy a Kiln Red 928 when the seller shot a surprise proposition out of the blue: take a second 928 or forget both cars. Keen to rehome the red speed machine, Mr 928 agreed to look at the other Porsche. An odometer reading over 157k miles, a V5 with more protagonists than the complete works of Shakespeare and an absent history file was less than encouraging, but he loved the red car so much that he begrudgingly agreed to buy both.

The plan was to use the high-miler as a parts donor, but an errant thought raced across Fraser's noggin. It wasn't just the Dutch police who used Porsches – the German Polizei are also known to have operated a number of the manufacturer's vehicles, including the 928. The time had come to resurrect his plan for the build of a rozzer replica.





A VIVID REMINDER THAT WE'RE BETTER OFF PLAYING THE CLOWN THAT LETTING DECORUM DRAG US DOWN

POLIZEI

928 Polizei was to remain as a mechanically standard S2, but it soon gained the first of its vital plod squad upgrades in the form of a full public address system and US-sourced red and blue roof lights. Accurately recreating period German police livery proved to be a trickier pursuit due to the scarcity of high resolution images of original 928 police cars. Undeterred, Fraser tackled the task by examining photographs of Polizei 944s. "Tm not fussed about winning awards for originality. The point of the car is to make people smile!"

220471

#### THE VINYL COUNTDOWN

266234 [1] 261

Joel at JC Autos in Knutsford handles all of Fraser's automotive paint requirements, and it was he who was consulted when it came to dressing the white wonder. Vinyl lettering was cut in the correct Polizei typeface, and to make sure the end result looked 'just so', Joel sourced the exact paint code used on Polizei Porsches. He then mixed and applied the gorgeous green to the 928's doors and bonnet.

The car was very nearly finished, but as any Vogue editor worth their weight in Yves St Laurent will tell you, accessorising can make or break a look. Fortunately, Fraser has been more than thorough in this regard. Genuine Polizei coats and caps are provided for the car's occupants (we didn't dare ask about the replica firearm), and he tells us that his cool creation has been registered with the DVLA under the name 'Herman D German'!

Above Fraser isn't afraid to hammer the crap out of 928 Polizei, especially when he's in hot pursuit of an injured clown





FRASER PEMBERTON

053477 6 2261

> Occupation Owner of The IMM Group Limited and MR928.com

First Porsche 1993 964 Carrera 4

Favourite Porsche A classic 911 Turbo or my 996 Turbo

Best thing about Polizei 928 It brings a smile to everybody's face

Worst thing about Polizei 928 The uniform is very uncomfortable!



What about that torn limb?! "I already had a set of handcuffs to go with the Polizei garments. The dismembered hand appeared around Hallowe'en. I apprehended one of those clowns that were all over the news for jumping out and scaring people in the street. He was cuffed to the car when we set off. I have no idea where the rest of him is!" he roars.

Fraser is hugely pleased with how 928 Polizei has turned out. "Picky people will tell me that 'this isn't correct' or 'that isn't original', but the fact of the matter is that I jump in the car, it always starts, it always works, it always makes people smile," he says. And that's what this entertaining Porsche is all about. Fun. It might not be a 928 that delights purists, but it's a vivid reminder that we're better playing off the clown than letting decorum drag us down.

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# Derek Bell Alegend of Le Mans

Derek Bell secured victory no fewer than five times at Le Mans, but there's much more to the career of this British racing legend than success across the Channel

#### WORD Paul Guinness and Dan Furr PHOTOGRAPHY Various

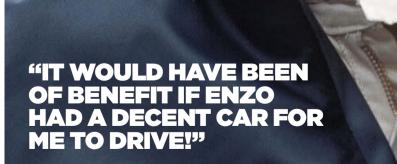
ny professional driver who manages to make a name for themselves by winning the 24 Heures du Mans (one of the world's most demanding and most prestigious races) has every right to feel satisfied. By any standards, each and every victory at the legendary Circuit de la Sartha is an impressive achievement, so you can imagine how in awe we are of Derek Bell's five glorious Le Mans titles. That said, don't be fooled into thinking that his career is exclusively about fame and fortune in mainland Europe.

One of Bell's lesser known achievements predated his high profile sports car racing successes. Yep, we're talking about his crucial driving and advisory support role in Steve McQueen's 1971 movie, *Le Mans.* Admittedly, the film wasn't a huge box office hit, but the fact that Bell became firm friends with McQueen and stayed with his family during production provided the Middlesex-born racer a taste of what it's like to be a star. Dramatically, however, his experience almost ended in tragedy when the Ferrari 512 he was driving during filming caught fire. Happily for all concerned, Bell managed to climb to safety, escaping just before the Prancing Horse was engulfed in flames. Our hero suffered burns to his face, but went on to make a full recovery. Phew! The car was equally fortunate, being rebuilt despite substantial fire damage.

Before paying tribute to some of the highlights of Bell's career, it's important to look back on where it all began, if only to gain some kind of context. After all, how does a mild-mannered lad who spent his formative years helping out on the family farm in Pinner end up as one of the most recognised names in professional motorsport?!

