

356 AMERICA ROADSTER CARRERA 3.2 SPEEDSTER STORY OF THE PAXTON PHOENIX CARBONE QUEEN 911

JP GROUP VISIT VARIORAM EXPLAINED

(03/6237-ace6 40be-bodb-564dff3ef604

NOVEMBER 2022 WELSEYmedia 9 772042 107054 90

# DOWNLOAD MORE MAGAZINES AT HTTPS://FREEMAGAZINES.TOP



#### PORSCHE TUNING / PARTS / SERVICE / MADE IN GERMANY / SINCE 1984

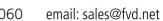
## www.fvd.net



Since 1984, FVD Brombacher has been setting the standard for Porsche restoration, engine building and tuning in Germany. Our online shop has a vast assortment of performance, spare parts and accessories for the entire range of Porsche models. No matter if you need service or parts for your aircooled or watercooled, we have everything you need and we also ship worldwide.

Simply visit us at **www.fvd.net** and discover why more enthusiasts choose to put our passion into their Porsche.

**fvd** Germany email: info@fvd.net tel: +49-7665-98990 fax: +49-7665-989920 **fvd** North America tel: +1-954-571-2050 fax: +1-954-571-2060













Kent, ME18 6AL, United Kingdom

#### FDITORIAL

Editor: Dan Furr, dan.furr@kelsey.co.uk
Contributors: Shane O'Donoghue, Karl Ludvigsen, Dan Sherwood,
Sharon Horsley, Johnny Tipler, Alex Manos, Rich Pearce, Andy Prill,
Robb Pritchard, Richard Gooding, Robert Smith, Adrian Brannan

#### ADVERTISING

Group Advertising Manager:
James Stainer, 01959 543515 or 07948 802130 james.stainer@kelsey.co.uk

#### MANAGEMENT

Chief Executive: Steve Wright
Chief Operating Officer: Phil Weeden
Managing Director: Kevin McCormick
Subscription Marketing Director: Gill Lambert

Subscription Marketing Urector. Gill Lambert Retail Director. Steve Brown Print Production Manager. Georgina Harris Print Production Controllers: Kelly Orriss and Hayley Brown Subscriptions Marketing Executives: Dave Sage and Claire Aspinall Affiliate Marketing Manager. Kate Chamberlain

#### SUBSCRIPTIONS

Ten issues of Classic Porsche are published per annum UK annual subscription price: £59.50 Europe annual subscription price: £70 Rest of World annual subscription price: £75

UK subscription and back issue orderline: 0845 241 5159 Overseas subscription order line: +44 (0)1959 543 747 Toll free USA subscription order line: 1-888-777-0275 UK customer service team: 01959 543 747

Find current subscription offers at: www.bit.lv/subscription

Already a subscriber? Manage your account at: shop.kelsey.co.uk/myaccount

#### **CONTACT US**

For customer service support, please visit: help.kelsey.co.uk

Customer service and subscription postal address: Classic Porsche Customer Service Team, Kelsev Publishing Ltd. The Granary, Downs Court, Yalding Hill, Yalding Kent, ME18 6AL, United Kingdom

Tel: 0906 802 0279 (premium rate line, operated by Talk Media Sales on behalf of Kelsey Publishing Ltd. Calls cost 65p per minute from a BT landline. Other networks and mobiles may vary. Lines open nday-Friday, 10am-4pm)

Classifieds email address

View and upload classifieds at: motorfreeads.co.uk

#### DISTRIBUTION

Marketforce (UK) Limited, 121-141 Westbourne Terrace, Tel: 0330 390 6555

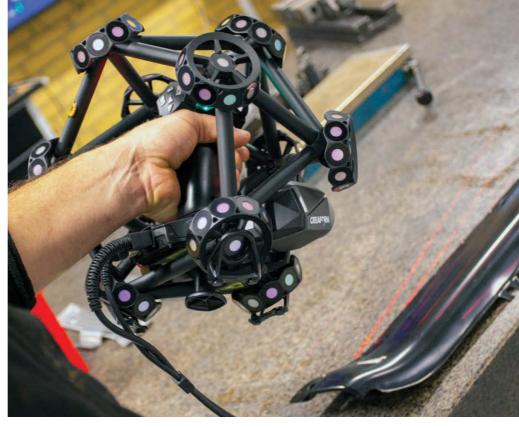
#### PRINTING

Precision Colour Printing, Telford

Kelsey Media 2022 © All rights reserved. Kelsey Media is a trading name of Kelsey Publishing Ltd. Reproduction in whole or in part is forbidden except with permission in writing from the publishers. Note to contributors: articles submitted for consideration by the editor must be the original work of the author and not previously published. Where photographs are included, which are not the property of the contributor, permission to reproduce them must have been obtained from the owner of the copyright. The editor cannot guarantee a personal response to all letters and emails received. The views expressed in the magazine are part of the Editor or the Publisher. Kelsey Publishing Ltd accepts no liability for products and services offered by third parties. Kelsey Media takes your personal data very seriously. For more information of our privacy policy, please visit Kelsey Media takes your personal data very seriously. For more information of our privacy policy, please visit kelsey weith you have any queries regarding Kelsey's at the policy, you can email our Data Protection Officer at \$dpo@kelsey.co.uk. Classic Porsche is entirely independent of Dr. Ing. h.c. F. Porsche AG. Contents may not be reproduced. in any form or stored on any electronic system without written permission. No responsibility accepted for any unsolicited material. Classic Porsche recognises and abides by copyright laws and attempts to correctly credit all material used. If we have used or credited some of your work incorrectly, please contact us and we will do our best to fix the error.



**NEXT ISSUE ON SALE** FRIDAY 18TH NOVEMBER



# **BRIGHT FUTURE**



ot long before this issue of Classic Porsche went to print, I returned from a twoweek road trip in mainland Europe. The drive took me to various towns and cities in Belgium, Germany and Denmark, the latter set as

my target destination following an invitation to attend Scandinavia's biggest Porsche gathering and the opportunity to take to the controls of the 964-based Kalmar 7-97 personally owned by nine-time Le Mans winner, Tom Kristensen. An opportunity not to be missed.

As you'll discover across the following pages, after landing in Denmark, I took time out to visit JP Group, the manufacturer of classic Porsche parts marketed under the Dansk brand. The day I spent at the company's huge facility in Viborg was exhilarating and, as far as ongoing efforts in the aftermarket to keep the cars we love on the road is concerned, a real eye-opener

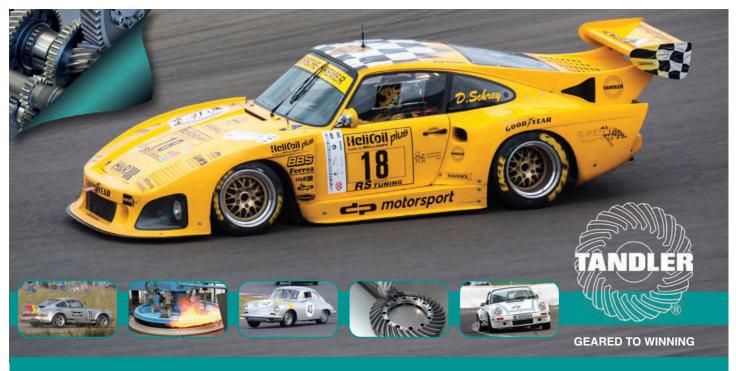
insofar as being able to witness first-hand the lengths component makers are going to in order to further develop their product offerings for owners and restorers of air-cooled Porsches. It's rare to have exclusive access to every inch of a busy factory. Needless to say, I was grateful to be afforded the chance the take a look behind the scenes.

One of the things I was acutely aware of during my visit was how JP Group isn't content to rest on its laurels, despite enjoying a huge percentage of the classic Porsche and Volkswagen parts sector. This desire to continually push forward isn't a trait exclusive to the Danes, of course - across the automotive aftermarket, enterprising independent manufacturers are embracing the latest production technologies (such as 3D scanning, pictured above) to not only increase the volume of products they're able to sell, but also to further refine those already in their catalogues, evolving and improving the quality of items finding their way to the end user. As someone fascinated by engineering and how things are made, this is a topic which excites me no end, hence my enthusiasm for visiting Viborg. Turn to page seventy-two and join me on the tour.



#### **GET IN TOUCH**

Visit the Classic Porsche Facebook page at facebook.com/classicporschemag View the latest Classic Porsche subscription offers at shop.kelsey.co.uk



- High quality Klingelnberg crown wheel and pinions
- We can produce special ratios
- Crown wheel and pinions for Porsche 356 (7:31), 901 (7:31) and 915 (8:35) available from stock
- More than 65 years experience in the production of high quality gearing for automotive, aerospace, military and industrial applications

#### **Tandler Precision Limited**

29 Ross Road Business Centre Northampton NN5 5AX

Tel: **01604 588 056** Fax: **01604 588 064** Email: sales@tandler.co.uk

www.tandler.co.uk





Porsche spare parts for all models since 1950



#### New production with weight reduction

Surface variant: Star black or anodized

Dealer enquiries are welcome



#### 16"-Fuchsfelge

6J x 15 | ET 36 | 461,34 € 6J x 16 | ET 36 | 536,97 € 7J x 15 | ET 23,3 | 478,15 € 7J x 16 | ET 23,3 | 494,96 € 8J x 15 | ET 10,6 | 486,55 € 8J x 16 | ET 10,6 | 520,17 € 9J x 15 | ET 3 | 528,57 € 9J x 16 | ET 15 | 536,97 €

## Steel wheel

**Design:** OE look steel - colour: silver **Dealer enquiries are welcome** 

#### 15"- Steel rim

4,5 x 15 | ET 42 | 227,00 € 5,5 x 15 | ET 42 | 239,90 € 6,0 x 15 | ET 36 | 259,00 €

all steel wheels with ECE number



## Steel wheel

**Design:** OE look steel - colour: silver **Dealer enquiries are welcome** 

#### 16"- Steel rim

5,5 x 16 | ET 15 | 259,00 € all steel wheels with ECE number



#### **FEATURES**

OUR FAVOURITE TIPPLE
Mike Champion's RSR 3.0 replica.

FROM THE ASHES
The Porsche-powered Paxton Phoenix.

A CUT ABOVE
A rare UK-spec Carrera 3.2 Speedster.

PERFECT ISOLATION
A 356 B T6 restormod lockdown project.

NOW WE'RE TORQUING!
VarioRam variable induction explained.

72 INSIDE STORY
We take a tour of JP Group in Denmark.

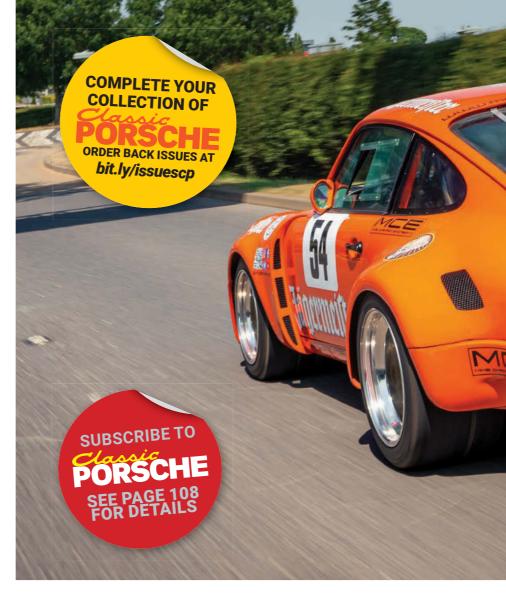
BEFORE SPEEDSTERS
The short-lived America Roadster.

**EASTERN ROYALTY**CarBone's 1970 911 T 'Queen' build.

SPEEDSTER STIR-UP
Greg Moore's 3.2-litre Speedster replica.

SUBSCRIPTION DEALS
Get Classic Porsche delivered to your door.

CLASSIFIEDS
Shop for your next air-cooled classic.













#### CONTENTS

# NEY 365N.CO.

# 44



#### **REGULARS**

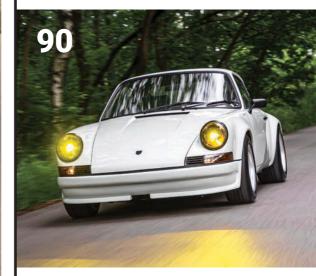
LIVEWIRE
KAMM Manufaktur launches the 912 C.

PORSCHE PRODUCTS

New gear for you and your classic Porsche.

**32 GUEST SPEAKERS** A beaming Andy Prill returns from Monterey.

NEXT ISSUE PREVIEW
What if Porsche had built an F-series GT3?







# OUR FAVOURITE TIPPLE

Air-cooled Porsche restoration specialist, Mike Champion, was so fascinated by the Jägermeister liveried 934 and Carrera RSRs prominent in the 1970s and 1980s, he created his own version: a road-legal RSR...

Words Johnny Tipler Photography Dan Sherwood



#### **RSR 3.0 REPLICA**

ägermeister. There's a certain ring to it. There's also the brand's Germanic script and famous stag logo. As for the colour, who doesn't love an orange 911? Tasty! It appealed so much to independent marque specialist, Mike Champion, he created the very Carrera RSR 3.0 replica you see on these pages.

so much to independent marque specialist, Mike Champion, he created the very Carrera RSR 3.0 replica you see on these pages. Mike owns MCE Porsche, an everything-under-one-roof shop specialising in classic Porsche restoration. He campaigned the car in last season's Porsche Club Motorsport 911 Challenge and has since rebuilt the engine. Unlike the majority of other 911s competing, however, this one travels to circuits and back

under its own power — Mike has built a roadlegal RSR! Incongruous? He finds driving the car to tracks more convenient than trailering.

RSR. We're talking about big-time race cars. Back in the day, the Carrera RSR 3.0 was Porsche's pragmatic response to shifting FIA regulations, because in 1973, the first turbocharged Carrera RSRs were quick enough to rival the Matra, Mirage and Ferrari prototypes for outright wins, as happened in the 1973 Targa Florio. In 1974, the normally aspirated Carrera RSR 3.0 basked in the reflected glory of the works RSR Turbos and formed the bedrock of the European GT Championship for the next two seasons. With sights set on 1975, when the

World Championship for Makes would be formulated for production-based race cars, Porsche concentrated on developing the turbocharged 934 and 935 for Group 5, while customer teams flew the flag in Groups 3, 4 and IMSA categories, fielding the Carrera RSR 3.0. Although dominant in the European GT series, the model was by no means a high-volume production Porsche — the Weissach competitions department built just 109 units in both RS (road trim) and RSR (race trim), split between fifty-six road-going models and fifty-three race cars.

The first fifteen Carrera RSR 3.0s were despatched to North America for the International Race of Champions (IROC) series,





which starred leading drivers from Indycar, NASCAR, TransAm, Can-Am and Formula One. Invited aces raced identically prepared 911s. Interestingly, the IROC RSRs were the first racing Porsches to flaunt then new impactbumper styling. In this respect, the Carrera RSR 3.0 was a quantum leap from the preceding Carrera RS 2.7 and the older 911's mild wheel arch flares and ducktail spoiler. The Carrera RSR 3.0's pumped-up bodyshell was typified by bulging quarters, lighter-gauge steel, thinner glass and minimal sound-deadening, plus a new front bonnet and engine lid, from which sprouted a new horizontal wing, known as a whale tail. The coherently integrated front airdam and valance was different from the series production cars, with its frontal opening for the oil cooler and paired brake cooling ducts on either side. Two types of whale tail were available: a smaller version equipped with protective rubber lip for road use, and for racing, the bigger IROC-style wing with its additional cooling vent, extending beyond the rear of the car's bodywork.

**JUICY UPGRADES** 

Compared to the flat-six powering the earlier Carrera RSR 2.8, the three-litre boxer featured a larger bore and a more forgiving aluminium crankcase than the magnesium componentry on the smaller displacement unit. The three-litre engine was also equipped with twin-plug ignition, reprofiled camshafts and made use of 10:3.1 compression ratio, contributing to power output of near 330bhp at 8,000rpm and close to 232lb-ft torque at 6,500rpm. While you'd be right to think enhanced power was a major plus point on the track, the biggest benefit to come from the new specification was improved reliability. Nevertheless, with weight tipping scales at just nine hundred kilos, the Carrera RSR 3.0 was capable of hitting top speed just shy of an astonishing 180mph.

The brakes were sourced from the 917, as were the RSR 3.0's superb centre-lock wheels, measuring ten and a half inches of girth at the front, fourteen at the back. Helping to keep weight to a minimum, the cabin was stripped of all but the bare essentials, the windows were

made from polycarbonate and fibreglass was used to construct the bumpers, engine lid and frunk. Exaggerated rear wheel arches accommodated intake apertures to cool those powerful 917 anchors, which sat ahead of coil springs, adopted in place of the traditional torsion bar arrangement. Having said all this, it's important to remember the Carrera RSR 3.0 was built around a standard production 911 shell, a requirement for homologation purposes.

Mike is in good company — when I interview racing drivers, I usually ask them what their favourite Porsche race car is, and, almost without exception, the answer is the Carrera RSR 3.0. Derek Bell told me how this 911 felt compared with its successors, the turbocharged 934 and 935. "In 1976, I raced a 934 and an RSR for the same team, Max Moritz Racing, in the same race at the Nürburgring, which was rather exciting because I got out of one 911 and hopped into the other. I was happy enough in the 934, which was turbocharged, but the normally aspirated Group 5 RSR proved much more fun to drive than the 934, which was such a handful when all

Above Mike's RSR replica was a labour of love worked on at his base near Banbury in the run up to the inaugural season of Porsche Club Great Britain's 911 Challenge series



#### **RSR 3.0 REPLICA**





Above and below Cabin is a functional race car office, yet this 911 remains road legal following its transformation from a stock 1976 G-series

the power came in, even with those massive wheels and tyres at the back."

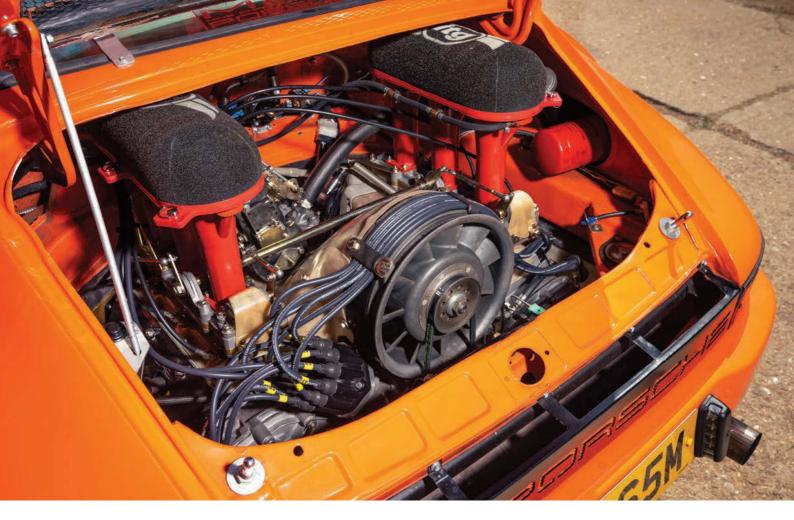
And what about Mike's zesty RSR replica? He took it under his wing around Christmas 2019 as an unfinished project, acquired from where it had been residing in Denmark. "It had been raced in Europe as an RS, and the owner, who's a very keen classic car race enthusiast with a couple of early Porsches and a Mk1 Escort in his garage, started the conversion to RSR spec. Soon after, other projects took priority. He'd taken care of the majority of the bodywork and he'd swapped the old RS magnesium case engine to an aluminium case unit, following up with a season of racing. The engine was tired, but it was running, meaning I could wheel the car around my workshop." The chassis hadn't been modified to RSR specification, although a Heigl roll cage and a fifty-litre racing fuel tank were in place.

The car was originally an impact-bumper 911 from 1976, galvanised, though Mike reckons there's nothing factory-original left, other than the shell. His target was to race in 2021's 911 Challenge. Porsche Club Motorsport

administrators, Chris Pruden and Mandy Sear, had just launched the series and were scouting for willing participants in charge of air-cooled 911s. All standard cars from 1965 to 1989 are eligible to compete, though to satisfy demand from owners of later air-cooled cars, Chris soon announced plans to introduce an open class for 964s, as well as heavily modified 911s. "Chris's vision was to reprise the era of classic 911 racing and get aircooled cars back on the grid," Mike muses. "I thought, okay, I'll go for that, because it's surprisingly difficult to find a series to properly race these cars against one another. Then it was a case of building a 911 to compete in around other workshop commitments. I did so across weekends and evenings, finding slots in the workshop during 2020, through periods of lockdown, to get the car ready for the inaugural 911 Challenge season."

During this period, Mike performed the chassis build, including installing a new wiring harness, which included working lights, a rational ignition system, indicators and wipers, all to ensure the car could be road-legal. "I know what an RSR needs to be capable of, which is why there was a lot of work on the suspension geometry." he continues. "The wheel offsets on an RSR are greater, the wheel sizes are different and need to be compliant with tyre regulations." A bigger brake package was required, as well as 935-specification front suspension, which provided full flexibility and provision for adjustment of camber, offset, kingpin angle and tracking. Due to the fact the car needed to be FIA-compliant, the only changes Mike could make at the back end had to be in accordance with RSRs in period. "The rear arms had to be short versions in steel at the revised mounting points for the RSR, thereby giving the car the proper rear suspension arc and travel for the lower driveline height, as well as the agreeable rear camber control RSR geometry gives you." He had to update the fuel system, because the aforementioned fifty-litre tank was nowhere near big enough for the 911 Challenge's hour-long races. "A larger fuel cell went in to handle the amount of petrol the car would be consuming. I also installed a





Lifeline fire safety system, ignition cut-off switches, an AZ Instruments digital data-logging system, rear window straps, Cobra Monaco Pro bucket seats, OMP safety harnesses and a WEVO shift mechanism. That's pretty much how I raced the car last year, with no changes to the engine, a result of simply running out of time before the season started. That said, I was keen to see how the engine was behaving and get a feel for the car's balance. Effectively, it was a shakedown across a couple of races, without having to go in for a full engine build."

After an absence from racing of around ten years, Mike was happy enough just to be in the mix. There were no podiums nor high

podiums nor high placings, mainly because he found himself up against RS-badged 964s. "We're talking twenty years of advances in technology over my car," he laughs, "and

#### THE CAR ROLLS ON BBS SPLIT RIMS, BUILT TO MIKE'S OWN SPECIFICATION TO ENSURE THE OFFSET HE WANTED

in the open class, there were no FIA constraints. I was up against 3.8-litre 911s running more advanced chassis. These cars could get around corners much quicker and could accelerate faster. I was never going to get a good placing against them. Then again, I wasn't going to start throwing money at the car to make it competitive against 964s, or even the modified SCs competing, because this would mean risking my 911 no longer being FIA compliant, a hard sticking point as far I was concerned. I was building an RSR replica because I wanted to get RSR racing experience. This meant sticking with the technology of the day, as it was in period, and sticking with FIA regulations."

Due to the fact the car is road-legal, Mike could drive it to and from race circuits, as I did with my Alfa Romeo GTV6 when I ran in the AROC series in 1989 and 1990. "It did depend on where the track was," he reveals. "I trailered it to tracks far afield, simply because the car consumes quite a lot of fuel. It doesn't make sense to spend two or three hours driving this 911 up to, say, Snetterton or Croft from my base near Banbury, especially when I've got a stack of tools and other gear to carry. When I raced at Silverstone, which is literally fifteen minutes up the road from home, I drove it to the circuit and back again. That was one of the main reasons why

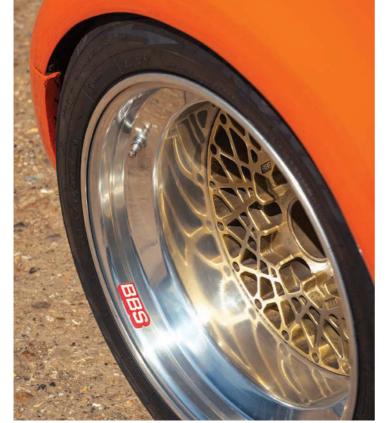
I wanted to make the car road-legal, so I could drive to Silverstone, it being my local circuit. Additionally, when you're conducting drivability calibration and chassis build,

it's useful to be able to take the car onto the road for testing." It's the same with dyno sessions. "There are a couple of rolling roads I use within a fifteen-minute drive of home. It's so much easier to drive the car to the site and strap it down, rather than faff around with a van and towing trailer."

Mike knows a thing or two about engine building and tuning. MCE (that's Mike Champion Engineering, in case you hadn't already guessed) was established in 2012, following many years he spent working for some of the most respected names in the automotive world. "I left school not long after my eighteenth birthday and began an apprenticeship learning car bodywork repair and

**Above** Engine output is a potent 330bhp, matching the power of the original RSR 3.0

#### **RSR 3.0 REPLICA**









Below Not what you'd expect to appear in your car's rearview mirror when nipping out to the shops

paint," he tells us. "I then moved onto fabrication and welding, developing my practical skills all the while, but even as a young child, I was fascinated by how things work, the technology behind them and what challenges their creators faced during the development process. This curiosity continued with me through my formative years and into adulthood, leading me to embark on a four-year degree in automotive engineering. Benefiting from work placement in the industry, I passed the course with firstclass honours."

#### **INTO THE BIG LEAGUE**

An invitation to join Tom Walkinshaw Racing (TWR) followed. Founded in 1976 by racing driver, Tom Walkinshaw, TWR took on the factory touring car programmes for Mazda and Rover, but is most famous for its work with Jaguar, beating Porsche to the 1988 World Sportscar Championship constructors and drivers titles with the XJR-9. Dressed in the now iconic purple Silk Cut livery, the seven-litre, V12-propelled sports-prototype

took the win at the 1988 24 Hours of Le Mans (the fifth round of the championship), marking the first time since 1980 Porsche hadn't secured overall top honours at Circuit de la Sarthe. Jaguar and TWR would win the daylong French endurance race again in 1990. It would be 1994 before a Porsche repeated the feat of taking firstplace overall. "Tom was trying to promote TWR as a rival for Porsche's motorsport and engineering departments," Mike recalls. "Accordingly, we offered a huge amount of in-house engineering expertise to world-renowned car brands, including Jaguar, obviously, but also Nissan, which commissioned TWR to take care of suspension work. SAAB was also a client, seeking assistance for further development of its range of turbocharged engines. Additionally, TWR developed and built the legendary midengined Renault Clio V6 Sport," he adds, before revealing an interesting truth. "Porsche was always the benchmark, always the point of reference. We'd constantly be looking at how the German company's engineers were doing things. More specifically, the 911 was held up as a prime example of engineering excellence, something to aspire to and a source of real inspiration. I remember thinking to myself, if Porsches are so good, why aren't I working on those instead?!"

Purchase of a 993 gave him a taste of things to come, but a series of important jobs at major automotive brands preceded the forming of his own Porsche business. "After my time at TWR, I spent three years working on engine development at Jaguar, before joining Cosworth, where I stayed for seven years, managing race engine programmes for industry clients, including Aston Martin, and developing variable valve timing concepts." He was then invited to work for the Gaydon concern directly, before being pulled back to Jaguar to oversee complex chassis and suspension design projects, as well as complete vehicle testing. "I enjoyed all of these jobs, but I was unable to shake the desire to work on Porsche sports cars. When an opportunity to buy and resurrect a pair of derelict smithy buildings in Motorsport Valley presented



itself, I saw potential for a new home, as well as the opportunity to build workshop space enabling me to realise my dream of establishing a business conducting classic Porsche works, from minor servicing to full restoration exclusively for rear-engined models."

Correctly configuring an RSR's suspension is crucial. To this end, Mike's car makes use of modified Bilstein dampers, altered because RSR suspension geometry demands modifications to the spindle and steering arm to be able to dial out bump steer. Wheel choice is interesting — the car rolls on custom-made BBS split rims, built to Mike's own specification to ensure

he could get the offset he wanted to accommodate the maximum tyre options and within the bodywork, given the steering and suspension geometry he'd

#### THE ORIGINAL JÄGERMEISTER CARRERA RSR 3.0, CARRYING RACING NUMBER FIFTY-FOUR, WAS DRIVEN BY ECKHARD SCHIMPF

set the car to. "I've got enough capability to dial-in suspension settings good for a generic track setting," he tells us. "There's a core level of tuning that says you can split a suspension set-up into road or track, but that a set-up that's good for road is not going to be ideal for track, and vice versa. Beyond that, there's a degree of adjustment good for a right-handed twisty circuit or an oval with long straights. You've also got diversification with different levels of fuel load, which varies during the length of a race. I was able to find a good track-biased setting I knew was going to be ideal for ninety-five percent of the tracks this car was ever going to be on, with the broad range of fuel loads that it was likely to be

carrying, along with the known tyre specifications and the current engine capability."

