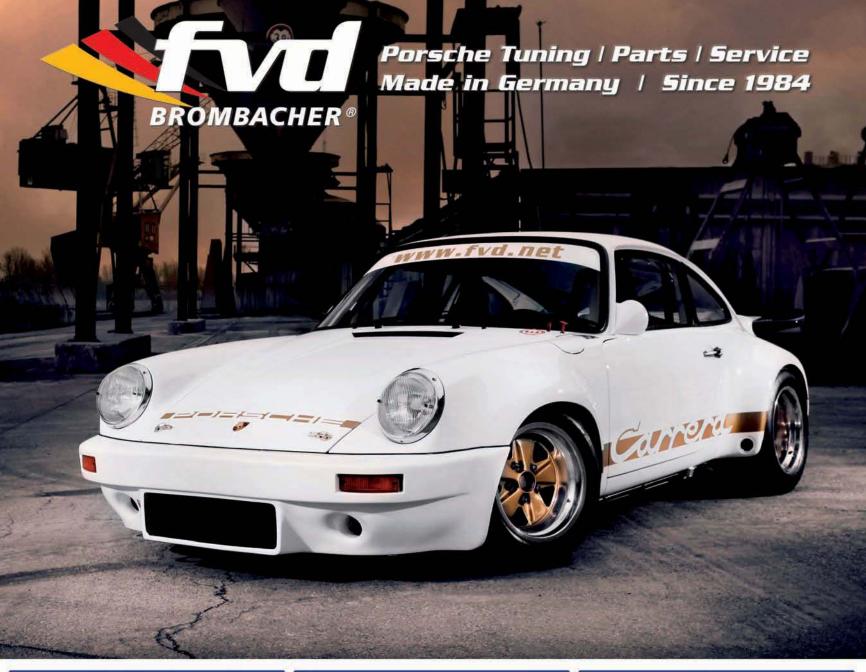


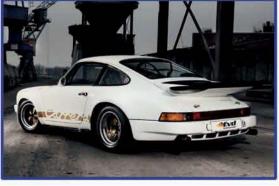
Cassic PORSCHE

SPOLT FOR CHOCE PORSCHE 356 SPEEDSTER, ROADSTER OR CABRIO?



ON TRACK IN A 934 • OVERHEAD CAM PORSCHES CARRERA PAN-AM 912 PORSCHE IN THE 1980s









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They say there's more than one way to skin a cat, although as a cat lover, I'm not sure I wish to put that to the test. However, when the opportunity arose to bring together three different takes on the convertible 356 theme, we jumped at it. So, courtesy of Mick Pacey at Export 56, we were able to gather together a Speedster, a Roadster and a Cabriolet. You can read Kieron Fennelly's impressions starting on page 8 of this issue. Cat lovers can rest assured, however, no felines were harmed in the making of this feature.

"NO FELINES WERE HARMED IN THE MAKING OF THIS FEATURE..."

Turn to page 28 and you can find out what it's like to be behind the wheel of one of Porsche's most versatile competition cars, the mighty 934. Owner Johan Dirickx kindly allowed Johnny Tipler to put the pedal to the metal, with the day captured on film (or should that be pixels) by Antony Fraser.

If ever proof was needed of the growing popularity of classic Porsches – notably those with real history – then you need look no further than the incredible Rennsport Collective show at Donington Hall, which took place in July. Hopefully this will become an annual – or at the very least bi-annual – event, for you'd be hard pressed to see a more impressive collection of cars at another one-day show. Roll on 2020 is all we can say...

Keith Seume

Editor, Classic Porsche classicporsche@chpltd.com

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LIFE IN THE OPEN

Three very different open-topped 356s: Speedster, Roadster and Cabriolet

THE KILLER BLOW

Johnny Tipler gets behind the wheel of a Porsche 934 with plenty of race history

A DECADE OF CHANGE

The 1980s saw Porsche's model range changing as it had never changed before

FANTASTIC FOUR

Sleepers' hot-rod 912 shows you don't always need those extra two cylinders...

SO-CAL, SO GOOD

Stephan Szantai drops in on this year's 356 Club concours

LA VIDA LUCHA

Class-winning La Carrera Panamericana 912 from Benton Performance

DOUBLE DELIGHTS

We visit the Rennsport Collective show and PCGB's 914@50 celebration

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Karl Ludvigsen continues his search of the archives, looking at engine design

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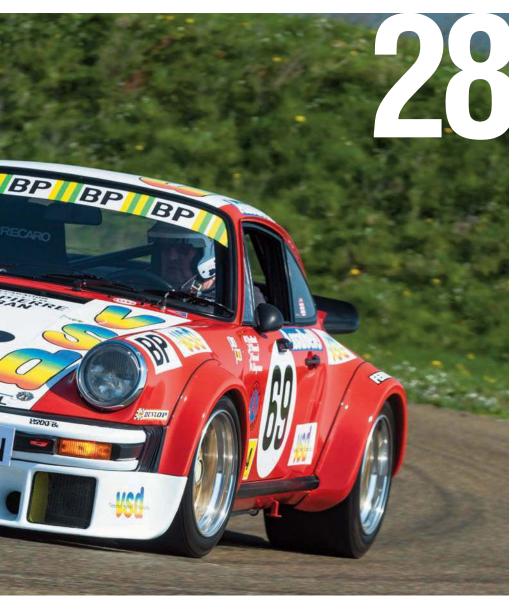






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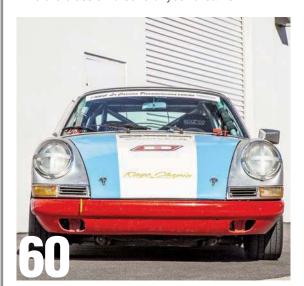
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More from our resident racer

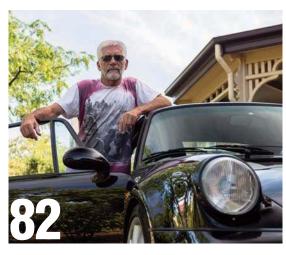
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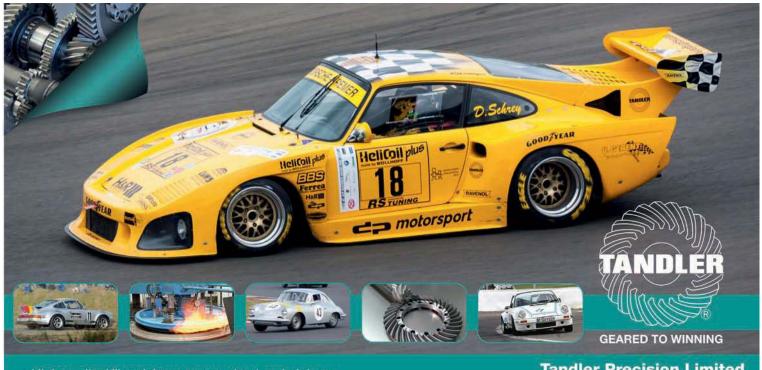
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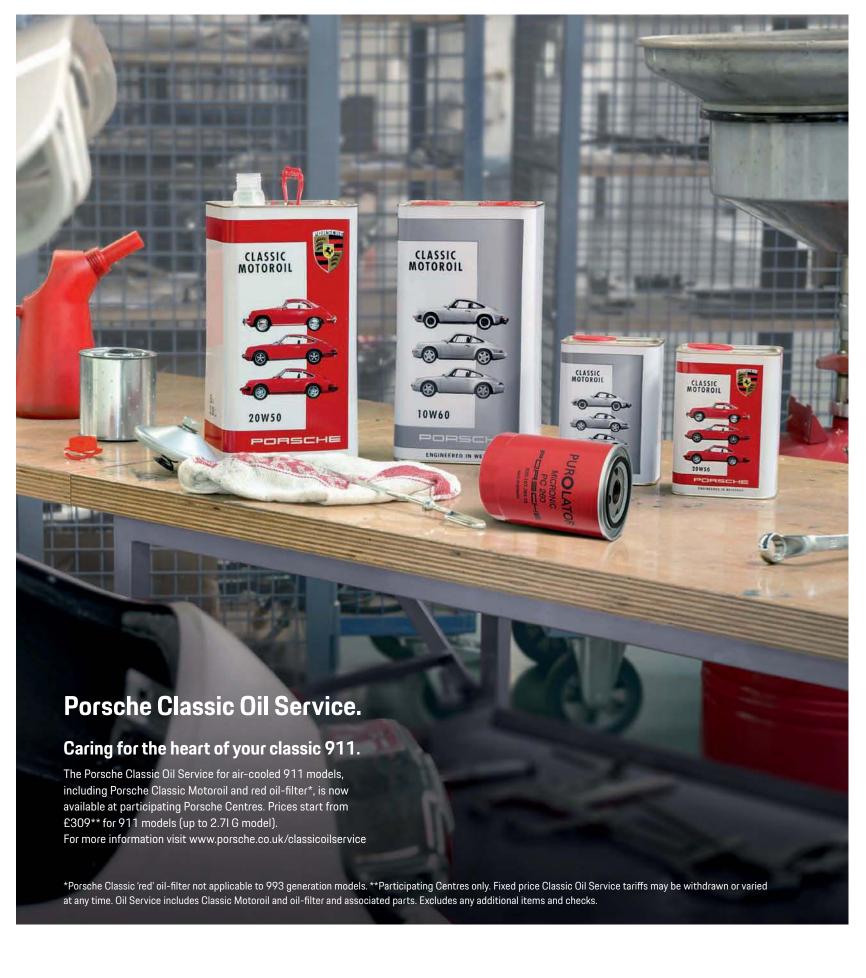




















rationalisation of production and make not one but two open versions of the 356's mainstream models.

Illustrating the evolution of the convertible Porsche 356 are these three representative models: a 1957 Speedster, a 1959 Roadster and a 1965 SC Cabriolet. If the latter two are

in-house conceptions, the spartan aspect of the Speedster was very much the influence of Porsche's ebullient US distributor Max Hoffman: this was not the kind of Porsche that Ferry himself would have chosen to build.

The Speedster

'As you look at it, the Speedster doesn't have a line wrong: everything works,' asserts Mick Pacey of Export 56, the 356 specialist who has kindly made available all three cars for this

feature. It is impossible to disagree: the cut-down simplicity of the Speedster makes this pretty little car immensely appealing, yet it was the cheapest Porsche ever sold in the US. Max Hoffman's instinct for the kinds of European cars America would buy was unerring: besides working to promote Mercedes and Jaguar – he was quick to spot the potential of the XK 120 – in the 1960s he was instrumental in getting BMW to turn its 1600 into the racy 2002, the car that really signalled the resurgence of the Munich company.

Hoffman got Porsche off to a flying start, but by 1954 he

was concerned about the increasing competition from other imports, notably the Triumph TR2 and Austin Healey 100, and from the homegrown Corvette, all of which cost less. He explained that Porsche needed a model which retailed below \$3500, indeed preferably for less than \$3000.

The Speedster of 1955 would be the riposte which Zuffenhausen and

coachbuilder Reutter came up with: the basic shell was that of the Cabriolet, but the rear compartment was panelled in which effectively shrank the cockpit. The windscreen was a raked, lowered affair, wind-up windows were eliminated and a rudimentary pull-up hood fitted. For taller drivers in particular,

Above: One of 21 right-hand drive Speedsters and one of a dozen exported to Australia, the example shown here still wears its original Aquamarine Blue hue, although a recent owner had to be persuaded not to respray it silver...

Below left: Owned by Porsche, Reutter was responsible for building the Speedster, as the single badge mounted on the rightside wing confirms

Below right: 1600cc engine was availabe in either 'Normal' 60bhp or 'Super' 75bhp specification

"NOT THE KIND OF PORSCHE FERRY WOULD HAVE CHOSEN..."