He'd always been passionate about racing. From a young

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age, he marshalled at Goodwood, but much of the credit for his switch from bystander to driver must go to his stepfather, Bernard Hender, who encouraged the young Bell to take to the track at the wheel of a Lotus Seven in March 1964. He was twenty-two years old.

Delivering a sign of what was to come, he achieved his first win in that inaugural race (despite wet conditions). The prize? An alarm clock! In a later interview with *The Telegraph*, he admitted that he still has the novelty timepiece, kept as a reminder of how his rise to the top began all those years ago.

Bell's talent and potential as a racer was immediately obvious, and he quickly rose through the ranks of amateur motorsport before accelerating his way into Formula Three in 1965. Initially, he was in command of a Lotus 31, but soon swapped to a 41. It was in the later Lotus that he enjoyed his first victory at Goodwood, followed by several more outright wins in 1967.

His move to Formula Two was inevitable, aided by his stepfather's decision to run a privateer Brabham BT23C under the banner of Church Farm Racing. Bell achieved a number of wins at the wheel of the Brabham and soon turned professional. He also came to the attention of a Mr Enzo Ferrari (you may have heard of him). Impressed by Bell's success in Formula Two, Il Commendatore offered the young racer a drive in the famous Monza Lotteria, a contest that offers those pitched as champions of the future the chance to grab a moment of glory and, perhaps, a Grand Prix drive. It was the start of an interesting (but ultimately frustrating) new chapter in the career of the man from Middlesex.

Between 1968 and 1974, Bell competed in a total of sixteen Formula One Grand Prixs for teams including Ferrari, McLaren, Surtees and



Bathurst results Competed in the Bathurst 1000 every year between 1977 and 1981, achieving first in class driving an Alfa Romeo 2000 in 1977 and a Mazda RX-7 in 1981 Tecno, securing just one World Championship point (earned at the 1970 United States Grand Prix at Watkins Glen GP Race Course) throughout that time. Was it a case of Bell being less suited to Formula One than to the endurance sports car racing that would come later, or was he simply too young when he made the switch to the big league? Interviewed at the 2010 Goodwood Revival, he expressed regret that his move to Ferrari hadn't come later. "It would have been great to have joined Ferrari when I was a more mature racer. It would also have been of benefit if Enzo had a decent car for me to drive!" he laughed.

#### THE WINNING FORMULA

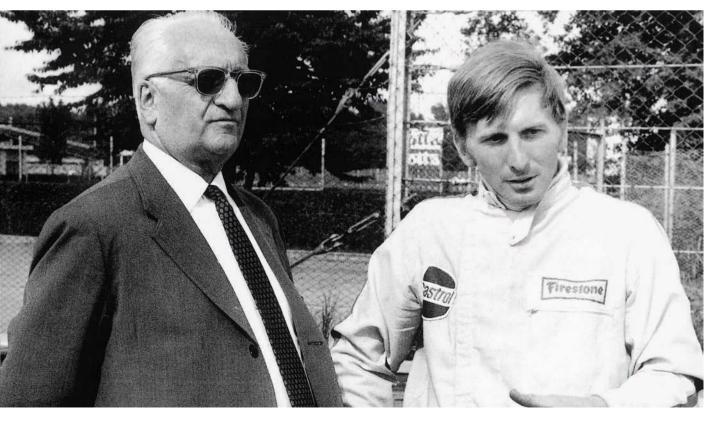
When pressed on the idea that his move to Formula One had come too early, he sighed in approval. "I certainly believe that I needed a few more years of driving experience and personal development. In motorsport, time served behind the wheel plays a huge part in an individual's readiness for success. I don't think drivers of equal age should be required to climb to the top at the same pace as one another. Many of us mature much later in life."

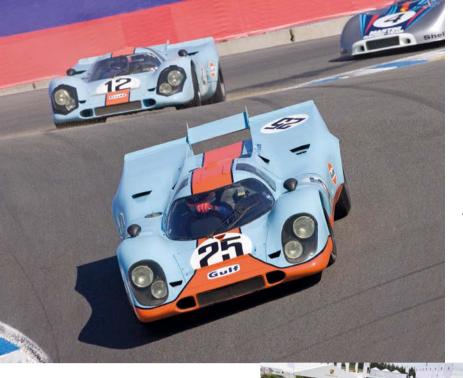
The fact that he was older at the point he entered the world of endurance racing undoubtedly helped him to achieve his most famous motorsport triumphs. "I've been racing for close to fifty years. It's an achievement made possible by sports car racing. If I'd have stuck with Formula One, I'd probably have been killed or sacked long before I got a chance to achieve success. All things considered, I'm more than happy with my lot!"