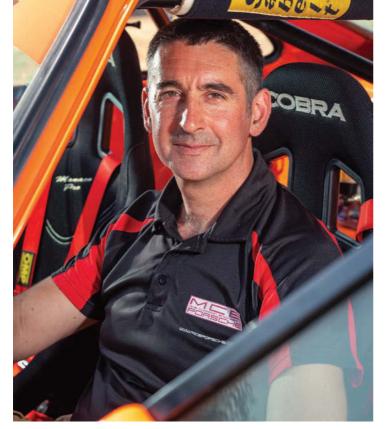
911 Challenge didn't specify a control tyre, only that whatever rubber used needed to be a road tyre. The MSA rule book has an official list of approved road tyres. The Classic Sports Car Club (CSCC) use it as their bible for allowable treaded tyres, which are non-slicks or non-Cup slicks. Most teams are running Toyos. "That's fine if you're on a standard 911 chassis," Mike reasons, "but the RSR addresses the balance issues of the 911 by putting tonnes of tread on the rear, a very old-school way of balancing traction capability, front to rear, based on

weight distribution."
There isn't a road
tyre that's got
suitable track width
an RSR is happy
with, though. "Race
tyres are brilliant,
because you can
specify massive

depth that will fit on a fifteen- or sixteen-inch rim, but as soon as you go to road tyres, you're fairly constrained. And, of course, when your tyre choice is constrained, grip is constrained. Your chassis set-up therefore must be compatible with all of this, which is why I tuned my 911's chassis for circuit racing, but with a road-biased tyre, even though it's not the ideal choice for an RSR." To really exploit an RSR, you really want to put racing slicks on it, get the rear tyre section up to as wide as possible and utilise the full power and turn-in capability of the car as it was originally engineered. Mike can always change the race series he participates in, of course. He's got an FIA-homologated car eligible for national and

Above The car was part converted to RSR specification during previous ownership and spent a season racing in RS trim

#### **RSR 3.0 REPLICA**









Above Mike established MCE Porsche after time served working on engineering projects for major sports car manufacturers, including Aston Martin and Jaquar

international historic events run by the Historic Sports Car Club (HSCC), Peter Auto and Roadbook. These events include Le Mans Classic, Nürburgring Old Timer and Spa Six Hours. "That's where this kind of 911 is happiest," he says. "It's also taking a long-term view about my intention for the car, to make it capable of taking part in international historic competition at FIA level, allowing it to race as RSRs did in period."

It was time to bite the bullet and get serious with the flat-six. "It was clear that if I really wanted to get competitive and get up toward the front of the grid, then I was going to have to pull the engine and do a proper rebuild. This was my task after Silverstone last year. It took me through to May of this year to strip the unit, inspect it, re-specify the necessary parts, re-engineer and rebuild, including a conversion to slide throttles, an MCE custom-designed camshaft and valving, porting and exhaust changes to achieve a power output of 330bhp, matching the original RSRs in period. I'm constrained by three litres, effectively meaning the criteria for increased

performance couldn't come from displacement - it had to come from revs. As soon as you define as much, you know you're going to need a lightweight valvetrain and other hardware changes to get to target power."

Of all the liveries Mike could have selected for his RSR - Toblerone, Brumos, Vaillant, to name but three - he chose Jägermeister. "I quite like orange cars," he beams. "If you're going to have a loud, brash, full-on racing Porsche, it might as well be one that gets noticed. One of the things I love about early 911s is the brand's safety colours philosophy. I'm keen on promoting cars in bright colours, because if they can be seen, the roads will be safer. I will do whatever is in my power to keep as many silver cars off the road as possible!" Jägermeister livery fits the bill exactly. "Martini graphics and some of the Kremer cars were very striking, but Jägermeister livery stands out to an even greater degree."

The original Jägermeister Carrera RSR 3.0, carrying racing number fifty-four as per Mike's car, was driven by Eckhard Schimpf. Between 1974 and 1977, Schimpf drove his RSR in selected 500km Championship rounds. plus domestic DARM races in Germany, sometimes solo, sometimes with co-drivers, most notably in 1976 at the Silverstone Six Hours, with superstars Jürgen Barth and Reinhold Jöst at his side. As for Jägermeister, the drinks brand sponsored several teams in period, including Kremer Racing and Max Moritz. Jägermeister Racing was, in fact, run by Schimpf himself, who in 2016, along with his son, Oliver, organised a reunion of the iconic orange race cars, including the very Carrera RSR 3.0 that he raced in eighty-four different events, notching up thirty-nine wins in the process.

Schimpf was actually sponsored by his cousin, Günter Mast, who was CEO of Jägermeister. Having started in 1972 with a 914/6, Schimpf progressed from running the Carrera RSR 3.0 to 934, 935, Group C 956 and 962, with several BMW 3.0 CSL Batmobiles also in the mix. I recall a conversation I had with Erwin Kremer a few years ago. "We were with Jägermeister for seven years," he recalled.





"No sponsor gives that degree of commitment anymore. It's a two-way thing, though — the team must give equal commitment to the sponsor. Unfortunately, you can't do this in the short term. You have to build up to it."

I've driven three Carrera RSR 3.0s over the years, and if Mike's is anything like them, he's having an awesome time behind the wheel. I particularly enjoyed having a go in an RSR in circuit mode, sling-shotting me up the startfinish straight, twitching and writhing at the slightest hump, the car's nose sniffing out every nuance of the serpentine track. The RSR's rock-hard suspension takes no prisoners on anything but billiard-table blacktop.

Steering was light, requiring a deft touch rather than a commanding yank, while lock was very good, considering tyre width. Turn-in was fantastic, and I could place the car

THE DRINKS BRAND SPONSORED SEVERAL TEAMS IN PERIOD, INCLUDING KREMER RACING AND MAX MORITZ

instinctively where I wanted it, surging out of corners in a burst of glorious six-pot excess. Acceleration was also phenomenally vigorous, from 2,000rpm right around the rev counter to 8,000rpm. Hardly daring to glance at the clocks in my full-on circuit scenario, I glimpsed 100mph at 7,500rpm in fourth gear.

There was plenty of torque at the other end of the scale, making rolling starts viable in second gear. The clutch was so positive that even on dry asphalt, the wheels would spin easily. The gear lever felt metallically precise as I moved it through the gate, yet selection required care in order to avoid graunching. The brakes also required positive treatment, being sourced from the 917, and needing the pedal to be firmly stood on

to achieve any effect at all. The car was running on wide-rim nine-inch and eleven-inch Fuchs wheels, which complemented the audacious stance. The RSR was light on its feet, making it easy to forget how wide the rear track was and encouraging me to ride the kerbs. Breathless and sweating profusely after a half-dozen laps, I motored onto the paddock access road and sat with the engine ticking over for a while as I savoured the experience.

As for Mike's RSR replica, the engine is back in and he's ready to make his return to the track. "I want to try and get on the tail end of this season, just to have a few

shakedown races and learn what the engine is really capable of. It's all very well popping it on a dyno, but you need to see how it's behaving with sustained high-speed shifting, spending

twenty-five minutes going between 6,500rpm and 8,500rpm, which you can't really replicate anywhere other than on a circuit." He's is looking at either the last few races in this year's 911 Challenge, or the CSCC's Future Classics series, which has just started allowing RSRs onto the grid.

He'd be up against drivers in TVRs, Lotus, Alfas and Cosworth-powered Fords. Not quite the hardcore European GT Championship and WSC opposition the Carrera RSR 3.0 faced in its halcyon days, but the context is different, and we're way beyond that now. Ultimately, Mike and his glorious 911 should have the pace to win. He's certainly cracked the imagery. Hopefully, we'll be raising a glass come season end! **CP** 

Above Mike is hoping to enter the car into the final round of this season's 911 Challenge, which takes place at Donington on 29th October



# Classic Porsche Engineering

Your one-stop shop for classic Porsche, from body and paint, engine and chassis build, through to trim and final assembly.

Full body restoration, paint, rotisserie and celette jig facilities
In-house engine build, tuning and performance development
Dedicated interior trim workshop
Chassis & suspension rebuilds
Servicing and routine maintenance

VOY 304L

Based near Banbury UK, conducting all classic Porsche works from minor servicing to full restoration, wholly inhouse and exclusively for rear-engine Porsche 911, 912 & 356.

**Recent restorations:** 

1965 912

1968 911S

1971 911T

1973 911S

1974 911RSR FIA

1976 Carrera 3.0

1983 3.0SC Backdate

524K

1989 911 Turbo

'What has rolled out of the MCE workshop after many months of dedicated hard work is an absolute gem! Mike's passion and knowledge for all things 911 seems limitless. He was nothing but professional in the way all aspects of the build were carried out and the whole process has been a pleasure. I've now had the car back home for a couple of weeks and it's quite wonderful in the way it drives, and just as much pleasure is brought by simply looking at the quality of Mike's work.'

www.mceporsche.com 01295-710-374/07796-372-239

mceporsche@gmail.com

facebook/instagram@mceporsche

c0376237-aee6-40be-b0db-564dff3ef604

# LIVEWIRE

Our look at what's happening in the wonderful world of air-cooled classics...



#### HISTORICS AUCTIONEERS RETURNS £2.83 MILLION AND 65% SALE RATE AT INAUGURAL BICESTER HERITAGE SALE

With the cost of living taking centre stage in recent weeks, plus economic meltdown in Britain caused by a so-called 'mini budget' lacking scrutiny, the resilience of the classic car market has been left in question. This was certainly the case by the time of Historics Auctioneers inaugural sale at Bicester Heritage, the UK's first business campus dedicated to historic motoring excellence and an established national centre for the industry. And yet, after the gavel fell on the last of 153 varied lots in the vast auction hall, the event returned an impressive £2.83 million gross result with a sixty-five percent rate of sale.

This new venue for Historics, which holds regular sales at various locations, including Ascot racecourse, attracted a sea of fresh faces to the bustling auction hall, which across three viewing days and the auction day itself, was visited by more than two thousand interested parties, doubtless drawn by the eclectic entry list, represented by no less than forty-three different marques. In addition, the sale attracted some four hundred registered online international bidders. In fact, forty percent of sold lots were bought remotely.

#### **LONG TIME COMING**

Nine decades of car making passed across the auction rostrum on the big day, a 1933 Pierce Arrow Brougham Coupe shifting for £30,240 and setting the timbre for prewar motoring against a stunning 2005 example of one of the most iconic of modern classics, namely the dramatic Mercedes-Benz McLaren SLR coupe, attracting a winning bid of £277,340. What about the air-cooled Porsches up for grabs? Entries in this high value category sold well. A 1982 911 SC Targa restomod proved demand for exceptionally presented bespoke classic Porsches remains strong. Following two equally fine examples sold by Historics in recent sales — and highlighted in the pages of *Classic Porsche* — the beautiful blue semi-open-top generated a bidding war settling at a cool £100,800.



Not long before, a matching-numbers 1969 911 E race car (above), complete with an FIA technical passport, settled at a very reasonable £73,000. Built into a motorsport machine by highly regarded 911 specialist, Steve Monk, the car has covered only 82,764 miles from new. Its last competitive run (at the Spa Summer Classic) took place in July of this year, while the supplied files show more than £53,000 worth of receipts, representing only some of the expenditure over the years. Parts and labour have only ever been from trusted specialists, including Tuthill, Tognolla, Bob Watson, Tech 9 and, of course, Steve Monk.

A number of classic Porsches were offered at the sale, but failed to find new homes, such as a restored 1968 911 E Targa (pictured bottom left) and a solid black 1988 Carrera 3.2 Sport coupe (below). Originally supplied by AFN, the specification sheet for this handsome 911 shows the car was built with a "high-fidelity package", sunroof and electric sports seats. Even with a lower estimate of £46,000, however, it failed to sell. Full results from the Bicester Heritage sale can be viewed at *historics.co.uk*.







#### KAMM MANUFAKTUR REVEALS 170BHP TWO-LITRE 912 C LIMITED SERIES

Founded by Miklós Kázmér in Budapest, Hungary, KAMM Manufaktur focuses solely on redeveloping the 912. Though renowned for being the lightest of all production Porsches from the mid-1960s, the 912 isn't the obvious choice for a restomod, but Kázmér reasoned the model's slim, simple lines (identical to the same-age 911), outstanding handling, superior nose-to-tail balance, plus punchy four-cylinder engine, make it ripe for reimagining, hence the prototype KAMM has revealed as the 912 C, an exquisitely engineered, beautifully built, modern take on the former 'entry level' Porsche.

Taking an original 912, KAMM engineers restored the donor car to perfection, providing the perfect basis for a bespoke creation. Steel was replaced with carbon, seamlessly blended without trace, ensuring flawless fit and finish. To this end, the body is fully restored, reinforced and makes use of Lexan polycarbonate windows to ensure kerb weight of just 750kg.

Switzerland-based four-cylinder air-cooled Porsche engine parts manufacturer, JPS Aircooled, was drafted in to assist with the creation of a bespoke, high-performance, high-compression flat-four. The Type 616 1.6-litre engine has been oversized to two litres and makes use of custom carbon-fibre intake and cooling systems, Weber 44 IDF carburettors and a 123ignition electronic ignition system, helping bump power from the factory prescribed stock-spec ninety ponies to a "fast road tune" of some 170bhp.

Power is sent to the rear wheels via a 901/2 dogleg five-speed gearbox loaded with a ZF limited-slip differential and a motorsport clutch. Stopping power is provided by 964 brakes. The hydraulic handbrake will help refine your best Ken Block impersonation.

The 912 C's suspension is similarly overhauled (custom KAMM adjustable coilovers and configurable anti-roll bars are the main talking point here), with additional chassis enhancements provided by a Tilton pedal box, custom three-

#### BUILD SLOTS ARE NOW ON OFFER, WITH PRODUCTION EXPECTED TO COMMENCE IN JANUARY 2023

piece centrelock wheels (pictured right) and Yokohama AD08RS sticky rubber. Inside the cabin of the 912 C, you'll find lightweight carpets, bespoke KAMM carbon-fibre seats and lashings of incidental carbon trim.

"The 912 C has been years in the making," Kázmér tells us. "I am proud to share my vision of the perfect 912." He goes on to explain Hungary's standing in the world of automotive tuning and modifying. "Budapest has a surprisingly well developed car culture, born out of a desire for individuality. During the country's socialist era, drivers had to be creative, home-tuning whatever four-wheelers they could get hold of. A burning desire to make whatever was available as fast and as beautiful as possible spawned a talented and dedicated automotive scene. Then, in the 1990s, as our country's borders opened and Hungarians gained access to western cars, creativity and talent in the Budapest automotive industry evolved very quickly." Enthusiasm has continued to grow ever since — as has the skillset of those active in the scene, such as KAMM Manufaktur — and is perfectly demonstrated by the arrival of the 912 C.

Pictured here is KAMM's prototype, but your very own series 912 C is now available to order at a cost of £285,000. A limited number of build slots are on offer, with production expected to commence in January 2023. KAMM clients can buy a complete car from Kázmér's team, or they can supply their own 912 for conversion, attracting a hefty discount in the process. Bespoke trim can be costed on request.

Tempted? For further information, visit the KAMM Manufaktur website at *kammanufaktur.com* or call Kázmér direct on +36 20 455 2627.





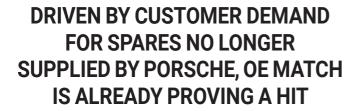




#### DESIGN 911 OPENS NEW DISTRIBUTION CENTRE IN THE NETHERLANDS

For many British businesses, especially those trading overseas, the fallout from Brexit has been an administrative nightmare. "Trade with customers in the European Union presently accounts for approximately thirty percent of our turnover," says Karl Chopra, founder of independent Porsche parts and accessories retailer, Design 911. "Previously, we could fulfil orders for clients in mainland Europe within two or three days. Following Brexit, however, these deliveries can take anything from a week to ten days, a consequence of delays caused by buyers having to communicate with couriers regarding additional paperwork and extra charges, such as the carrier's administrative fees, which can be significant." Not ideal when your business supplies professional Porsche garages relying on speedy delivery to complete jobs on cars in their workshops.

As a direct consequence of the impact Brexit has had on Design 911's ability to service its European customers in the manner they expect, the company has invested in a new storage and logistics facility in the Netherlands. Covering 25,000ft², the site affords Karl's team the opportunity to supply genuine and aftermarket Porsche parts to customers all over mainland Europe even quicker than before. "Whether you're in France, Belgium, Germany, the Netherlands or any of the twenty-seven countries currently in the European Union, Design 911 can now provide next-day delivery direct to your door," Karl smiles. "Our new site features six goods-in stations and a matching number for goods out, enabling us to ramp up activity as trade gets even busier. We're importing

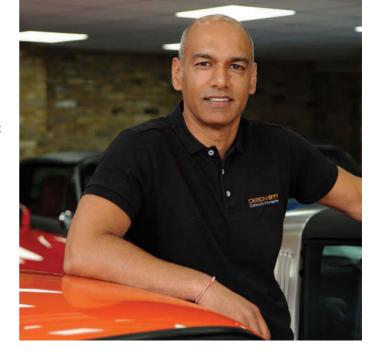


direct to this new warehouse, though it's important to be aware its operations will focus solely on picking, packing and delivery. All sales, payment processing and other administrative functions will continue to be taken care of from our headquarters in the United Kingdom, but when an order is placed by a customer in the European Union, despatch will be from our new Netherlands outpost."

Next-day delivery for Design 911's customers in mainland Europe — whether trade or end user — has been something Karl has wanted to achieve for some time. "Half our orders are placed by professional workshops," he tells us. "For obvious reasons, it's vital these customers are able to receive parts without delay. I'm delighted Design 911 can now facilitate even faster delivery for order requests in the EU."

Some of the parts to be shipped will be from Design 911's newly launched OE Match range. "Essentially, we're remanufacturing many no longer serviced OEM Porsche products for all models up to the 997-generation 911," Karl confirms. "We've already catalogued close to two thousand part numbers catering for a wide variety of components, from gaskets to suspension hardware, engine apparatus, interior trim and everything in between." Driven by customer demand for spares no longer supplied by Porsche. OE Match is already proving a hit.

"Owners and professionals alike get rightly frustrated by not being able to complete work on an older Porsche because of a vital component missing from the manufacturer's currently available catalogue of spares for legacy models," Karl continues. "We have been working hard to identify gaps in what's on offer and to remanufacture previously absent parts to OEM standards." Currently available products in the OE Match range can be viewed by visiting the Design 911 website at design911.co.uk.









# DESIGN911 Centre for Porsche

design911

o design911uk

📝 design911uk

### **EVERY PART FOR EVERY PORSCHE**





1995 ESTABLISHED













# **WORLDWIDE SHIPPING**

#### **UK DISTRIBUTION CENTRE**

+44 (0) 20 8500 8811 sales@design911.com

#### **EUROPEAN DISTRIBUTION CENTRE**

+31 (0) 165 788 911 sales@design911.com

#### **NEWS**





#### PORSCHE SANTA CLARITA DEBUTS 1974 TARGA 'SAFARI' AT MONTEREY

Porsche Santa Clarita, a member of the Galpin Motors family, unveiled its 1974 911 Carrera Targa 'Safari' at the Werks Reunion in Monterey, California, as part of the USA's latest Porsche Classic Restoration Challenge competition. The entries run the gamut from the 1950s to the 2000s, from 75bhp to 612bhp, and from rear- to mid- and front-engine layouts.

The USA is home to more classic Porsche sports cars than any other territory. After decades on the road, some will inevitably be in need of a little extra care. Enter the Restoration Challenge, where Porsche Classic encourages North American dealerships to acquire a legacy model due expert technical attention. Entrants reside across the whole of the USA, fielding various 356 models, five generations of the 911, transaxle models (924, 944, 968 and 928), as well as modern classics, such as the first-generation Boxster and the Carrera GT.

Each vehicle is undergoing restoration in the best possible hands: Porsche-trained technicians who have a portfolio of more than sixty thousand unique Porsche Classic Genuine Parts at their disposal. In fact, eleven of the participating dealerships are designated Porsche Classic Partners, going above and beyond in their commitment to keeping historic Porsches on the road and driving just as well as the moment they left the factory.

A panel of experts from Porsche Cars North America (PCNA) will judge each project's progress based on criteria including standard of restoration (not limited to engine, suspension, bodywork and interior), but also supporting documentation, like the Porsche Classic Technical Certificate.

Porsche Santa Clarita's 911 build started with chassis 161 of only 246 road-going US-spec Targa models for the 1974 model year and is powered by a modified 2.7-litre normally

aspirated flat-six. The updated boxer features larger cylinders (92mm, as opposed to the standard 90mm), bumping output to 180bhp. The brakes are from a 986 Boxster, while a rear seat delete saves weight. The steering system was restored with new seals and gaskets.

The car retains its Targa top, but gains a ducktail spoiler. The exterior colour is Lime Green, an iconic Porsche shade from the 1970s. The colour-coded custom-built roll cage adds safety and additional rigidity.

Suspension upgrades include a Stage 4
Elephant Racing Safari System combined with
hollow RSR-style anti-roll bars, MCS coilovers
and heavy duty BF Goodrich All-Terrain K02
tyres. Lighting has been enhanced by way of a
TRE Motorsports lamp pod kit fixed to the front
lid. Drilled bumpers feature at both ends of the
car, which is decorated in custom decals.

The interior has been kitted-out with orange leather, a fully rebuilt climate control system (using OEM components) and a custom audio system centred around a Porsche Classic Communication Management head unit, complete with integrated satellite navigation.

"It's an honour to once again participate in the Porsche Classic Restoration Challenge," says Beau Boeckmann, President and Chief Operating Officer for Galpin Motors. "Our goal with this Targa was to build a 911 modified like it might have been in period, when many marque enthusiasts were wowed by the Safaristyle Porsches which raced in East Africa. Believe me when I say my team can't wait to spend time in the dirt with this car!"

Based in North Hills, California, Galpin Motors has established itself as one of the foremost automotive dealers in the USA. Family-owned and operated since 1946, Galpin's list of automotive brands includes Volkswagen and Porsche, but also Ford, with which it consecutively held the number-one dealer title for a staggering twenty-nine years. To find out more, visit *galpin.com*.











#### 911 Carrera RS (964)

Guards Red • Leather Bucket Seats 17" Magnesium Cup Wheels • Left-Hand Drive • Porsche Certificate of Authenticity Previously Sold & Serviced by Paragon 27,097 kms (16,837 miles) • 1994 (L)

£249.995



#### 911 Carrera Speedster

Silver Metallic • Velvet Red Leather Seats 16" Fuchs Wheels • One of 64 UK Cars Porsche Certificate of Authenticity Previously Sold & Serviced by Paragon 29,896 miles • 1989 (G)

£184,995



#### 911 Turbo (993)

Arena Red • Black Leather Sports Seats 18" Turbo Wheels • Electric Sunroof Full Leather Interior • Air Conditioning Previously Sold & Serviced by Paragon 62,139 miles • 1996 (P)

£154,995



#### 911 GT2 (996)

Polar Silver • Black Leather Sports Seats 18" GT2 Wheels • Porsche Ceramic Composite Brakes • Carbon Interior Package • Previously Sold & Serviced by Paragon • 21,836 miles • 2003 (03)

£134,995



#### 911 Carrera 2 S (992)

Guards Red • Black Leather Sports Seats PDK Gearbox • 20/21" Carrera S Wheels Touchscreen Satellite Navigation Switchable Sports Exhaust • Sport Chrono • 7,605 miles • 2019 (69)

£99,995



#### 911 GT3 (997)

GT Silver • Black Half-Leather Sports Seats • 19" GT3 Wheels • Sport Chrono Satellite Navigation • Previously Sold & Serviced by Paragon • 13,567 miles 2007 (57)

£99,995



#### 911 Carrera 2 GTS (991)

Guards Red • Black Half-Leather Bucket Seats • Manual Gearbox 20" Centre Lock Wheels • Sport Chrono Previously Sold & Serviced by Paragon 6,939 miles • 2015 (65)

£92,995



#### 911 Carrera 4 (993)

Polar Silver • Black Leather Hardback Sports Seats • 18" Turbo Wheels Electric Sunroof • Sports Exhaust Four-Wheel Drive • Air Conditioning 36,597 miles • 1995 (N)

£89,995



#### 911 Turbo S (997)

Carrara White • Black Leather Sports Seats • PDK Gearbox • 19" Centre Lock Wheels • Porsche Ceramic Composite Brakes • Previously Sold & Serviced by Paragon • 39,721 miles • 2011 (11)

£79,995



#### 911 Carrera 4 GTS (997)

Guards Red • Black Half-Leather Sports Seats • PDK Gearbox • 19" Centre Lock Wheels • Sport Chrono • Previously Sold & Serviced by Paragon • 46,567 miles • 2011 (61)

£66,995



#### 911 Carrera 4 S (997)

Arctic Silver • Dark Blue Leather Seats Manual Gearbox • 19" Turbo Wheels Satellite Navigation • Heated Seats Bose Sound System • 47,303 miles 2007 (07)

£39.995



#### Boxster S (981)

Platinum Silver • Natural Carrera Red Leather Sports Seats • PDK Gearbox 20" Carrera Classic Wheels • Full Leather Interior • Touchscreen Satellite Navigation • 12,441 miles • 2012 (12)

£39,995

01825 830424

sales@paragongb.com

www.paragongb.com

We have superb in-house workshop and preparation facilities. Each car is supplied fully serviced with a new MOT and our 12-month/unlimited mileage comprehensive parts and labour warranty. See more of our current stock at paragongb.com

# **PRODUCTS**

Hot new products for you and the precious Porsche in your life...



#### STODDARD SPEAKER GRILLE FOR 911 (1978-1989 MODELS)

It's the little details that can make or break a restoration. Having supplied authentic restoration parts for air-cooled Porsche sports cars since 1957, Stoddard knows this only too well, hence the company's continually expanding catalogue of components for the cars we love. One of the latest additions to the Stoddard portfolio is this speaker grille cover for the 911 (1978-1989 models). An easily damaged part which can compromise the integrity of the speaker behind it if left cracked, this black meshed item is easily installed by way of four corner screws. The price isn't cheap, but this is a 'fit and forget' item you shouldn't have to replace again during ownership of your treasured 911. For the benefit of those who don't know, Stoddard Imported Cars Inc. was founded sixty-five years ago by the late Charles A. Stoddard, an automotive engineer with Thompson Products (now TRW). It has since grown to become a market leader in the field of authentic spares for the repair and restoration of air-cooled Porsche sports cars.

Price: \$63.40

stoddard.com or call +1 440 869 9890



#### RACEGLAZE COLOUR-ENHANCING RUBBER DRESSING

If your Porsche was manufactured in the late 1970s or 1980s, there's every chance it carries a large rubber spoiler or wing at its tail. Until now, you might have been wondering which product to use in an effort to restore the rubber's colour, which may have turned from black to grey through exposure to UV light over the decades. This colour-enhancing rubber dressing from Race Glaze exfoliates and restores weathered grey exterior plastic back to black. The product features no silicone and can be used on spoilers, wings, rubbing strips, tyres, bumpers, engine parts and even interior plastics. Race Glaze claims the light petroleum-based ingredients will ensure the finish lasts five times longer than water-based dressings and won't streak or run on application. Taking the form of a thick opaque gel in a 250ml bottle, the product is best applied after old dressings are removed with a degreasing agent, thereby allowing the Race Glaze product to soak into underlying plastic without hindrance. If using as a tyre dressing, apply the product and leave for a matte finish or buff lightly for a satin effect. This colour-enhancing rubber dressing forms part of a massive range of car care products from Race Glaze, all of which can be ordered direct from the More Than Polish website.

Price: £8.99

morethanpolish.com or call 01780 749449



#### RENNLINE LOUVERED DECKLID GRILLE

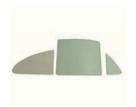
Replace your 911's tatty old metal decklid grille with a lightweight, vacuum-formed, louvered grille from Rennline. With styling cues borrowed from the classic 911 Turbo (930) 'whale tail' and finished in textured ABS plastic, this durable grille will update the aesthetics of the rear end of your 911 and is considerably lighter than the OEM aluminium decklid grille it is designed to replace. A direct bolt-on installation and available with either a black or silver aluminium mesh, this easy-to-fit part comes with stainless steel fitting hardware and can be installed in minutes using basic hand tools. Order direct from the Rennline online store.