Above, left to right: Not much room for luggage thanks to the bulky fuel tank; trademark Speedster 'bucket' seats are more comfortable than they look!; the sidescript says it all. The cheapest Porsche has become one of the most desirable...

Below: Baggy soft-top completely spoils the Speedster's svelte lines, and makes driving a somewhat claustrophobic experience visibility with the hood in position was severely compromised. The cockpit itself had two main dials and a passenger grab handle and little more; two lightweight and thin bucket seats looked more sporting than comfortable. The budget Porsche it may have been, but the Speedster was also about acceleration: weighing 50kg less than the coupé, with the standard 1500cc (later 1600cc) engine, it was a second quicker to 60mph, although its aerodynamics meant that at 95mph its top speed was 3mph slower; with the 1500S engine, it was significantly quicker, beating the coupé by almost 5 seconds to 60mph and, at 101mph, its top speed was marginally higher, although the S version did add \$300 to the price. Hoffman though had managed to pull it off: the Speedster 1500 cost \$2995 landed New York.

The Speedster in our photography is one of the 21 RHD cars and one of the dozen imported by Porsche's Australian

distributor Hamilton in Brisbane. A 1957 build means that in terms of chassis and running gear it is based on the contemporary 356A: it still wears its original Aquamarine Blue with a contrasting tan interior although this last-of-the-line Speedster has little documented history until 2005 when it came to the UK.

At some point it was restored in Australia – Mick Pacey's view is that this would have been a straightforward job as the the matching numbers of engine and chassis suggested strongly this was a low mileage example. It changed hands within the UK and Pacey found he had to conduct brief but successful rearguard action to dissuade the new owner from painting the Speedster silver: 'The original Aquamarine is anyway a fantastic colour. Porsche's palette was exactly right in those days. Why spoil a matching numbers 356, especially with a common shade like silver?"





The Roadster

Production of the Speedster lasted until 1958 by which time 2922 had been built; it was only latterly offered in Europe where Porsche thought it would prove too basic and indeed

as demand in America began moving to better appointed sports cars, Porsche replaced it, briefly with a model called the Convertible D, which with the advent of the 'B' series in 1959 became the Roadster. Assembled by Drauz in Heilbronn, the new Roadster's US price was \$3700, more than the Speedster, but still less than the 356A Cabriolet.

comfortably fitted out, having such accoutrements as wind-up windows, more substantial seats and a fuller dashboard with a distinctive instrument cowl, altogether more the type of car that Ferry wished Porsche to be associated with. The Roadster's windscreen was less steeply raked, raising the roofline and allowing the hood to feature larger side and rear

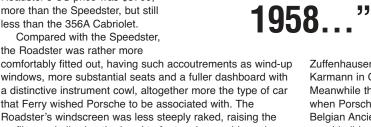
windows. In other respects though it did follow the Speedster, using the same body and running gear including the shorter two-man only cockpit. Like the Speedster, too, the Roadster's single-skin hood folded down neatly and did not compromise

the line of the open car. Indeed the most visible difference between the Roadster and its convertible sister was their windscreen/roof profiles and the Cabriolet's 2+2 cabin.

The Roadster was made at a time when the Porsche 356 range was at its most complex; demand for the 356 coupé plus the Cabriolet was keeping the Reutter shops at

Zuffenhausen fully occupied and Porsche subcontracted Karmann in Osnabrück to build a hard-top version. Meanwhile the Roadster was made at Heilbronn until 1961 when Porsche moved construction of the final run to the Belgian Anciens Etablissements D'Ieteren frères. A coachbuilder since the nineteenth century, D'leteren, which Above: Roadster's hood is far superior to that of the Speedster, while wind-up windows make for a more pleasant experience on a long journey. Windscreen frame is entirely seperate to the body, like the Speedster

Below, left to right: 'Nipple' hubcaps denote the B-series; Still not a lot of luggage room, but there is more space inside the car than in a Speedster; 1600 engine was available in 60bhp, 75bhp and Super 90 spec







"PRODUCTION OF

THE SPEEDSTER

LASTED UNTIL







Above, left and right: While the dashboard echoes that of the sparsely-trimmed Speedster, the interior of the Roadster is positively luxurious compared to its lightweight predecessor

Below: While arguably

of the Speedster, the

lacking the simple elegance

Roadster is a very pretty car

when viewed from any angle

also assembled Studebakers, was the VW and Porsche importer for Belgium.

The example in our photographs is another ex-

Australia/Hamilton Porsche which arrived in Britain in 2009 and, like the Speedster, it too seems to have enjoyed an undemanding life: Mick Pacey observes that at that time Porsches tended to be prized in Australia, adding 'and everyone seemed to work for Hamilton!' Matching numbers and RHD make this Roadster a rare car,

with no more than 20 in existence.

Export 56 became aware of it in a collection for which they had become custodians: when the owner sold off much of the collection, Pacey found a new proprietor, a Porsche

neophyte who promptly drove the Roadster to Provence in company with a pal following in his Ferrari Dino. The Italian, alas, expired terminally and had to be repatriated on a truck

while the Roadster sailed on unperturbed to the Côte d'Azur... From being merely interested in old Porsches, this customer, says Pacey, has become a real fan.

The Cabriolet

With the launch of the 356C in 1963 and 356 replacement, the 901, in gestation, Porsche carried out some rationalisation: neither the Roadster, dropped in mid 1962, nor the elegant, but slow-selling Karmann hardtop would make the transition to 356C

status. For the final run of 356s, there were essentially two body styles, both assembled at Zuffenhausen, the coupé and the Cabriolet, with output from Karmann augmenting coupé production which eventually reached 13,800; by contrast,

"MATCHING NUMBERS AND RHD MAKE THIS A RARE CAR..."





only 3165 356C Cabriolets were built; a Cabrio was the last 356 to leave the line at Zuffenhausen in April, although Porsche did subsequently build a further ten open 356s specifically for the Dutch police.

The 356C was visually close to the B, but could quickly be distinguished by its larger rear window and by its flat hubcaps: Porsche made many obvious and some less apparent revisions to the 356 bodyshell over its lifetime and, besides the rear window and larger grille, the 356C had a flatter, better fitting bonnet. The C series also made the move to disc brakes which were both more responsive than the previous drums and also lighter, reducing unsprung weight.

The Cabriolets were fitted with the more powerful 1600 SC engine which made 95bhp at 5800rpm; additionally they had adjustable Koni dampers rather than the Boge units of the 1600C. Unlike the Roadster, but in keeping with its more luxurious specification, the Cabriolet is fitted with a lined hood. While quieter, its frame prevents it folding flat, and like subsequent 911 convertibles to the end of air cooling, it then sits rather more obtrusively above the car's waist than do the Roadster and Speedster hoods.

Once again a rare 356, this UK-origin SC is one of only 14 RHD cars. Its comprehensive history file is typical – by contrast 'imported cars never seem to keep their paperwork,' says Mick Pacey. Seven owners, the first till 1981 and the

most recent, a former chairman of the PCGB, since 2002 mean this car is not only well documented, but also in exceptional, indeed concours-winning condition, proof of which is its glovebox lid, duly signed by Hans Peter and Wolfgang Porsche, and Richard Attwood. Prior to these honours the matching numbers SC was substantially restored and a brake servo added.

On the road

This trio of open 356s has been carefully maintained and fettled and they quickly impart a feeling of how special these cars must have felt when new. While all three are light, agile and possess that extraordinary early Porsche steering which seems almost to know where the driver wants to go even before he has turned the wheel, there are subtle differences.

Lightest of the three, the Speedster is almost kart-like in its responses, the sensation of speed enhanced by the marvellous all-round visibility (lost with the hood assembled). Combined with the 356's modest dimensions which make make the Speedster easy to place, it means this is a car which offers tremendous fun even at the quite modest speeds offered by its 60hp 1600cc flat four. The precision of the long-throw gearlever simply adds to this.

The Roadster is a grown-up Speedster: although as a Bseries 356 it loses the earlier 356's smooth front end in favour of Above: Flat hubcaps of the C models denote use of disc brakes on all four wheels – a major improvement over the finned aluminium drums fitted to previous models. Note the Cabrio's windscreen frame is an integral part of the body structure

Below left: Note the swap to five-lug wheels – this was necessitated by the change in brake design

Below right: Cabriolets were fitted with the 95bhp 1600 SC engine









Above, left and right: With a dashboard little different to that of the contemporary coupé, the Cabriolet had an air of sophistication compared to the earlier cars

Contact:

Export 56 Wharley End Farm Bldngs University Way Wharley End Cranfield MK43 0AW www.export56.com Tel: +44 (0)1908 921256

Below: Bulkier design of the Cabrio's hood means that it cannot be folded down flat, as was the case with the Speedster and Roadster higher-mounted headlamps and more robust bumpers, this was still the 'lightweight' 356 even if only 35kg less than the coupé.

The driving experience is like that of the Speedster except the cabin is more cosseting with a proper instrument panel and thicker upholstery. The different windscreen does not noticeably affect visibility and bowling top-down along country lanes procures the same 'wind in the hair' pleasures. On both cars applying the drum brakes initially requires drivers more used to the (over) sensitivity of modern servo-assisted discs to recalibrate their thinking about stopping distances and pressures, but this is quickly learned.

The march of progress is more apparent with the 356SC and it embodied several of the advances to be found on the 911, such as four-wheel disc brakes. Porsche would keep the 356 in production until April 1965 and manufacture of its successor was established. Compared with others here, the 356SC feels the more sophisticated car it is.

More cabin equipment and an improved hood are the visual clues to a Porsche with a slightly softer suspension – the anti-roll bar was thicker, but offset by milder torsion bars and removal of the transverse leaf spring from the rear suspension. The result is a slightly more forgiving, insulating ride in a car which does feel heavier, although weighing only 45kg more than the Roadster. This is more than compensated by its engine which though still

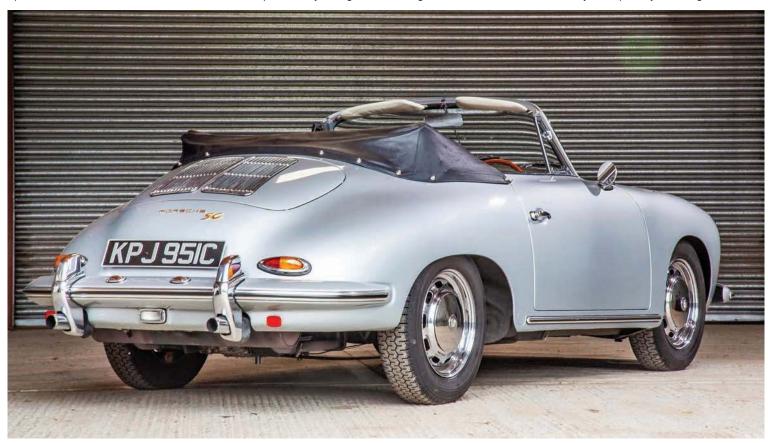
the 1600cc unit is here tuned to 95bhp: the result is considerably more torque. Effectively the SC can often be driven a gear higher than the other two and if more relaxing, its lever noticeably shorter than the earlier cars', it does slightly dilute the incentive to 'press on' which the earlier 356s invite.