His record in sports car racing remains unchallenged to this day. He won the World Sportscar Championship twice (1985 and 1986), the 24 Hours of Daytona three times



Opposite page Bell struck up a firm friendship with Hollywood megastar. Steve McQueen, after assisting with advisory and driving duties on the set of McQueen's film, *Le Mans* Above left The 956 in action at Le Mans in 1982 Above right Bell at Monza in 1983 Below Enzo Ferrari was so impressed with Bell's success in F2 that he offered him a GP drive





(1986, 1987 and 1989) and Le Mans a mighty five times (1975, 1981, 1982, 1986 and 1987). This was a driver very much in his prime during the 1980s, becoming the most successful racer of all time during the reign of the Porsche 956 and 962, achieving no fewer than sixteen outright victories in the World Endurance Championship and nineteen in the IMSA Camel GT Championship. That's thirty-five titles in seven years!

#### **GROUND ZERO**

In a recent interview with motoring journalist and racing driver Ed McDonough, Bell recalled his involvement with the ground-breaking 956 and its successor, the 962, following stints driving the 917LH with Jo Siffert, the 936 with Jacky Ickx and the 924 Carrera GTP with Al Holbert. He also spoke of his dealings with Professor Helmutt Bott, the former head of Porsche's motorsport research and development programme. "It's important to note than when I drove the 956, it was the first time in my life that I'd piloted a ground-effect car. Now I come to think of it, there weren't many cars of that type around back then. I remember when Professor Bott asked me to sign the works driver's contract. I'd driven the 936 for Porsche during the previous motorsport season. He told me all about this great new Porsche, how much better it was than the 936, how it would be powered by a flat-six, horizontally opposed, all that stuff. He raved about it being a ground-effect car with a monocoque shell. He admitted that Porsche hadn't done anything like this before and then asked me to sign on the dotted line. I hesitated. He looked at me and pointed out that Porsche was never wrong about these things. I couldn't think of any reason to disagree!"



Above Bell competing in the Gulf-liveried 917K at 2009's Rolex Monterey Motorsports Reunion, and more recently, pictured with the restored 924 GTP chassis 002, this issue of *Ultimate Porsche*'s celebrated cover star

#### "I HAD TO TRAIN MYSELF TO COPE WITH EXTRAORDINARY G-FORCE"

Bell never once regretted his decision to join Porsche and still remains full of praise for the 956, raving about the advantages of its remarkable design. Like all new technology, however, the finished car took time to get used to. "I had to train myself to cope with extraordinary G-force. Additionally, I wasn't used to such little braking and so much turnin speed. You have to remember that when I arrived to test the car, nobody present had prior exposure to racing like this. Fresh challenges were being fired at us all the time. Thankfully,

all concerned were reassured by how easy the 956 was to drive. We got used to the demands of the car very quickly," he reveals.

In typically modest manner, he manages to make his successes with Porsche sound simple, heaping praise on the cars and the teams managing them. There can be no doubt, however, that his bulging trophy cabinet is down to the simple truth that he's the finest sports car racing driver of his generation. The fact that he's so likeable hasn't done him any harm either, a character trait that helped him to develop a media career in the

1990s (he became a respected Formula One analyst for various media outlets).

In more recent years, he's become a brand ambassador for Porsche and Bentley, the latter seeming him involved as a consultant in the 2001 Speed 8 Le Mans project. Most important of all though, is the fact that Bell is still an active driver, competing in historic motorsport events around the globe, often in the Porsches that made him famous, and still impressing with his on-track action at seventy-five years of age. As a self-confessed late maturer, his ability behind the wheel shows no signs of waning.

His is a career littered with extremes of on-track failure and podium glory. It's a story that's all the more fascinating for these ups and downs, leading us to ask what he considers to be his most embarrassing moment behind the wheel. "Trying to shake off a car that was doing an amazing job of keeping up with me when I was heading home cross-country at night," he replies. "You can imagine my surprise when after miles of hard driving, flashing blue lights filled my rear view mirror. I was being tailed by a traffic cop!"

We can only hope that the officer concerned didn't start his line of questioning with the words, "Oi, oi, oi! Who do you think you are? Stirling Moss?!"





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# Under the hammer (

# Hammer time!

A couple of 356s, a 944 S2 Cabriolet, vintage 911s and a Carrera RSR 3.8 have had us searching the dusty depths of our wallets... WORDS Dan Furr PHOTOGRAPHY Various



#### **1954 356 PRE-A SPEEDSTER**

What you're looking at is the seventy-fifth production 356 Speedster. Comprehensively rebuilt and presented in an elegant colour scheme of gloss black over red, the car features red square-weave carpet, a period-correct ivory plastic steering wheel, a matching shift knob and similar dash knobs. The black beauty was sent from Zuffenhausen to Porsche's US distributor, Max Hoffman, in New York on the 8th November 1954 before being imported back to Europe in 2001. The restoration was commissioned in 2006. The gleaming body rides atop sixteen-inch steel wheels wrapped in whitewall tyres, while the car's original 1500 engine has been replaced with a 75bhp 1600 Type 6 donated by a kindly 1963 356C. Despite the lack of matching numbers, the car still managed to sell for strong money at RM Sotheby's Villa Erba sale.