Price: \$350 (add \$25 for optional grille screen) rennline.com or call +1 213 224 7393





**Your Trusted Parts Source — Since 1957.** 



Windshields & Side Glass With Correct Markings for 356 and 911

644-542-101-11 644-543-101-01 644-542-105-11

Shown, Coupe - Tinted



**Turn Signal Stalk Knob** Red SWF for

356 Pre-A NLA-62-RED



356B/C Bumpers

Our exclusive production from Factory blueprints NLA-505-010-05 front NLA-505-020-05 rear



Complete **Floor Pan Kits** 

NLA-501-050-00 356 Pre-A Shown



356 Bumper **Guards** 

**Our Production** Chrome Plated or Polished See Website for All Variations!



**Optional Vent Wings** 

Set of Two For 356 up to T1 NLA-542-105-01-SET



**Inner Door Pull Handle** 

New Exclusive Production Fits 356 1958 through 1963 NLA-531-621-00



**GT Steering** Wheel **Wood Rim** 

For 356B T6 and 356C 644-347-084-05



6-Volt Starter

New From WOSPerformance High Torque / Gear Reduction NLA-1107-6V-LMS

#### Stoddard.com

Highland Heights, Ohio 44143 USA 800 342 1414



**NLAParts.com** 

Reno, Nevada 89431 USA 800 438 8119

#### NEW WEBCON ANODISED BLACK EFI FUEL PRESSURE REGULATORS

Webcon, the leading global distributor of authentic Weber carburettors and spares, as well as fuel injection and ignition systems and components, has enhanced its range of electronic fuel injection system pressure regulators with the introduction of an anodised black finish on a wide variety of available units. Consequently, black anodised regulators are now available from 2.5bar (fixed rate) up to 4.5bar (fixed rate) and zero to 5bar adjustable regulators with a choice of single eight millimetre side feed, twin eight millimetre side feeds or single -6 AN fitting feed across the range. Prices start at £87.69 plus VAT. Visit the Webcon website to view the firm's entire range of black anodised fuel pressure regulators, which offer a discreet finish in OEM-plus engine bays.

Price: £105.23

webcon.co.uk or call 01932 787100



#### **VERSITRAY FLEXIBLE TOOL TRAY**

The problem: losing tools, nuts and bolts when working on your Porsche, especially when carrying out jobs under the bonnet and treating every surface as a place to rest removed parts. Having items to hand in this way seems like a good idea until one of them falls into the engine bay and you lose time trying to retrieve it from the darkness below. The same is true when working in foot wells or the boot of your car.

Until now, magnetic trays have been the solution, but beyond your tools and removed metalware, this style of tray attracts swarf, which can result in scratched paint and contaminated parts. Additionally, magnetic trays aren't flexible and can be harmful to sensors and other electrical components, of which there can be a high number on a modern or modern-classic Porsche. Silicone trays have proved too floppy to be useful and feature no functional pockets. Also, due to the nature of the base material, silicone trays are expensive and can't be recycled. VersiTray is a flexible tool tray with "grip technology" adapting, flexing and securing itself to uneven surfaces, which means you can work smarter, be more organised and need never lose another tool, nut, bolt or clip again.

The product is manufactured from a unique non-slip, chemical-resistant, high-friction material allowing it to hold firm on gravity defying surfaces, thereby ensuring your tools and parts remain exactly where you want them. The bright yellow material makes working in poorly illuminated spaces easier, too — dark-coloured screws and clips are easy to spot, while the VersiTray's anti-static properties ensure it stays cleaner for longer by repelling dirt, dust and debris. A host of novel design features making this the perfect accompaniment when working on your Porsche.

For example, VersiTray includes a lip allowing you to position your smartphone safely while watching an instructional video. Five integral 'pockets' enable safe storage of screws and other small parts, and a round corner pocket is designed to hold a standard-sized drinks can. The VersiTray also holds two hex bit packs tightly, enabling you to remove bits with a single hand.

Price: £19.99

versi-tray.com or call 0845 582 0285





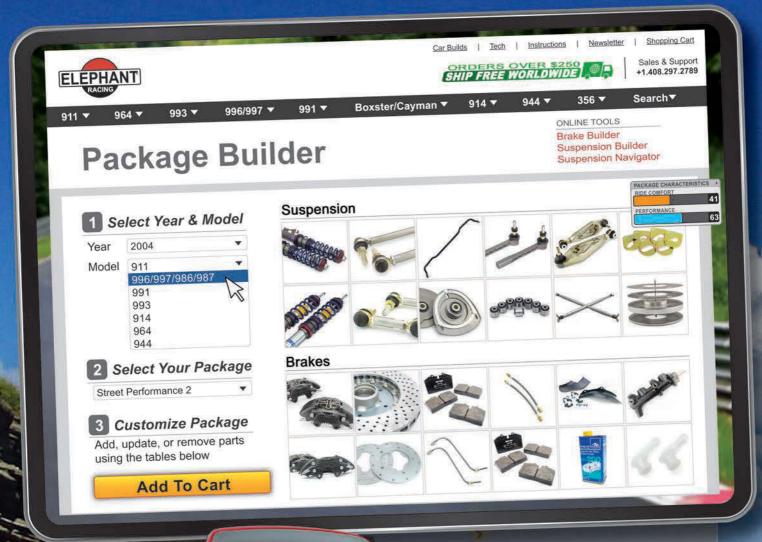




# Suspension and Brake Packages

Build yours at ElephantRacing.com

3 clicks... Done!





# Suspension • Brakes

Free Shipping Worldwide

+1 408.297.2789 ElephantRacing.com California, USA



#### SUBSCRIBE TO CLASSIC PORSCHE

Get every issue of *Classic Porsche* magazine delivered direct to your door by taking advantage of our latest subscription deals. You'll get every issue before the official on-sale date, plus you'll receive a discount off the regular retail price. Shipping is included in the cost of subscription and we deliver internationally — enjoy *Classic Porsche* no matter where you are in the world. Simply turn to page 108 of this issue to view our latest deals. Alternatively, call our subscription order hotline or hop online and visit the following web address.

shop.kelsey.co.uk or call 01959 543 747



#### STOMSKI RACING SPARK PLUG HOLE REPAIR KIT FOR 911

Stripped spark plug threads in a 911 head usually means you're faced with one of two scenarios: a compromised repair or an engine drop to carry out a proper fix. Well, this was the case until the launch of Stomski Racing's new 911 spark plug hole repair kit, allowing you to either accurately chase the threads of the damaged head or, if necessary, effectuate a complete fix by installing a Time-Sert (or Big-Sert). Stomski Racing's new digitally designed and CNC-machined jig mounts over two of the valve cover studs. When locked down with the included thumb screws, allows Time-Sert reamers, chasers, taps, and setters to be precisely aligned by way of the jig's guide tube and custom tap driver, all while the engine is still in the car. Two versions of the kit are available: one for use with a standard Time-Sert kit, the other with a Big-Sert oversized kit.

Price: \$234 standard, \$258 oversized stomskiracing.com or call +1 410 571 9779



#### OFFICIAL PORSCHE CLASSIC TOOL BAG FOR G-SERIES 911

Porsche Classic has redesigned the G-series 911 tool bag, producing a new edition with a spectacular look inspired by the interior fabrics used in 911 production during the late 1970s. Whereas the original tool bag featured only imitation leather, this new take on the design makes use of real black leather, along with red tartan seat fabric. An option of pin strip fabric is available. Whichever finish you choose, open the tool bag and you'll find five double open-ended spanners (8x9, 10x11, 12x13, 14x15 and 17x19), a wheel nut spanner, a holding tool for the auxiliary belt pulley, combination pliers, a spark plug ratchet spanner, a test lamp, five fuses and a Porsche-branded cleaning cloth. All tools have specified slots inside the tool bag. Also included is a towing lug, which comes complete with its own instructions and is designed as a bayonet hook, allowing it to attach to the original trailer, which was fitted with a simplex hook. The screwdriver handles are made of vellow plastic, but now also feature Porsche lettering. To make handling easier, Porsche Classic has replaced the original spark plug tool with a ratchet featuring a special spark plug socket spanner, which is much more practical to operate. This G-series tool bag comes hot on the heels of Porsche Classic's similar offerings for the 356, F-series 911, 914, 964 and 993.

Price: £428.30 shop.porsche.com



# AUTOMOTION

New parts for your Porsche



# THE BIG COME BACK



automotion.com offers new parts
for any Porsche models from 1950 !!

356, 911, 912, 914, 924, 928, 930, 944, 964, 965, 968, 986, 987, 993, 996, 997, boxster, cayenne, panamera...

#### FOR AN ORDER,

Select it directly on our website:

www.automotion.com

www.rosepassion.com



ship the over the

#### STEVE MCQUEEN CREATED LE MANS DISCOUNTED DOUBLE BOOK PACK

Comic book artist. Sandro Garbo, had a dream. Not a 'Martin Luther King' kind of dream, but one of those middle-of-the-night eureka moments that has you bolt upright, wide eyes open and consumed by a sudden sense of purpose. "I saw Steve McQueen and he told me to create a graphic novel based on his motorsport movie, Le Mans. From that moment, it became my life's work." The project had all the hallmarks of best intentions, but translating one of the greatest motorsport movies into a sequence of illustrations — not forgetting the film barely has a script, let alone much in the way of dialogue to work with - could have ended in disaster. A peek inside the 64-page hardback, however, reveals quite the opposite. Garbo's amazing talent and extraordinary attention to detail bring the movie to life in a whole new way. Each Le Mans character is penned with obvious affection and respect, as are the various Porsche sports cars depicted throughout. Additional dialogue and a couple of new supporting characters are introduced to deal with the movie's long periods of silent acting, and Garbo has gone to great lengths to depict the real racing conditions of the 1970 24 Hours of Le Mans, with special focus on the weather and competing cars, including the Salzburg 917 K driven to glory by Richard Attwood and Hans Herrmann. The book sold out, prompting an accompanying Sarbo-created graphic novel, Steve McQueen Created Le Mans (outlining the making of the movie). Now, for a limited time, both books are being reissued as a heavily discounted two-volume pack available in both French and English language versions.

Price: €44.82 two-book pack, €27.92 book two alone lemanscomics.com/gb







#### STODDARD SEVEN-INCH 6-VOLT LED HEADLIGHTS FOR 356

Let's face it — due to the available technology at the time of early Porsche production, the headlamps fitted to 356s are about as effective as candles at night. Joking aside, this is an obvious safety concern, especially with modern traffic taken into consideration, which is why Stoddard's introduction of seven-inch six-volt LED headlamps is hugely welcome. Plug and play, these 'vintage white' lamps are sold in pairs and are a direct drop-in replacement for the 356's seven-inch sealed beams, boasting at least four times the illumination of H4 bulbs. Featuring an excellent beam pattern with razor-sharp low beam cut-off, these lamps meet both EC and ROHS certification standards. Order direct from the Stoddard online store.

Price: \$360

stoddard.com or call +1 440 869 9890



#### STUTTGART CLASSICA 911 ENGINE DISPLACEMENT BADGES

A classic 911's engine grille badge is one of the most eyecatching features of the car, drawing the gaze of inquisitive onlookers curious to know what size engine resides under the rear lid. Whether restoring a classic 911 or increasing engine displacement as part of a round of modifications, you'll be pleased to know air-cooled Porsche accessories specialist, Stuttgart Classica, has produced a range of aluminium engine grille badges ready to ship with immediate effect. Choose between 2.5, 2.8, 3.2, 3.5, 3.6, 3.8 or 4.0.

Price: £69

stuttgart-classica.co.uk or call 01386 701953



# NEW NAME, NEW OWNERSHIP SAME LEGENDARY PRODUCTS





#### EMPI Inc acquires PMO Carburetion & Injection, updates name to PMO Induction

Leading classic Volkswagen parts supplier EMPI Inc. has acquired legendary Porsche specialist brand PMO, from its founder Richard Parr, who is retiring. To reflect PMO's planned product line expansions to include electronic and mechanical fuel injection systems and components; EMPI has renamed the brand PMO Induction to more accurately convey its expertise.

PMO operations in Santa Monica, CA are being relocated to EMPI headquarters in Anaheim, CA ensuring PMO Induction products will continue to be produced and assembled using aerospace grade materials and manufacturing practices pioneered in Southern California.

> Phone: 714-421-4970 Fax: 310-394-6313

empius.com

PMO Products are exclusively available through PMO and EMPI distributors























#### **ANDY PRILL**

This year's Rolex Monterey Motorsports Reunion (RMMR) saw the event's organisers working alongside Automobile de l'Ouest, creator and governing body of the 24 Hours of Le Mans, to present the first of many celebrations highlighting the famous French enduro's hundredth anniversary. Naturally, Porsches played a starring role...

Andy Prill is a qualified mechanical engineer with a love of Porsche stretching back to the restoration of a 912 in the early 1990s. Today, he heads up respected marque specialist, Prill Porsche Classics. Find the company online at prillporscheclassics.com



y first visit to Laguna Seca was for the Rolex
Monterey Motorsports Reunion (RMMR) in 1998.
Porsche was the featured marque and, somewhat
late in the day, I decided I had to be there. RMMR
takes place in August during car week on the
Monterey Peninsula, one of the nicest places on

the west coast of the USA. My primary interest was the activities at the race track, but there is a lot more to see and do during a week dedicated to the celebration of all things automobile. It was an amazing experience. I resolved two things following my return home: to go back and to race.

a positive contribution. Historic events worldwide are facing numerous challenges and it is getting much harder to maintain quality, let alone build on it. Reduced marketing and sponsorship budgets and, perhaps, too many events — resulting in spectator burn out — contribute to the difficulties. Then, of course, there's the rebuilding required after the pandemic.

For RMMR 2022, we had the daunting task of working with the Automobile de l'Ouest and delivering the first of many officially sanctioned events celebrating next year's 24 Hours of Le Mans centenary. There were three dedicated Le Mans race groups and a Le Mans heritage display bringing together more than fifty overall and class winners. This was







Much has happened in the twenty-four years since that first visit. I have been back every year except 2020, and we all know the reason for that! Over the years, I have had the privilege of driving some fantastic Porsche race cars on what, in my opinion, is the best race track in the world. RMMR

is a unique place where it is easy to make friends and enjoy old-world camaraderie. Car week itself has grown tremendously, with more events attracting visitors than ever before

#### A LE MANS HERITAGE DISPLAY BRINGING TOGETHER MORE THAN FIFTY OVERALL AND CLASS WINNERS

In 2017, I was honoured

to be invited to join the RMMR Advisory Council, a small group of well known historic racing personalities providing advice and guidance on all aspects of the event. Being involved keeps us busy to say the least, but it is very rewarding. In addition to working with great colleagues from whom I have learned a great deal, I hope I have and will continue to make

certainly the largest such display of these amazing cars in the world to date. It may never be surpassed. On top of my duties as an organiser, I had the pleasure of racing two amazing 911s from both ends of the spectrum: the 1967 911 S that became the first 911 to win its class in an FIA race

(Daytona) and the 2011 Flying Lizard Motorsports 997 RSR. Talk about chalk and cheese!

We moved the event forward a day to avoid clashing with the Pebble Beach Concours, leaving the Sunday free to hold the

inaugural Corkscrew Hillclimb and Party in the Paddock. Sixty-plus cars in several classes made the ascent running backwards from the start/finish to the top of the Corkscrew. What a sight it was, with everything from modern supercar to a Lotus 78 F1 car. The highlight for me was the Corvette drift car, which has sparked an idea for a new class next year...

PRILL L
PORSCHE CLASSICS

www.prillporscheclassics.com

01787 476338







**EVERYDAY RACING** 



**PORSCHE MODELS** 

#### PORSCHE PARTS SERVICE MOTORSPORT

**MITTELMOTOR** 

@MITTELMOTOR.DE

**a**MITTELMOTORGMBH

BOCHUM / GERMANY T +49 234 935 14-14 INFO@MITTELMOTOR.COM



DAILY WORLDWIDE SHIPPING OF ORIGINAL, AFTERMARKET AND RACE PARTS















ORIGINAL AND RACE ENGINE BUILDING

#### **ALEX MANOS**

The design and engineering philosophy Ferry Porsche adopted when creating 356 no.1 has been integral to the development of Porsche sports cars throughout the company's history, as demonstrated by the manufacturer's latest line of GT products. It is, though, early 356s which best blend low overall weight with high output engines...

Alex Manos is owner of Beverly Hills Car Club, sourcing and selling some of the world's most beautiful and unique vintage automobiles, including a wide range of aircooled Porsches. View the firm's inventory at beverlyhillscarclub.com



ehind the many supreme qualities of Porsche products
– gorgeous quasi-art deco lines, the utmost reliability of mechanical components, each vehicle's aerodynamics and nimble handling – is the manufacturer's origins as a grassroots, garden-shed operation. At Beverly Hills Car Club right now, we have a much sought-after 1952 356 Pre-A 1500 S Reutter Cabriolet in a gorgeous colour combination of Strawberry Red with a Sand Beige interior. The vehicle comes equipped with a four-speed manual transmission, potent flat-four, dual carburettors, Telefunken radio, soft-top, bent windshield, steel wheels and chrome hub caps. Also included is a copy of the official Porsche Certificate of Authenticity and a copy of the factory Kardex. This early Porsche represents an excellent opportunity to acquire such a rare and hard-to-find low-volume production 356 in mechanically sound order.

as Ferry himself put it. These were the basic ingredients and a design and engineering philosophy Porsche sports cars have been based on ever since, as demonstrated by countless RS-badged 911s and the manufacturer's current GT range of products.

The first 356 — mid-engined, unlike its production successors, and known as 356 no.1 — was road certified in Austria on June 8th 1948 and was promptly entered into a race in Innsbruck, Austria, where it won its class. Impressive as this achievement was, Ferry Porsche's team subsequently re-engineered and refined the car with a focus on greater performance. The engine was shifted to the rear.

The resulting early run of 356s were aluminium-bodied and built by hand. Things changed when Porsche struck a deal with Reutter to build steel bodies for the 356. Fast-forward to March of 1952 and Porsche worked with the respected coachbuilder to simplify production of the 356, making







The 356 was created by Ferdinand 'Ferry' Porsche. Like its cousin, the Volkswagen Beetle (which his famous father, Ferdinand Porsche Sr., designed some years earlier), the 356 is a four-cylinder, air-cooled, rearengined, rear-wheel-drive car with unitized pan and body construction. The chassis, however, was a completely new design, as was the 356's body, penned by Porsche's trusty stylist, Erwin Komenda. Specific mechanical components, including the engine case and some suspension components, were initially sourced from Volkswagen.

Ferry Porsche described the thinking behind the development of the

356 in an interview with the editor of *Panorama* magazine all the way back in September 1972. "I had always driven very speedy cars," he said. "I had an Alfa Romeo, also a BMW, and others. By the end of the war,

# FRONT AND REAR APRONS EXTENDING BELOW THE BUMPERS, WHICH WERE ENLARGED WITH BIGGER GUARDS

I owned a Volkswagen Cabriolet powered by a supercharged engine." This gave rise to the basic idea behind a Porsche sports car. "I saw that if you have enough power in a small car," Ferry continued, "it is nicer to drive than if you have a big car which is also overpowered. And it is more fun."

The first Porsche prototype was built according to these fundamentals. "To make the car lighter and to have an engine with more horsepower,"

several changes along the way, including a one-piece, bent windscreen and more significant bumpers to suit the American market.

1952 cars, like the Cabriolet I have in stock, also featured ventilated disc wheels and optional trim rings, common on export models. The 356 also gained fully integrated front and rear aprons extending below the bumpers, which were enlarged with bigger guards and featured rubber strips. Small changes in the interior included a new 6,000rpm rev counter, which replaced the clock. Smaller gauge bezels also featured, while the turn switch was relocated from the dashboard to the steering column.

At this point in time, the 1.5-litre flat-four was Porsche's newest engine. It was quickly fitted with 40 PIBC Solex carburettors to afford the host Porsche 60bhp at 5,000rpm. These engines

retained the Hirth roller-bearing crankshafts which gave Porsche enough clearance to increase displacement.

This was precisely the car Ferry Porsche set out to manufacture. And to think, the very thought process behind it went on to spawn a range of road, race and rally cars held at a level of esteem he could never have dreamed of when behind the wheel of that supercharged Volkswagen.

# **BEVERLY HILLS CAR CLUB**

#### SPECIALIZED DEALER OF EUROPEAN AND AMERICAN CLASSIC CARS





1956 Porsche 356 Pre-A 1500S Speedster stock #15143

Presenting this beautifully restored 1956 Porsche 356 Pre-A 1500S Speedster featured with a matching numbers engine however the transmission has been replaced at some point in its life. Available in Signal Red with a black interior. The Speedster comes equipped with a 4-speed manual transmission, Flat 4 Cylinder 1500S engine, dual carburetors, numbers matching deck lid & hood, soft top, steel wheels, chrome hub caps, spare tire, tool kit, and jack. Also includes a Certificate of Authenticity copy as well as a service receipt copy for a major service done in 2021 at a cost of \$2,176. An excellent opportunity to jump into the ownership of this iconic Speedster that is mechanically sound. For \$350,000













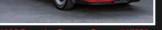












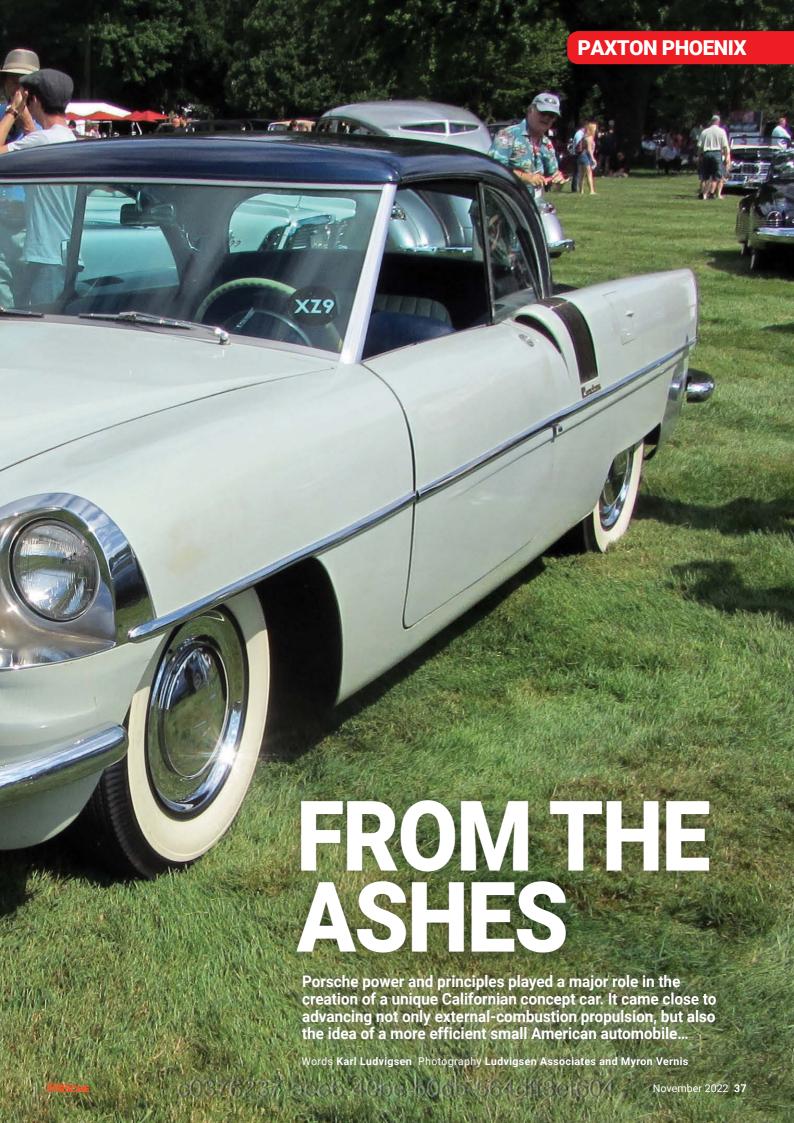


#### LOOKING FOR CLASSIC OR LUXURY SPORTSCARS?



· We Buy and pick up from any USA location · Worldwide Shipping







orsche concepts and a Porsche sports car were part and parcel of one of the most ambitious independent American automotive development projects of the 1950s. It took flight in the heady atmosphere of Southern California, where and when all things seemed possible. The aim was creation of a car which would reject the pre-war banalities of major manufacturers and set new standards by breaking free of convention.

Behind the Paxton Phoenix was one of the more creative spirits of America's engineering community. In 1925, Robert Paxton McCulloch was fourteen years old when he shared in the fortune founded by his grandfather, a pioneer in exploiting Thomas Edison's electrical inventions. A genetic inheritor of his grandfather's technical passion and entrepreneurship, McCulloch graduated from Stanford with a degree in engineering.

While still an undergraduate, Milwaukee-based McCulloch was making his mark in the world of speed. He raced in outboard-motor hydroplane contests in more than fifteen states, as well as Canada, winning two class championships and collecting some fifty trophies. Unsurprisingly, his first business target was auto racing. He and his team built a four-cylinder two-

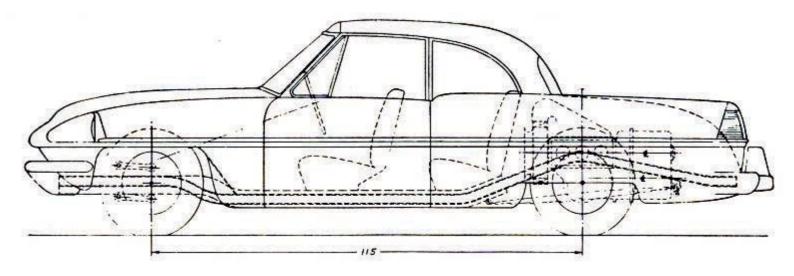
stroke engine of one litre in displacement, from which 90bhp was extracted. Targeting the compact unit at midget racing, McCulloch installed the engine in a four-wheel-drive chassis. In the hands of local racer, Cy Drew, the combination was so effective, four-wheel drive for midgets was promptly banned.

In 1935, taking note of the wave of supercharger launches by Duesenberg, Graham and Auburn, McCulloch turned his talents to a compressor suitable for the ubiquitous Ford V8. Two years later, the resulting McCulloch Supercharger was launched as a kit costing eighty-five dollars. More than five thousand such superchargers were sold before McCulloch ceased producing them after 1941, a move to enable his attention to be turned to wartime efforts.

McCulloch had a good war, designing and producing Roots superchargers used for railcar engines, generator sets and power units for high-speed patrol and torpedo boats. Shifting operations to California, he wasn't idle — his post-war activities included experimental helicopters and the compact two-stroke engines he'd always held a passion for.

Starting with the first McCulloch-branded chainsaw in 1948, his team engineered money-spinning breakthroughs in small and light saws. Exploiting his middle name, McCulloch poured some of his profits into

Above The front air inlet for the steam engine's condenser was no longer essential after the Porsche engine was fitted



Above Shown with a wheelbase of 115 inches instead of the final 118, this was the layout of the Paxton Phoenix, complete with threecylinder steam expander mounted above rear wheels

Below A proud son of Wisconsin, Robert Paxton McCulloch had a Midas touch with many of his ideas for superchargers and chainsaws, though the Phoenix would be a less profitable venture

a new enterprise, Paxton Engineering, established on 1st May 1950 to explore new business opportunities. He decanted more than \$700,000 into development of the Paxton variable-speed centrifugal supercharger that achieved wide acceptance, both in the aftermarket and as original

equipment for Kaiser, Ford and Studebaker. While launching his superchargers, McCulloch took on a vastly bigger challenge. "At war's

end," wrote Peter Linsky, "he was convinced there was a market for a modern, affordable luxury car combining strength, light weight, good performance and handling, as well as efficient packaging for four or five adults. These were features he found lacking in nearly every vehicle offered by domestic auto makers, which were

then producing cars largely based on pre-war designs and technology." An ambitious price point of ten thousand dollars was mooted. An engine man at heart, McCulloch launched two

projects to create possible power units for his dream car.

He recruited steam engine pioneer and expert, Abner Doble, to create a state-of-the-art Rankine-cycle engine, a version of which successfully powered a Ford

coupe. While its triple-cylinder steam expander would be in the rear, the boiler would be in the nose along with the condenser, for which a large air inlet was essential.

Competing with steam power for the McCulloch machine was a two-stroke engine by brilliant engineers, John Wesley Oehrli and Vladimir Jandasek. This had twin crankshafts driven by six opposing pistons in three cylinders on the model of German Junkers aircraft engines. Tested in a Studebaker, "it produced good power and fuel economy," said McCulloch aide, Gerry Williamson. A four-cylinder version was also planned. Oehrli, who was behind the supercharger's mechanism, designed its infinitely variable multiple-belt transmission, using principles for which he had filed a patent in January of 1950.

### A BLACK 356 1500 SUPER COUPE WAS BOUGHT AND DRIVEN WEST **FOR ASSESSMENT** AND EXAMINATION

### SIGHTS ON STUTTGART

Meanwhile, a car was being created to house the winning powertrain. With the main driving elements being in the rear for both alternatives, this meant looking for an existing counterpart for study. All concerned agreed this meant a Porsche. Accordingly, early in 1952, a black 356 1500 Super coupe was bought from Hoffman Motors in New York and driven west for assessment and examination. "Although not a sports car," said project engineer and editor of Road & Track, John R. Bond, the new McCulloch vehicle "was to give very high performance, seat four people and incorporate a retractable hard top. Unwilling to rob his other divisions of engineering talent, however, McCulloch's progress on



the car was slow." The chassis design was consequently entrusted to an experienced independent Detroit firm owned by Roscoe C. 'Rod' Hoffman, who was eminently experienced in exotic drivetrains and suspensions.