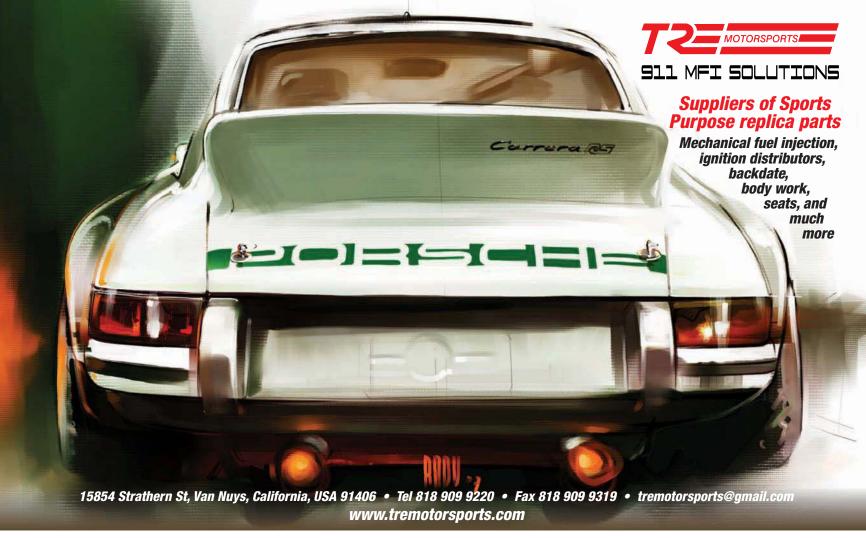
Disc brakes, here aided by the addition of an aftermarket servo, show how technology was beginning to take away some of the driver's need to anticipate, although with increasing traffic density their use on a performance car had by the mid 1960s become indispensible.

A 356 connoisseur, Mick Pacey who is based in Newport Pagnell where his father was once employed by Aston Martin, compares the evolution of the 356 with that of the DBs: 'The DB4 was the lightest and most driver-focused, but by the time of the DB6 the car was heavier, more powerful, but less sporting.'

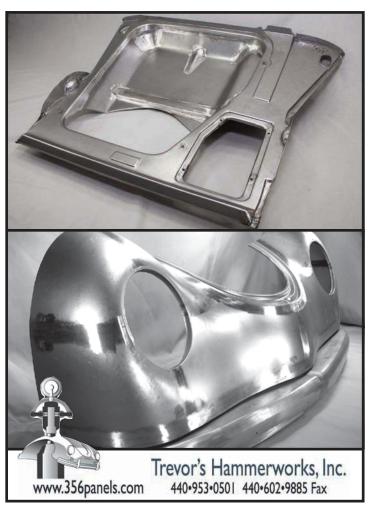
For people who appreciate them, all three open 356s are a delight: they offer the kind of driver involvement and hood-down motoring pleasures which have largely vanished from subsequent generations of cars. In his book *Porsche – Engineering for Excellence*, veteran road tester and historic racer Tony Dron puts the 356 in perspective:

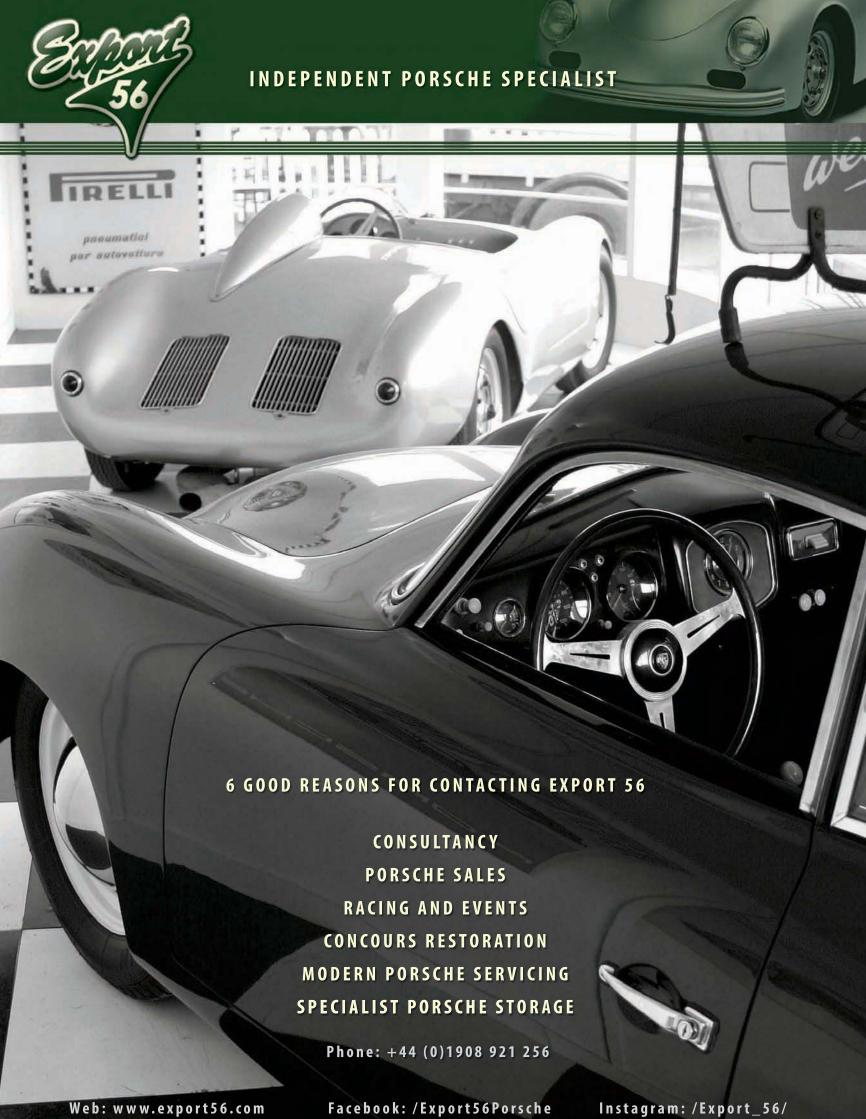
'These are cars from another age and, unlike a hot hatch, they can recognise a bad pair of hands and bite back. Once you know them, however, they are supremely rewarding to drive.' *CP*











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In June 2020 Porsche Club Great Britain will host the Porsche 914 International Meeting in the UK in scenic Mid-Wales, based at the Metropole Hotel and Spa in Llandrindod Wells. A website has been set up to give preliminary information and the organisers have produced a short promotional video entitled 'Chasing Dragons - Porsche 914 International 2020 in Wales' which can be viewed at the site.

'We are expecting over 100 Porsche 914s and around 200 people from across Europe at our event in June 2020, many of whom own other Porsches in addition to their 914,' says fom Loder of the organising committee.

More details from www.914international.com



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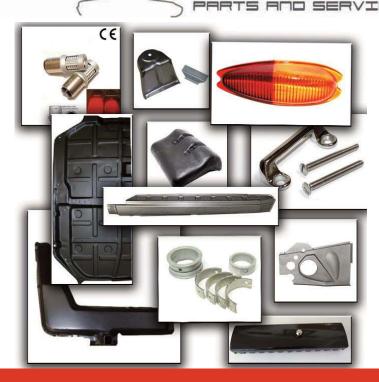
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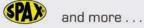


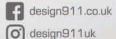






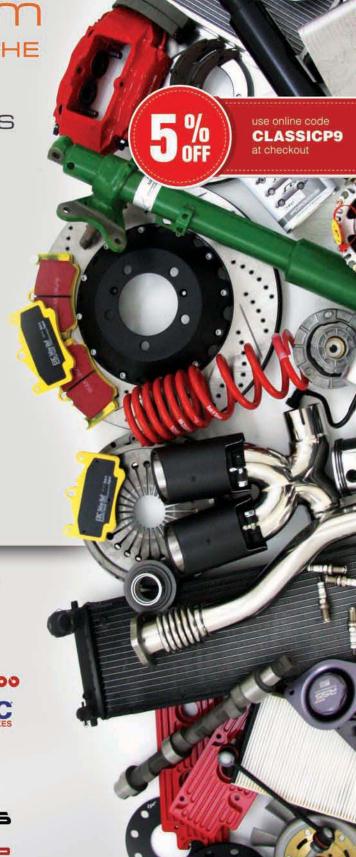












DELWYN MALLETT

WHOEVER WOULD HAVE BELIEVED THAT A DULL **COLOUR LIKE GREY WOULD BECOME SO** POPULAR, SAYS MALLETT, WHOSE OWN 356 HAS **JUST BEEN PAINTED - GUESS WHAT? - GREY...**

Many would describe Delwyn Mallett as a serial eclectic tastes at that. His Porsche treasures include a pair of 356 Speedsters, a Le Mans-inspired Pre-A Carrera RS. Some of them even work...



o, there we were, photographing a 356B coupé for a future issue of Classic Porsche magazine, when a mean-looking and fully loaded Golf R swept into the rural car park near Goodwood where we had set up the shot and the clearly excited driver sprang forth. Camera phone already primed for action his first words delivered in our direction were 'Is that Slate Grey?', closely followed by 'Mind if I take a photo?'

It didn't take the deductive powers of a Sherlock Holmes to deduce, without further questioning, that he was a Porsche enthusiast - the giveaway was not that he was photographing a Porsche but that he'd prefixed 'grey' with 'slate'. After all, grey is grey and comes in infinite shades, but Slate Grey has acquired a special resonance with the Porsche tribe.

Further conversation revealed that our new friend had a GT3 RS on order (lucky fellow) with lots of carbonfibre doodads and that it was to be, you've

guessed it, finished in Slate Grey. Much banter followed in which he expressed a desire to own a 356 but an offer to trade the B for the RS was politely rejected!

What turns a colour into a cult? In this case it is of course the association with the 'King of Cool', Steve McQueen and that extended seven-minute pretitle commercial for the Porsche 911 (OK, only around three-minutes if you don't count the crash montage in the middle of it) that forms the opening sequence of 'Le Mans', his personal homage to motor racing. (You can also catch an edge-on glimpse of the Heuer Monaco watch that, despite being one of the ugliest timepieces and not particularly popular in its day, has also become a cult possession thanks to a sprinkling of Steve McQueen fairy dust.)

Before the 'Le Mans' movie Slate Grey was just another grey and a rather

conservative option in the Porsche colour palette, but over time as the McQueen adoration society gathered momentum anything touched by the high priest has become an icon to be worshipped.

As far as I can ascertain (I have to admit I got more than a little bored trawling the web for details), Slate Grey was a standard Porsche colour through much of the 356 era and a 911 colour from 1964 to 1969. The paint codes were 6001, 6202, 6401 for the 356, and 6401, 66601 and 6801 for the 911, where the first two digits signify the model year.

How many customers actually ordered their cars in grey I have been unable to establish but it certainly was not a particularly popular colour in the day. A further trawl through a few internet sites soon reveals what a frustrating business matching the 'correct' shade of McQueen Grey is. The

conclusion is that perhaps there is no longer a 'correct' shade as every year it varied very slightly depending on the batch of paint used.

McQueen did of course also own a Speedster, in black, and the Speedster has become a cult car in its own right. It probably would have achieved its status without McQueen's endorsement, not least because that other Hollywood legend, James Dean, started his all too brief racing career in one. Dean's Speedster was white, the car's most popular colour in its day, but oddly these days white Speedsters seem to be thin on the ground. There's no cult of white. Too common perhaps?

Of the 4140 Speedsters to leave the factory, 1322 were white; Signal Red was the next most popular colour, 870 rolling through the Zuffenhausen factory gates. Surprisingly only 383 were finished in silver, the third most popular colour, and McQueen's car was one of the mere 141 painted black. Of the remaining 1087 cars, a mere four were painted Stone Grey, which

> sounds suspiciously close to Slate Grey. Obviously four cool dudes who were ahead of their day. (The Speedster was only available in white, red or blue until 1957 when all 11 standard coupé colours became available, but special colours were available at extra cost.)

> Now, however, it seems exclusivity. Last year the most was grey - the V5 is not very 911 that prompted it.