#### 1972 911 S TARGA

Believed to be one of few 1972 911 S 2.4 Targas produced with its oil filler on the rear wing, this beautiful Gemini Blue belter was sold new in Naples where it enjoyed southern Italy's warm, dry temperatures prior to being imported to the UK by the seller at the back end of 2015. This is a rare, unrestored example of a 2.4 Targa in an unusual colour. We'll be keeping a close eye on what happens when it heads to auction at the H&H classic car sale, Imperial War Museum Duxford, Cambridgeshire, on 26th July.





#### 1965 SWB 911

Production of this car was completed on the 1st September 1965, making it an early example (chassis 302094) of a 911. The car's engine has been carefully rebuilt along with its Pierburgdriven fuel system and Solex carburettors. Whilst not a restored Porsche, this shortwheelbase 911 is in good overall condition and retains features only found on 1965 cars. That said, its wheels are aftermarket items, although they do follow Fuchs styling. Sadly, there's no service history available, which is probably why the car failed to sell when it was offered at Silverstone Classic Car Auctions recent sale. It is, however, a matching numbers classic 911, and may prove to be a bargain when it is once again presented as available for purchase in the not too distant future. Watch this space!





#### **1991 944 S2 CABRIOLET**

This astonishingly low mileage 944 S2 cabby has covered just 19k miles in the hands of three owners from new. Built during the last year of 944 production, the car's gleaming Crystal Silver Metallic paintwork, unmarked Midnight Blue interior, pristine hood and smartly polished alloys positively scream 'buy me', which is exactly what someone did at Silverstone Auctions where the car sold for a cool £27,000. That's a decent wedge for a naturally aspirated transaxle model, proving that while the classic 911 enjoys steep auction sale prices, similarly aged Porsches are beginning to follow suit. Grab a front-engined chunk of Stuttgart speed metal while you still can. No, really. Do it!



# Under the hammer



#### 1973 911 T

Finished in its original colour of Sepia Brown, this 1973 911 T was imported to the UK from the USA in 2013 by a collector. While in the States, the car had just one owner from new! It retains its USDM overriders and its cost-option S trim, as well as handwritten journals documenting work carried out over the years. Whilst there has been fresh exterior paintwork added to maintain good cosmetic condition, the interior of the car is original and is in excellent order throughout. An astute buyer did well when this classic 911 went under the hammer for over £40k at Silverstone Auctions' recent sale.



#### **1993 9 4 CARRERA RSR 3.8**

Remember the 964 Carrera RSR - of which only fifty-one examples were built - that starred as last issue's 'one to watch out for'? Well, this Turbo-bodied racing version of the Carrera RS sold for €16k more than its whopping €2m lower estimate at RM Sotheby's recent Villa Erba auction. For the benefit of those who don't know about the car, it's powered by a 3.8-litre type M64/04 engine. Porsche claims this dry-sumped, single-ignition powerplant delivers 350bhp and 284lb/ft torque fed through an uprated transmission, but unbiased reviewers regard those numbers as poppycock - a more realistic figure is closer to 375bhp. Unlike the competition trim ordinarily associated with 964 Carrera RSRs, this recently-uncovered example was ordered with a red leather interior. Even its roll cage is wrapped in tightly trimmed hide! Covering no more than a shade over 10km (presumably due to its owner losing his sight after exposure to such loud leather), the car has been in storage for the past guarter century. Perhaps it'll get more use now that it's in the hands of a new owner? Nah, probably not.



#### **1961 356B T5 CABRIOLET**

This 356 Cabriolet's appearance as a listed lot at Silverstone Auctions' recent sale marked the car's first time to market. Soon after the original owner paid for the gorgeous white T5 in 1961, he upped-sticks from his home in Dusseldorf and relocated to Dublin, offering the car to his solicitor as payment for helping to facilitate the move. Following the legal eagle's death in 1986, the drop-top moved with the deceased's wife to the Canary



Islands where it lived in dry climes and was rarely used until being returned to Ireland in 2000. The car was then recommissioned at the BMW dealer managed by the widow's son. The work included a full respray in Light Ivory, a new mohair roof and subsequent storage in a Carcoon. Rarely do such cars present themselves for sale, especially those that have been in the same family for more than fifty years. No wonder it fetched a pretty penny.



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# **924 TURBO**

If you like the idea of forced induction fun in a 924, then here's what you need to know when buying and tuning a Turbo...

#### WORDS Pete Saysell PHOTOGRAPHY John Colley

A Buy & tune

espite the 924's ability to show most cars a clean set of heels down a twisty road, a demand for more power had been chanted from the

model's launch in 1976. Having already found supercar success with the forced induction variant of the 911, Porsche decided that adding a Kühnle, Kopp & Kausch (KKK) turbocharger to the 924 in 1978 would give their baby sports car the boost car buyers craved. The resulting 931 (Porsche's internal code for the 924 Turbo) had 170bhp (up from the naturally aspirated 924's 125bhp) and was the most powerful two-litre production car available at the time. The front-engined marvel was released in the UK in 1979 and was as fast as the 911 SC, yet it was much more practical and far more fuel efficient. It may have been as expensive as the 911, but a total of 12,427 924 Turbos sold worldwide highlights the fact that many buyers thought the new car well worth the money. Only available to buy until

1982 (except as a 'tax break special' in Italy for 1983), the 924 Turbo was killed by Porsche primarily because it was faster than the new 944.