With many prototypes, concepts and patents to prove as much, he was a backroom source of technologies for Detroit's major motor makers. Making his own assessment of what Porsche had wrought, he adapted

McCulloch's Paxton Phoenix — as it became known — to the more typical American wheelbase of 118 inches. As the car's basis, Hoffman specified a double-skinned

## GRACING THIS CHASSIS WAS A HIGHLY STYLED BODY FROM THE PEN OF MILWAUKEE DESIGNER, BROOKS 'KIP' STEVENS

frame of light-gauge rust-resistant steel. Described as being of "torque-box" design, it had a longitudinal central core contributing to its torsional stiffness of slightly better than 3,000lb-ft per degree. The core also carried cooling air, wiring and controls from the opening at the front to the power unit in the rear. Brakes and sixteeninch wheels were from the contemporary Ford.

Although Hoffman had many suspension ideas of his own, he did not stray far from 356 principles for the Paxton. Liberated from the swing axles that were part of the Volkswagen-Porsche driveline, he achieved a similar geometry with more robust semi-trailing tubular triangles guiding the rear wheels. Torsion bars were concentric with their pivots. Front suspension was Porsche-like, with longer nine-inch twin trailing arms to allow greater wheel movement and transverse torsion bars, but with Hoffman twists. One was replacement of the single idler in the steering track rods with two idlers to give

smoother tracking. The other was automatic wheel banking.

"The banking feature was extremely ingenious and remarkably simple," explained

John R. Bond "The upper trailing arms were rubberbushed at the frame mounting bracket in such a way to allow both normal suspension action and also pivoting when viewed from above. An inboard extension of each upper arm slips over an eccentric cam, which is keyed to the respective dual (vertical) steering idler shafts. Therefore, as the wheels are cramped, they tend to 'bank'. With the Hoffman design, the banking feature tends to restore the cornering car's wheels to something near ninety degrees to the road, even though the chassis Above Brooks 'Kip' Stevens (seen here with a model of one of his Excalibur sports cars) gave the Paxton Phoenix smooth lines that sit comfortably with twenty-first century automobiles



Above Headlamps set into nacelles were a Brooks Stevens hallmark, as seen in this Paxton Phoenix promotional photograph

**Below** Unprepossessing though the Porsche 1500 Super flat-four looked in the tail of the Paxton Phoenix, it gave good performance thanks to the experimental car's remarkably light weight frame and body are 'rolling'. The banking feature allows extensive use of rubber without getting a horrible camber angle change when the ride is ultra-soft and the roll angle is considerable."

Covered by a Hoffman patent, this linkage did indeed address a long-standing shortcoming of the classic Porsche trailing-arm suspension, which was that cornering power was lost when the wheels banked as much as the car did in corners. In the Porsche proper, the effect of this was moderate because of the 356's low center of gravity and relatively stiff springing, equating to little in the way of roll. Additionally, in view of the Porsche's inherent oversteer tendency, some understeer effect at the front was welcome.

Gracing this chassis and its adaptations of Porsche technology was a highly styled body from the pen of Milwaukee designer, Brooks 'Kip' Stevens. He hinted at inner strength by way of richly rounded flanks and

straight-through side trims from recessed headlamps to tail lamps, completing the trailing forms of the rear fenders. The well-glazed coupe roof of the Paxton was mounted on rollers guided by tracks alongside rear fenders allowing cables to move it back and down to nestle above the rear deck. Although constraining the shapes of both elements, this was a styling and technical design coup.

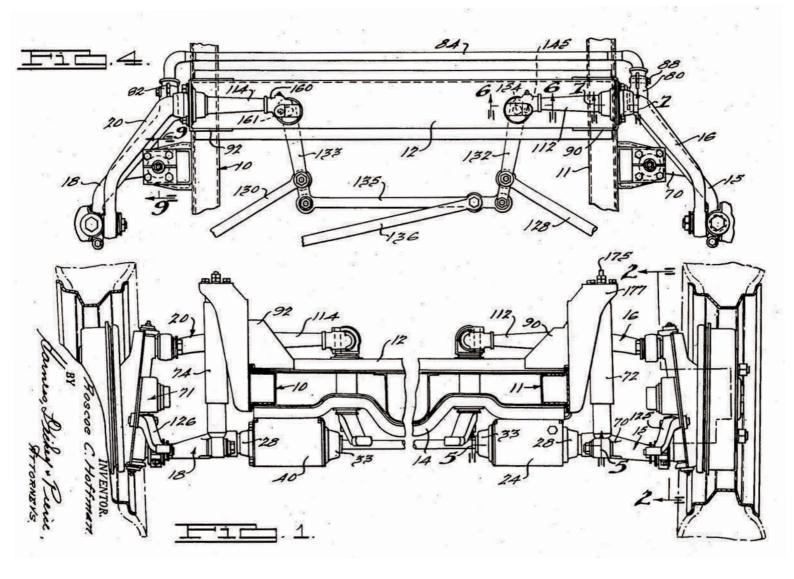
### **STEAM MACHINE**

Like the rest of the Paxton Phoenix's bodywork, the longhorn-shaped bumpers were of glass-reinforced resin (or fibreglass, in the vernacular). Offering bench seating, the car's interior concentrated Stewart-Warner gauges in a cowl behind the steering wheel. Flanking it were Cordlike levers, of which original intent was control of the Doble-designed steam engine. Electricity powered seat adjustment, windows, door locks and deck-lid latches, as well as the retractable roof.

A tribute to the engineering of Rod Hoffman and the fabrication skills of the McCulloch team was the Paxton's light weight of 998kg despite a wheelbase more Detroit-standard than sports-car-like. As a result, Myron Vernis, said keeper of the surviving prototype at the time of writing, says the Paxton's early Type 528 Porsche four-cylinder engine "moves the car along quite nicely", documenting an easy cruise between 65mph and 75mph. "The brakes are also up to the task. The chassis feels quite softly sprung and the unusual front suspension layout gives good front-end grip. Handling is sharp, certainly comparable to that of a 356."

Installation of the 356 1500 Super's drivetrain (engine serial number is 3375) to power the Phoenix followed the mid-1954 decision to wind down the steam-car project after some \$1.5 million had been spent on the vehicle and its experimental drivetrain in various mules. At programme close, the engine-less 356 Super coupe donor vehicle was auctioned to one of the company's employees for \$580.





"We asked McCulloch the reason for calling time on the project," John R. Bond related. "It boiled down to a problem of engineering manpower. The car programme was taking trained

technicians
away from the
multitudinous
McCulloch projects
in fields which the
company felt would
be more profitable."
McCulloch was also

tiring of friction between his two teams of engine developers.

Rumours swirled around the ambitious McCulloch project, which was first made public in 1957 in *Road & Track*, which John R. Bond's publishing company had acquired the best part of a decade earlier (and would go on to publish until 1972). The emphasis in his article was on the Paxton's mooted steam power, for this was a subject of endless fascination in America, where steam propulsion lasted the longest and advanced the most. The car was still in the possession of McCulloch at the time of his death in 1977. By then, Bill Lear — inventor of the car radio, eight-track cartridge, battery eliminator for the B battery and founder of Learjet, a manufacturer of premium business jets — had started and stopped his costly search for modern steam power, beginning his quest in 1964 and ending it in 1974.

From our twenty-first-century perspective, the most intriguing aspect of the Paxton is its Porsche heritage, but while engineers in Detroit and Los Angeles were

adapting Porsche ideas to McCulloch's radical power trains, Porsche was designing a complete new car, its Type 542, for South Bend auto maker, Studebaker.

Neither project was fated to fructify. How fascinating — and potentially productive — it would have been for each of these groups to see what the other was doing.  $\bf CP$ 

Above In 1954, Roscoe C. 'Rod' Hoffman lodged his patent on the car's front suspension, which expanded on Porsche's torsion bar system to give camber change for better grip

Below 'Long-horn' bumpers were identical at front and rear of the Paxton Phoenix, which is now in the hands of Myron Vernis

THE CAR WAS STILL
IN THE POSSESSION OF
MCCULLOCH AT THE TIME
OF HIS DEATH IN 1977



## **Advanced Ignition Technology**

Introducing the 6th Generation OEM look with brand new technology Exclusive Nanopulse Discharge Ignition Over 45 years of Porsche 911 History and Experience





631.909.1011 www.permatune.com lonnie@permatune.com GoClassic'



Base connection: stainless steel

Standers Steel
The short and
spherical body of
gear knob fits
perfectly an open
palm grip, for a full
and soft control of
the gear shift.

Crown jewel of this shift knob is the patinated silver top, with the stamped PIRSE TISIGN.

Walnut tree wood with Canadian maple with the result of a complex but harmonious game of contrast between color and materials.









Available
Gear Knob
fits all manual
simple
and
from 1948
up to 2013.

www.goclassic.eu/en









ike a shimmering trophy in

Zuffenhausen's stuffed cabinet of
silverware, the Speedster designation is
a glistening jewel in the Porsche crown.

Marking arguably the purest incarnations
of the manufacturer's most famous
sports machines, the short windscreen, lightweight
legends first slipped into the Stuttgart brand's output
almost seven decades ago.

356 no.1 was the poster car for Porsche's seventieth anniversary celebrations in 2018. The revolutionary two-seated roadster embodied Ferry Porsche's 1940s vision for a true performance car and set the Porsche path all the way to the present day. The sleek speed machine's mid-mounted flat-four was replaced by a rear-located boxer for the eventual production 356, a 40bhp pocket rocket powered by a 1,086cc flat-four bolted into coupe or convertible body styles.

A thousand units sold in the first two years alone, and though this, the first Porsche production car, was celebrated for its stunning looks and impressive performance, many would-be buyers wanted a strippedout, inexpensive version which could be used for everyday commuting before being punished at a track each weekend. Enterprising New York-based European sports car importer, Max Hoffman, recognised the potential for big sales on America's fast-growing club motorsport scene by converting the 356 into a track-ready road car. Consequently, following his subsequent talks with Ferry Porsche, the 356 Speedster was born in 1954.

Based on the 356 Cabriolet, the Speedster's significantly lower price tag was achieved through a combination of eliminated creature comforts, a rain cover

and a shorter (and removable) windscreen. Focus on driving dynamics and a slinkier look ensured the model was an instant hit in sun-drenched California, where the 70bhp 1500 Speedster was bought by many enthusiastic amateur racing drivers, including James Dean, one of the era's leading Hollywood film stars.

The model reached its peak in 1957 with the launch of the 356 A 1500 GS (Grand Sport) Carrera GT Speedster. Featuring the now legendary Ernst Fuhrmann-designed 1.5-litre, vertical-shaft, four-cam Type 547 engine beneath its rear deck, the potent Porsche transformed the Speedster into a 110bhp flier, earning the model the honour of being the first of the manufacturer's production cars to break the 200km/h (124mph) barrier. Less than two years later, the 356 Speedster's days were done, but

**Above** 'Turbo Look' styling gives the 911 Carrera 3.2 Speedster a menacing stance



### 3.2 SPEEDSTER





**Below** Lightweight polyurethane 'humps' house the manually operated and unlined canvas roof

production volume of more than three thousand units proved Hoffman's idea was inspired, building on his previous form for recognising lucrative gaps in a crowded marketplace — the Austrian-born entrepreneur was also responsible for sowing the seeds leading to the creation of the W198 Mercedes-Benz 300 SL 'Gullwing' and the forefather of all Porsche Speedsters, the 356 America Roadster, an aluminium-bodied, lightweight US-only model introducing slot-in windows, bulk-free buckets and a folding rain cover. Sadly, the expensive Porsche proved to be a commercial disaster, with only sixteen units built and coachbuilder, Heuer-Glaser, driven to bankruptcy due to losing money through sky high production costs on each America Roadster sold. The blueprint for the Speedster, however, was set, and with Hoffman's efforts in the USA accounting for a third of all Porsches sold, his ideas were taken seriously by Ferry's team in Stuttgart.

Since the 356 Speedster's introduction all those years ago, many enthusiasts and automotive engineers have been won over by the model, leading to its status as one of the most copied Porsches of all time. Even so,

those born in the 1970s and 1980s will argue the Carrera 3.2-based Speedster is the definitive Porsche to wear the emotive nameplate. The idea for a super-slinky 911 was revealed at the 1987 Frankfurt Motor Show, where the 911 Speedster Clubsport was an immediate hit. The Pearl White wonder featured a small wind deflector and a glass-reinforced plastic rain cover accommodating a single occupant. Designed as an idea for trackday applications, the other-worldly Neunelfer's window frames, windscreen and wiper arms could be removed for even greater wind-cheating potential, although the design was toned down prior to production.

### **GET A GOOD LOOK**

Essentially a low-roof version of the 911 Cabriolet, the 228bhp Carrera 3.2 Speedster's cut-down windscreen and double body-coloured polyurethane 'humps' covering the manually operated and unlined canvas roof - delivered a striking appearance. Coded as factory option M503, the unusual Porsche made use of a wide 'Turbo Look' 911 body, although a narrow-bodied version of the car was available as an option in export markets. The full-fat wider cars looked meaner, though, plus they were fitted with a unique front valance.

Hilariously, drawing attention to how susceptible air-cooled Targas, Cabriolets and Speedsters are to water ingress, the 2,103 buyers willing to stump up the DM110,000 Porsche was asking for each Carrera 3.2 Speedster were required to sign a "weather damage waiver" prior to taking delivery of their new Stuttgartcrested cars in the first half of 1989. Of these, only 171 Porsche customers chose a narrow-bodied Speedster and just 139 of the total number of cars sold were configured for right-hand drive, making the Guards Red example seen on these pages a very rare thing indeed.

The car is in the possession of Richard Grout, founder of luxury car storage, sales and servicing specialist, Motorvault, based near Loughborough. "Richard used to be Dealer Principal at Porsche Centre Leicester," says Nathan Whittington, co-founder of independent Porsche



service and sales centre, Quorn Sports & Classics. "My business partner, Carl McCabe, and I were employed at the dealership as technicians. I was there five years, Carl served ten, joining when the place opened. In 2018, the two of us decided to set up shop on our own."

The dynamic duo didn't intend to focus their attention exclusively on Porsches, but because of their backgrounds

working on
Stuttgart's finest

- experience
bolstered by time
Nathan spent
employed in the
field of motorsport
engineering -

# ONE OF ONLY SIXTY-FOUR CARRERA 3.2 SPEEDSTERS SPECIFIED FOR THE C16 UK SALES MARKET

local Porsche owners flocking to the new business was something of an inevitability. After all, main dealer knowledge and workmanship is difficult to ignore, especially when it comes without the main dealer price tag. "In addition to car sales, the focus of our work is servicing and maintenance of Porsches," Nathan continues. "In 2020, Richard left Porsche Centre Leicester to establish Motorvault. Unsurprisingly, he spends much of his time sourcing exceptional 911s. We've kept in touch, resulting in him commissioning us to carry out work on some of his sales cars."

At the time of writing, alongside a brace of McLarens, Alpina-fettled Bimmers and a Ferrari 348, various water-cooled RS, GT3 and GT2-badged 911s are in the Motorvault showroom patiently awaiting new owners. Alongside them, standing out as the only air-cooled 911 in the room, is the 1989 Carrera 3.2 Speedster seen here. "I have no doubt it's the best right-hand drive example in the UK," Nathan reasons. One of only sixty-four Carrera 3.2 Speedsters specified for the C16 UK sales market, the

car has covered little more than sixteen thousand miles from new. Indeed, it's not a stretch to describe this open-top rarity as a timewarp 911 — the interior looks barely sat in and the

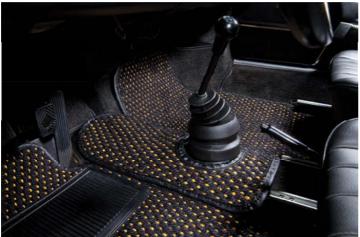
paintwork is completely original from nose to tail.

Classic Pilot SX MXX3 N-rated tyres, which Michelin developed in two sizes to suit the 911 Turbo (930), 964 and 993, wrap around the spotless Fuchs five-leaves. Following a major service at Quorn Sports & Classics, the car runs like new, too.

Nathan and Carl's company name, in case you were wondering, isn't an admission they're fanatical about meat substitute foodstuffs. "Quorn is the name of the Leicestershire village we're based in," Nathan laughs. Notable residents have included World Cup-winning goalkeeper, Gordon Banks, cricketer, David Gower, and the UK's most successful diet and fitness expert,

**Above** 3.2-litre flat-six is a firm favourite among air-cooled Porsche fans







First introduced for the newly developed 356,
Coco Mats were the original factory accessory mat.
New and improved, Coco Mats are the only period correct auto mat that will complement any classic Porsche®. Available for 356's to 991's.



www.cocomats.com 001.803.548.4809



Rosemary Conley. It's an affluent area of the country, meaning there's no shortage of sports cars in need of Nathan and Carl's attention, though they've seen their customer base spread far beyond the local environ. "With the cost of living pushing up prices at dealerships and marque specialists in London, a number of Porsche owners who live in the capital are travelling to us for servicing and maintenance work on their cars." London's expanding Ultra Low Emission Zone has also played its part, encouraging owners to store their

Porsches in remote locations, not least in and around Leicestershire.

Irrespective of the model of Porsche they're based on, all Speedsters are special. The detail in

this wide-hipped, red-over-black example, however, is jaw-droppingly good. The red piping around the electrically operated, big-bolstered Sports seats, for example, is a sublime touch linking the interior with the car's Guards Red bodywork, but just as the car was rolling off the assembly line, Porsche was winding up Carrera 3.2 production — the Speedster was a 'last hurrah' for what many now consider the best generation of air-cooled 911. The fast-approaching new decade was marked by a new 911 in the shape of the 964, a radically redesigned Neunelfer featuring more integrated bumpers, as well as four-wheel drive derived from the transmission debuting on the earlier 959.

The track-friendly, pumped-up Turbo and RS-badged 964s may have stolen the headlines, but like the Carrera 3.2 Speedster before it, the 964 Carrera 2 Speedster was an enticing proposition for Porsche enthusiasts. Launched in 1992 as a 1993 model and initially unavailable with a 'Turbo Look' body style, the new Speedster was offered in standard or RS-aping Clubsport trim. Even the most stripped-out 964 Speedsters retained their radios and air-conditioning. Unfortunately, plans for a build run of three thousand units were well wide of

the mark, with only 936 cars eventually rolling off the production line. Just fourteen of them featured a steering wheel on the right, yet regardless of which side the driver

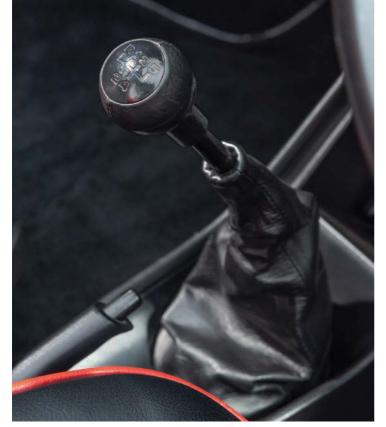
# EVEN THOUGH CARRERA 3.2 AND 964 SPEEDSTERS WERE POPULAR, ONLY TWO 993 SPEEDSTERS SAW THE LIGHT OF DAY

sat, the later 964 Speedster's colour-coded wheels and detachable windscreen ensured the model oozed style as much as it packed performance.

Toward the end of 964 Speedster production, a handful of 'Turbo Look' examples were finished at Porsche Exclusive Manufaktur's Werk 1 assembly facility. Of these special 964s, the last produced was a right-hand drive example finished in Slate Grey, the only Speedster covered in this colour. Commonly referred to as the Sonderwunsch (Special Wishes) Speedster Leichtbau on account of its adoption of lightweight materials, the car was specified by a UK buyer and is widely regarded as the holy grail of all Speedsters — it possesses more

Above Side view shows the shorter windscreen and its exaggerated rake, as well as the way the humped roof cover perfectly continues the curve of the car's rear end

### 3.2 SPEEDSTER









Below More than two thousand Carrera 3.2 Speedsters rolled off the production line toward the end of G-series production

power than the standard 964 Speedster (a trait made possible by a blueprinted engine with a custom map and aggressive timing), Turbo brakes, an RS hydraulic brake booster and various other desirable features, including RS aluminium body panels and handmade bumper bars constructed from thin steel.

### **TWO OF A KIND**

Even though Carrera 3.2 and 964-based Speedsters proved popular, only two 993 Speedsters saw the light of day. The first, a 1995 build featuring Tiptronic S and resplendent in dark green with a wood-trim dash and seventeen-inch wheels, was assembled by Porsche Exclusive Manufaktur to celebrate Ferdinand 'Butzi' Porsche's sixtieth birthday. A silver, manual, 4S-bodied 993 Speedster riding on eighteen-inch rims was created for comedian and die-hard Porschephile, Jerry Seinfeld, in 1998. Other 993 Speedsters exist, but these are conversions created by independent specialists, including family-run Porsche servicing, maintenance, modification

and restoration centre, MLR Porsche, based in the Staffordshire city of Stoke-on-Trent.

When the next chapter in the Speedster story was written, the 911 had been through seismic changes. In 1997, the water-cooled 996 replaced the final air-cooled 911, the 993, and was the first ground-up, all-new 911 since the model's introduction in the early 1960s. Both revered and reviled in equal measure, the 996 nevertheless laid a new set of 911 foundations and delivered a fresh raft of hardcore Porsches, leading to a more warmly appreciated evolution of the manufacturer's flagship model, taking the form of the 997. It was this generation of 911 which delivered the next Speedster.

Celebrating the twenty-fifth anniversary of Porsche Exclusive Manufaktur, the 997 Speedster arrived in 2010 with an asking price of €201,682. A tidy sum, but just like buyers who raided their piggy banks for an earlier Porsche wearing Speedster trim, adopters of this most distinctive 997 were rewarded with a car boasting individual styling — the 997 Speedster's windscreen was seventy-seven millimetres shorter than standard and joined the familiar 'double hump' as a clear Speedster identifier, while the model's wider rear end recalled the 'Turbo Look' Carrera 3.2 Speedsters of yore.

A 3.8-litre Power Kit flat-six sent 402bhp through the rear wheels via a seven-speed PDK double-clutch transmission (there was no manual option available). Active suspension and composite brakes added technical icing to an already appetising cake, while additional visual ingredients included tinted headlights with black surrounds, a special front apron and model-specific side skirts. Hot on the heels of the equally retro 997 Sport Classic, just 356 997 Speedsters were built, a number referencing the first Porsche to wear the Speedster name.

All 997 Speedsters were equipped with special badging, a manually operated folding roof, a limited-slip differential and a sports exhaust. Colours were limited to Pure Blue or Carrara White, but was the best Speedster yet to come? Sitting on a new chassis, the 991 of 2011





was billed as the greatest technical leap in the 911's evolutionary path. Downsized (but more powerful) engines made the 911 more efficient than ever before, and the debut of a seven-speed manual transmission ensured the 991 kept up the technical pace.

**MANY HAPPY RETURNS** 

As a seventieth anniversary present to itself, Porsche unveiled the 991 Speedster at the 2018 Paris Motor Show. Utilising the chassis of the GT3 and the wide body of the Carrera 4 Cabriolet, the eye-popping concept car wore 'heritage' livery, Talbot-style door mirrors and a centre-positioned

fuel filler cap owing more than a passing nod to Porsche racing machines of yesteryear. A subsequent Guards Red 991 Speedster

## PORSCHE'S ARSENAL OF IDOLS PROVES HOW INFLUENTIAL MAX HOFFMAN'S ORIGINAL SPEEDSTER CONCEPT CONTINUES TO BE

concept confirmed the model would go into production, though Porsche was keen to stress only 1,948 units would be built, a number commemorating seventy years since 356 no.1 was revealed.

The 991 Speedster's four-litre flat-six develops a whopping 504bhp. Power is managed by a six-speed transmission Porsche claims is four kilograms lighter than the seven-speed gearbox fitted to manual 991s. Further reducing overall weight, a titanium exhaust helps the engine to breathe whilst delivering a satisfying tone and boosting volume under load. The signature Speedster double bubble roof cover and shorter windshield are present and correct, as are ceramic stoppers, twenty-inch diamond-cut five-spokes and

Porsche Torque Vectoring (PTV) with a mechanical limited-slip differential. Standard 991 door mirrors and a wing-located fuel filler flap replace the parts seen on the concept car.

Sprinting to 62mph in just 3.8 seconds, boasting a redline of 9,000rpm and kitted-out with individual throttle bodies, the 991 Speedster set buyers back £211,599. Keeping true to the 356 Speedster ethos of reduced weight and increased thrills, this modern weapon in our favourite manufacturer's arsenal of idols proves how influential Max Hoffman's original Speedster concept continues to be, inspiring a legacy with a pull as magnetic

now as it was back in 1954. There has yet to be a 992 Speedster, but marking the end of 991 production (totalling 230,540 units, making the 991 the most successful of all 911

generations), the final specimen to roll off the production line was, in fact, a Speedster.

As the pandemic proved its might, Porsche joined forces with the North American arm of RM Sotheby's and offered the car for purchase through exclusive auction. All proceeds were donated to United Way Worldwide, a charitable organisation focused on COVID-19 relief work. The sale closed on 22nd April 2020, with thirty-two bids reaching a lofty half-million-dollar hammer price. In a surprise move, Porsche Cars North America (PCNA) matched the winning bid with an additional donation, lifting total monies raised to \$1,000,000. It might be getting on for its seventieth birthday, but the Speedster line-up clearly still has the power to please. **CP** 

Above With little more than sixteen thousand miles covered since assembly in 1989, this sensational Speedster wears its original coat of Guards Red paint







## PERFECT SOLATION

Starting life as a 1962 356 B T6 coupe, this beautifully restored air-cooled classic is now packing bespoke body styling and a 1.9-litre flat-four pumping out 157bhp and 141lb-ft torque thanks to extensive modification during the height of the pandemic...

Words Dan Furr Photography Rich Pearce





ockdowns brought about by COVID-19
fuelled a somewhat unexpected boom in
the automotive aftermarket. Mainstream
media suggested the bottom would fall
out of the classic and modern-classic
car scene due to owner inability to hit the

road, commentators going on to hypothesise cherished four-wheelers would suddenly become little more

than expensive ornaments.

This analysis of the situation turned out to be extraordinarily wide of the mark

demand for cool
 older cars reached

THE CAR WAS COMPLETELY STRIPPED, MEDIA BLASTED AND PLACED ON THE FIRM'S CELETTE JIG

new highs, while the value of premium marque legacy models, such as air-cooled Porsches, shifted far beyond price rises observed in the wake of the Great Recession, another global event naysayers suggested would call time on the inflated values of retro rides. The fortunes of automotive parts manufacturers and retailers, many of whom feared catastrophic consequences for their bottom line when the pandemic began, also peaked. In fact, virtually every such business I've spoken to about the impact coronavirus and lockdowns had on their trade told me they'd recorded their best-ever sales figures, month on month, throughout the worst of the pandemic.

There are myriad reasons for this defiance of expectation. Not being able to go on holiday — coupled with not being able to enjoy a social life outside the home for the best part of two years — left many classic car owners with extra cash in their pockets. Mortgage pausing also played its part, affording homeowners the opportunity to interrupt their monthly mortgage payments as a way of compensating for loss of earnings, which in an abundance of cases, failed to materialise. Meanwhile, government-issued grants and super-low-interest-rate bounceback loans taken by those who

didn't end up needing them saw a high number of selfemployed classic car owners with additional cash in their pockets. And, with the majority of the nation told to work from home, not only did commuters save money by not having to travel to and from their place of employment, they suddenly found themselves with the added bonus of extra leisure hours either side of the working day.

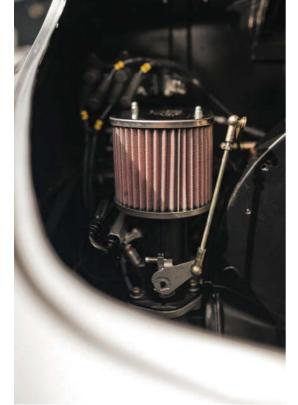
Unexpected disposable income and the revelation of

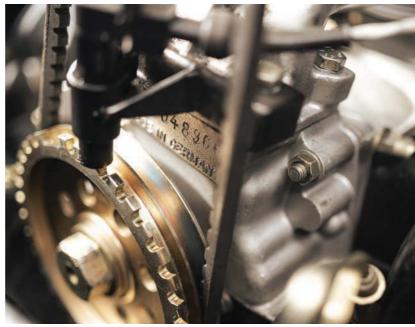
additional free time gave owners of classic and modern-classic cars the perfect opportunity to duck into their garages, pick up a set of spanners and tackle jobs they'd previously postponed.