I'd put my money on the much-publicised launch of the Bauhaus-inspired Audi TT in 1999, followed by the

that grey is losing its popular car colour in the UK specific when it comes to recording a car's colour so the data will include all shades of grey, metallic and flat. It's hard to pinpoint exactly when the current fad for grey took off and it would be stretching credibility to claim that it was McQueen's

Roadster in 2001. With a nod to the famous grey-painted tower of the Bauhaus building in Dessau, the Roadster was available in an exclusive dark 'Nimbus' grey - which looked suspiciously like a WWII Wermacht grey - but very cool. The coupé was also available in Arrow Grey – which to many looks like primer and very few specified it. As a



'Is that Slate Grey? Mind if I take a photo?' So asked a soon-to-be GT3 RS owner whose own car is due to be delivered in what has suddenly become a very popular hue...

"THANKS TO A SPRINKLING OF McQUEEN FAIRY DUST...

Ball paints that have transformed so many of the nation's front rooms. The one or two of you who follow this column will be only too aware of my struggle to choose a shade of grey for my almost finished and soon to appear in this magazine 1952 coupé. In my case I opted for a non-Porsche colour purists start weeping, or mocking - Skoda F7A, which they call 'Steel Grey' and is nothing like Slate Grey, or indeed steel. But it looks good and in my eyes at least it's just as 'cool'. CP

grey fetishist my own TT just happens to be Arrow Grey. On the other hand

you could put it all down to the popularity of the muted shades of Farrow &



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ROBERT BARRIE

THERE ARE STILL SOME FINE DETAILS IN THE 2-LITRE CUP REGULATIONS WHICH NEED SORTING, SUGGESTS ROBERT, BEFORE HEADING TO SCOTLAND TO VISIT SOME RECOMMENDED HAUNTS

Robert Barrie is a classic
Porsche enthusiast
through and through. As
well as competing in
historic events with a
variety of early Porsches
and organising track
days, he's also a
purveyor of fine classic
automobiles



s ever, it's a busy summer. The 2-Litre Cup went to the Hungaroring in July. I hadn't been to the circuit before. It's tight and twisty with almost continuous changes of direction. I have no idea how they run modern F1 cars around it. As ever, the racing was great fun. The series really is very good, but there has been some uncertainty about the rules and regs recently. I mentioned before that they were being clarified in relation to valve sizes and exhausts.

The former seems to have gone well. Most of us were running the correct small valves anyway and those that weren't have either made the

required changes or retained bigger valves and accepted a time penalty. All good.

I am aware of some mild frustration, but there is no real argument to be had. It's like stealing yards at a throw-in. It goes on, we've all done it, but when the referee directs us back to where the ball went out that's where we have to go.

Exhausts have proved more problematic. There is an after-market system that's widely-used and liked, but it doesn't look like the one in the early 911 homologation papers. Okay, but neither does anything else.

At the risk of exaggerating slightly, I'm not sure there is an exhaust that does look like the one in the papers. So we can't have what we've got, but don't know what we can have. Not ideal. The organisers said they would accept a later type of exhaust at the event and imposed penalties on those of us with the 'wrong' type. I'm not sure that was the right



Robert dropped into the recently renovated and extended Jim Clark Museum in Duns, Scotland

"HE DROVE A 356 EARLY IN HIS CAREER..."

way to go. More than half of the grid was affected. We are due to discuss the subject again at the next round at Monza in September.

There are interesting issues here such as where does a manifold stop and a silencer start and is there a third component in-between? Also, what does it actually mean if silencers are 'free'? Does it mean that absolutely anything goes? If not, what can you do, what can't you do and why? I am sad enough to find this stuff fascinating and will come back to it in future. For now, what we need – with some urgency please – is a system that works well and looks like the one in the papers.

Anyway, back to the summer's schedule. The next stop was at Silverstone at the end of July for the pre-war race at the Classic. I was

sharing a lovely BMW 328 with Andy Prill of Prill Porsche Classics. AFN had a strong connection with the Bavarian manufacturer before and after the war and were BMW importers and agents before they built the relationship with Porsche. For me, the car was a friendly introduction to the earlier era. It was surprisingly easy to drive and quite quick. A class win. It was also good to see a couple of familiar and well-driven 356s battling away in a wet pre-63 GT race. They finished first and second in class.

A short break before it was off to Scotland in August for a road trip with a couple of key destinations. The first was at Duns in the Borders to visit the newly-renovated and extended Jim Clark Museum. The great man will

always be associated with Lotus, but he drove a 356 early in his career and scored his first race win in it at nearby Charterhall in late-1957. The remains of the old airfield circuit can still be found, as can Clark's family home at Edington Mains and his grave at Chirnside. We visited them all.

From the borders, it was round the North
Berwick coast to cross back past Edinburgh and Stirling to the west coast for a second stop at Crinan. For the explanation we go back to Budapest.

We were enjoying an evening event at the city's Fine Art Museum - Peter Auto does these things rather well - when someone asked a fellow Scottish competitor and hotelier about his favourite place to stay. The answer was Crinan. We booked as soon as we got back home. It is indeed a lovely spot. A reasonably local motorsport connection is the old Rest and be Thankful hillclimb.

I'll happily drive to the Highlands at the drop of a

hat, but for anyone who reckons the North Coast 500 may be a bit far or has become a bit too popular, I can recommend the Borders or the west coast. Meanwhile, the summer's activities are set to continue.

As you read this we should have been to Goodwood for the Porsche Club's KG event and be readying ourselves for the Revival in September. I should be in a Lotus sharing a grid with some cars from the 2-Litre Cup. A Jim Clark connection, again.

Monza is the week after Goodwood. Another road trip, another round of the series and, almost as importantly, another opportunity to talk at length about the intimate details of early 911 exhausts. It really doesn't get any better than this! *CP*



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THE KILLER BLOW

The turbocharged 934 dominated international GT racing in the mid-1970s. We go on track to experience the blast...



ike a heavyweight boxer, the 934 is palpably mightier than anything else on track – here, at Abbeville, at any rate. Amongst the effete 964s and 3.2 Carreras clustered in the paddock, this gaudy veteran prize-fighter looks like it's just swaggered in from the ring: bruised, bellicose and dangerous. And it has every right to be, having enjoyed an illustrious career in top-line endurance events, including Le Mans in 1976, '77 and '78, of which more later.

The car belongs to our host, Belgian collector Johan Dirickx, patron of 911Motorsport, and he's enjoying his springtime session at Abbeville racetrack in the Bai-de-la-Somme region of northern France, along with a bunch of likeminded 911 owners from the Low Countries. His 934 has recently undergone a private shakedown at Porsche's Leipzig test track, and hereafter Johan has his sights on a couple of races in the Patrick Peter championship, with Le Mans Classic 2020 the ultimate goal.

Our normal quick yardsticks around Abbeville are the nimble 2.7 RSs, 911 ST and 2.0 SWB racecar that sparkle their way round the track, their eager flat-sixes wailing their siren songs. But when the 934 roars by, the ground shakes. Its gruff, turbo-muted soundtrack tends to belie the fact that it's some way quicker than its immediate predecessors but, to the naked eye, there is no doubting there's a broad margin in their relative speed differentials.

Here's a bit of context. The 934 was based on the roadgoing 911 Turbo – the 930 – and spawned in an era of profound change in international sports-GT racing, effected by a combination of rule changes and technical advancement in the shape of nascent aerodynamics and turbocharging. Between 1972 and 1975, Group 5 sports cars and Group 4 GT cars contested the freshly renamed World Championship for Makes, and from 1976 to 1981 the series was open to Group 5 special production cars, including Group 4 GT cars such as the 934 and 935 that ran in Group 5, and they quickly came to dominate the championship. Soon enough, in '76, Porsche produced the mid-engined Group 6 936 prototype to run in the World Championship for Sports Cars.

This particular 934 was acquired by Johan's Antwerpbased JFD Collection in 2016. Built in 1976, chassis 930 670 0153, engine number 676 2005 type 930/71, Johan provides the history lesson. 'The first production 3.0-litre Turbos came off the line at the end of 1974 and the first half of 1975, and





these are by far the most sought-after Turbos, because they were built as lightweights and they had more in common with the 3.0 Carrera RS than the 3.3 Turbos that were introduced in summer 1975 for the 1976 model year.'

That first production year Porsche built just 286 of the 911 (930) Turbos. On the racing scene, the old Carrera RSR 3.0

was still competitive, but technology had moved on, and Porsche developed the Turbo for racing clients. The 934 became the Group 4 contender, and the 935 was a Group 5 car that the factory initially used itself, and the mid-engined 936 was the Group 6 prototype. In 1976, Porsche built thirty-one 934s, with a further 12 for the 1977 model year, mainly for the North American Trans-Am and IMSA series.

The 934 was created on the 930 base car. 'At the time it was officially called the Turbo RSR,' states

Johan. 'You had the '74 Martini Turbo Carrera, but the 934 was the only 911 Turbo that was ever called an RSR.' It had a broader track and wider wheels, so riveted-on wheelarch extensions accommodate the vast tyres (325/630 x 16 rear and

265/600 R16s front) and big, ventilated 917 brakes. The front bumper was reworked, as the 934 was the first Porsche to use both air and water-cooling; the turbo intercooler was water-cooled, hence two water radiators mounted behind the front spoiler. The cooling fan for the engine was relocated from its traditional vertical position and mounted horizontally on top of

the engine like the Group 6 prototypes. The 934 was a single plug engine, and initially used the Turbo's Kjetronic injection.

As Johan explains, 'when the cars were delivered to clients, the engines were tuned to 485bhp, but by the end of 934 production in 1977 when it was known as the 934/5 and fitted with a Bosch injection pump, output had risen to almost

650bhp. In the early days a few things went wrong, but by the end of '77 they lasted OK if you stayed within the limits.

'Engines were wrecked by down-shifting, because there's only four gears, and some drivers down-shifted too fast in order

Above: The 934 was an extremely successful machine in Group 4 competition. Porsche built 31 934s in 1976, with a further 12 following in 1977

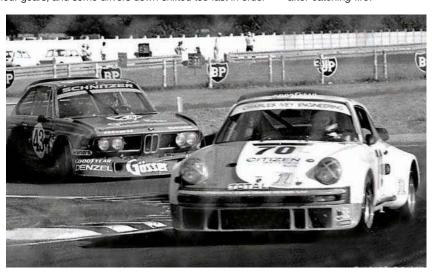
Right: Based on the roadgoing 930, the 934's origins are clear to see. However, front lugagge space was now dominated by a long-range fuel tank and the dry-sump oil reservoir

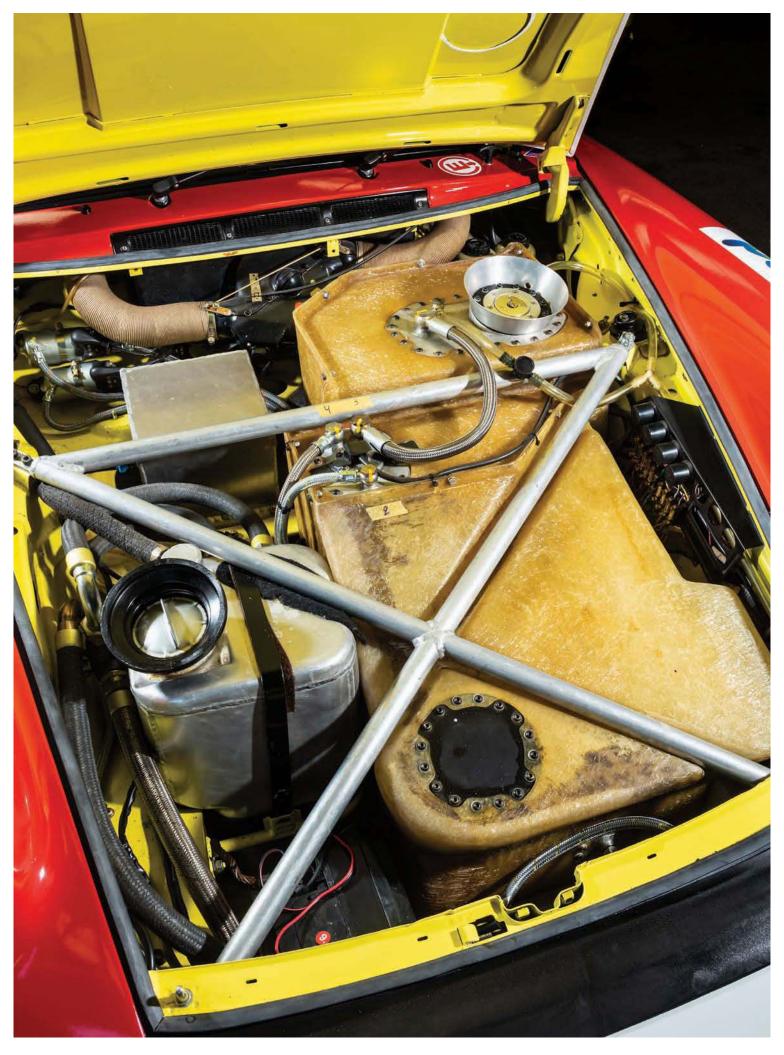
Below left: A display of horsepower of a very different kind!