Whether it's a two-tone Series 1 or a more sober Series 2, the 924 Turbo is a gem in the Porsche back catalogue. The car is more sporting in feel than later models – it's less of a GT than the 944 Turbo – yet the practicality associated with the transaxle family remains. This is a car that flourishes the more it gets used. Here's what you need to look out for when buying one to call your own.

Internally, Porsche named the 924 Turbo '931' (lefthand drive) and '932' (right-hand drive) in the same way that it had named the 911 Carrera Turbo '930'. These designations tend only to be used by 924 afficianados, but go ahead and impress your mates now that you know!

#### BODY

Unlike the standard 924, the Turbo features four nose vents. Ensure they're present (replacements are no longer available from Porsche). Its front valance includes cooling slots, and its bonnet has a NACA duct above the turbocharger. The Turbo also has a boot spoiler as standard equipment.

Unlike most cars of the era, the 924 doesn't suffer badly from tin worm. Unless the car you're looking at has been in an accident (or has been left in a farmer's field for ten years!), the fully galvanised chassis should have kept factory metal in close to perfect condition.

That said, it pays to be cautious. The first area to check is the battery tray. Its drain hole can be easily blocked with leaves and other debris. Mixed with a little battery acid, the resultant water rots through in short order. The 924's fuse box is beneath the battery tray. You'll have a whole heap of trouble to contend with if it's getting a regular soaking. Ensure you remove the battery from its tray to check the condition. It's not a difficult repair, but new carpets and a replacement fuse box will be costly.

When it comes to inspecting the body of a Turbo, other areas of concern are behind the front wheels (inside the wings) and behind the rear wheels where spats are connected. Dirt can be trapped inside these areas and can encourage the formation of rust. It is essential to rinse these locations during washing.

The side trim should be removed (it slides out to the front once the end cap has been taken off) to check that the outer sill looks good. Removing the vent from the door aperture enables a smartphone to be inserted in order to take photos of the inner sill. Please try not to drop your phone when doing this!

Jacking doughnuts can be problematic as they get damaged by errant trolley jacks during garage visits. This breaks body galvanising and lets rust take hold. The front doughnut is particularly prone to abuse and can encourage corrosion to spread to the floor and inner sill if left untreated.

Lastly, check the rear hatch pin aperture. This is a common area for rust if a car has been left standing. The hatch drains block and water collects inside them.

The general view is that if a 924 shows signs of significant rust, it's probably better to walk away and look at a different car. Even after four decades, a 924's body should be in great shape. There's no need to cause yourself grief by buying a poor example.

#### **IDENTITY**

Telling the Series 1 and Series 2 Turbos apart from one another can be achieved with ease, but the fact that parts between models are interchangeable often leads to confusion. In short, the Series 1 Turbo has its chassis number mounted on the offside suspension turret, whereas the Series 2 has its identity mounted to the offside bulkhead. Series 1 chassis numbers start 93\*\*\*, while Series 2 numbers start WPOZZZ\*\*\*. This is arguably the easiest way to identify which model you've been presented with.

The VIN number can be decoded to glean information on model type and year. For example, on a Series 1 car with the VIN number 93A0141068, '93' represents the 924 Turbo, 'A' references the model year 1980, and '014' plus the last four digits are the car's unique serial number. The engine number is on the left-hand side of the crank case next to the clutch.

924 Turbos have shot up in value in recent years, so getting hold of a matching numbers car with its original engine should be your chief concern when it comes to buying.

Most UK cars will have been through the hands of 924 Owners Club members at some point. A quick check on the club's online forum (*porsche924.co.uk/forum*) should reveal pretty much all that you need to know about your potential purchase. Don't be shy - these guys are happy to provide you with peace of mind.







#### ENGINE

The 924 Turbo's engine was hand built at Stuttgart before being sent to the Neckarsulm factory for installation. The block, bearings and crank are the same as the standard 924, but the cylinder head was new to the model.

Pistons are different for both the Series 1 and Series 2 Turbo (giving compression ratios of 7.5:1 and 8.5:1 respectively). The engine is a tough beast. Even in turbocharged guise, the bottom end should be bulletproof if correct maintenance and servicing is observed by owners.

924 Turbos hate to be left idle. This causes waterways to fur up and head gaskets to rot. More than anything, this is what leads to Turbo engines killing themselves. If you're buying a long neglected 924 Turbo, then it would be wise to budget for an engine strip and rebuild.