Progress on project cars and restorations ramped up to new highs, activity which saw a sharp spike in the number of orders parts retailers were asked to fulfil, hence those record-breaking sales figures. Above The plan was to build an RSR evocation, but Adrian was excited at the prospect of a personalised 356 coupe after spotting a tired 1962 T6 tin-top when looking for a 91

Below Exhaust system was fabricated in-house at Canford Classics and is designed specifically for the bespoke 1.9-litre flat-four







**Above** Jenvey DCOE-style Heritage throttle bodies and a DTA ECU work together to release 157 galloping ponies

As lockdown began to ease, some would-be classic car owners who'd spent the pandemic considering their own mortality decided life is simply too short to put off buying the vehicle for 'high days and holidays' they'd always promised themselves. Demand for older cars increased accordingly. Interest was also coming from those who had laid down a deposit for a brand-new car, only to be told a worldwide shortage of microprocessors equated to a significant delay in their order being put into effect. Many of these buyers decided to buy a classic or modern-classic car to have fun with until their new motor was ready for delivery. Porsches (especially early Boxsters) proved particularly popular. Incidentally, a great number of these buyers are still waiting for their new cars to appear.

With lockdowns coming and going, and with it becoming increasingly obvious the pandemic was a long-term problem the world would need to deal with — we're not out of the woods yet, folks — a large number of independent classic Porsche restoration specialists found themselves being asked to take on

ambitious bespoke air-cooled restomod projects based on ground-up rebuilds. The wonderfully executed custom 356 you see on these pages is one such assembly, though when the car's proud pilot, Adrian Hart, first contacted Dorset-based air-cooled Porsche restoration outfit, Canford Classics, he had a rather more aggressive end product in mind.

#### **CHANGE OF DIRECTION**

"Initially, Adrian wanted us to build him an RSR-inspired 911 hot rod," recalls Chris Lowe, lead technician at Canford Classics. "Various end results were considered, but he wasn't yet in possession of the 911 with which we were to turn his dream into reality." Encouraged by positive conversations with company founder, Alan Drayson, Adrian went to look at a 911 he hoped would serve as the platform Canford Classics would work with. "He ended up buying a 356!" Chris laughs. "When he arrived to inspect the 911, he was struck by the 1962 356 B T6 sitting next to it. As it turned out, both cars were for sale. Adrian reasoned an Outlaw-influenced 356 restomod would be more distinctive than an RSR-aping 911 and subsequently struck a deal for the four-cylinder Porsche, which he presented to us a short time later."

Whereas the 356 B T5 coupe was essentially a Cabriolet body with an optional hard-top welded in place, the 356 B T6 coupe was based on a new body design, retaining the drop-top's rear end, but boasting a newly concocted roof and windscreen frame. Twin grilles appeared on the engine lid, the fuel filler was relocated to the offside front wing, the rear glass was enlarged and front disc brakes were added to the mix.

The 356 B was only in production for three years prior to the arrival of its successor, the 356 C, for the 1964 model year, but as was the case with all generations of the flat-four-powered Porsche, many subtle (and not so subtle) changes were made to model specification along the way. For a restorer charged with maintaining originality, these nuances must be keenly observed. Not so for Adrian's build. "He wanted to personalise the car,



to shake things up," Chris smiles. "He's very focused and had a clear idea regarding the 356 he wanted us to build. With significant changes to the Porsche's body and powertrain on the cards, we were able to break free of period-perfect specification and go to town on bespoke details, borrowing design cues from across the 356 range and beyond."

The front end is a case in point — you're looking at 356 A horn grilles and indicators, plus a bumper delete. There's similar personalisation at the rear of the car, but the work isn't as straightforward as simply swapping

parts out, one for another. "When you remove a 356's back bumper and mounts," Chris continues, "you're left with exposed holes in the body, but also otherwise

# A FLAT-FOUR LIFTED TO 1.9 LITRES AND BREATHING THROUGH K&N AIR FILTERS ATOP JENVEY THROTTLE BODIES

hidden panel pressings, which the bumper corners are designed to sit abreast of. You're also faced with the puzzle of number plate illumination and what to do about the suddenly prominent reverse light. What sounds like the simple job of bumper removal suddenly leads to a host of challenges, all of which need to be solved, the work being applied at the highest possible standard."

This is a Porsche currently celebrating its sixtieth anniversary, meaning before Chris, Alan and the Canford Classics team could contend with the detail, there was a huge amount of core bodywork to be taken care of. With this in mind, the car was completely stripped, media blasted and placed on the firm's Celette jig. "The metal was in a fairly poor state," Chris reveals. "There was rust

everywhere, the door bottoms were no good and the front clip needed to be replaced." As is the case with so many surviving 356s and early 911s, which weren't worth a great deal of money in decades past, previous repair work had been conducted to a poor standard. "When the car was on our rotisserie, it was clear to see it had led a hard life, but as is the case with our 911 builds, we worked through every inch of the body, replacing panels and other metalwork where necessary, taking the car back to its standard basic state before working with Adrian to compile a wish list of modifications, which we

could factor into all work from that point onward." Further simplifying the front end, the classic 356 frunk handle has been removed.

replaced by a 911

bonnet badge. The fuel filler flap has also gone, as have the exterior sill trims. Smoothed, shimmering in GT Silver Metallic paint (matching the finish of Adrian's 718 Cayman GTS) and rolling on black steelies, the thoroughly restored and modified body is at once both elegant and aggressive — its beauty is in the enhanced simplicity of Erwin Komenda's original design, while the lack of bumpers and the sparkling paint deliver a look not dissimilar from the battle dress of early historic Porsche motorsport machines.

The sound is just as arresting. Emanating from a bespoke exhaust fabricated and flow-tested in-house at Canford Classics specifically for Adrian's 356, it announces the presence of a flat-four lifted to 1.9 litres of

Above Rear bumper delete necessitated a huge amount of work at the back of the car, including deletion of usually hidden panel pressings

Facing page Gorgeous tan leather replaces the bright red vinyl in the car when new



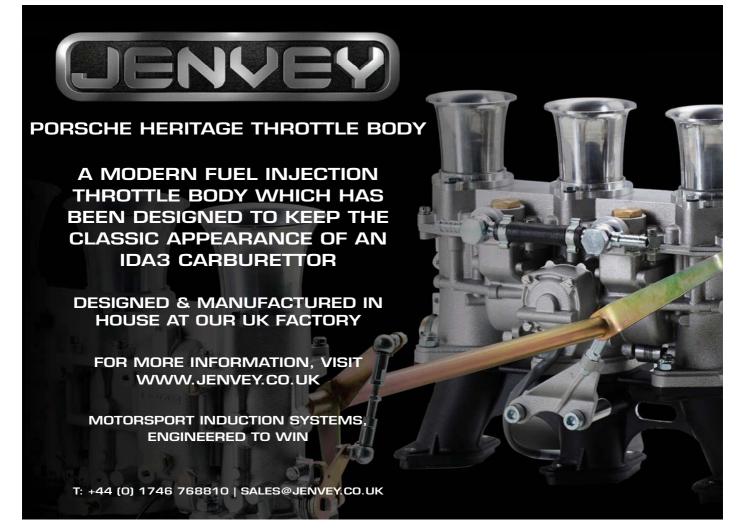










































Above Adrian opted for GT Silver Metallic as the colour for his 356, matching the shade applied to his 718 Cayman GTS at the factory

Facing page The car as it looked when Adrian handed it to Canford Classics, plus a selection of photos taken during the restoration process displacement and breathing through K&N air filters atop Jenvey Dynamics DCOE-style Heritage throttle bodies. "At first glance, you wouldn't know fuel injection and aftermarket throttle bodies were at play," Chris reasons. He's not wrong — boasting all the plus points associated with individual throttle bodies, Jenvey's Heritage line-up maintains the understated looks of a period carburettor induction set-up, thereby enabling seamless integration in the engine bays of a classic Porsche, like the 356 pictured here. "With some aftermarket throttle body kits, you get bright blue or red anodised fitting hardware and fasteners, totally at odds with the look of a standard classic 911 or 356 engine bay." Not so with Jenvey's

Heritage range, which now extends to IDA3 throttle body kits comprising manifold with heat insulators, throttle bodies, electronic fuel

## LOOK CLOSELY AND YOU'LL SPOT GAUGES IN THE STYLE OF THE 904 RACE CAR

injectors, integrated fuel rail, cross bank floating linkage (to allow for engine expansion), throttle position sensor and airhorns. "The look is very much in keeping with that of factory-fit carburettors, meaning these modern throttle bodies don't look out of place bolted to an air-cooled Porsche boxer," Chris adds.

A standalone DTA ECU manages fuel supply, while the engine itself makes use of valves custom manufactured by Canford Classics for this particular build. Power output is a punchy 157bhp with an accompanying 141lb-ft torque. The transmission is a rebuilt standard-specification cog swapper holding up very well, considering the big increase in power it's being asked to deal with. As you'd expect, the car's suspension has been thoroughly renovated from front to back, while the brakes have been upgraded to ensure stopping power is as effective as how quick the car can get up to speed

drums remain at the rear, but an Airkewld kit featuring
 Wilwood calipers with drilled discs resides at the nose.

Though difficult to tell when viewing the car side-on, the rear wheels have been banded, giving an extra half-inch of width and therefore an increased tyre contact patch, resulting in greater grip. The wider stance also provides an enhanced aesthetic. "The change isn't immediately apparent," Chris muses. "It's quite subtle, but has a dramatic impact on the overall look of the car, proving seemingly small alterations, particularly those concerning wheel widths, ride height and the size of tyre sidewalls, can have a massive impact on the presentation of the build like this." As far as the latter is

concerned, Michelin XZX black circles have been called into action. A classic tubeless design, the XZX succeeded the Michelin ZX in 1976 as a continuation of the brand's X-range of

radial tyres. The sophisticated radial casting design and special tread pattern (featuring two large circumferential grooves and continuous lateral grooves) combine to maintain high mileage potential and provide exceptional adhesion, particularly in the wet. The XZX was partially replaced by the MX range of tyres in the mid-1980s, but remains available in twelve- and fifteen-inch fitment (the latter with the option of a white sidewall) from official Michelin stockist, Longstone Tyres, and is perfectly suited to the 356 we see here.

The interior of Adrian's Porsche has been updated with the same attention to detail as the rest of the car. You won't be surprised to discover there's the not unusual switch from six-volt power to twelve, but look closely and you'll spot gauges in the style of the 904 race car. The rev counter is driven by the aforementioned DTA ECU, ensuring the reading is immediate and, crucially, accurate.



The headlight switch has been relocated from the centre of the dashboard to the left of the ignition, while the original radio has been carefully reworked to offer Bluetooth functionality linking smartphone audio output to discreetly positioned modern speakers. A Webasto petrol heater (a requirement following elimination of the heat exchangers)

has been stealthily installed, keeping the cabin warm through the original heater flaps.
The rear seats, meanwhile, have been ditched.

# THE COMPLETE BUILD TOOK TWO YEARS, THE MAJORITY OF WORK UNDERTAKEN DURING THE HEIGHT OF THE PANDEMIC

As for the remaining furnishings, Canford Classics made a new carpet set in-house and fitted an Alcantara-trimmed headlining, as well as a wealth of soft tan leather, which finds itself wrapped around the door cards, dash top roll, seats, head rests, rear quarters and back panel. Seat belts colour-coded to match the body and a bespoke leather case for the onboard fire extinguisher round out the changes.

### **FAMILIAR TERRITORY**

I ask Chris to outline the biggest challenge the project presented to the Canford Classics team. "I suppose it was working on a 356, as opposed to any specific conundrum the build threw at us," he replies. "Canford Classics is renowned for its 911 builds, and though we have worked on 356s over the years, we don't usually get involved with the heavy restoration of these cars. Of course, our approach to metalwork is the same irrespective of the Porsche we're dealing with — we absolutely exercise the same care and attention on a

356 as we would a classic 911. After all, these are old Porsches which love to attract rust and have often been subjected to poor body repairs long before they arrive at our workshop in Winterborne Kingston. The joy of working on Adrian's car, though, was the freedom we had to move away from exacting original specification. The

bigger engine and the Outlaw-inspired styling, for example, equated to major changes giving us a greater degree of flexibility with this build than we might have if restoring a

356 to factory-concours condition. Largely for this reason, the project was a lot of fun."

Past tense. As the odometer indicates, this air-cooled classic is now back with its owner following completion of initial shakedown mileage. The complete build took two years from start to finish, the majority of work undertaken during the height of the pandemic. "It was one of two major builds we worked on during the period," Chris says. "The other was a 911 SC, which we backdated and equipped with a 3.5-litre flat-six." Striking me as what Porsche might have come up with if it had decided to build an F-series GT3, this sensational 911 will be featured in next month's issue of *Classic Porsche*.

The UK economy nosediving and the threat of tactical nukes being fired in the direction of Western Europe are fresh challenges we need to deal with in the aftermath of peak pandemic, but away from a minority of morons doing their best to ruin life for the rest of us, Adrian's lockdown-built 356 proves passion for Porsche is stronger than it ever was. Long may it continue! **CP** 

**Above** The more you look, the more detail you notice, such as 356 A front-end hardware



## **Karmann Konnection**

Passion ~ Quality







& lots of original in stock







1961 356BTS Recent engine rebuild Rare colour. £75,000





KK headrest kits

Correct 64-68 headlights



Speedster seat edster seat Body panels also supply repair panels for 911, 912 & 914

Fully equipped workshop ~ Servicing, fitting & rustproofing. See Website for more products, special offers & cars for sale!

www.karmannkonnection.com 01702 340613 ebay f







## ROGER BRAY



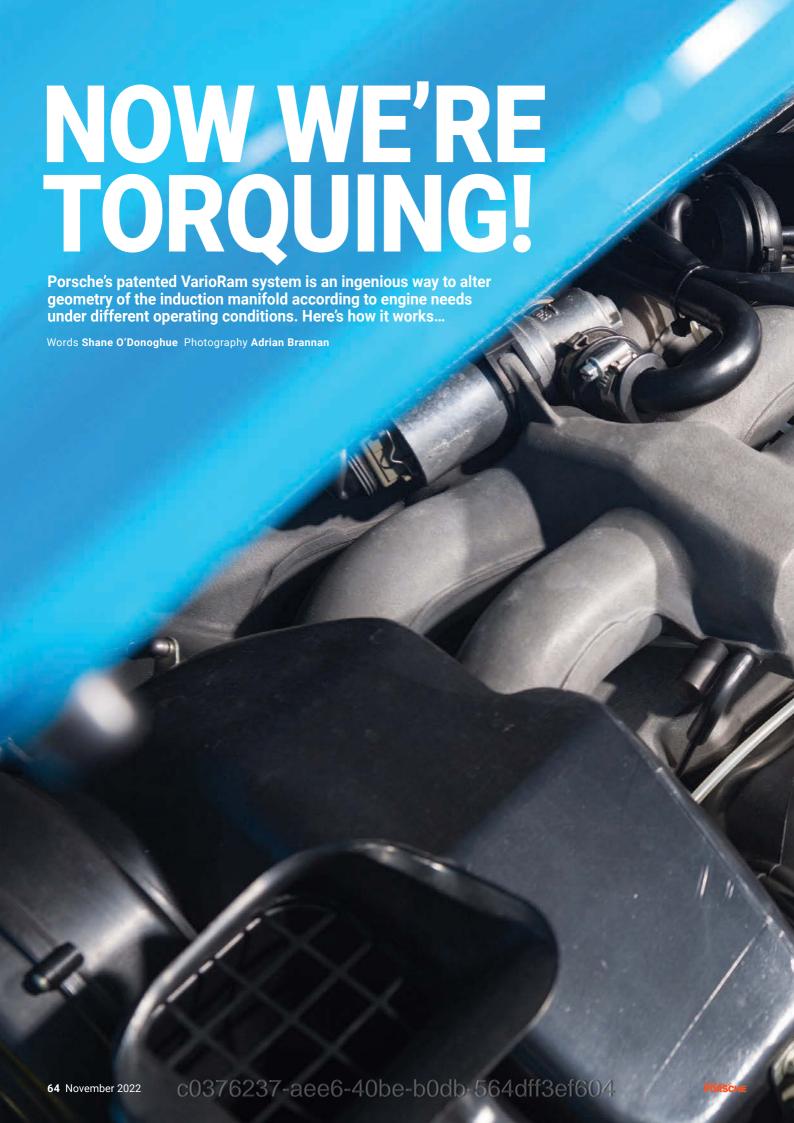


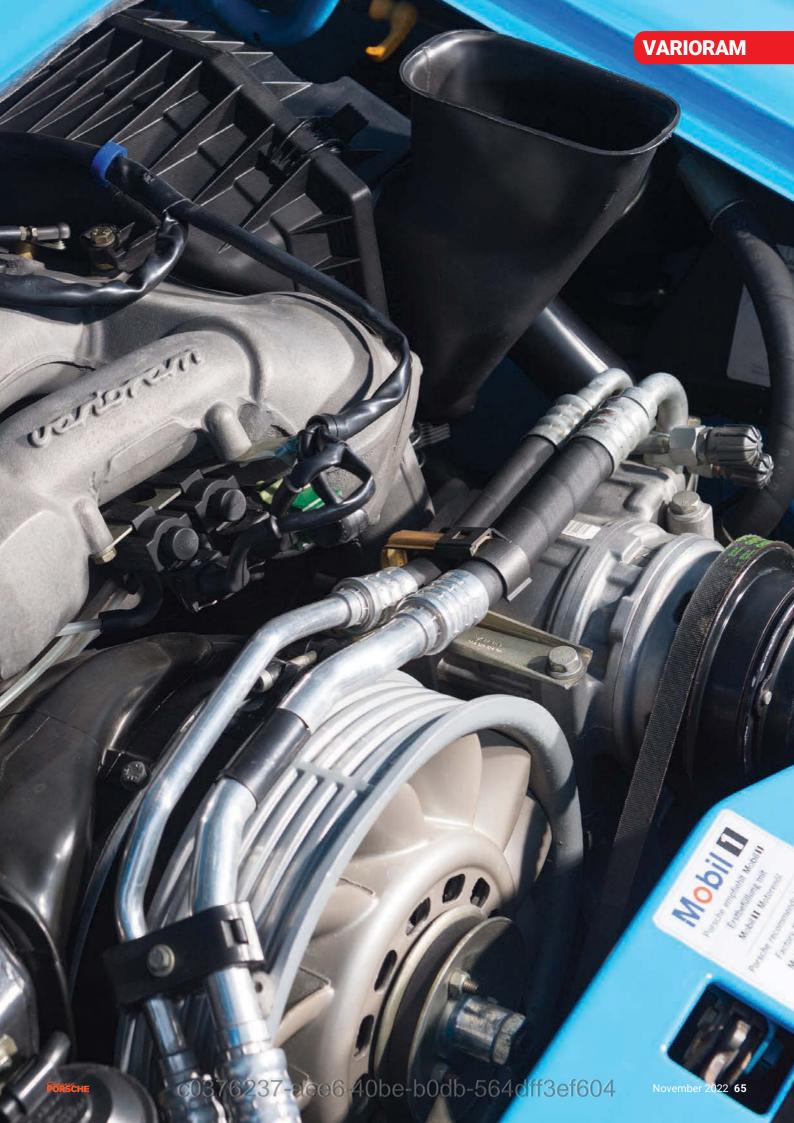
Roger Bray Restorations is a small business with a big reputation specialising in supplying parts and the restoration of classic Porsches 356, 911, 912 and 914. We have been around classic Porsche cars since 1985 and have a large amount of knowledge from dealing and working on these cars daily.

Not sure which part – speak to one of our parts advisers

## SHOP ONLINE AND GET 20% OFF SELECTED PARTS **ON THE WEBSITE**

Call: +44 (0)1404 822005 E: parts@rogerbrayrestoration.com www.rogerbrayrestoration.com Milestone Business Park, London Road, Whimple, Exeter EX5 20B







arioRam is the name Porsche gave to its advanced variable intake system when the technology was first released in 1994. It's clear, however, from the wealth of Porsche-filed patents in the years leading up to then, that the manufacturer's engineers had long considered the benefits of varying intake geometry. Indeed, the VarioRam system was preceded by a far simpler variable design that didn't get much recognition, never mind a catchy marketing name. Before we look at how these Porsche systems work, it's probably worth us going through an overview of intake tuning. This is a massive field of study, obviously, because it includes the whole inlet system, from engine air intake, filter, throttle and then the plenum, manifold and, finally, the inlet valves. Each and every millimetre of this system affects the tuning and performance of the host engine across the rev range.

When we say tuning, really, what we're interested in here is volumetric efficiency. This is the measure of how much air — in terms of mass — you can get into an engine's cylinder, compared with the theoretical amount. More air in the cylinder means it's possible to burn more fuel, which translates into more energy released in a given combustion cycle. This equates to more torque at the crankshaft. Simply put, higher volumetric efficiency equals more torque and, because output is directly proportional to the torque, power. It's easy to exceed one hundred percent volumetric efficiency in a turbocharged engine — the compressor lives up to its name and compresses air before it is fed into the cylinder, but in a normally aspirated engine, it takes a little more effort to achieve high levels of volumetric efficiency.

Inertia charging (or scavenging of the cylinder) is one technique. Using valve timing, a pressure wave in the exhaust is created that then scavenges the cylinder and draws the intake air in quicker. Some gases can flow back into the cylinder from the exhaust, too, meaning the potential for more air trapped for combustion and

an increase in volumetric efficiency. For the most part, this technique relies on the geometry of the combustion chamber and the valve timing, along with the inlet ports and the rest of the intake system, of course.

### **GETTING PULSES RACING**

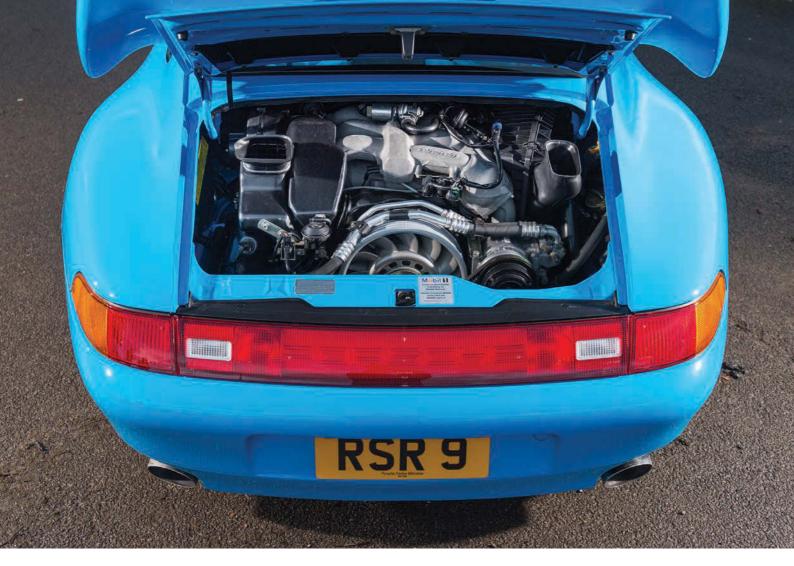
On the subject of the inlet ports, it's worth touching on what happens to the air in the 'runner', which encompasses the length from the back of the inlet valve to the main plenum chamber in the inlet manifold. When the inlet valve is open during the induction stroke, air is rushing into the cylinder at high speed. When the valve closes, the air compresses itself against the back of the closed valve, causing a pressure pulse to travel back up the runner. When this high-pressure pulse reaches the opening into the plenum, it reflects back down the runner. If the pulse can be timed to return to the back of the inlet valve when it is opened (this may require movement of the wave up and down the runner a few times), then it can greatly increase the air taken into the cylinder and

**Above and below** The very first engine to use VarioRam was the 296bhp M64/20 fitted to the 993 Carrera RS









increase the volumetric efficiency. Sadly, this useful effect is limited to a narrow speed range for a fixed runner length. Generally speaking, the longer the runner, the lower the engine speed at which it's optimised for. This is sometimes referred to as vibrating tube charging.

Resonance charging is another tuning technique, and it's particularly relevant to engines laid out in a vee or boxer configuration, where, crucially, the firing order alternates between cylinder banks. It'll become clear why in a moment, but in this configuration, the inlet manifold features two distinct plenum chambers, each feeding air to a bank of cylinders. These plenums have an interconnecting pipe (or pipes, but it's as easy to think of the setup as a single pipe) and the air flows into this system through a regular throttle valve.

Due to the air being sucked into cylinders on alternating sides of the engine, a forward and back pressure wave occurs within the pipe that connects the two plenums. The position of this pressure wave at any given moment depends on the geometry of the inlet manifold and the engine speed. At a certain speed, the pulsing of the air reaches what's known as its *natural frequency* and resonance occurs. This means the pulse from one plenum to the other will be in phase with the intake strokes. In turn, this results in higher air pressure in the inlet ports when the inlet valves are open, leading to greater mass of air in the cylinder and, consequently, an increase in volumetric efficiency and torque.

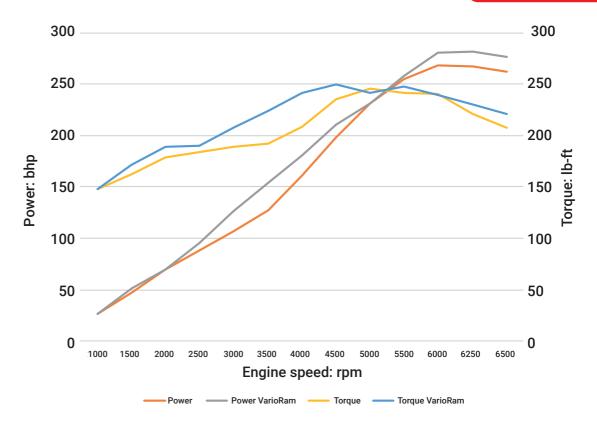
The engine speed at which resonance occurs can be tuned by the geometry of the inlet manifold, but it's always a compromise — there's a very narrow rev band over

which resonance is actually useful. And, of course, there's also the potential downside of causing an unwanted negative air pressure pulse in an inlet port at another engine speed, which would dramatically reduce the volumetric efficiency (and therefore the torque output) at that point.

With all we've described in mind, it's not difficult to envisage the advantages of an inlet system with variable geometry. Erwin Rutschmann, one of Porsche's many talented engineers (you'll find his name on dozens of patents), is credited with creating the first variable Above VarioRam supplemented the resonance charging system introduced in model year 1989 by allowing the length of the 993's intake manifold to be varied



This page Long intake paths at low revs resulted in a gain in torque, while short intake paths resulted in a gain of performance in the 993's upper speed range



Engine speed	Power	Power VarioRam	Torque	Torque VarioRam
1000	26.8204	26.8204	147.5124295	147.5124295
1500	46.9357	50.95876	162.2636724	171.1144182
2000	69.73304	69.73304	179.2276018	188.8159097
2500	88.50732	95.21242	184.3905368	190.291034
3000	107.2816	126.05588	188.8159097	207.2549634
3500	127.3969	154.2173	192.5037204	224.2188928
4000	160.9224	181.0377	208.7300877	241.9203843
4500	198.47096	210.54014	235.282325	249.2960058
5000	230.65544	230.65544	245.608195	241.9203843
5500	254.7938	257.47584	241.1828222	247.8208815
6000	268.204	280.27318	240.44526	239.7076979
6250	266.86298	281.6142	221.2686442	230.11939
6500	261.4989	276.25012	207.9925255	221.2686442

resonance inlet manifold for the company, as fitted to the 964's 3.6-litre M64 engine. As described above, the M64 featured an air plenum on each side, connected by a wide pipe. The main air intake flowed into this interconnecting tube. Underneath this, however, was another pipe — effectively a resonance chamber — linking the two plenums. This pipe housed a butterfly valve that was opened or closed (depending on engine speed and load) by the car's advanced Bosch Motronic M2.1 electronic engine management control unit. The valve stayed closed until the engine revved above 5,600rpm. This variability would have allowed Porsche to accept a less compromised intake system, resulting in higher torque across the entire rev range.

VarioRam took the idea much further, with more variability for the inlet geometry to optimise volumetric efficiency across a wider range of engine conditions. It varies both the runner length and the resonance in one

cleverly packaged intake manifold system. As expected, intake air is fed to the manifold from the air filter, but airflow can enter via two separate butterfly throttle valves. The upper valve opens by varying amounts at all times, allowing air into the central plenum you can see atop an engine fitted with the VarioRam system. This distributes air to three top runners on each side of the engine, leading into what appear to be further plenum chambers, with lower runners connecting those to the cylinders. What you can't see from the outside is that the top runners feed movable sections. These are vacuumoperated and computer controlled. At low engine speeds and loads, these moving parts seal the top runners to the lower runners, resulting in a much longer runner length, better suited to the creation of low-speed torque. At this stage, the rest of the manifold is redundant, and the aforementioned vibrating tube charging is key to the engine's volumetric efficiency.