Below right: The 934 heads the BMW 3.0 CSL of Dieter Quester through the Ford Curves at Le Mans in 1976. The BMW failed to finish after catching fire!











to slow the car down; it's such a big gap between the ratios that if they drop down one gear too low then mayhem happens.'

The 934 had an illustrious racing career, but the electric windows and un-stripped cabin appear anomalous, if not incongruous. 'Because the 934 was a 3.0-litre Turbo it was penalised with a weight handicap. Its minimum weight was pegged at 1200kg, but when built it actually tipped the scales at

1124.5kg, so that's why Porsche didn't bother to take out the electric windows – which could be seen as a bonus because the driver could easily lower the passenger side window for ventilation. The 934 was indeed a race car, but it was possible to make it road legal and have it road registered.'

This 934 had a hesitant start in life. It was initially sold to Rome resident Luciano Carra on 3rd March 1976 for DM107.670. However, Carra didn't take delivery

of the car, even though the factory had been asked to change its gearbox ratios, and together with an 80 per cent limited-slip diff, these cogs remain unchanged today. In April '76 it was then reserved for well-known Swiss racer Claude Haldi, but instead he bought number 930 670 0171, a 934 reserved for Georg Loos. Finally, it was acquired by the equally exalted Belgian

veteran racer Jean Blaton – racing name 'Beurlys' – who was possibly attracted by the yellow *Hellgelb* livery, which was his national racing colour. 'The subsequent chain of ownership reveals it has mostly been in Belgian hands,' Johan tells us. Here's the roll-call: 1976, Jean Blaton; 1977, Pierre Vandermeulen – who leased the car to Jean-Pierre Gaban until 1988; then 1997, Walter Pauwels; 2012, Eric Nijman (NL); 2014,

Albrecht von Witzleben (G).

In 2016, it was auctioned by Fiskens at Retromobile, and Johan won the bidding. He'd kept tabs on the car since the early '90s, and knew it in intimate detail. He'd previously been in negotiations with Walter Pauwels to buy it, but instead it was sold to Eric Nijman, who commissioned a cosmetic restoration – fortunately without compromising the car's originality. 'This car has never

been transformed, as so many of its peers have, into a 935 that it was almost a miracle. Trunk, interior and engine compartment and chassis remain untouched. As I'm friends with Pierre Vandermeulen, I've been able to buy quite a lot of original spare parts belonging to this 934, including turbochargers, radiators, exhaust manifolds, BBS wheels, rev-counter, all of which have

Above: The mantra 'slow in, fast out' was written for cars such as the 934, where turbo lag meant that the driver had to get all his ducks in a row before the turbo came on boost – then it was a case of holding on tight!

Below: Based on the roadgoing 930 Turbo, 934s began life with around 485bhp, the figure rising to 650bhp in 1977. Flat-fan cooling system echoed that of the factory sports-racing cars, such as the 917. Incredibly, this car still has its original engine and gearbox











Clockwise from top left: Le Mans 1976, wearing a paint scheme applied by driver Nick Faure; a typically wet Spa in 1977; 1977 Zolder, with Bekers van de Toekomst; Le Mans 1978; on the Mulsanne straight, Le Mans 1977; 1978 ADAC Saison Abschulss Rennen

Below: Retaining the electric windows means the driver can control cockpit ventilation during a race – a real luxury on a long event like the Le Mans 24-Hours! been kept meticulously so they are reunited with the car.' Johan also plans to acquire an original front spoiler and aluminium roll cage, though that's not eligible for historic racing; the cabin currently sports a full FIA-spec steel roll cage so it can participate in FIA-sanctioned races, but he believes it's important to have the original parts. Meanwhile, incredibly, it retains its original matching numbers engine and gearbox.

So, here are the big moments. At Le Mans in 1976, it was driven by Beurlys, Nick Faure and John Goss. 'That was probably its finest hour,' Johan suggests, 'given the quality of the drivers.' Doyen of semi-professional Porsche racers during the '60s and '70s, Nick Faure gives us his impressions of the '76 race and the 934: 'This was Porsche's first attempt to produce a Group 4 racer out of the new production 930 Turbo. With such little experience of running these amazing machines, Porsche did not understand that when you came into the pits the turbo was still turning up at mega revs. With the engine turned off it was not getting the necessary lubrication and simply burned out almost immediately, the engine then giving nothing more than non-turbo power.

'When it was out on the circuit it was massively quick, and I remember that it stood firm and proud on the circuit, delivering enormous power, somewhere near 500bhp from memory, but

felt like a very steady, firm machine, with very little compliance, relying on the power to set it up in the fast corners. Strange thing was, we had to run these Group 4 cars at production weight – crazy! – putting a huge strain on all the moving parts, especially at Le Mans when all the components need all the help they can get for reliability. So much so that we had to carry a lump of lead in the passenger footwell – and run with electric windows! Who was quickest of the three of us? Me, of course!'

As for the car's '76 livery, Nick had a hand in that, too. 'The Belgians turned up at my request with the car painted plain white, which I then painted in the garage in Arnage that they used before the race. I masked the car up myself, and all the colours were hand painted using Halfords spray paints. I brought along Harley-Davidson again as I was friends with Clayton Day Jnr, the European "President" who was a college kid from the US. I chose the design myself to make it distinct from the previous year with an offset red stripe incorporating the front wing.'

And behind the wheel? According to Nick, 'It was great to drive, and it had a tremendous turn of speed on La Ligne Droite des Hunaudiéres – that's the Mulsanne straight to you! My memories are of a great GT racer with fantastic response and solidity, only held back by the regulations. Yes indeed, we





suffered the indignity of having to replace four new turbos, and Jean Blaton the owner got rather cheesed off, especially with the considerable expense of a succession of trips to the Porsche parts van in the paddock.

'But nevertheless, pioneering the turbo for the factory was a great story. Eventually we decided to park up the car in the pits and then just do the final few laps so as to be classified as a finisher. Nobody can replicate the whole experience and atmosphere of the 24-hours in those days, a different era of the wealthy amateur.'

At the following year's Le Mans it was run by Nick Koob on behalf of Jean-Pierre Gaban, with Willy Braillard, Koob and Guillermo Ortega sharing the driving, only to retire in the 16th hour, once again with a blown turbo.

Today, it's presented in its 1978 Le Mans colour scheme, with new decals matching the originals, made and applied by

Dams Graphics. It was entered by Jean-Louis Ravenel, and driven by Willy Braillard, Jacky Ravenel and Philippe Dagoreau, lasting eight hours until the injection pump broke. A month earlier, Braillard had won the Spa 600kms with the 934, so it does have winning provenance. And Marc Duez placed 2nd in the Benelux Cup at Nivelles with it a month later. In its last race, at Zolder '78, Braillard engaged reverse gear on the starting grid, causing the driver behind him a heart-stopping moment!

Thereafter, its competition career was on hold, till 1983, in the guise of a rally car for Belgian ace Patrick Snijers, recruited by its then owner Jean-Pierre Gaban, with Bastos sponsorship. It was entered for the Ypres Tarmac rally, but at the last minute the entry was cancelled, probably because Gaban and Snijers realised that the 934 was not an ideal rally weapon. Instead, Gaban bought himself an SC-RS for his star driver Snijers to compete in the 1984 Belgian Rally championship,

Above: Owner Johan Dirickx has managed to gather a large quantity of original spares for the car, including turbos, radiators and wheels. Next on the list is an original aluminium roll cage

Below left: The 934 has had a well-documented illustrious past, at the hands of some notable drivers...





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which they won.' While in Walter Pauwels' ownership the car was still painted in Bastos livery, and participated at Classic Le Mans, helmed by Pascal and Dominic Pauwels, with Gilles Stievenart as third driver.

This car belongs on track, so let's get on with it. Involving as it is, Abbeville's ten tight turns – plus a couple of kinks – are, frankly, not the perfect

environment for unleashing the 600bhp that this muscular monster is capable of delivering. Sure, you can't afford to relax for a second as turns and kinks come rushing at you one after another, requiring a stream of finely judged reactions. However, our host, drift-king Johan, inevitably gives it his best shot.

I've driven a 934 before, on the road though – chassis #

930 670 0177, a six-times Le Mans runner and 1981 GT Class winner – so I know what an animal it is. For my Abbeville outing I don my Peltor lid, while 911Motorsport mechanic Mike Van Dingenen buckles me into the full race harness. There's a very sharp clutch take up, so I give it a lot of revs and then let it go

very carefully: it's quite a muscle builder. The throttle response is smooth and undramatic, and it's difficult to feel the moment the turbo actually kicks in, but it does accelerate very quickly.

It's quite a short gearchange, with no great movement in the shift pattern. This is a real he-man car, and I'm hauling it around the corners, using repeated lift-off understeer to tuck the

nose in nicely to the apexes the rest of the time. There's only one way to handle the 934: monster the monster. The car surges tsunamistyle down the straight, and then the turbo reveals itself with a violent flush at 4500rpm.

I'm leaning on the tyres as I pitch it into the corners, and it's fluent through the more open bends and surprisingly compliant, and in no time at all, at the end of the next straight I stand on the 917 brakes and it hauls up pretty

abruptly. It is incredibly thrilling, and sounds awesome. I've lost count of the laps – perhaps eight or ten, and I guess on a more open circuit it would still be physical, but perhaps less hard work. Perhaps a wrestling analogy would be more apt than a boxing ring. *CP*

Above: Barely a square inch of paintwork left amid the sponsors' decals, the 934 looks just as it did in the 1978 Le Mans 24-Hours

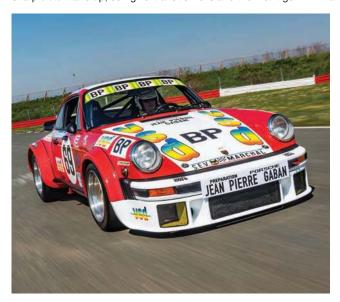
Contact:

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Below: Tipler exercises his muscles as he hustles the 934 round Abbeville's twisty circuit. The 934, he says, is probably better suited to a more open circuit...