Unlike the naturally aspirated 924, the Turbo is powered by an interference engine. Its timing belt and tensioner kit is very cheap (around £20), and takes about twenty minutes to change. There really is no reason why you shouldn't change these components every other year (even though the service manual

#### SERVICING

Oil and filter changes should be carried out every 6000 miles or once a year (whichever comes first). Service parts are readily available from Porsche or independent specialists. Servicing is an easy DIY task. Two-litre 924s are really good cars when it comes to learning how to wield spanners. All components are accessible, no job is too tricky. Join the 924 Owners Club where help and support is available for any owner who seeks advice from those in the know.

says you can leave the work for three years).

Detail changes occurred throughout the life of the 924 Turbo as its engine's rudimentary design gained air/oil separators for both the crankcase breather and the turbocharger oil return. The biggest change, however, was for the 1981 model year when the Series 2 car was released. The pistons, turbo, throttle body and boost tube were all different, but the main change came in the form of a Siemens-Hartig digital ignition timing control (DITC) system. DITC uses a crank sensor (no longer available from anywhere) to measure RPM, meaning that timing can be automatically retarded to prevent detonation. This allows the Series 2's higher compression pistons to operate safely and, along with a revised turbocharger, delivers an extra 7bhp over the Series 1.

#### Easy as 123

The crank sensor is often thought of as the Series 2's Achilles' heel because Porsche no longer stocks the part and no suitable alternative has yet been found. The enterprising fellows at Mittelmotor (mittelmotor.de), however, have the solution! They've managed to package a 123 ignition system into the stock 924 Turbo distributor housing. For around €750. you can have a 'plug and play' replacement for the aging DITC with the added bonus of programmable maps to suit your driving style. Hoorah!

All two-litre 924s use the ubiquitous Bosch K-Jetronic mechanical fuel injection. Parts are readily available. It's a very reliable setup once any bugs (caused by previous owner neglect) have been ironed out. If a car is suffering from hot or cold start issues then a simple pressure test will reveal the origin of the problem. Details are beyond the scope of this article, but a quick check on the 924 Owners Club forum



will present you with a wealth of knowledge on the subject.

The K26 turbocharger is oil cooled. There are many stories of this particular bhp booster being short lived when it comes to the 924 Turbo. Caring for the turbocharger is essential, and equates to a cool down period of five minutes at the end of a run. This gentle treatment enables the turbocharger's bearings to receive the flow of oil they need for longevity and prevents the calcifying of lubricant in oil channels.

Modern synthetic oils are recommended owing to the

massive heat the Turbo's engine generates. Fully synthetic Mobil 1 extended life 10W60 contains the required ZDDP. Strangely, Porsche continues to suggest 10W40 semi synthetic is the correct oil for the car. While this might be ideal in the naturally aspirated 924, it will result in low oil pressure at hot idle in the Turbo.

Don't forget the fact that the Turbo's engine is broadly the same as the unit known to have produced 320bhp at Le Mans. In GTR form, the much maligned block has been known to produce more than 500bhp!



#### COLOUR

The car's paint code (and its name) can be found on a decal in the engine bay behind the firewall. It can also be located on a sticker behind the spare wheel in the boot. You'll find the paint code follows the standard VAG configuration for the year (four digit numbers starting with the letter L). If the paint code sticker isn't present, you can order a Certificate of Authenticity from Porsche Cars GB. The document will include vour car's factory trim options and its original colour code. Should you not wish to part with the £65 it costs, head over to the Porsche 924 Owners' Club forum and members will almost certainly be able to identify your car's colour from a photo!



#### "Don't forget the fact that the Turbo's engine is broadly the same unit known to have produced 320bhp at Le Mans"

#### BRAKES

The standard 924 has disc brakes at the front and drums at the rear. While these parts provide good stopping power, they're not up to the task of halting the Turbo, a task taken care of by a full complement of vented discs and calipers shared with the 928.

This braking system lasted through the 924 S and 944 right up until the 944 Turbo was released with its four-piston Brembo anchors. Interestingly, the rear calipers on a 924 Turbo are very similar to the front calipers on the standard car, meaning that pads are interchangeable. Don't think a regular 924 front caliper will fit at the rear of a 924 Turbo, though. The part doesn't extend wide enough to fit over the Turbo's large vented rear discs! If a 924 Turbo's rear calipers need rebuilding, make sure you retain the nylon sliders - most rebuild kits don't include them.

Brake fluid should be changed every two years. It should be a clean and yellow in colour. Master cylinders can leak. This complaint usually manifests in a brown stain on the front of the servo.

The Turbo's handbrake works with shoes inside the bell of the rear disc. They are known to seize.

> Fifteen-inch multi-spoke alloy wheels hiding disc brakes were standard equipment on the 924 Turbo, although buyers were offered the forged sixteen-inch flat wheels as seen on the contemporary 928. Fitment was the same spec as the 911 which the 924 shares offsets with.



#### TRANSMISSION

All versions of the 924 Turbo sold in the UK featured the G31 five-speed manual gearbox. This unit is renowned for poor first and second synchros. If a test drive indicates crunching into these gears, you're looking at a potentially large bill to remediate.