When engine speed reaches 5,160rpm and the throttle valve is more than fifty percent open, the movable sections retract to allow air from the top runners into the lower plenum chambers. The lower throttle valve also starts to open, increasing overall airflow to the engine. In this scenario, the runner length is much shorter, from the lower plenums to the cylinders, which is better suited to high-speed operation. Additionally, the two lower plenum chambers are interconnected, allowing resonance tuning to suit the given operating condition. As is the case with the 964's flat-six, the VarioRam manifold features an extra resonance chamber (or interconnecting pipe/ tube) operated by a butterfly valve. Providing the throttle is more than fifty percent open, the valve is opened at 5,920rpm, altering the resonance frequency once more to allow higher volumetric efficiency as the engine homes in on its peak power point.

### **DEVASTATING DEBUT**

The first engine to use VarioRam was that of the 993 Carrera RS, though this car's 3,746cc flat-six (codenamed M64/20 and marketed as a 3.8-litre unit) was significantly different to the 3.6-litre boxer fitted to the samegeneration Carrera and Carrera 4. For a start, the RS lump featured lighter pistons and rocker arms, along with larger intake valves made possible by a two-millimetre increase in bore diameter. Peak outputs of 296bhp at 6,500rpm and 262lb-ft torque at 5,400rpm are usefully higher than the 3.6-litre engine's 268bhp and 243lb-ft (delivered at 6,100rpm and 5,000rpm respectively), the higher revs in the Rennsport befitting its remit in life.

A more important comparison can be made between early 993 engines and those introduced from 1996, the latter identifiable by engine codes starting with M64/21. These later engines received VarioRam as standard, though it didn't drastically alter maximum output of the 3.6-litre engine: the newer units developed 282bhp at 6,250rpm and 251lb-ft at 5,250rpm. Those are useful

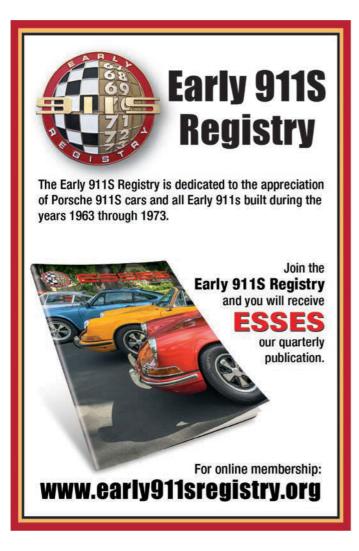
gains, undoubtedly, though they don't fully illustrate the benefits of the VarioRam system. After all, it isn't designed to introduce a hike in performance, per se. Rather, as explained earlier, VarioRam's goal is to refine and improve torque output across the whole rev range. In fact, the 3.6-litre 993 engine equipped with VarioRam also received bigger valves, which would have enhanced the engine's breathing, especially at the top end. Higher peak power is as much attributable to this update as much as anything else, though you might argue the change was encouraged by the flexibility of VarioRam in the first place.

As you can see on the previous page, our chart highlighting the power and torque curves for the 993 engine with and without VarioRam reveals a great deal. For example, the VarioRam engine produces considerably more torque, notably in the 2,500-4,500rpm range. This is where most owners spend their driving time, which is why a 993 with VarioRam feels significantly more responsive in everyday driving environments.

The beauty of VarioRam is that its benefits don't come at the expense of top-end power — although the updated 993 weighed thirty kilograms more than its predecessor, the Carrera's sprint from rest to 62mph dropped from 5.6 seconds to 5.4 seconds, with top speed increasing from 167mph to 171mph. Fuel consumption improved, too. What's not to like?!

Well, packaging, weight and complexity, so it would seem. VarioRam was short-lived — the 996's new water-cooled flat-six reverted to a simpler variable resonance manifold. Of course, the breathing of the newer 911's engine was improved with a four-valve head, while VarioCam (first introduced to the 968's bulletproof three-litre inline-four) allowed variability in valve timing that made VarioRam all but redundant. Nonetheless, there's no doubting lessons learned during the development of VarioRam, knowledge which went on to inform the design of intake systems for all normally aspirated Porsche engines from the 993 onward. **CP** 

Above VarioRam was in production from the arrival of the 993 Carrera RS in 1995, meaning 993s assembled before this time won't have the system installed





























# **INSIDE STORY**

JP Group, parent company of Porsche parts brand, Dansk, opened its doors to Classic Porsche for an exclusive tour of the company's 42,000m<sup>2</sup> facility in Viborg...

Words and photography Dan Furr

tchy feet. I needed to hit the road. Each year, I try to head out on a trip across mainland Europe, zig-zagging my way between various towns and cities, more often than not in a Porsche. Recent excursions have included taking a new Macan Turbo (in the company of a fleet of 964s) on an exploration of the highest passes in the French Alps, nipping in and out of Italy along the way. Twelve months earlier, I hopped into my first-generation 997 Carrera 4S and sprinted down to the shores of Lake Geneva via Reims (capital of the Champagne wine-growing region), using the fortnight I was camped in Lausanne to enjoy the amazing driving roads on both the Swiss and French sides of what locals refer to as *lac Léman*.

For these two trips, save for stopovers on the way to and from my target landing place, I stayed in the same hotels for the duration of my stays. Not so in 2015, when I jumped into my modified classic SAAB 900 S sixteen-

valve convertible (complete with Aero body styling) and navigated my way through seven countries in seven days. A visit to the Porsche Museum in Stuttgart en

#### A PATCHWORK 914 RACE CAR USED FOR DEVELOPMENT OF NEW DANSK BODY PANELS JOINS A STRING OF BEETLES

route to the Nürburgring was one of the highlights of this mega-mile jaunt, which was very much a driving holiday, rather than one focused on destinations — I might have whiled away many hours strolling along the harbourfront in Monaco, munching on gelato while I started at superyachts, but the drive down to the principality from Grenoble was the focal point of this particular leg of the trip, taking in the spectacular Route Napoleon (the road taken by Napoleon from Elba, opposite Piombino, following his return from exile in 1815).

And so to summer 2022. Where to go? What to do? Just as importantly, which Porsche to drive? I haven't put enough miles on my restored 944 Turbo since project completion to confidently take it on what would potentially be a multi-thousand-mile trip across Europe. There was my all-pawed 911, of course, although I've used the Basalt Black beauty for numerous on-road adventures already. How about my recently acquired 968 Sport, one of only 306 examples of its kind? Well, truth be told, punishing work deadlines and other commitments meant I was almost certainly not going to be able to find the time to give the Slate Grey stunner a service prior to my planned departure date. Decisions,

decisions. Of course, I still had to decide where to go. Irrespective of the route taken, I needed to at least be able to pinpoint a target destination, an end point, after which I'd turn around and head home. An invitation to attend Scandinavia's biggest Porsche drive — hosted at the sprawling My Garage complex, located in the southeast of the Jutland Peninsula in Denmark and home to Porsche Servicecenter Vejle, as well as the dealer's Classic Partner Services division — triggered a chain of events which would quickly inform where I was going, how I would get there and which car to drive.

Vejle is approximately ninety minutes south of the city of Viborg, home to JP Group, better known to Porsche owners and enthusiasts as the parent company of the Dansk and SSI brands. Two birds, one stone — I accepted the invitation to visit My Garage and arranged to head to JP Group the day after the event. Somewhat sweetening the deal, Sanne Saaby, My Garage Marketing Manager,

told me nine-time
Le Mans winner,
Tom Kristensen, had
offered to give me the
keys to his 964-based
Kalmar 7-97, which
was awaiting my
arrival in Vejle. Oh my.
The target location

was sorted. The route to get there fell into place pretty quickly thereafter. I'd leave my home in West Norfolk, catch a ferry from Dover to Dunkirk, drive straight to Bruges for a stopover, then take time out to visit Lieser, Cochem and other towns in the winegrowing region along Germany's Moselle river, before heading north to Hamburg. From there, I'd drive to the head of the Kolding Fjord, where I'd base myself for the days I'd be in Denmark. This would position me a mere half hour from Vejle. Perfect.

#### **SPOILED FOR CHOICE**

I still didn't know which car to take, mind. Maybe my Estoril Blue BMW E31 840ci Sport Individual? One of the last great grand tourers, for sure, but not ideal for arriving at a gathering of Porsches, of which there were an expected three hundred and thirty-three examples expected to be in attendance. This included three aircooled cars taken from the JP Group collection, of which I'll come to shortly. Not being able to decide which Stuttgart-crested car to take on such a trip is a very nice problem to have, I admit.

The solution came in the form of a 992 Carrera 4 GTS

**Facing page** A sneak peek at what goes on behind the scenes at JP Group



kindly loaned to me by the folk at Porsche Cars Great Britain. Carrying the number plate 911 FWD ("is that a front-wheel drive Porsche?" someone asked me) and resplendent in the arresting shade of Racing Yellow, this brand-new, 473bhp, three-litre, twin-turbocharged, PDKequipped powerhouse of performance was nothing short of fantastic for the duration of the more than 2.500-mile round trip, though I appreciate this is Classic Porsche and water-cooled models are best reserved for the pages of sister title, 911 & Porsche World. With this in mind, I won't take up any more this magazine's column inches waxing lyrical about the GTS. I will, however, talk about my experience behind the wheel of Tom Kristensen's glorious Kalmar 7-97 in a forthcoming issue of Classic Porsche. I'll double up with a report on the My Garage gathering, which saw Porsches of all ages - from a 550 Spyder through to the latest Porsche GT products - take to the road in convoy and travel a pre-planned route along the rural roads running alongside the picturesque Vejle Fjord, much to the delight of the hundreds of locals (many of them waving Porsche flags) who lined the trail.

invest in machinery for production of tools to enable manufacturing of components for refrigerators and freezers. By 1975, Johs. Pedersen Maskinfabrik A/S was established in Viborg with two employees.

"Within two years, the company had switched its attention to the production of replacement heat exchangers and body parts for Volkswagen Beetles and Camper vans, though Johannes continued to diversify his company's output, so much so he launched a wide range of brands in the late 1970s. One of these was Co Co Pot, a provider of biodegradable products design to enable plant growth without any transplanting shock. Glyptonite and Logicar were other companies Johannes established during this hugely creative period of his life, though it was clear demand for his automotive offerings were where the company's future lay," says Søren Breinholt, JP Group's Business Manager, Classic division. "Accordingly, in 1987, JP Group was founded as a trading company exporting spares for Volkswagen, Audi, Seat and Skoda vehicles," he adds.

Above The on-site Porsche showrooms play host to some of the rarest 911s, including various RS, Speedster, GT3 and Turbo-badged beasts, as well as a 964 RS America

#### STRONG REPUTATION

And so to JP Group, of whose Dansk- and SSI-branded products grace these pages most months, usually through their appointment in the restoration and/or modification of the air-cooled Porsches we showcase for your viewing pleasure. Of course, we all know the names of these globally recognised brands, but few know the scale of the operation behind them, or its rich and colourful history, which stretches all the way back to the mid-1960s.

The company takes its initials from founder, Johannes Pedersen, a former bus driver who, from 1965, used his spare time to develop rubber mounts for the automotive industry, doing so from the makeshift workshop he established in the basement of his house in Viborg. Soon after, Johannes began producing rubber mallets and ashtrays, which afforded him the opportunity to



#### **SPECIALIST VISIT**











umbrella resides JP Group a/s and Johs. Pedersen a/s,

Above Martin Pederson, son of company founder, Johannes Pederson, took charge in 1992 and has grown the business to impressive scale, serving customers in ninety different countries

Five years later, Johannes passed away at the age of sixty-three. "His son, Martin, who spent a childhood witnessing his father's creativity and desire to design and manufacture metal products, took control of the company," Søren explains. "Martin had been working for the firm since 1983,

having completed his education in the field of banking and finance. He went on to gain a diploma in business administration, which served him

well in his new role as head of JP Group."

The best way to understand the corporate structure at play is to take note of the fact JP Group Holding a/s was established in 1994 in order to strengthen the company and to ensure efficient future development within the business-to-business segment. Under this

I'M MET BY THE VISION OF YET ANOTHER CARRERA RS 2.7 AND A GORGEOUS IRISH GREEN SHORT-WHEELBASE 911

the latter delivering product and assembly of parts for a range of industries, including rail — among its many activities, the company carries out total refurbishment of train carriages and produces digital information display boards for

display boards for railway stations. "Solutions, rather than components," as Søren puts it. A separate holding company, Euro 2000 a/s, was founded in 1998, offering

business-to-consumer services (not limited to the supply of tyres, rims, automotive spares and accessories) through the HOVWDIAUDI brand.

According to figures published in 2019, combined turnover amounts to some sixty-one million euros. Headcount is near two hundred members of staff, while production takes place across a site totalling in excess of forty-two thousand square metres.

Considering the growth of JP Group concern from its humble origins in the mid-1960s to where it is today, it will probably come as a surprise for you to learn operations are conducted from the very same site in Viborg, albeit subject to massive expansion between then and now. "The group is united under a common management strategy and common finance, human resources and administrative departments, all managed from the one facility in Viborg," Søren tells me, offering up photographs showing the development of the site over the decades. I note the old Pedersen family home remains at the centre of the grounds to this day.

Søren offers me a tour. We begin by walking into one of JP Group's Porsche showrooms. There's a line-up of 356s, including a brace of Speedsters, a couple of Cabriolets and a tin-top. 911s rule the roost, though. There's an immaculate Carrera RS 2.7 among the various





F-series cars on display. Only a few are for sale, though. "They're part of Martin's collection of Porsches," Søren confirms, going on to reveal how they 're called into action as and when a new Dansk part needs to be manufactured and an original car is required to use as a point of reference. Bunched together, the cars — all pristine — look like museum pieces, but as I discovered at My Garage

less than twenty-four hours earlier, each is fully operational and regularly used. That's what they were built for, after all.

A door from this super-toy box leads into a side room

Martin has allocated to house some of the equipment and products his father was responsible for during his time in charge of the company. Primitive-looking tooling and early examples of JP Group Volkswagen heat exchangers are on display, as well as a tray of Co Co Pots and VW silencers manufactured under the Jopex brand name. I take it all in, after which, Søren leads me through a back room playing host to development vehicles, primarily those from Wolfsburg and Stuttgart — a patchwork 914 race car used for development of new Dansk body panels joins a string of Beetles, a Type 36 1600 Variant and even a restored Type 181.

I'm intrigued by the selection of classic and modernclassic Volvos before me. "While focused primarily on production of parts for Volkswagen products, JP Group expanded its range of spares to include non-VAG models in 2000, initially adding Opel parts to its catalogue, going on to include Ford, BMW and Mercedes-Benz lines in 2006," Søren explains, before stressing these operations have since ceased.

He walks me through various storerooms and workshop space, where various 911s are on ramps

or rotisseries.
Meticulously
labelled aircooled engines
are everywhere I
look. A peek inside
a stripped 911
fastened to one of
the spits reveals the

the spits reveals the trial fitment of soon to be launched updated Dansk floor pans. I turn around and am promptly met by the vision of yet another Carrera RS 2.7 and a gorgeous Irish Green short-wheelbase 911, two of the three Porsches brought to Vejle by Søren and his colleagues a day previous, each car now patiently awaiting its turn in a service bay presently occupied by a 356.

A neighbouring engine testing room is inhabited by a beautiful blue 911 T Targa, a Light Ivory 912, a white two-litre 914 and a Beetle Cabriolet, all of them fully restored. I haven't kept tally of the amazing Porsche and Volkswagen cars and vans I've witnessed thus far, but we're well into double figures. And, as I am soon to discover, this is just a taste of what's tucked away at this incredible Porsche playground.

Above The smaller of the two Porsche showrooms houses a room exhibiting many of the tools used to produce items Johannes marketed in the early days of the company

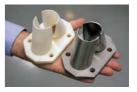
# FOUR THOUSAND SQUARE METRES IS DEDICATED TO THE EXCLUSIVE MANUFACTURE OF SSI PRODUCTS

#### **SPECIALIST VISIT**













Above CEO, Torben Pagh, took over the running of the firm in early 2021 having served on the board of directors for three years

Top right 3D scanning and printing is being put to use not only for the creation of parts, but also tooling to help with the manufacturing of exhaust systems

**Below** 356 Speedster seats for offices and workshops have recently appeared on the Dansk product list Into the warehouses and manufacturing plant. I'm greeted by heavy-duty racking from floor to sky, each shelf carrying a different tool or bespoke mould to enable production of the seemingly countless number of parts produced by JP Group. There are crates of finished and ready-to-be-assembled spares in every direction – fuel tanks, heat exchangers, body panels. You name it, I'm looking at it.

I ask Søren how often JP Group parts are reviewed, their designs updated? This query excites him. He's especially keen to show me the welds on finished parts, which are far neater and more accurate than they've ever been, a consequence of advances in tooling technology, though he's keen to stress an eye is kept firmly on traditional manufacturing practices — well, we are talking old-school Porsches and Volkswagens — which is a key reason so much vintage machinery continues to be put to good use here decades after it was installed.

Four thousand square metres is dedicated to the

exclusive manufacture of SSI products, including heat exchangers, following JP Group's acquisition of the American brand (and its subsequent relocation to Denmark) in 2013. "At first, the owner of SSI was hesitant to allow JP Group to acquire the company," Søren tells me. "He assumed the brand's products would be absorbed into our company and sold under a different banner, such as Dansk. He couldn't have been more wrong. Martin went to great lengths to assure him SSI would continue as a standalone brand within JP Group. True to his word, this is what has happened — SSI production inhabits its own space within our factory, with staff dedicated exclusively to SSI component manufacturing." Even employee workwear is different for those working on SSI gear. Incidentally, in case you were wondering, SSI stands for Stainless Steel Innovations.



The JP Group production facility is an exciting place to be. Technicians are assembling parts at every turn. Presses and other heavy-duty machinery are on the go all hours of the day and night (the company operates around the clock, with two different shifts allowing employees to work at a time convenient to them, reflecting flexibility Martin is especially proud of providing his workforce). Welding equipment of all varieties is constantly active. As someone who gets a real kick out of seeing what happens 'behind the scenes' at a busy factory, I'm in my element.

356 Speedster seats are a recent addition to the Dansk parts portfolio. As regular readers will know, these have been recently released as a family of chairs for enthusiasts to park in their dealer showrooms, garages, mancaves or other cosy environments. Bringing the exact seating position of the 356 Speedster from car to chair rack, this hand-crafted Porsche pew maintains the original bucket's seat angle. The framework is constructed from 22mm-diameter pipe with stabilisers in six-millimetre steel (choose between chrome or





powdercoated black finishes), while the seat bucket is pressed from single-millimetre rigid deep-draw sheet metal. For enhanced comfort, an exclusive perfectfit leather cushion can be optioned in either white or black. A reclining frame is also available as an optional extra. As Søren guides me further through the factory, I see these seats in various stages of production and

assembly. It also didn't escape my attention how they were being put to good use at My Garage.

Pipe bending, punching, cutting, pressing of sheet

metal, robotic welding, manual welding, aluminium and stainless steel. It's all on show, combining to create highquality products destined to reach end users in ninety different countries. I haven't even touched on the Garia brand, producing luxury golf and leisure cars. Not to worry, I'm sure you're more interested in JP Group's ever evolving approach to Porsche product design. It's just as well I've been given access to the firm's 3D development and production centre, then, isn't it?!

Somewhat amusingly, this state-of-the-art facility is situated next to an area of the factory dominated by massive, many-decades-old conventional machinery. The activity taking place in the 3D studio couldn't be more different from that of years past, though. JP Group CEO, Torben Pagh, an automotive industry veteran of thirty

years and who took over the day-to-day running of the company at in January 2021 (after having served on the board of directors for three years), joins Søren and I to explain what I'm witnessing.

"During the past forty years," he says, "JP Group has produced exhaust systems, heat exchangers, fuel and oil tanks, as well as body panels and other restoration

> parts matching **OEM** standards for valuable classic cars, with firm focus on aircooled Porsches. but also catering for Volkswagen,

TORBEN'S TEAM IS EVEN USING 3D PRINTING TECHNOLOGY TO **CREATE JIGS TO ASSIST WITH** Goggo Mobil and

Mercedes vehicles. We have now implemented the very latest technology in our development and production capabilities by investing in complex 3D scanning and printing equipment, which can be considered as the platform and as the basic foundation for producing not only small-volume production parts, but also tooling, in a faster and more economical way than traditional practices."

He reveals how besides 3D printing of prototypes, his team is now working toward producing pressing dies suitable for the next step of the manufacturing process. "This is already possible for smaller and simpler tools," he continues, "but as the 3D printing technology is rapidly developing, we believe this way of manufacturing is a serious alternative to our current CNC Above Søren Breinholt, JP Group's Business Manager, Classic division, with a restored 911 shell benefiting from all new Dansk panels

**EXHAUST MANUFACTURING** 

#### **SPECIALIST VISIT**











#### Above and below

Developments in engineering technology allow some aspects of product assembly to be carried out by robotic welding equipment, but the bulk of JP Group parts are hand assembled

Top right Second showroom features a higher number of Porsches than the first, and also includes a diner and mock fuel filling station

milling process, enabling us to lower our total tooling investments considerably and to enter products into the market in a faster and more flexible manner."

On paper, the process appears fairly straightforward: recognise the old spare which needs to be replaced, 3D-scan the item, print the part, use it to create a mould, produce a new part from the mould, replace the tired old part. Hey presto! In reality, the actions required to achieve the desired result are far more complex, involving pretooling prototypes, evaluation of different materials, fitment testing, pre-tooling studies, cost-benefit analysis and so on. And, irrespective of whether a tool has been made in the traditional CNC machine fashion, or as a 3D-printed tool, it will have to be operated from existing pressing and stamping machines.

What this means is that JP Group's investment in 3D technology has enabled the company to combine traditional manufacturing processes with new and precise ways of producing tooling. All this results in a new generation of OEM-quality replacement parts - the formerly impossible is now realistic. It should come as no surprise to learn JP Group is proud to be an OES supplier to both Porsche and Volkswagen.

The detail of how 3D scanning works, whether for tool or part production, is beyond the scope of this article, but we'll return to the technology in a forthcoming issue of Classic Porsche and describe the design and production process in detail. Needless to say, regarding difficult to obtain components, such as incidental trim and other items required to complete restoration projects, particularly those parts OEMs are unwilling to reintroduce for their legacy models, citing cost of manufacture and a perceived lack of return on investment as sticking points, JP Group is ahead of the game and ready to satisfy owner demand where major carmakers are not. Torben's team is even using 3D printing technology to create jigs to assist with exhaust manufacturing.

#### **GLOBAL OPERATION**

With all this talk of action in the factory, it's easy to miss the fact JP Group's office and administration functions are just as impressive. There's a team of eighteen trained employees taking care of sales and marketing from the company headquarters in Viborg, with another seventeen operatives overseeing similar functions in JP Group outposts worldwide (Dortmund, Istanbul, Algiers and Shanghai). This collective is responsible for many essential tasks, including compiling product catalogues in digital and print form for every JP Group brand.

There's also an amazing high-tech logistics hub in this vast collection of buildings. Comprising twenty-one paternoster vertical lifts integrated with the Microsoft Dynamics AX platform (a powerful enterprise resource planning software package helping large companies optimise on-site processes), it provides warehouse staff with the exact parts they need when they need them, lifted from more than twenty-three thousand components held in stock at any one time. This quick





and efficient part of the packing process means customers benefit from super-fast delivery.

My head is spinning from the sheer scale of the JP Group operation. Time for a breather. "Step right this way," offers Torben. We wander into a second showroom of Porsches even more impressive than the one which started my tour. Two floors are rammed with Stuttgart's finest, from early 356s through to modern GT3s and an exquisite selection of cars from our favourite

manufacturer's transaxle range. I can barely believe my eyes. All of these Porsches are eye-popping (I'm particularly impressed with the collection of 964s

#### I'M CERTAIN IT LEFT THE FACTORY IN A COAT OF GUARDS RED, BUT I'M NOT CONVINCED THE TREE WAS A FACTORY EXTRA

and 993s on display), especially those on the upper floor.

It's a 911, that's for sure, and I'm certain it left the factory in a coat of Guards Red, but I'm not entirely convinced the tree was a factory extra. "The car had been left out to pasture for many years," Torben smiles. "During this time, a tree had grown up through the floor. Martin told the owner he wanted the car, but he also wanted the tree to go with it!"

#### **FROM RAGS TO RICHES**

A similar story, albeit concerning hay bales, is responsible for the look of the tired 356 coupe along from the foliage-covered Neunelfer, the two cars sandwiching a perfect 911 shell benefiting from all new Dansk body panels. Quite the contrast.

This upstairs area of the showroom features many individual Dansk products on proud display, as well

as various air-cooled engines and a retro-look diner, complete with mock fuel filling station, which often welcomes car clubs and other organisations for social events. It's the array of perfect Porsches below which excites me most, though. I spot a 964 RS America, a 996 GT3, a 964 Turbo 3.3, a fantastic 993 Carrera 4S, an early 911 Turbo (930), two black Carrera 3.2 Speedsters. The list goes on. And on. And on. Kid, sweet shop.

The day shift coming to an end is my cue to leave.

Søren and Torben have been the perfect hosts. Indeed, every JP Group employee I've encountered has been friendly and welcoming. I've bent the ear of everyone

I've met and taken close to five hundred photographs. There really is that much to see here, and yet I feel I've hardly scratched the surface.

As mentioned earlier, in forthcoming issues of *Classic Porsche*, I'll cover some of the design and manufacturing processes in more detail. For now, however, it's time to bid Viborg a fond farewell.

I step into the custard-coloured 992 and, after waving goodbye to Søren and Torben, I head in the direction of Kolding, using my time behind the wheel to take stock of the last two days of my life. Scandinavia's biggest Porsche drive. Bombing around in Tom Kristensen's own Kalmar 7-97. A private tour of JP Group, where some of Europe's best-kept Porsches reside. And to think, this was just a few hours of an exciting two-week road trip. I'm already fired-up for the next one. Now, where should I go and which car should I take?! **CP** 

Above JP Group operations span forty-two thousand square metres in the heart of the city of Viborg



# DO YOU NEED...

...new engine tins for your Classic Porsche® 911/964?

JP no. 1682600870 // Dansk no. 591091-5 Fits: Porsche 911 (not Sportomatic) (2.0-2.7) 08/68-06/77

JP no. 1682601270 // Dansk no. 591091-3 Fits: Porsche 911 (not Sportomatic) (2.0-2.7) 08/68-06/77

JP no. 1682601170 // Dansk no. 590992 Fits: Porsche 911 (2.0) 01/63-07/68 Porsche 912 (1.6) 01/65-07/68

JP no. 1682601070 // Dansk no. 591098-1 Fits: Porsche 911 (2.0-3.0) 08/68-07/77

JP no. 1682601570 // Dansk no. 591098-5 Fits: Porsche 911 (2.0-3.3) 08/68-07/88

JP no. 1682600780 // Dansk no. 590991-2 Fits: Porsche 911 (2.0-3.0) 01/63-07/83 Porsche 911 Turbo (3.0) 08/74-12/77

JP no. 1682601580 // Dansk no. 591098-6 Fits: Porsche 911 (2.0-3.3) 08/68-07/88

JP no. 1682600600 // Dansk no. 591093 Engine tin, rear, with hole for a/c hose. For models without front air condition. Fits: Porsche 911 (2.7-3.0) 08/73-07/79

JP no. 1682601600 // Dansk no. 591093A Engine tin, rear, without hole for a/c. Fits: Porsche 911 (not Turbo) (2.0-3.0) 01/63-07/83

JP no. 1682601700 // Dansk no. 591093B Engine tin, rear, with hole for a/c hose, front a/c condenser.

Fits: Porsche 911 a/c (not Turbo) (3.0) 08/79-07/83



JP no. 1682601480 // Dansk no. 591091-4 Fits: Porsche 964 C2/C4 with power st. (3.6) 08/88-07/93

JP no. 1682600280 // Dansk no. 591091-2 Fits: Porsche 964 C2/C4 (3.6) 08/88-07/93

JP no. 1682600270 // Dansk no. 591091-1 Fits: Porsche 964 C2/C4 (3.6) 08/88-07/93

JP no. 1682601380 // Dansk no. 591092-2 Fits: Porsche 964 C2/C4 (3.6) 08/88-07/93

JP no. 1682601370 // Dansk no. 591092-1 Fits: Porsche 964 C2/C4 (3.6) 08/88-07/93

JP no. 1682600100// Dansk no. 591094 Fits: Porsche 964 C2/C4 (3.6) 08/88-07/93

www.jpgroupclassic.com

c0376237-aee6-40be-b0db-564dff3ef604







he America Roadsters rank among the most ephemeral autos ever to bear the Porsche name. They were never formally catalogued by the company and were utterly unpublicized in Europe. When auto motor und sport asked about one they saw and photographed on the Autobahn in July 1952, the magazine's writers were told little more than the fact the car was a style for export only. From its birth, the America Roadster was an enigma to the world.