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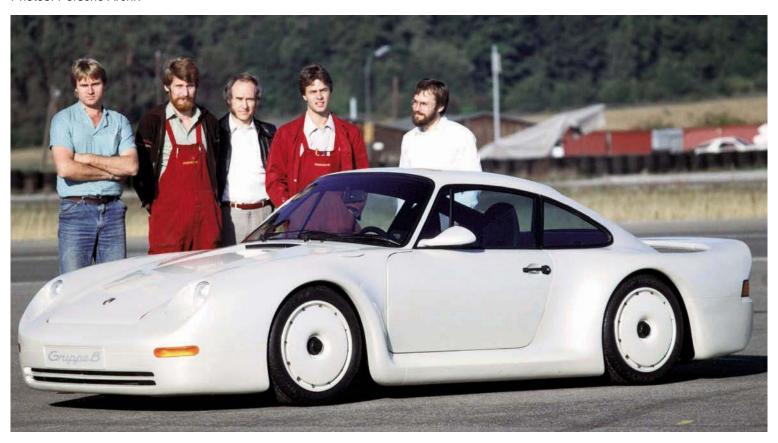
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DECADE OF CHANGE

The 1980s were a decade of which many say style and good taste fell by the wayside, but for Porsche the 1980s represented a pivotal moment in the company's history, a time when the very future of the 911 came under threat. It was also a decade that saw the introduction of a model which many regard as the last 'classic' 911: the 964...

Words: Keith Seume Photos: Porsche Archiv



orsche left the 1970s behind in a whoosh of turbocharged machismo, whale-tails and Carrera side-stripes. It had been an incredible decade, one which saw the 911 mature from what was essentially a relatively low-volume en

We'd also witnessed the birth – and passing – of what many argue was the most iconic Porsche ever built, the 1973 Carrera RS. This was followed by the incredible 930 Turbo, a supercar on every level which, unlike so many of its Italian rivals, proved to be reliable – almost docile, even – yet was possessed of sledgehammer performance when the pedal was firmly planted to the metal.

The 911 had seen off a rival from within, too, in the form of the groundbreaking V8-powered 928. If there was any era in which the 911 proved itself to be a great car, it was the 1970s. The Eighties began with the 911 in reasonable health. The relatively new 911SC sold OK, but not in the numbers that many of Porsche's insiders would have hoped.

The 911 was supposed to be dead, buried by the new watercooled interlopers in the shape of the VW/Audi-powered 924 and the range-topping 928. But it refused to die, its survival guaranteed by the likes of Peter Schutz, who was appointed chairman of the board in January 1981.

Born in Germany in 1930, Schutz's family had fled Germany under the Nazis, first to Cuba and then the USA, in 1938. He became a naturalised American in 1946 and embarked on a

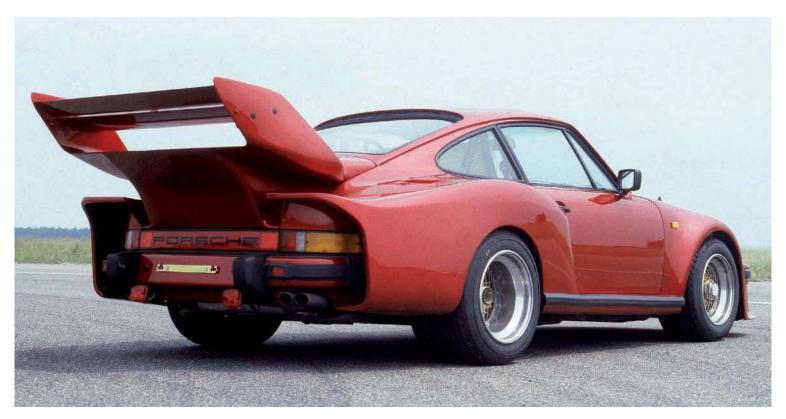
career that would see him work for several major league companies, including Caterpillar Tractors, Cummins and Klöckner-Humbolt-Deutz, manufacturers of Deutz diesels. He was headhunted for Porsche in the autumn of 1980, taking the helm two months later.

On his appointment, Schutz began asking questions – a lot of questions, demanding reports from his department heads regarding the current model range. He personally didn't think there was much of a problem offering the 911, 928 and 924 alongside each other, feeling (probably with justification) that these three cars did not really overlap too much. Each had its loyal fans, who were unlikely to jump from one model to another – even though, of course, previous incumbents had believed the 928 would oust the 911.

Schutz is reported as asking his colleagues the thorny question which of the company's products actually made them money. The answers were telling: neither the 928 nor the 924 really made Porsche rich. The 928 was costly to build, while the 924, despite being a sales success, returned only a relatively small profit (it was the dealer network and the Audi plant at Neckarsulm which profited most). The 911, on the other hand, made the most money, even if sales were relatively modest. And for that reason alone, any thoughts of killing off the long-standing product made no sense at all.

Porsche entered the 1980s with two air-cooled models: the trusty 911SC and the mighty 930 Turbo. The SC was Porsche's first 'world car', with relatively little difference between models sold around the globe. This, of course, saved the company a lot

Above: If any one car exemplifies the changing character not only of the 911 but of Porsche in general during the Eighties, the high-tech Gruppe B prototype was the one. This precursor to the technologically sophisticated 959 was surely the ultimate 911-derivative?



Above: Arguably the ultimate in 1980s factory-approved excess was this '935 Street', available to special order and based on a contemporary 930 Turbo

of money, but also brought to an end the feeling in the North America market in particular that it was a poor relation to Europe. The USA had long been on the receiving end of detuned models, or even denied certain models altogether.

The 911SC had been launched with 180bhp in 1977, boosted to 188bhp in RoW (Rest of World) markets in August 1979 for the 1980 model year. At the same time, the old Sportomatic transmission option was dropped. A year later, in August 1980, power was increased in all markets to 204bhp – just 6bhp less than what most people still believe to be the greatest 911 ever built: the 1973 Carrera RS.

For its part, the Turbo remained fundamentally unchanged as the new decade began. The same 3.3-litre 300bhp package continued at the top of the 911 line-up as it had been since August 1977. But the USA was about to be given a slap in the

face yet again when, in July 1979, the Turbo was temporarily dropped from the North American market.

The 911SC was still the only model offered as both a coupé and a Targa (neither the Turbo nor the water-cooled models were available as anything other than coupés) and work continued to make it better than ever. Incredibly, it was ranked as the world's most economical 3.0-litre car in 1981, thanks to the Porsche engineers' work on

reducing emissions and fuel consumption. The compression was raised to 9.8:1 (from 8.6:1), which made it necessary to use premium fuel, but redesigned pistons and combustion chambers helped make the flat-six more efficient.

1980 also saw the introduction of the highly controversial Pasha interior trim on the 911. This 'op-art' material, which had first been used on the 928, was a step too far for many fans of the marque and it was joined by the more restrained 'Berber' trim in 1981 which, while conservative in design, met with wider approval.

At the Geneva show in March 1982, Porsche drew visitors to its stand with the launch of another new 911 – the 911SC Cabrio. This was the first full convertible offered by Porsche for some 17 years. A clever three-bow hood design meant that the folding top was extremely windproof and kept its shape well, even at speed. It was also 15kg lighter than the equivalent Targa and, thanks to the roof's aerodynamic profile, the 911 Cabrio

could match its coupé sibling's maximum speed (146mph).

Work had begun on the Cabriolet in March 1981, with a prototype available for inspection in the middle of the following month. This one-off example was given to Helmut Bott, head of research and development, to drive and he was clearly impressed. Following a showing to the board in May, the Cabrio was given the green light and work began in earnest.

In September that year, Porsche set tongues wagging when it displayed a four-wheel-drive Cabrio version of the Turbo at the Frankfurt show. At the time, this was seen as little more than a lesson in attention seeking, and it certainly had the desired effect. What was Porsche getting up to, pundits asked.

Some 32 pre-production Cabriolets were built – more than one would normally expect for a car that wasn't altogether new (it was mechanically identical to its siblings) – each undergoing

extensive road testing in an effort to discover any potential weaknesses. Extra strengthening was added to the shell as a result, but far less than might be expected. In March 1982, the new model was officially launched at Geneva, with the first cars rolling off the line in October that year.

But what of the Turbo at this point? Since the introduction of the 3.3-litre version in 1979, it had been a case of if nothing

needs changing, then change nothing. Or at least, very little. In 1980, the oil cooling system was redesigned, while the following year saw the Turbo benefit from Porsche's new seven-year anticorrosion warranty. In 1982, while there were big changes afoot with the SC (see above...), the Turbo ticked along quite happily unchanged save from very minor improvements to the engine and electrical systems.

In 1983, the Turbo (which was still only available as a coupé) became more economical, thanks to a revised fuel system. Incredibly, the mighty Turbo was now some 20–25 per cent more fuel efficient than earlier models, while torque was increased from 304lb ft to 318lb ft at the same 4000rpm engine speed. Driver comfort was improved, too, with the addition of an auxiliary heater blower in the footwells.

But don't get the impression that Porsche was sitting on its technological laurels – not for one moment! The public showing of that four-wheel-drive Turbo Cabrio in September 1981 may

"WHAT WAS PORSCHE GETTING UP TO, PUNDITS ASKED..."



have been a bit of a red herring, but it hinted at the work that was going on behind the scenes at Weissach.

In 1981, motorsport's governing body, the FIA, introduced three new categories of competition: Groups A, B and C. Group A required that at least 5000 examples of a competing car had to have been built within a 12 month period, while Group C was for 'sports prototypes'. Group B, however, was for two-seat enclosed models of which at least 200 examples had been built within a 12 month period.

Group C may have spawned such great Porsches as the 956 and 962 endurance racers, but the Group B regulations were responsible for the development of one of the most technologically exciting Porsches of all time: the 959. According to insiders, Group B posed some difficult problems: 200 was a large number of specialist cars to build, meaning that some would have to be sold to customers. The number was also too low for mass-production techniques to be used, yet too high to be hand-built by the racing department.

In the world of rallying, the Group B regulations gave rise to the most exciting – and certainly some of the most dangerous – rally cars ever. This no-holds-barred category resulted in the firebreathing Audi quattros, Ford RS200s and a whole swathe of

over-powered turbocharged four-wheel-drive monsters. Porsche was most interested in the possibilities offered by Group B and the first fruits of its labour was an evolution version of the roadgoing 911SC, called the SC/RS.

This two-wheel-drive machine was impressive in its own right but it was clear for all to see that the future lay with all-wheel-drive. Porsche's toe in the water was the Type 953, a four-wheel-drive development of the 911 which was built in double-quick time and entered in the 1984 Paris-Dakar rally – which it won by a significant margin over its rivals. But the Type 953 was only the beginning – or at least, the public face – of a far more exciting project which was bubbling away behind the scenes.

What became known as the 'Gruppe B' Porsche was first mooted in January 1983 by Helmuth Bott. He suggested that the car be powered by a 2.8-litre flat-six offering 400–450bhp, with water-cooled cylinder heads, four valves per cylinder, turbocharging (naturally) and a four-wheel-drive drivetrain. The new car would be built down to a weight using the latest composite technology for the body panels.

Clearly with one eye on future production, Bott also stated that he did not want the front luggage space unduly compromised by the drivetrain. This fell by the wayside, though,

Above: Introduced in 1983, the Carrera 3.2 superceded the successful 911SC, and was, to all intents and purposes, the last of the 'traditional' 911s, with its torsion bar suspension

Below, left and right: Porsche dominated endurance racing in the 1980s, first with the 956 and then with its successor the 962





when it was decided that double-wishbone suspension made more sense than a more conventional 911-derived system. He did specify, however, self-levelling suspension and dampers which could be adjusted from within the cockpit.

The new car was given the internal reference 959 and the plan was to have the car ready for homologation by the beginning of 1985. Work continued full steam ahead with the intention being to display a prototype at the forthcoming Frankfurt show in September 1983. Meanwhile, it was decided that of the 200 examples required for homologation, 20 would be built expressly for racing, referred to as the Type 960.