The synchros are intolerant of transmission oil changes occurring beyond recommended service intervals. If your Turbo has a good gearbox, ensure you change its oil every other year with 80W90 GL4 fluid. The 924 Owners Club can point you towards sources for dog teeth and synchros (these parts are no longer available to buy direct from Porsche). Although the G31's internals are similar to those of the 915 gearbox found in the 911, there are few shared components.

924 Turbos were offered with an option of a limitedslip differential. If your car has this rare factory part fitted, it will have '/12' listed at the end of the gearbox serial number. This identifier can be found on the lowest central spline on the bottom of the transmission casing. Another way to check if you have an LSD fitted (915 diffs fit too) is to raise the rear end and spin one wheel. An LSD will spin the other wheel in the same direction, a non-LSD will spin itl in the opposite direction.

Bearing wear manifests as a high-pitched whine. As long as it isn't too intrusive, it shouldn't be seen as a big problem; most well-used 924s, 944s and 968s whine from the back! The gear linkage is a fairly long one. The locator on the rear has a rubber cup holding it onto the torque tube. A rose-joint replacement makes for a better part than factory rubber prone to wear.

A 924 Turbo's gear lever includes two nylon bushes that are known to wear, resulting in a loose feel when shifting. These bushes are readily available to buy new and make a huge difference to the driving experience when replaced.

The G31's dog leg first gear pattern is something many drivers struggle to get to grips with, but once you're comfortable, it's a delight on twisty B-roads, allowing you to slot up and down between second and third, keeping the boost on song.





#### **CHRIS SAUNDERS**

Occupation Software developer

How long have you owned your Turbo? About twenty-two years, but in two separate spells – a mate persuaded me to sell after I acquired a company car, but I always regretted the decision until I finally

#### bought the car back! Best thing about your

924 Turbo? Cruising along, dropping down a gear, putting my foot to the floor and feeling a sudden surge of power when the boost kicks in!



#### **SUSPENSION**

Aside from its thicker anti-roll bars and firmer dampers, the 924 Turbo has the same MacPherson front struts and rear torsion bar suspension as the standard model. The front setup is very similar to that of the Mk1 VW Golf, while the rear can be seen as a close relative of equipment found on the Super Beetle. All in all, these parts make for a car that can better many moderns when it comes to handling on twisty roads. And that's with skinny 185-profile tyres!

Front wishbones are prone to rust on cars that experience infrequent use. Most Turbos feature wishbones with a mounting lug for the anti-roll bar. These parts are more than £170 each when ordered direct from Porsche. 1981 cars use the Mk1 Golf's wishbones (and a different mounting for the ARB). These retail at are a more sensible £20 from most motor factors. Converting from early to late wishbones is possible, but non-trivial. The job involves fabricating mounts for the later ARB setup.

An easier way to achieve the same is to remove the lugs from the old wishbones and weld them onto the Golf parts.

If a Turbo (or any 924 for that matter) isn't handling like a dream, then a suspension refresh is in order. Four-wheel laser alignment is an essential first step followed by a thorough examination of all suspension rubbers. Thankfully, Porsche is committed to stocking the vast majority of transaxle model suspension components.



#### "The 924's dashboard is notorious for cracking. In truth, it's little more than cardboard covered in vinyl!"







#### INTERIOR

924 interiors aren't known for being hardwearing. Some of the cloths used by Porsche suffer badly from sun damage, and it's common to find splits in seats. The Turbo included model-specific cabin furniture, including a fourspoke steering wheel, while an array of green dash dials is a delight only found in the cockpit of the Series 1.

The 924's dashboard is notorious for cracking. In truth, it's little more than cardboard covered in vinvl! New OEM covers are available, but the preferred the solution is a modern reproduction from Werk924 (werk924.com). The company's new dashboards aren't cheap (budget close to €1000), but they offer the correct grain for period vinyls and can be ordered for right-hand drive cars. Changing the dash is a time-consuming job, but it's fairly straightforward. The task is made easier thanks to the 'how to' guide found at the 924 Owners Club forum.

Werk924 also supplies the original cloth and vinyl to repair or retrim 924 seats. Again, the parts can be expensive, but even Porsche refers to Werk924 when it comes to ordering many of its restoration materials!

If you detect wet footwells, the usual suspects are sunroof drains. They may just need a blast with an airline, but more serious remedial work could be required if they've been left blocked for a lengthy period.

Much like its dashboard, the car's door cards are made from cardboard covered in vinyl. Unsurprisingly, they don't take kindly to being exposed to moisture. Plastic liners stuck to the inside door panels should be present, else the door cards will rapidly disintegrate.

Early steering column stalks are derived from the VW Beetle. Golf stalks feature thereafter. Several interior components are from the VAG parts bin, but this in no way takes away from the fact that the car's cabin is a comfortable place to be.