Inspiration for this new model came from the availability of a full 1.5-litre engine for the 356 for the first time. Made possible by a special Hirth roller-bearing crankshaft, the new 1,488cc engine proved itself during 1951 in rallying, racing and a sensational record run powering a Gmünd aluminium coupe at Montlhéry in late September. Experimentally giving as much as 72bhp at 5,100rpm on the Zuffenhausen dynamometer, this new engine was manna from heaven for sporting Porsche drivers.

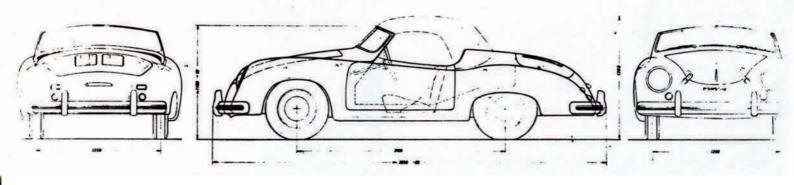
It took Porsches to the top of the 1.5-litre class, one of the most popular both in Europe and America for sportscar racing. As the Type 502, the fearsome flat-four was offered in Porsche cars from September of 1951, but changed to the Type 527 the following month, sporting larger carburettors delivering 60bhp at 5,000rpm.

Customers made it clear to Porsche they were interested in a sports car which would do justice to this new engine for competition purposes. The appeal from America, where New York-based European sports car dealer, Max Hoffman, was the official Porsche importer, was sparked by his racing-mad distributor in California, John Von Neumann. Consequently, as early as October 1950, Porsche stylist, Erwin Komenda, completed a drawing of a car to go with the new engine being readied for action.

Designed to fit the 356 chassis, Komenda's new Porsche body was an open two-seater with a low, shapely belt line dipping down alongside the cockpit. Although the drawing showed the usual 356-type shrouded wheels, as the design evolved, the new model had narrowed flanks requiring fully cut-out openings for all four wheels. Also, the integral windscreen shown in the drawing gave way to a motorboat-style divided screen that could easily be removed for racing.

Designated Type 540, the new body was closer to the

Above Posing in a bosky glen, an early Type 540 does without wheel discs and the louvered trim rings fitted to many of its siblings — this car also has a more sloped rear deck to help engine cooling



Above Factory drawings for Type 540 bodywork on the 356 chassis showed twin airinlet grilles, which were not on the first cars but added later during production

Below and opening spread A connoisseur of smallerdisplacement racers, Fred Procter lined up in his Type 540 for the start of action at Thompson Raceway in September 1953, though the car failed to finish the event conventional post-war notion of what a sports car should look like. Ferry Porsche would gain confirmation of this

new idiom during his visit to New York in December of 1951. On the seventeenth day of the month, racing driver, John Fitch, took Ferry to visit commercial artist,

#### NOMINATED TO MAKE THE AMERICA ROADSTER BODY WAS THE HEUER COACHBUILDING FIRM IN WEIDEN, NEAR NUREMBERG

Coby Whitmore, who vowed "racing cars, illustrating and smart clothes on good-looking women" were his three major interests in life. Whitmore sketched styles for Porsches and showed Ferry alternative shapes suitable for his product line.

Nominated to make the America Roadster body was the Erich Heuer coachbuilding firm in Weiden, near Nuremberg. This was a West German offshoot of Dresden's Gläser, which remained in the East Zone.

Heuer was already making cabriolet bodies for Porsche, twins to the Reutter-built models. The Type 540's frame

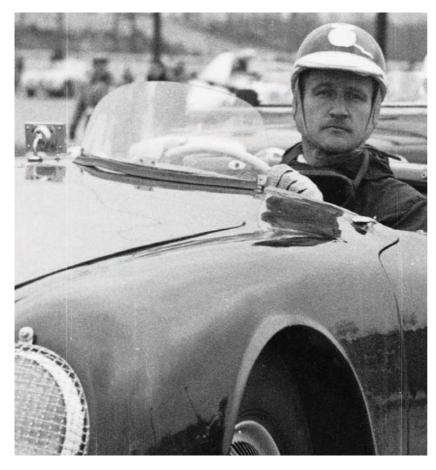
was that of the 356 cabriolet, which was already reinforced to meet the added rigidity needed for an open car. The body material had to be aluminium because both

Porsche and Hoffman, who was to take delivery of most of the resulting roadsters, considered the model to be a race car, not a tourer. To a chassis weight of 385kg, the body — together with its supporting structure — added 304kg for a total of 689kg dry. Without its framing, the body skin scaled 184kg against 268kg for a steel coupe. Weight distribution was forty-six percent front, fifty-four percent rear.

The new car's cockpit offered few frills, with an open cubbyhole in the simple three-dial dash, hollow doors and side curtains instead of roll-up windows. For competition use, the Roadster could easily be stripped. Its split windscreen and light canvas top were designed to be readily removable. Porsche offered aluminiumshelled bucket seats to replace the heavier coupe-type seats with which it was normally delivered. Other racing options were a small aero screen and rubber floor mats. Twin leather straps for the front deck lid (a carryover from the Sauter-Klenk racer) and stone guards for the headlamps gave the model a decidedly sporting accent.



As supplied to Heuer, the new Porsche's 1,488cc Type 528 flat-four featured a higher compression ratio of 8.2:1. With freer-flowing Solex carburettors, this raised power to 70bhp at 5,000rpm. Peak torque, reached at 3,600rpm, was 108lb-ft. Initially, the drum brakes were the standard 230mm diameter, but soon larger 280mm brakes were available, wider at 40mm, rather than the previous 30mm. Early summer of 1952 found the new America Roadsters arriving in California. "There was one big problem with those cars," von Neumann recalled when asked about his first impressions by automotive historian, Randy Leffingwell. "The aerodynamics! Fritz Huschke von Hanstein, Porsche's baronial jack of all trades, came to California for a visit. He'd raced himself, but at that point, he'd become Ferry Porsche's racing director, salesman and public relations man, all rolled





into one. Legendary sports car driver, Jack McAfee, joined Huschke von Hanstein and I on a trip up to Willow Springs. Trying the first Roadsters out, we found after a few laps, the cars lost power. When compared to the 356, the Roadsters had a different shape at the back, which had the effect of recirculating hot air from the engine. The cars were overheating to the point they didn't have any power. As Mr. Porsche once said to me

about the air-cooled engine, the problem is not getting cool air to the engine, it's getting the hot air away! We had no choice but to change the car's back end."

# THE SMALL FIRM HAD UNDERESTIMATED THE COST OF BUILDING BODIES FOR PORSCHE

As von Neumann discovered, when compared to the standard 356, the Roadster's shape was allowing hot air to recirculate to the cooling-air inlets. Although the body drawing of the Type 540 showed twin air-inlet grilles in the rear deck — a first for Porsche — the initial quartet of cars from Heuer featured only a single grille. All subsequent Roadsters had two rear-deck grilles as a step to improve engine cooling. Later, this became the visual hallmark of the 356 Carreras and other high-performance derivatives.

Lack of modern tooling and high labour costs at Heuer meant the America Roadster had to be priced at an eye-watering \$4,600. For comparison, a Jaguar XK120 cost \$3,050 and its C-Type racing variant only \$4,190. Even so, early America Roadsters found friends such as entrepreneur and American racing hero, Briggs Cunningham. His Porsche was built in April 1952 and processed through Hoffman in New York a month later.

Cunningham's son, Briggs Jr, raced the car occasionally. Its most notable outing was at Wilkes-Barre, Pennsylvania, in the hands of the talented Phil Walters. Entries in

the ten-lap main event on the tight three-and-a-half-mile Brynfan Tyddn circuit on July 26, 1952 were limited to cars with engines up to 1,950cc because previous races had shown the track's limitations. From a poor starting position, Walters and the Porsche blitzed all opposition to take the win by three seconds from a well-driven supercharged MG. It went down in history as Porsche's first outright victory in a main event.

The Cunningham car's next owner was author and racer, John Bentley. Tested for *Auto Age* magazine, his

Above This view of an America Roadster pictures a car of an early series, but lacking the model's small but marked wheelhouse flares



Above Seen at Le Mans in 1952, this French-registered America Roadster was an early-series car with crisply defined circular wheelhouses

Below An America Roadster was in the paddock for the races at Bridgehampton in 1952 — note how Its sleek shape contrasted with the traditional look of the surrounding MGs America Roadster accelerated to 60mph in 9.3 seconds, covered the standing quarter-mile in 17.9 seconds and reached a maximum speed of 110mph. This was scintillating performance for a 1.5-litre car and proved the America Roadster could win races in the right hands. "A typical example of the versatility of this power-packed mechanical marvel," wrote Bentley, "was the recent Cumberland 100-mile SCCA airport race. Carrying my wife, myself and a heap of baggage and spares, the Porsche breezed four-hundred miles to the event, won its class in both the Ladies and Main Event with only a change of spark plugs, then sped home as sweetly and effortlessly as when we started. Impressively, at cruising speeds of between sixty and seventy miles per hour, fuel consumption worked out at 29.7mpg."

McAfee competed in an America Roadster stripped to only 590kg. He had good memories of the car. "You could dive into a corner and, at just the right moment,

come off the gas. Just a little flick with the wheel and, suddenly, the back end is doing the steering. You're on the line out of the corner before everybody else. Just lift quick, the back moves over and it's back down on the gas. Also, the America Roadster had the first set of real brakes on a car I ever drove!" he laughed. "You had no real stopping power on any-thing until this Porsche came along. With the minimum weight of the Roadster, you had excellent braking capabilities. You could outbrake anything on the road. And you could out-handle! The thing that upset everybody was the swing-axle suspension in the rear. When you came off the gas, the rear just got light in back. Boy, you could just drive the hell out of that thing!"

#### TRIPLE THREAT

In addition to McAfee, Bentley and Cunningham, America Roadsters were driven successfully in competition by Phil Walters, Bill Lloyd, Larry Kulok, Karl Brocken, Gordon 'Tippy' Lipe and John Crean, as well as John and Josie von Neumann. When the grid for the 1,500cc event was formed for the SCCA's inaugural race weekend at Thompson, Connecticut, in the autumn of 1952, it included no less than three America Roadsters, plus that rarity, a Gmünd-built aluminium coupe.

Meanwhile, matters were not going so well at coachbuilder, Heuer. The small firm had underestimated the cost of building bodies for Porsche. In its bid for the job, it had estimated five-hundred hours for each body. As discovered, it was taking six-hundred and forty hours. As a result, Erich Heuer was losing money, not only on the Roadster — at a rate of DM1,600 per car — but also on 356 cabriolet bodies. Unable to obtain bank support, Heuer declared itself bankrupt after just sixteen Roadsters were completed. Efforts to shift the model to a new coachbuilder failed when Reutter declined to work with bodies in aluminium.

Even within this minuscule production volume, the America Roadsters were built in three series





(significantly adding to Heuer's costs). The first series featured high rounded wheel openings and low bumpers. The second-series Roadsters had a longer engine lid to provide better fan-belt access. This series also featured

a lower rear deck shaped to provide better engine bay cooling, squaredoff wheel-well openings, higher bumpers, slightly longer cockpits and fully synchronized

# THIS UNIQUE PORSCHE COMPETED AT SEBRING IN 1954 AS AN ENTRY OF FLORIDA'S BRUNDAGE MOTORS

transmissions. The final series (if it can really be referred to as such) consisted of just one car, which was midbuild when Heuer closed its doors. This one-off used an all-steel body, a fixed one-piece windscreen and near conventional 356 wheel-well arches, although it retained the low sweeping belt line of the earlier America Roadsters. Marked as an America Roadster by its leather front-lid straps, this unique Porsche competed at Sebring in 1954 as an entry of Florida's Brundage Motors (better known as BRUMOS). It sold at a Bonhams auction in 2009 — before values of air-cooled Porsches skyrocketed — for \$529,500.

Corroborated by research published in *Panorama*, this seems to be the definitive account of the America Roadster, though John von Neumann recalled with certainty he took delivery of three America Roadsters built by Drauz, two of the cars fully trimmed and the

third gutted for racing. Maybe more examples are lurking out there? Jack McAfee has the last word. "I think, years later, the America Roadster, this little Johnny von Neumann special, was really a prototype for the

356 Speedster.
Von Neumann,
through Hoff-man,
complained he
needed some-thing
more competitively
priced for racing
in the American
market. It makes

sense to consider the America Roadsters a mock-up for the Speedster." Supporting his theory, the Speedsters, too, carried factory codename, Type 540. **CP**  Above At the Chanute Field SCCA races on June 14th 1953, Ed Trego's crew readied his two-tone America Roadster for action

Below At Moffett Field on August 16th 1953, Jack McAfee was the winner of the race for 1.5-litre cars, driving his stripped American Roadster, complete with cutdown windscreen



# RESTORATION

Design EUROPE



### QUALITY PORSCHE AUTOMOBILE PANELS

#### www.restoration-design.eu

# EASTERN ROYALTY

CarBone is renowned for helping owners of air-cooled Porsches restore their rides. With its latest project, a 911 T named Queen, the company is now showing its capabilities as a restorer and modifier of complete cars...

Words and photography Robb Pritchard





uring the course of the past few years, Paweł Kalinowski has been on an epic personal Porsche journey, one most marque enthusiasts can only dream of. From humble beginnings creating his own classic Porsche engine bay stickers ("back then, you couldn't get them from the manufacturer"), he has just finished a project which, until relatively recently, he and his friends would have considered utterly inconceivable. Through his company, CarBone, famous for being a supplier of high-quality accessories for classic Porsches, Paweł has overseen the ground-up restoration and personalisation of his very own air-cooled 911. She's pretty special, which is why he named her Queen. Needless to say, we were excited to visit CarBone's base in the eastern Polish town of Lodz to see this exciting new creation for ourselves.

Going from making stickers at home to building a full historic Porsche is, of course, a massive step, and while there are plenty of 911 restomods and recreations out there, very few are done as a cost-effective, profit-producing commercial venture. Indeed, Paweł brought Queen to fruition via the same philosophy which saw CarBone grow from a single printer to a company with thirty-three employees.

All this in just eight years, following the train of thought 'everything we do is for the Porsche enthusiast'. The dozens of small but always successful steps leading to Queen turning from dream to reality simply came from always saying yes to all client requests.

The simple remit for Queen was that it should be the lightest, best-handling and most well-appointed F-series

911 Paweł could develop. The donor car was a 1970 911 T with a history of major modifications. For example, at one point in the car's fifty-two years, someone had seen fit to turn it into a bright yellow Flachbau with a 911 Turbo (930) whale tail. On the plus side, they also fitted a punchy three-litre flat-six. Mated to a 915 gearbox, the engine remains with the car and is now reconditioned.

Most of the build's uncounted hours went into the shell, repairing half a century of rot, dodgy welding repairs and filler. "That's an incredible number when you think about it," Paweł says, estimating more than one and a half

**Below** Three-litre flat-six has been tuned to a conservative 250bhp, though there's more power to come from the unit



#### **CARBONE QUEEN**





Above and below This transformed 1970 911 T is totally unrecognisable from the yellow flat-nose Paweł bought as the starting point for the project

thousand hours went into the body alone. "Then again, there's a huge sense of satisfaction gained from bringing back a 911 shell that was so far gone." He estimates only fifty percent of the original metal remains, far beyond the point most people would have simply parted out what pieces they could sell as donor spares. "Queen is a prototype,"

he continues. identifying the car's role as something of a CarBone product test mule. "Many hours were spent fitting bespoke parts,

#### THE CAR'S THREE-LITRE FLAT-SIX MAKES USE OF UPRATED CAMSHAFTS, PMO CARBS AND A MORE EFFICIENT CDI BOX

testing them and taking them off again for review and refinement. This means the next CarBone project car will take far less time to complete. This isn't to say I'm about to launch a series of signature cars or some kind of

production line, though. Each and every 911 to carry the CarBone name will be very different to what came before and therefore what will come thereafter."

The gorgeous flares and ducktail hark back to the days of Porsche's early RS and RSR-badged 911s and were made by none other than DP Motorsport, the company

> behind the monster Kremer K-Porsches. which came to dominate sports car racing in the 1970s. In co-operation with oil giant, Motul, DP Motorsport's founder. Ekkehard

Zimmermann, designed and built chassis for close to thirty Formula V and Super V race cars. With their special elegance, these race cars stood out on a crowded grid and encouraged Zimmerman to experiment with 911 spoiler modifications.

The results aroused the interest of Manfred and Erwin Kremer, who commissioned Zimmerman to produce a bespoke 911-based chassis for the racing arm of their Cologne-based Porsche specialist workshop. And, as we now know, these DP Motorsport 911 models played a massive role in winning several sports car and endurance racing championships, not least the 24 Hours of Le Mans. Needless to say, Pawel's request for bespoke bodywork was in supremely safe hands.



#### **STRONG WORK**

As any tuner knows, the easiest way to make a car quicker is to make it lighter. To keep as many kilograms as possible off the bumpers, wings, rear arches, ducktail and hood, DP Motorsport manufactured them all from Kevlar. The roof is made from the same supremely strong composite material. Paweł tells us this was one of the trickiest things to get right. "The roof is glued to the shell," he reveals. "There needed to be a step for it to be blended in. I absolutely refuse to use filler on any of our























#### **CARBONE QUEEN**









Above Interior is an unusual colour and one which might have looked terrible with the wrong accents, but Paweł has nailed the look

Facing page The car as it was when it arrived in the CarBone workshop, plus the various stages of restoration, including application of panels made from Kevlar

builds, which is why it took such a long time to get the right shape crafted into the metal. I guess you could refer to the CarBone team as Porsche 'monks' - we certainly took our time to get things right. Nothing was rushed. It really isn't a problem if we have to approach a challenge a hundred times in order to get the perfect result."

DP Motorsport made bodywork for race cars chucking out more than 800bhp. Queen is somewhat subdued by comparison. That said, the car's three-litre flat-six makes use of uprated camshafts, PMO 46mm carburettors and a more efficient CDI box to bring the power up to a healthy - if rather conservative - 250bhp. A bit more current was needed to power some of the modern electrical equipment, including the Classic Retrofit airconditioning system, the wireless smartphone charger and the discreetly installed JL Audio sound system, which is why a larger alternator was fitted. The engine bay is a work of art in itself, but not only does it look gorgeous, the leatherette fire liner is a flame-retardant type normally used in the aviation industry. The suspension, meanwhile, benefits from Elephant Racing equipment supporting Bilstein B6 dampers and rear chassis bracing to make the car stiffer in corners. The wheels are fifteen-inch staggered Fuchs replicas measuring eight inches of width at the front and ten at the rear. They're manufactured by Braid in the USA and Paweł has chosen to wrap them in Michelin TB15 rubber (225/50 front, 275/45 rear).

As we've highlighted in recent issues of Classic Porsche, CarBone has been producing bespoke 911 interiors to a high level of design and quality for several years. Even so, green automotive upholstery is a brave choice, bringing to mind poorly executed car cabins from decades past. Thankfully, the leather in Queen ("it's olive, not green") works well with the Chiffon White exterior paint. There's a good amount of innovation in the cabin. not least the composite floor, which covers the sills and tunnel all the way to the back seats. CarBone leatheredged mats and footrests — the latter hiding the trick JL Audio equipment - perfectly complement the leather, as does the green (sorry, olive) painted houndstooth fabric covering the dash centre strips.



#### **AROUND THE BENZ**

The gauges are worth a mention, too. They're fashioned in early Porsche style, but feature white digits and black bezels. The needles match what you'll find in a modernclassic Mercedes - Paweł thinks they introduce a nice accent against the rest of the interior, which is dominated by BF Torino rally seats re-trimmed in-house at CarBone. He's not wrong.

Even with this detail taken into account, none of what grabs your gaze indicates just how much attention to detail went into the paintwork, which took a staggering



ten months to get right. "I would like CarBone 911s to be enjoyed for many years to come. With this in mind, Queen is built to last. To this end, the paint is a special mixture developed by my team and was applied in many layers, with much time for curing allowed between coats."

Details, such as the CarBone designed LED headlamps, the brass engine bay plaques (things have moved on significantly since the stickers which served as the

#### ATTRACTING THE ATTENTION OF A KEEN CARBONE CUSTOMER, QUEEN WAS SOLD HALFWAY THROUGH HER THREE-YEAR BUILD

catalyst for CarBone being established), the invisible sound system and Queen logo embossed into the steering wheel horn push serve to add further identity to this regal 911.

Most people who own a Porsche know looks and sound are secondary because such cars are really about the driving experience. The first thing to do after making myself comfortable in the gorgeously upholstered seats is to pull the knob with the icon of a tunnel entrance on it. It's the loud button. Pulled, it releases a muffler bypass and makes the three-litre flat-six sing.

Through the CarBone GT3-style Sport exhaust system, benefiting from SSI heat exchangers, the big boxer

makes a glorious bark. Pushed in, you can reduce the noise to a pleasant drone, ideal for motorway cruising, when you need to pass a race circuit's decibel limit, or when trying not to wake the neighbours at the start of an early Sunday morning drive.

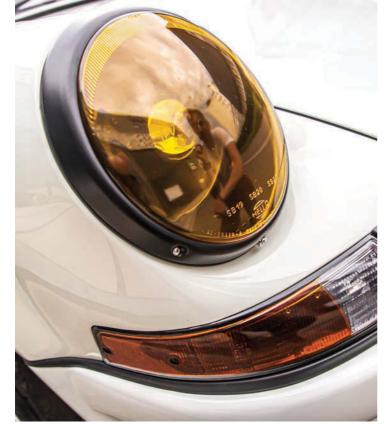
Paweł is right when he says the Elephant Racing suspension gives the car a hard, poised, but somewhat refined feel. The sticky Michelins deliver

amazing grip. Pushing this Porsche around twisty back lanes on the outskirts of Lodz, it feels just as good as any racing 911 I've driven, from a 2.5-litre hill climb oriented 911 S to the Martini Racing Carrera RSR propelled to third place in the 1973 Targa Florio by Leo Kinnuen and Claude Haldi. Queen really is that good. Paweł is right to be pleased with my review. He's created an absolute belter.

Some of the roads around Lodz were in such bad condition, they turned into impromptu obstacle courses, forcing me to slalom around the many potholes. The suspension is far too hard to take any of these damaged strips of asphalt at speed, but with big holes in the road coming up unexpectedly, the brakes got a good test.

starts, stops and shifts just as well as any 911 he's driven, including those configured for motorsport applications

#### **CARBONE QUEEN**









**Above** The car is a rolling showcase of accessories offered through CarBone

**Below** Paweł certainly had 'one vision' when creating the logo for this bespoke 911

Queen stops very well, a consequence of the car's hefty 996 calipers and discs, though there's no servo. And it should be noted, standing at just 1,060kg with a half-tank of fuel is impressive considering the presence of airconditioning, audio equipment and the luxurious interior.

#### **FLYING THE NEST**

Talking of fuel, there's a hundred-litre tank in the front. From empty to full, and when being pushed, the extra weight can cause noticeable differences in handling. To compensate for this, there is a handily placed break bias controller mounted on the transmission tunnel.

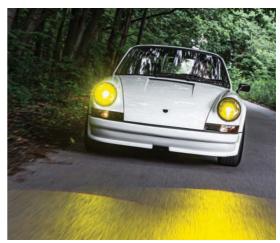
Attracting the attention of a keen CarBone customer, Queen was sold halfway through her three-year build. Paweł, after overseeing the tightening of every bolt and position of each spot weld, understandably views parting with the car as bittersweet. "Building a car like this from scratch is like having kids and then teaching them how the world works. We spend a lot of time together and we come to understand each other. We have bad days and better days. Then, before you know it, the child becomes grown-up and heads out into the world on their own. Porsche isn't just a car brand, it's the glue binding

relationships between people who think about the manufacturer's products in a similar way. I'm pleased to hand Queen to a CarBone customer I respect and trust. This is very important to my team — at CarBone, every single project is fuelled by emotion."

He won't be sad for too long — there are already other 911s being personalised in his workshop. We won't have to wait three years before they appear in these pages, though. "What I've learned with Queen is that most people don't want to wait a long time for a car to be built. We've now decided to prepare base cars up to a specific level, making them ready for CarBone clients to personalise with final details, like wheels and interior trim. These are easy for us to arrange, but enough for the customer to feel like they're integral to the process of reassembly, allowing them to drive away in a 911 they feel completely invested in, emotionally, as well as financially."

Like everything else Paweł has done with CarBone, this approach will undoubtedly be a success. Proving the point, the buzz surrounding Queen's build has already generated to several more orders for bespoke 911s, a couple of which are already set to become magazine features. What this space! **CP** 







# OFFERING THE VERY BEST ADVICE FOR BUYING ICONIC AND DESIRABLE CARS FROM THE 1990s, 2000s AND TODAY!



#### FUTURE CLASSICS, A NEW NAME AND FRESH START FOR BARGAIN CARS

Providing inspiration, advice and information about buying desirable cars at the right price; cars that are fun; cars that are worth keeping; cars that one day will become genuine classics.





#### **2 EASY WAYS TO SUBSCRIBE**

VISIT SHOP.KELSEY.CO.UK/CMB22HANEW
OR CALL: 01959 543 747 AND QUOTE CMB22HANEW

LINES OPEN MONDAY – FRIDAY 8.30AM – 5.30PM.
CALLS ARE CHARGED AT YOUR STANDARD NETWORK RATE

\*Full terms and conditions can be found at shop.kelsey.co.uk/terms. Future Classics Publishes 12 times a year. Offer applies to UK subscribers only when paying by direct debit. Your subscription will start with the next available issue with your first 6 issues charged at just £19.99. Payments will continue to be taken at the low rate of £19.99 every months thereafter. You can cancel your subscription at any time and no further payments will be taken. Overseas and other offers available at shop.kelsey.co.uk/CMB











# SPEDSTER STRUCK

Replicas based on non-factory chassis have always been controversial, but given the iconic 356 Speedster is out of reach for many of us, the next best thing is a facsimile of the real deal. Despite owning a genuine 356, Greg Moore has created his own very special take on the Speedster concept...

Words Johnny Tipler Photography Dan Sherwood







peedster! It's such an evocative word, colonised by Porsche back in late 1954, when it introduced the sporting version of the 356, beloved of amateur racers, including Steve McQueen. Given the values of vintage Porsches, especially rarities like this, it's no surprise a number of enterprising manufacturers have come up with replicas. This is what we have here, based on a 356 Speedster copy produced by Speedster Clinic. More on this in a minute. First, let's see what all the fuss was about.

Travelling right back in time, we see the Speedster epithet was first coined in 1913 by the Detroit Cyclecar Company, then by Studebaker in the 1920s and Auburn in 1935. Perhaps it's surprising, given the simplicity of the etymology, more manufacturers haven't bagged the name for themselves? After all, the more generic 'roadster' label is way less evocative of high performance. More recently, Vauxhall's excellent, mid-engined, Lotus Elise-based VX220 (launched in July 2000) was branded as the Opel Speedster for sale in Germany, but that's yer lot.

Speedsters of the Porsche persuasion ooze style, grace and charm, suggesting greater alacrity than the standard car, and they say a lot more about the owner's character than does the regular design. There's an aerodynamic purpose too, as well as a stylistic marker — the Speedster windscreen header rail is slanted more acutely and several wind-cheating inches lower than normal. It's designed to be completely removable for competition use, when a flyscreen (and goggles) might be substituted. You don't want bugs or stones in your face! The 356 Speedster did have a hood, albeit old-fashioned apparatus consisting of a short pull-up canopy and rudimentary frame, rather like that of a pram. It's no bad thing, then, that our subject car has a thoroughly practical and easily detachable hard-top.

Porsche produced five incarnations of the Speedster. One based on the 356, like the replica we have here, one on the Carrera 3.2 (featured earlier in this issue of *Classic Porsche*), another one the 964, a follow-up based on the

997 platform and, in advance of the 2019 model year, 1,498 examples of the 991 Speedster.

The original Speedster was the idea of New York-based Porsche concessionaire Max Hoffmann, who persuaded Porsche to try a raw, no-frills version of the 356 with minimal roof and priced under three thousand dollars. The car was a hit with Californian hipsters, of whom James Dean was one, Roy Orbison another. Earlier, in 1951, Hoffman had also encouraged Ferry Porsche to produce a short run of the Type 540 America Roadster (also documented earlier in this magazine), based on a handful of curvaceous aluminium shells made by Heuer-Glaser coachworks. Despite costing \$4,600, these droptops sold at a loss and broke the bodybuilder. Hoffman's full order book was nevertheless an incentive for Porsche to provide him with the sportscar he advocated, and out came the spartan Speedster, built by Reutter.