A road-going model – a 'super Turbo' – was envisaged, too, this wearing the moniker '961'.

However, when that idea was abandoned, Type 961 was used to define the road (as opposed to rally) competition version of the 959.

Audi had already demonstrated that 4WD was essential for success in rallying, and Porsche knew it was an essential ingredient for its new project. With data received from sensors located in each wheel, the computer-

controlled drive system could split torque 50:50, front-to-rear, in greasy conditions, or direct up to 80 per cent to the rear wheels under hard acceleration. While Bott and his team would have liked to explore the use of new PDK semi-automatic transmission technology, the decision was made to use a six-speed manual gearbox due to the lack of development time.

By the end of the year, it was clear that the 959 could not be homologated for the start of 1985, so a new date in April was set. The delays, plus the development of the 959's technology, added to the rising costs – it was now estimated that the 959 would end up costing at least double the original estimate.

There is not the space here to tell the whole 959 story in detail but it is worth briefly summarising what this technological *tour de force* brought to the table in the 1980s (remember, it's well over 30 years since the 959 was born): the extensive use of

Kevlar composite materials; dual progressive turbochargers; an electronically-controlled drivetrain; tyre pressure monitoring; self-levelling suspension; adjustable ride-height — and aerodynamics superior to any production Porsche yet seen.

Even though the Group B series faltered, the project continued and eventually just under 300 examples of Porsche's supercar were built. Launched in April 1987 at a cost of around £150,000 (or three times the cost of a contemporary 911), the 197mph 959 was the world's fastest production car. And Porsche lost money on every single one it sold...

The 959 was certainly the most dramatic new Porsche of the 1980s, but it was not the only one and, it could be argued,

not the most important. Yes, as far as Porsche was concerned, it pioneered four-wheel-drive and it investigated the use of something other than torsion bars for springs. It also took turbo technology to a new level – but it wasn't a car that could ever make Porsche any money. For that the company needed to freshen up the mainstream 911.

And this is where Peter Schutz showed his mettle. His market-led style of management

persuaded his fellow board members that Porsche's future lay not so much with overly-complicated showpieces, like the 959, but with mass-appeal cars like the 911SC – only better. In August 1983, Porsche launched the long-awaited replacement for the SC, the Carrera 3.2.

This was only the second time Porsche had used the 'Carrera' moniker on anything other than a race or high-performance variant (the first being the Carrera 3.0 in 1976), and its adoption on this mass-produced model did not meet with universal approval. The Carrera 3.2 was powered by an engine which Porsche claimed to be 80 per cent new, but was in fact clearly derived from the existing 3.0-litre 930-series engine. The capacity was boosted to 3164cc by use of the Turbo's 74.4mm crankshaft in conjunction with the SC's Nikasil 95mm cylinders. On the whole, the engine followed a path well-trodden by

"THIS IS WHERE PETER SCHUTZ SHOWED HIS METTLE..."

Below: The styling department agonised over details of the 959, several different designs being explored ahead of production





Porsche, but there were certain significant changes.

The first is the monitoring of the ignition and fuel systems by a microprocessor control unit, which went under the title of 'Digital Motor Electronics' – or DME for short (it was also known as 'Motronic 2'). In addition, the old Bosch K-Jetronic fuelinjection of the SC was replaced by the new LE-Jetronic system from the German supplier. The new set-up was far more efficient

and generally reliable – only in years to come would the magic words 'DME relay' rear their ugly head as owners discovered their cars would often refuse to start due to the failure of a relatively inexpensive electrical component.

The other worthwhile change to former practice was the introduction of oil-fed hydraulic cam chain tensioners which, theoretically, waved goodbye to the old bugbear of collapsed mechanical tensioners and clattering cam chains (or

worse). The fact that the new system could be retro-fitted to earlier engines was like manna from heaven for the Porsche service industry.

In general, the Carrera 3.2 looked little different to its predecessor (if you ignored the ugly 'Teledial' wheels first fitted

as standard...) but in August 1985, a 'Turbo Look' Carrera became available, which added the Turbo's wide arches and tea-tray spoiler, along with the Turbo's wheels, brakes and suspension, to the otherwise stock 911. A Sport Equipment package was also available, which offered Bilstein shock absorbers and 16in forged wheels. Other than the badging, it was difficult for the casual observer to distinguish between the

Turbo Look Carrera 3.2 and the 'real thing' – the 930 Turbo.

The only downside was that the increased weight of the Turbo-spec running gear and bodywork had a detrimental effect on acceleration times, while the fatter bodywork and tyres knocked some 12mph off the top speed.

There was also a special version of the Turbo available at this time: the *Flachbau* ('slantnose') 930, which was

available under the *Sonderwunschprogramm* (special order programme) beginning in 1981. It was an otherwise conventional Turbo, but with 935-style sloping front wings with flip-up headlamps (a few were also built with low-set square headlamps mounted under the front bumper). Although rare

Above: Popular with the City boys, the wide-bodied 'Turbo Look' Carrera 3.2 was essentially a Turbo without the turbo. The cabriolet version was the height of 1980s style

Below, left and right: Turbo Targa in Guards Red was not for the shrinking violet. The same could also be said for the outrageous Carrera 3.2 Speedster, with its raked windscreen and 'fastback' rear cover







and considered by some very desirable, it's probably true to say that this fine example of 1980s styling hasn't stood the test of time too well...

Up until this point, the Carrera 3.2 (and its predecessor, the SC) had been equipped with the slightly agricultural Type 915 transmission. Don't get us wrong: the 915 was a good 'box, strong and generally trouble-free, but it did have a reputation for being a little notchy to use, and rough-sounding at low speeds. It was limited in the amount of torque it could handle, which is part of the reason why Porsche chose not to go to a full 3.3-litres (as per the Turbo) with the Carrera.

Porsche addressed these shortcomings with the release of the all-new G50 transmission in August 1986. This gearbox, a five-speed unit built by Getrag, was a major improvement over the old unit and cars fitted with the G50 are easy to spot — reverse was now located over to the left and forward, as opposed to over to the right and back... The clutch was now hydraulic in action, too.

There were other exciting developments, such as the launch of the Carrera Club Sport in September 1987. This was a stripped-out version of the Sport Equipment Carrera, with several 'luxury' features deleted: electric windows, electric seats, central locking, radio, rear seats, air-conditioning, sound insulation — and even the passenger's sun visor. Generally available in Grand Prix White with red graphics, the Club Sport evoked images of the Carrera RS of old — even if it didn't quite have the same sporting heritage.

In 1988, Porsche released an Anniversary model, to celebrate 25 years of 911 production. Finished in Maritime Blue with 'Ferry Porsche signature' seats, just 875 of these special models were produced, of which just 50 came to the UK (reputedly 30 coupés, and ten each Targas and Cabrios).

But the most flamboyant of all Carrera 3.2 variants was the Speedster. First shown as a prototype at the 1987 Frankfurt show, the new model went on sale in January 1989. Based on the bodyshell of the Cabrio, the Speedster featured an aluminium-framed and raked-back windscreen, echoing the style of the original 1950s 356 Speedster. There was a temporary lightweight folding roof (again, very much in the spirit of the original) and a moulded 'Speedster hump' covering the area over the deleted rear seats.

The Speedster was very much a no-frills model and customers were asked to sign a disclaimer that they were

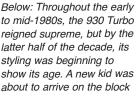
prepared to accept increased levels of wind noise and some water ingress in inclement conditions! Available in both normal and Turbo Look versions, the Speedster divided opinions, some loving its fresh-air, back to basics character, others feeling it looked humpy and, well, plain ugly...

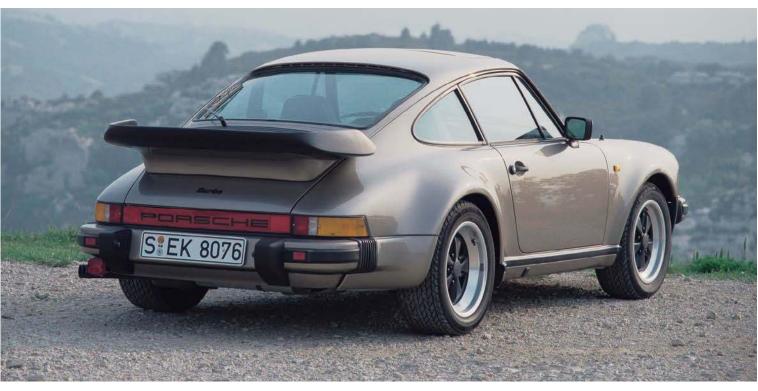
The outlandish Turbo Look, the *Flachbau*, the Speedster – all were fine examples of 1980s excess and outsiders could be forgiven for thinking that Porsche was losing its way – it was in danger of being seen as a manufacturer of cars for the fashion-conscious, rather than the creator of finely-honed sports cars for the enthusiast. The truth lay somewhere in between: Porsche, like all other manufacturers, had to move with the times, and that meant constantly updating existing ranges – and introducing new models.

By the end of 1987, sales of the Carrera 3.2 had started to slip, and Peter Schutz, the man whom many credit with 'saving' the 911 in the 1980s, was replaced by Heinz Branitski, whose financial background was felt to be just what Porsche needed as the decade drew to a close. Porsche sales had suffered on two fronts: first, the collapse of the stock market in 1988 meant that the new 'upwardly mobile' ('yuppie') buyers were no longer there to fill the company's coffers. Second, the core market – the real enthusiasts who had been brought up on a diet of Le Mans victories, fire-breathing Turbos and be-winged Carreras – felt they were no longer being catered for. Porsche had gone soft with cars like the Speedster and *Flachbau*... Sales in the last two years of Carrera production had fallen by 10,000 units.

Branitski's reign at Porsche was to be short-lived, but under his tenure, a new 911 was launched in August 1989: the Type 964. Learning from the experience gained with the 959 and its one-off predecessor, the all-wheel-drive Turbo Cabrio show car of 1981, Porsche's new 911 featured full-time four-wheel-drive and revised styling. To the casual observer, the 964 looked like it was simply a Carrera 3.2 with new aerodynamic bumpers and side-skirts. But that was far from the truth.

The decision to use four-wheel-drive technology was not an easy one to make for Porsche, as all its road-going models (save for the 959) had been rear-wheel drive only. That, along with torsion bar suspension and a rear-mounted air-cooled engine, was a foundation stone on which a whole dynasty had been built. But there were some clear advantages in adopting four-wheel-drive: firstly, 100 per cent of the vehicle's weight could be used to provide traction, and secondly, it allowed drive







to be split between front and rear wheels, increasing the stability under all conditions. The downside was increased weight and greater complexity.

The new drivetrain called for a radical revision of the bodyshell, with a larger 'hump' down the centre of the chassis to accommodate the front propshaft, and new panels in the front luggage space to accept the front differential and driveline. For the same reason, the fuel tank was reduced in capacity by 1.8 gallons, too. But that was not all. The 964 also dispensed with Porsche's trademark torsion bar suspension...

The new model, badged as the Carrera 4, now featured coil-sprung suspension all round – MacPherson struts with coil springs were fitted to the front, while at the rear aluminium semi-trailing arms from the Turbo were used in conjunction with new coil-over dampers. And, for the first time on a 911, power-assisted steering was also a feature, as was an anti-lock braking system.

Nestling in the back was a new 3.6-litre engine – code M64/01 – which had a bore and stroke of 100mm x 76.4mm and featured twin-plug heads for improved combustion. The twin-spark ignition required the use of an extra distributor, driven off the first by a small toothed belt – this allowed the ignition timing to be retarded slightly which, in turn, allowed the compression ratio to be increased to 11.3:1. The enginemounted oil cooler was also deleted in favour of a larger remote unit mounted under the right front wing. There was no Turbo

(yet), but it was only a matter of time.