#### TUNING

The 924 Turbo's power output was held back by a lack of intercooler. The 1981 924 Carrera GT showed that with little more than a top-mounted 'cooler (the model also featured different pistons and a new turbocharger), the Turbo's engine could deliver more than an extra 30bhp with no uplift in boost. With this in mind, when it comes to tuning the 924, intercooling is the first step towards a hike in horsepower.

The space beneath the car's bonnet (combined with the position of the turbocharger) doesn't make for an easy path to success. The Series 1 Turbo has an oval-shaped intake making for a difficult connection to pipework. The Series 2's round intake is identical to that of the Carrera GT and is a bolt-on modification for the Series 1.



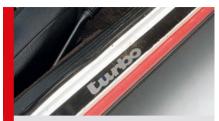
The Carrera GT's intercooler is the proverbial 'hen's teeth', but Ideola's Garage (*garage.ideola.com*) makes both an air-cooled and a water-cooled version that fits to the same brackets. Costing close to a grand, neither part is a cheap upgrade, but each offers installation that can be easily undone if at some stage you want to put your Turbo back to its standard state of tune.

Another popular way to achieve intercooling is to mount a 944 Turbo's heat exchanger to the nose of the 924 Turbo. Bear in mind that this update requires cutting and fabrication and is not readily reversed if you want to return the car to standard specification.

It should be mentioned that if you're thinking of turning up the boost on a 924 Turbo, then the cooling system will require a larger radiator. Never increase boost without first adding charge cooling into the equation.

Brakes can be upgraded to those of a 944 S2 or 944 Turbo (or even Boxster brakes) with a hub swap or caliper bracket. Suspension upgrades are also readily available due to the high number of Volkswagen Golf and 944 parts offered by the likes of KW Automotive. View the company's full range of products at *kwsuspensions.co.uk*.

Electronic Fuel Injection is often added to tuned cars. Advice on this upgrade can be found at the 924 Owners Club forum. That said, K-Jetronic was used in the Carrera GTS (albeit with the 928's metering head) to deliver up to 280bhp, so the stock system offers plenty of headroom.



#### PRICE

For many years, the 924 has been found at the bottom end of the Porsche price list. The market has since woken up to the performance and quality of the 924 Turbo, resulting in significantly increased purchase costs. To put this change into perspective, just five years ago, some 924s were changing hands for around £250, but now even a basket case is £3.000. A Turbo in need of work, however, is likely to consume £10,000 in labour and parts, so think with your head, not with your heart! As is the case with most Porsches, condition is everything.

The Series 2 Turbo doesn't attract a premium over the earlier Series 1, but you're unlikely to find any 924 Turbo with perfect service history. Also, keep in mind that the car's odometer only has five digits, meaning that mileage can be very hard to confirm.

Prices are still in flux, and though top end restored cars have recently sold for as much as £45,000, there are still Turbos hovering around around the ten grand mark. There are thought to be fewer than 250 924 Turbos currently on British soil, with only sixty right-hand drive examples left on the road. Searching for a particular colour or trim combination is unlikely to reap dividends. A modified 924 Turbo will be worth less than an immaculate standard vehicle.

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#### CONTACTS

Porsche 924 Owners Club porsche924.co.uk Cloth and dashboards werk924.com Mittelmotor mittelmotor.de Ideola's Garage garage.ideola.com 924 Used Parts Specialist wooliesworkshop.com KW Automotive kwsuspensions.co.uk



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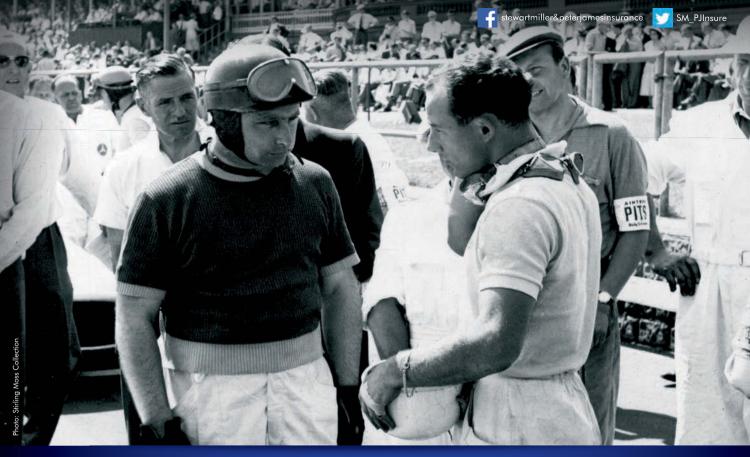
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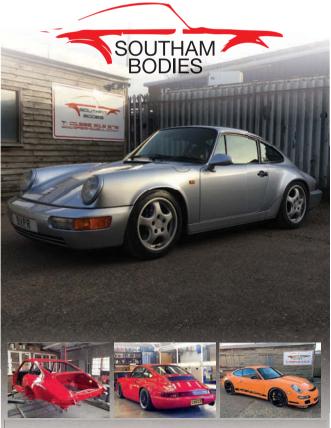
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