The 356 Speedster was in production from 1954 to 1958, enjoying a fair amount of race and rally class success in contemporary events, including the Mille Miglia. Despite low production numbers, it was a

**Above** Roof removal is a twoman job, hence the sunroof added for flying solo

**Below** 3.2-litre boxer requires a high-capacity fuel tank, this one imported from Fuelsafe



#### SPEEDSTER REPLICA





Above and below Wide body and fat wheels hide steering and suspension components borrowed from Porsche's transaxle family of cars

significant front-line model, showcasing Porsche's competition endeavours and aspirations. With this in mind, it's surprising there was no direct successor in the classic 'long-bonnet' 911 range.

The 356 Pre-A Speedster 1500 (1,234 units made) was replaced in October 1955 by the 356 A (T1) version, available with either 60bhp 1600 N 'Normal' or 75bhp 1600 'Super' engine. The 356 A (T2) Speedster appeared in September 1957 (2,910 units made, including T1 and T2), replaced by the less austere 356 Convertible D (from coachbuilder Drauz at Heilbronn) in August 1958. By way of identification, the T2 Normal engine's fan housing was painted black and the Super's was painted silver. A new Type 716 gearbox was installed in late 1958. A further 167 Carrera GS and GT Speedsters ran with the four-cam Fuhrmann engine, capable of 120mph — a truly awesome prospect if you'd driven the regular 1600 Speedster at an apparently death-defying 80mph. Otherwise, evolving detailing over the Speedster's life was fairly minimal, involving steering wheel, door handles, striker plates, bumpers and exhaust outlets.

A long time gone, the Speedster was absent from the 911 line-up from 1959 until the Carrera 3.2 Speedster was shown at the Frankfurt Motor Show in 1987. The concept was far more akin to the old 356 formula: a simple, lightweight, open-top 911, intended to be built on the upcoming 964. Presented as 911 sales were declining in the US, the new Speedster was based on the end-of-term 3.2 chassis in a bid to revive flagging sales.

#### **CUT THE COMEDY**

Between 1988 and 1989, 2,103 Turbo-bodied SuperSport and 171 narrow-bodied examples of the Carrera 3.2 were released, but although a Club Sport version was made with no windscreen at all, theirs was never a competition role, more a stylistic statement. The 964 Speedster maintained the tradition — 945 examples left the factory in the 1993 model year, relatively late in the 964's lineage. They were rear-drive Carrera 2s rather than Carrera 4 chassis, and all but fifteen were narrow-bodied. Whereas the 356 Speedster did experience some evolution, neither the 3.2 nor the 964 Speedsters received any upgrading during their brief production lifetimes.

A singleton 993 Speedster was created by Porsche Exclusive for Butzi Porsche in 1995. Comedian and classic Porsche collector, Jerry Seinfeld, had a 993 Targa thus converted in 1998. As for water-cooled Speedsters, in 2010, the 997 version was unveiled. Just 356 examples were manufactured. Twenty-two came to the UK, in deference to the 356 Speedster. Standard colour is Pure Blue. Carrara White was optional. The 997 Speedster's screen is seventy-seven millimetres shallower than that of the 997 Cabriolet.

Accordingly, it has a bespoke roof and double-bubble tonneau cover. As we outlined earlier in this magazine, the model features the 408bhp Power Kit version of the second-gen 997's 3.8-litre flat-six, mated to the seven-speed PDK transmission (manually controlled by paddle shifters). This is a very highly spec'd Porsche with all modern paraphernalia, which means it's not really relevant to our story. I'm just saying it's out there



and masquerading as a Speedster. Porsche may have made only 356 units, but it is about as far away from the original Speedster concept as you can possibly get.

Not so the Speedster Clinic replica we are about to play with on a former RAF base in Suffolk. The car's steroidal rotund wings and wheel arches are not merely an aesthetic expression of Greg Moore's liking for RS extravagances — as well as cladding genuine BBS splitrim wheels, they also conceal suspension componentry from a pair of unlikely sources. Up front, the car employs a 924 S steering rack, and at the rear, 944 S2 lower trailing arms, plus Brembo calipers and 944 Turbo discs.

These makes Greg's car much wider than a 356 Speedster ever was. "The 924 steering rack and the bottom arm it connects to are made of steel, whereas the 944

#### AS FAR AS THE ENGINE WAS CONCERNED, A HUMBLE 1.6-LITRE FLAT-FOUR WASN'T GOING TO CUT THE MUSTARD

part is aluminium. I could weld the steel to the bottom suspension bar, which is like the crossmember for the 924 welded to the front of the suspension, allowing me to use 924 rack-and-pinion. I knew I had the geometry right because it was a Porsche set-up. One of the things I was blown away with was how parts work together from different Porsches of different ages. I've installed a 1976 915 gearbox, a 1985 Carrera 3.2 engine, 944 arms and tubes, 944 Turbo brakes, and it all just fits together."

BBS split-rims are usually gold centred with a shiny diamond-cut outer rim, but Greg had the sixteen-inchers pictured here powder-coated in a shade of grey ordinarily reserved for RS-badged Audis. They're shod with 205/55

and 225/50 Toyo T1R tyres — a tall wall for get a nicer ride. "The calibration of the speedometer has to be right to pass the Individual Vehicle Approval (IVA) test, which meant limiting tyre size to the diameter of what it would have been on a 911. The car passed first time, which I was quite pleased about — this is a common fail."

The work wasn't quite a solo mission. "I was helped by Nick Clarke, who did a lot of the welding, and Neil Chillystone, who helped with the mechanicals. Neil owns Woolleys Service Station at Hingham, and between the three of us, we built the car and got it through the IVA test, which is quite a beast to get through." Examiners

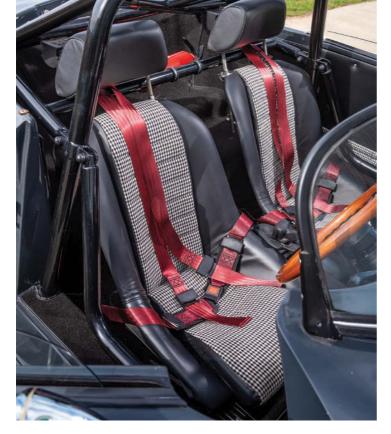
> are particularly strict on the position of lights. "The rears were fifteen millimetres too far in," Greg sighs. "I had to cut the fibreglass and move them in, but the tester let me

do it on-site in order to avoid a re-test."

Kenilworth-based Speedster Clinic was established more than twenty years ago by Gary Blundall, making Volkswagen Beetle-derived chassis and fibreglass body kits to produce bespoke hand-built 356 Speedster, 356 Coupe, Pre-A Coupe and 550 Spyder replicas. In Greg's case, he needed something extra to obtain the shape of those lardy wings. He was inspired by a limited-edition 356 Speedster, the wide-bodied 356 California, which he'd glimpsed as a child. "Gary helped me out with the wider wings," he reveals. "The wide arches came from Mexico and they were just basic fibreglass panels." They were originally made by Vancouver-based Intermeccanica,

Above Carrera 3.2 engine makes use of PMO carbs and manifolds from air-cooled Porsche accessories supplier, Stuttgart Classica

#### **SPEEDSTER REPLICA**









Above and below Greg is the owner of a genuine 1959 356 coupe, but wanted to go to town on a 356 replica built to his own specification, hence the Speedster Clinic body he's brought up to its current state

itself a vestige of the 1950s and 1960s Italian car and speed equipment builder, currently making 356 replicas. Greg cites Aaron and Luke at LA Custom Coatings at Dereham, Norfolk, for achieving excellent panel fit and the splendid paint job.

As far as the engine was concerned, a humble 1.6-litre flat-four wasn't going to cut the mustard. Besides, when you're assembling a replica, the sky's the limit. Greg originally had a 2.7-litre flat-six lined up, but couldn't get it running. He took the troublesome boxer to Mike Bainbridge in Cumbria, whereupon he discovered the unit was irreparably damaged. Instead, Greg bought a 3.2-litre from a scrapped 911. It cost six grand, but had covered only 70,000 miles and was running nicely. Mike installed the engine and mated it to the rebuilt 915 transmission.

#### **BALANCE OF POWER**

The 3.2-litre lump runs 46mm PMO carburettors, Stuttgart Classica stainless steel manifolds., Magnecor ignition leads and a 123ignition programmable distributor. The petrol tank mounted in the front luggage bay is a Fuelsafe product from the USA, bought from a seller on the DDK

BXZ 959

website. Ahead of the tank, where you'd expect it to be, is a spacesaver spare wheel.

The surprises come thick and fast. "We did a lot of work on the chassis, which is basically a Volkswagen floorpan, but we removed all the VW suspension and installed Porsche gear." The floorpan is surmounted by what amounts to a semi-triangulated spaceframe, carrying an American Wire 21 wiring loom kit and Cable Tec cables. "An integral roll cage runs all the way from the rear engine mounts via the GAZ Gold coilover mounting points through to the front, resulting in a kind of triangulated chassis that's all TIG-welded, including the rollover hoops. Long story short, it's about as strong and as torsionally rigid as it can be - you can lift up a corner of this car and the neighbouring corner will rise with it!" There's a catch here. "Obviously, a flat-six makes a car tail-heavy and we were working with a very short wheelbase, which is why I added weight to the front."

There was no messing about. "There's a steel crossmember all the way across the front, which we filled with fifty kilograms of lead to keep the nose down. It works — I had the car on axle stands and the ratio was about 55/45 front to rear weight distribution. Of course, it means the car now weighs more than you might expect, tipping scales at 1,100kg. But then, there's a 3.2-litre 911 engine in the back instead of a 356 flat-four. That's 220kg versus something like sixty for a four-cylinder powerplant." The 911 engine delivers twice the power, too. Moreover, this Speedster replica is lighter than a Carrera 2.7, which registers close to 1,440kg.

Greg, who just happens to have a genuine 1959 356 coupé tucked away (acquired for £800 when life was cheap), hadn't until now driven his Speedster with the hard-top removed. Not because he's in any way averse to trad Speedster motoring, but because lifting the lid over the roll cage is a two-man job. The panel is easy enough to detach, just not to remove. The hard-top is surmounted by a sunroof, hence the red textile patch, custom-made from a roof-curve template by Legacy



Products in the USA. "I wanted the car to be drivable in the UK in all seasons, which you can't really do in a Speedster because, in the rain, which we have a lot of in this country, a Speedster leaks! In contrast, with this car, you can drive along with the sunroof open, allowing you get the feel of a soft-top, but from a lid refusing to allow moisture ingress."

The exterior period look is enhanced by the doormounted racing mirrors, sourced from Sierra Madre, a company famous for supplying reproduction 356 parts. The front side grilles housing the indicators also house LED driving lights, which come on with engine start-up.

"You have to have the side indicators for the IVA test, though obviously they were never there originally, so I pulled them down as low as I could go. They look a bit like

#### DISTINCTIVE YET DISCRETE, AN INTRIGUING MELANGE OF PORSCHE COMPONENTRY AND VERY NICELY EXECUTED

the Reutter badge at first sight," Greg smiles.

The louvres and replica Speedster air vent grille surmounting the engine lid, complete with 3.2 badge, are convincingly done, and the lid hinges are actually anodised Mini door hinges. Attention to detail is meticulous — the leather securing straps, made by an equestrian saddler at Hot Rod Leather, have flaps underneath them to prevent the buckle chipping the paint. As for the number plate, it's probably worth a small fortune to a 959 owner.

And so to the very smart cockpit. The seat bases are aluminium and were made in Italy by an apprentice craftsman at the Carrozzeria Ferrari Franco workshop.

"They were his rite of passage from apprentice to technician," Greg tells us. "They're powdercoated chrome by Aerocoat, affording the backs a wonderful mirrored effect. They're a work of art, though I had to install the headrests to comply with IVA regulations." The seats are upholstered in an attractive houndstooth check, with cut-down 911 RS padding, applied by Garry Hall at Porsche interior trimming outfit, Classic FX. The three-point harnesses, meanwhile, are aviation belts out of an aeroplane, as worn by cabin crew during landing and take-off. Steering is by way of a quick-release 350mm wood-rim Sparco wheel, the handbrake is from a Beetle

and the gear lever is a 964 item paired with a standard 915 shift pattern.

The door cards and carpeting were crafted by Lotus trimming specialist, Steve Fulcher at

Hethersett. The pedal box is out of a 964, with Wilwood hydraulic clutch and a custom accelerator pedal. The instrument binnacle is familiar enough — 1985 vintage — though the dials and gauges have been embellished in green and black with chrome bezels by Reap Automotive, based in north London. Unusually, they're paired with a 997 light switch. "Because the body was so modified," Greg continues, "I've tried to keep everything else original, at least from the Porsche parts catalogue."

The opportunity to drive anything on an aerodrome perimeter runway is generally welcome. Between take-offs, landings, and the odd chopper-hovering, I take to the wheel. You certainly know you've climbed into something

Above LA Custom Coatings in Dereham was tasked with the paintwork, which covers Intermeccanica wide arches expertly grafted onto the Speedster Clinic body

#### SPEEDSTER REPLICA









Above Greg is happy with the outcome of this build. though wonders whether a mid-mounted engine might have been a good move in the interests of improving the car's handling

Below It's a Speedster, Jim, but not as we know it

a bit special, even if this isn't a genuine 356 Speedster. The cockpit is a wee bit tight, and I know what Greg means when he says he wants to lower the driving seat. Everything inside the car is exquisite, though. I like the drilled window winders, the door pulls, the handles, and all the dials being recognisably Porsche. The 964 pedal box is set to the left in true right-hand drive 911 fashion, requiring the legs to veer awkwardly leftwards. The clutch is supremely sharp, causing me to stall the engine several times before getting underway. Even on the smooth main runway, this is a hard ride. I certainly know I'm travelling on firm suspension.

Acceleration is decently quick, as you might expect from a snarling 3.2-litre engine powering a two-seater. I run out of straight surprisingly quickly before swaying into the first of the huge flat bends delineating the airstrip. The steering feels nicely weighted, although it is heavy, as though I'm helming a boat. The brakes also take some

**SUPER SPRINT** 

getting used to, requiring me to stand on them to achieve a rallentando - not too much feedback there. The shift is as good as a 915 gets. In action, this car comes across very much as the period piece it purports to be. A harsh critic might accuse me of saying it looks better than it goes, but that would be missing the point: when you're creating a replica and not manufacturing a toolroom copy, you can experiment and include pragmatically anything to hand that takes your fancy.

Over the years there have been other producers of 356 Speedster replicas, most of them based on Volkswagen platforms. Chesil, Beck, Pilgrim, Special Edition, JPS Motorsports, Apal, Vintage Speedsters, Silverstone Mexico and Intermeccanica, which I mentioned earlier. are the best known, while Iconic Autobody clads a 987, following its now discontinued work turning 986 Boxsters into Speedsters. There are companies dedicated to providing parts for 356 Speedster and 550 Spyder replicas, too. Fibersteel is one of the most prominent. And should you wish to engage in shock tactics at Classics at the Castle, the Sebring Speedster is an EV 356 replica. That'd certainly set the cat amongst the pigeons.

In any case, Greg has gone several stages further than any of the Speedster replica producers, including Speedster Clinic, on whose product his car is based. He's pretty happy with the final outcome, although he has pondered whether or not he should have created a mid-engined Speedster using an off-the-shelf Patrick Motorsports powertrain kit. As it is, he's created a oneoff, his personal take on the Cal-Look 356, distinctive yet discrete, an intriguing melange of Porsche componentry and very nicely executed.

The end result is a tad enigmatic, since it is faster, rortier, though weightier of feel than a 356 rag-top, not to mention less nifty because of its wide boots. Would Jimmy Dean have approved? A replica is simply the disguise of an actor imitating the real thing. This is not so much an imitation as a one-off. It's a novelty item, a curiosity and, actually, a rather special treat. CP

# THE PERFECT GIFT FOR THE CLASSIC PORSCHE ENTHUSIAST

#### Great reasons to subscribe

The only magazine which exclusively covers air-cooled Porsches



Take out a gift subscription today and save up to £26



They will never miss an issue



Delivered straight to their door



TWO EASY WAYS TO SUBSCRIBE

VISIT SHOP.KELSEY.CO.UK/XMAS22CP

OR CALL 01959 543 747 AND QUOTE 'XMAS22CP'

#### THE GIFT THAT LASTS ALL YEAR!



#### SPECIALIST PORSCHE INSURANCE WITH YOU IN MIND | 01480 484839



# MOTOR FREE ADS

#### TO ADVERTISE VISIT

#### WWW.MOTORFREEADS.CO.UK

#### **CARS FOR SALE**

#### PORSCHE 3400



66000 miles, £31,485. Registered in 2012 this Porsche Boxster S 981 series is fitted with the desirable PDK 7 speed gearbox. Powered by the 3.4 litre flat 6 cylinder 'Boxer' engine, it is one of the last models available with this 6 cylinder engine, producing 315 bhp. Finished in Platinum Silver metallic paintwork with a contrasting black leather interior, with under 66k miles this Boxster S presents in superb order throughout. Please call 07577 575770, South East. (T) 116526

#### **PORSCHE 911**



**1984, £89,995.** From 1984 this 911 RS tribute utilised a C16, right-hand drive 3.2 Carrera Coupé as its starting point. Specifically, this was a healthy well-serviced example with a good history file. This tribute car presented here pays homage to the legendary 1973 2.7 RS, echoing that famous silhouette very well, and was professionally built. Please call 01798 874477, South East. (T)

#### **PORSCHE 911**



1996, £125.000. Porsche 911 Carrera (993) 1996 road/race car, N reg., 3.6 It twin turbo, 6 speed gearbox, turbos recently rebuilt and fuel lines replaced. Engine 500 bhp (approx.) Brembo race brakes (road units also supplied). Gt 2 wide body kit fitted with 8x10x18" BBS alloys. Welded custom cage, fire eater system, air jack system (as per Brit car). Variety of race springs available, variety of split rims and spare set BBS alloys available at separate extra cost. Competed in AEMC and ASEMC sprint championships and DOMC North Sports Saloon Championship Please call 07860379440, East of England.

#### **PORSCHE 911**



2012, £50,995. 2012 PORSCHE 911 CARRERA 991. Finished in unmarked Carrera White with Black Hide PDK 7 speed transmission with steering wheel paddles. Specifications include Sat Nat, Cruise Control and Launch Control, Climate Control, Heated Seats and Rear Park Assist. 66,000 miles with Porsche Dealer Stamps at 6231 miles, 22951 miles, 50,139 miles and 58,716 miles. Please call 01485 541526, South East. (T)

#### **PORSCHE 912**



**1967, 132853 miles, £45,000.** Porsche 912. I am selling my 912 after 12 years of ownership. The car is a 1967, left hand drive short wheelbase car with matching numbers. The car was originally from California. Please call 07773772474, North West.

#### **PORSCHE 924**



£4,750. Very Tidy Porsche 924 with 1 years MOT and ready to drive away. Its only done 53000 miles with mots to back up the mileage. The car has had a good bit of money spent on it since 2019 and it runs and drives very well. We have one set of keys. Please call 01875 820527, Scotland. (T)

#### **PORSCHE 928**



1990, £25,928. Porsche 928 S4 1990, rare Tahoe blue, £55k plus recently spent on body, engine and interior by Porsche approved body shop and centre for Porsches 40 years at the front dealer competition. Service history, receipts and detailed photographic of rebuild. Please call 07403 762717, Scotland.

#### **PORSCHE 928**



1990, 72000 miles, £42,000. We are very pleased to offer this stunning and rare 928GT.One of just 38 right-hand drive and manual gearbox 928 GTs and finished in the highly desirable Guards Red with Linen Leather. 72,000 miles with a fully documented history, 5 Speed manual gearbox, Limited Slip differential, Full electric seats, Height adjustment, Air conditioning, Electric Sunroof, Electric Door Mirrors, Porsche book pack. Please call 01765 609798, Yorkshire and the Humber. (T)

#### PORSCHE 928



165000 miles, £29,928. Porsche 928 S4 auto 1990. Restored by Porsche Portsmouth and Porsche approved Poole body shop for Porsche UK 40 YEARS AT THE FRONT DEALER COMPETITION IN 2016. Very rare in special order Tahoe blue, even more rare is having in excess of £55000 spent in restoring it bodily and mechanically. Done 165k with a large documented service history, all books and receipts showing over £55k being recently spent in bringing the 928 back to its former glory. Everything works on car as you would expect! Full extensive photographic record of epic restoration. Been mainly looked after by Porsche main dealers for the last 5 years, done several hundred miles since restoration. Scotland.



FEATURE YOUR MOTOR IN YOUR FAVOURITE MAGS!

OR FIND YOUR NEXT!



#### CLASSIC CAR INSURANCE EXPERTS



# PORSCHE **912**

Sales Service Resto

revival-cars.com 07768 791802

Keeping the 912 faith

#### **PORSCHE 944**



1990, 133000 miles, £12,950.
944S2 Cabriolet, Guards red, black interior. Lovely condition, total 3 owners, doting last one for 29 years. Every document for that period. Serviced at Northway Porsche, always garaged. MOT to February 2023. Please call 07711703542, South East.

113090

#### **PORSCHE 944**



**1990, 186000 miles, £20,995.** As featured in 911 and Porsche World, late model 952 (250hp) with FSH, cream leather, M030, genuine original car, loved by me (4th owner) for 19 years. Drives beautifully, fabulous condition which belies its mileage. Please call 07710094124, East Midlands.

113444



#### **PORSCHE 944**



**46000 miles, £13,950.** 944 S 16V Coupe. Lovely Original Condition Throughout. Please call 01245204345, South East. (T)

#### **PORSCHE 944**



**1991, 16999 miles, £16,999.** 944 3.0 Cabriolet S2. 5 speed manual, 92k miles, service history, 4 keepers, fully specification, Baltic bleu metallic pain with linen coloured interior, new blue mohair soft top.Please call 01452 731289, South West.

#### **RELATED REGISTRATIONS**

987 MD	991 AR	35 SYX	CAR232A	981 RHW
997 AR	991 PD	KT 911	XXX 911C	N121 BOX
997 AHT	964 GC	911 EH	REG 911E	S80 XAR
997 CSS	POR 911N	930 FF	OWY 911K	918 MHH
997 RGW	POR 911Y	911 MSD	DJA 911R	S918 POR
POR 997T	RUF 911T	911 WVS	VOP 911S	N321 GTS
TON 997X POR 996T	X911 RUF	TIL 911	A911 DPG	GT03 AWH GT03 SPJ
944 HPK	993 RUF	VNZ 911	D911 POR	0005 CAY
E944 POR	993 POR	98 RSR	J911 GTN	GT68 RSR
PAM 944M	P993 POR	RSR 911X	P911 SCH	RS68 POR
WAG 944S	A993 XXX	B911 RSR	S911 LER	RS68 RSR

TEL: 07555 911993

E-MAIL: RELATED.REGMARKS@AOL.COM PCGB MEMBER

#### **PORSCHE 944**



**1987.** 2 Previous owners current owner 18 years, 94 000 miles, summer use only, always garaged, well maintained and in excellent condition. Please call 07747020758, South West.

#### PORSCHE BOXSTER



2006, 67000 miles, £11,250. My car is in Arctic Silver with Sand Beige leather interior, registered in November 2006. Please call 07909923202, South East 11370

TO ADVERTISE VISIT: WWW.MOTORFREEADS.CO.UK





#### **CLUB MEMBER DISCOUNTS**



# MOTOR FREE ADS



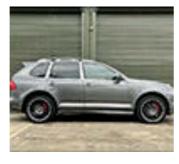


#### PORSCHE BOXSTER



3.2 S. Metallic Basalt Black with Black leather and Black power soft top. Facelift model with the glass heated rear window and clear indicator lenses. 6-speed manual, power steering, ABS, Porsche stability management, automatic air-conditioning, headlamp wash, factory alloy wheels, xenon headlights, Bose sound system with CD stereo, wind deflector, electric windows and mirrors, electric seat recline, remote central locking and alarm with 2 keys. Only 74,000 miles with full service history from new. Extremely nice condition throughout. Please call 01277365415, East of England. (T)

#### PORSCHE CAYENNE



£19,495. Registered on November 2008 this Porsche Cayenne GTS Tiptronic S has covered just 47k miles and boasts a comprehensive service history file from Porsche main dealers, with six service stamps and six brake fluid change stamps entered into its service booklet. With only two owners from new, the most recent since 2019, this Cayenne GTS Tiptronic S presents superbly throughout.To appreciate this a viewing in person is a must. Please call 07577 575770, South East. (T)

116528

#### **ADVERTISING INDEX**

356 Panels	63	Longstone Tyres	67
Art Wheels	71	MCE Porsche	17
Automotion	29	Mittelmotor	33
Benton Performance	71	Paragon GB	23
Beverly Hills Car Club	35	Patrick Motorsports	53
Car Bone	99	Perma-Tune	43
Classic FX	99	Quorn Sports & Classics	53
Coco Mats	49	Reap Automotive Design	99
D'Eser Vintage Sports	33	Restoration Design Europ	e 89
Dansk 8	1, 116	Roger Bray Restoration	63
Design 911	21	Sportwagen Eckert	5
Early 911S Registry	71	Stoddard	25
Elephant Racing	27	Stomski Racing	115
EMPI	31	Tandler Precision	4
Export 56	43		
FVD Brombacher	2	Classifieds	
Gaswerks Garage	53	Classic Passion 911	
Go Classic	43	Eisenbrandt	
Group 4 Wheels	4	Lancaster Insurance	
Jenvey Dynamics	59	Related Registrations	
Joma-Parts	33	Revival Cars	
Karmann Konnection	63	Rose Passion	
Kelsey Christmas Offer	113		
Kelsey Future Classics	98		
Lakewell Porsche Interio	ors 99		



113353

FEATURE YOUR MOTOR IN YOUR FAVOURITE MAGS!

OR FIND YOUR NEXT!

# CHRISTMAS CHEER THAT LASTS ALL YEAR!



GIFTS FROM JUST £19.99

OVER 60 TITLES TO CHOOSE FROM
VISIT SHOP.KELSEY.CO.UK/XMAS22

OR CALL 01959 543 747 AND QUOTE 'XMAS22'

Lines are open Mon-Fri 8.30em to 5.30pm. Calls are charged at your standard network rate. Offers available for UK customers only. Savings are based on the standard cover prices.

Offer ends 24/12/2022. The subscription will start with the first available issue after Christmas 2022. Prices correct at time of print and subject to change.

For full terms and canditions with the print of the prin

c0376237-3ee6-40be-b0db-564dii3ei604

# ORDER OUR NEXT ISSUE TODAY AND ENJOY FREE DELIVERY\*



AMAZING 3.5-LITRE 911 SC BACKDATE EVER WONDERED WHAT AN F-SERIES GT3 MIGHT HAVE BEEN LIKE? WONDER NO MORE!

ORDER ONLINE AT SHOP.KELSEY.CO.UK/CP91 CALL NOW ON +44 (0)1959 543747\*\*

\*\*Lines open Mon-Fri 8.30am –5.30am (GMT). Calls charged at your standard network rate. Image for illustration purposes and subject to change

c0376237-aee6-40be-b0db-564dff3ef604

# PARADIGMSHIFTER





#### WHICH LOOK DO YOU PREFER?

Dansk Original offers a large selection of standard and sport exhausts in numerous designs - all are made in Denmark according to factory fit specifications. The shown selection is for Porsche® 911F, 1966-1974.

Scan the QR-code to hear the sound and see the animation on the exhausts.



92.210 / 1620607600 Exhaust, Ø60 mm outlet pipe - TÜV/EEC approval 92.2100E / 1620609000 Exhaust, Stainless Steel, grey painted, Ø60 mm outlet pipe -TÜV/EEC approval



92.510DUAL / 1620605800 Exhaust, 2 x Ø50 mm outlet pipe - TÜV/EEC approval 92.510DUALS / 1620605700 Exhaust, Sport, 2 x Ø50 mm outlet pipe, rear, dual outlet,



92.210S / 1620607800 Exhaust, Ø60 mm outlet pipe - TÜV/EEC approval



91.410 / 1620612200 Exhaust, with dual center outlet pipes, "GT3" style, 2 x Ø63 mm



92.510\$ / 1620603400 Exhaust, Sport, Ø70 mm outlet pipe, Stainless steel -TÜV/EEC approval 92.510 / 1620605300 Exhaust, Sport, painted black, Ø70 mm outlet pipe - TÜV/EEC approval



92.520DUAL / 1620610000 Exhaust, Sport, rear, 2 x Ø76 mm outlet pipe - TÜV/EEC approval



92.510SD / 1620604000 Exhaust, Sport, dual, 2 x Ø70 mm outlet pipes - TÜV/EEC approval



92.212 / 1620607000 Exhaust, Sport, dual, 2 x Ø70 mm outlet pipes - TÜV/EEC approval 92.212A / 1620801700 Racing exhaust with bolt-on inlet flanges. Heat resistant paint, up to 450°C. 2 x Ø63.50 mm outlet pipes