The transmission was a modified G50 unit, with drive to the front wheels passing through a central epicyclic differential unit which split the torque between the front and back wheels in the ratio 31/69. A five-speed unit, it owed more to the technology used on the early Paris-Dakar 911s than the later, more sophisticated 959.

The decade drew to a close with the launch of a two-wheel-drive version, the Carrera 2 which was essentially the same as the Carrera 4 save for the removal of the front driveline assembly. Released onto the market two months after its sibling, in October 1989, the arrival of the Carrera 2 also heralded the launch of Porsche's all-new semi-automatic 'Tiptronic' transmission.

Built by ZF in conjunction with Bosch, this 'intelligent' transmission was a four-speed unit which could be driven in fully-automatic mode or manually using a sequential clutchless shift. It was a design of which Porsche was justifiably proud. The smoothness of its changes under load gave a seamless feel to the driving experience, but overall performance did suffer: the Tiptronic Carrera 2 was almost a second slower from zero to 62mph.

So, the 1980s – the age of shoulder pads and Gucci loafers, red braces and red Turbos. A decade of excess that saw the 911 rise from the ashes, and Porsche once again establish itself as an innovative creator of exclusive sports cars. *CP*

Above: Launched in 1989, the four-wheel drive 964 Carrera 4 spurned Porsche's beloved torsion bars in favour of coil springs all round. A two-wheel drive version, the Carrera 2, was soon to follow

Below left: You can't talk about 1980s excess without mentioning Pasha!

Below: The new 964 was virtually identical to the outgoing Carrera 3.2 from the bumper line up, but under the skin there were big changes. Was this the last truly classic Porsche?







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ontext is everything with classic cars, and a mix of time and cultural references can change perception almost overnight. Machinery that was once desirable can fall by the wayside as it drops out fashion, while nostalgia can inject value into the survivors of the most humdrum ranges, and even film and television cameos often shift desirability with little or no warning. Sometimes it gives the unsung heroes their long-deserved spot in the limelight.

The 912 is one such unsung hero. Porsche had launched this pared-back version of the 911 as a stepping stone while it phased out the 356, and the relatively low step up in price compared to its six-cylinder sibling got the coupé off to a good start. But it didn't last and, as the 911 found its feet with buyers, unfair perceptions that it was the poor relation consigned many to rot and disrepair. At least that was the case until relatively recently, because those who are familiar with the 912 know this no-frills driver's car is much more than the sum of its parts.

Engine capacity has never been a barrier to desirability for Joe Feng, the Pasadena-based owner of this low-slung, canyon-honed, 50-year-old coupé. Running his own home improvement company has funded a long list of classic Japanese cars and a firm familiarity with rotary engines and Honda's VTEC technology, but not without an affinity for Porsches on the side. Admittedly this had started with modern metal, a 2008 Carrera 4S on which he'd put his own spin, before the internet dropped a picture of Rod Emory's black 356

outlaw onto his radar. His plans changed immediately.

'At the time I was looking to get another Porsche and debating whether I should get an old or new one — Rod's 356 made my decision,' he says, laughing. 'But I didn't know much about air-cooled Porsches back then, so I had no idea how much a good 356 would cost. I also didn't want to spend loads of money on an early 911 only to find myself ending up with a bad one. So I started looking for a 912.'

It's easy to see why, as this car would have been a bank-breaking purchase if it had been equipped with a couple of extra cylinders. Joe had been casually keeping an eye on the market when the Ivory White '69 912 turned up at Porsche specialists European Collectibles in nearby Costa Mesa just under three years ago. Previous owners had spared it the neglect many succumbed to, and it was as it had been when it left the factory almost 50 years ago – matching numbers and standard except for a partial engine rebuild.

This was too good not to take a gamble on, he says: 'I was new to the air-cooled world, so I didn't want to take a chance on buying a car that looked good from the outside, but would be a headache mechanically. So while I was only supposed to be looking, this car was within a price range I was comfortable with. I bought it the same day.'

On paper, it's hard to see why the 912 took so long to find its niche with enthusiasts. While it lacked the outright power of the 911, it offers most of the pep of a late 356 but with the more advanced suspension setup owners of its predecessor tend to

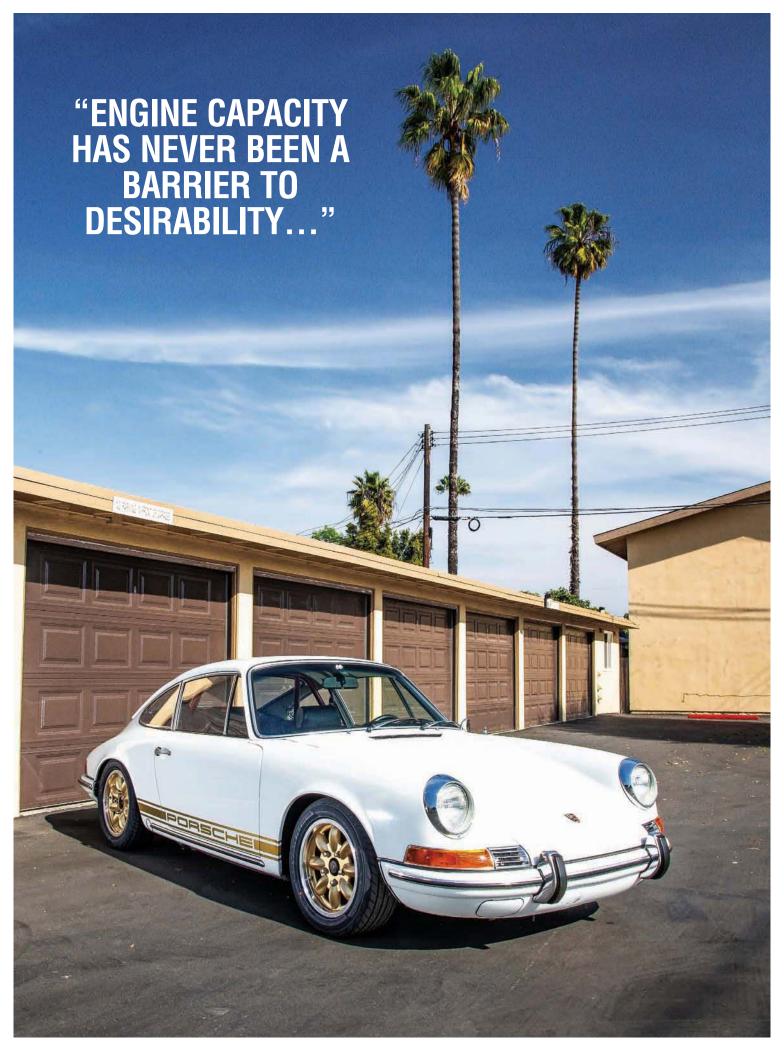
Above: US-spec 'sugar scoop' headlight assemblies have been retained for the time being, but plans to swap the front wings to 911R-style panels may change that...

Below, left to right: Roll-over bar was made for the 912 by Sleepers; engine is a VW Type 4, one of the last built by Ron and Greg at FAT Performance in Orange; interior is largely stock, with cocoa mats keeping things nice and tidy











retro-fit anyway. It offers uadulterated long-nose, narrow-bodied styling weighing in at just under a tonne – city car weight by today's standards, and ideal for winding through the Californian countryside. Particularly once European Collectibles had dropped the body a little closer to its sun-baked canyon roads.

Of course, old habits die hard, and it didn't take Joe long to start imagining what that experience might be like with a bit

more muscle on board. 'I've never been a purist, keep-it-stock kind of guy,' he tells us. 'I'm definitely into modifying cars, making them more my own, but this was a gorgeous car the way it was so I tried keeping it stock for as long as possible.

'That lasted around four months before I got tired of the lack of power and contacted the guys at FAT Performance in Orange. They build great motors, had done many 912 transplants in the past and, after calling loads of other shops,

they offered the best bang-for-buck in terms of horsepower and cost, too.'

As it happens, that choice of engine builder would make the 912 one of the last of a breed. Pioneers of the Cal Look, FAT Performance founders, Greg Aronson and Ron Fleming, had spent decades making air-cooled machinery faster, with countless drag and Baja 1000 winners taking podiums thanks to their handiwork. Joe's would be one of the last engines to pass through the original owners' hands before the business merged

with the Rimco Volkswagen Machine Shop in 2017. But it also meant, as the workshop was moving, that the freshly rebuilt powerplant would need to be fitted elsewhere.

That 'elsewhere' wasn't far away from the engine's birthplace in Orange. Social media directed Joe towards Costa Mesa, and Porsche custom and restoration outfit, Sleepers Speed Shop. Not only because Joe had been impressed with the projects

he'd seen online, but because co-founder, Len Higa, turned out to be an old friend. California's car culture might be vast, but it's a small world.

The aim wasn't simply to drop the new engine into its new home. Sleepers handfabricated the chrome exhaust wound neatly around the hard points of the back end and almost criminally tucked away out of sight, as well as a new set of engine tin tailor-made

from sheet metal. Based on a Type 4 Volkswagen base, the new engine displaces 2.3 litres and almost doubles the factory power, producing 173hp at 5500rpm. That's enough to out-pace a 911S, despite being a couple of cylinders down, and plenty to warrant adding a 911 fan to cope with the local climate while working hard.

With that extra power in mind, further chassis upgrades were a must. Joe's car was late enough in production to get the same extended wheelbase as the 911 received in 1968 – a route to

Above: White and gold theme is broken only by hints of red on the brake calipers, anti-roll bar set-up and roll cage. This is one slicklooking car from any angle

Below, left to right: Minilite wheels look great in gold, and are wrapped in Advan rubber; custom exhaust system was made for the car by Sleepers; Tarrett Engineering rear anti-roll bar is just the tip of the iceberg when it comes to suspension modifications on the 912













even more balanced handling than the 911 he'd originally been looking for. Sleepers fabricated custom roll-over and brace bars to stiffen the body, and then set about upgrading the hardware to go with it.

Everything was renewed or replaced as a result. The 912 runs a full Elephant Racing street and track suspension package, paired with Tarett Engineering competition-spec antiroll bars, droplinks and camber plates to shed weight, tighten responsiveness, add adjustability and improve ground clearance. Gold-centred Minilites, matched to the graphics along the doors and wrapped in Yokohama Advan tyres, keep what little weight there is here firmly pinned to the Tarmac, feeding a steady stream of information back to Joe's palms via the Momo Prototipo wheel.

After all, flat-out speed isn't everything. Not being greedy with power or track-tuned suspension means the 912 is compliant enough to be a commuter when needed, but with that analogue hot rod driving experience when the roads open up. And, given that it lives a stone's throw from the Angeles Crest Highway – a scenic route through the San Gabriel

Mountains north of LA – that's a desirable talent to have.

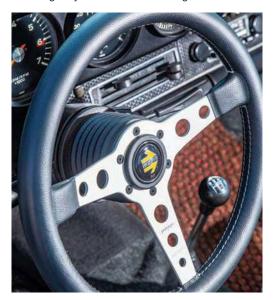
'It rides great, handles well and it's given me no issues,' says Joe. 'It's light, nimble and takes corners really well. I'm sure it can be driven even harder, but my driving skills need to get better first.'

While he hones those skills, there's more weight to save. Sleepers is already lining up further kilo-shaving exercises for the coupe – trim-free 911R front wings, vented quarter glass and rear light pods among them. It's also earmarked for a louvred decklid and deleting the bumper over-riders for a clean, outlaw style. An ongoing process maximising what the car already has, rather than chasing unmanageable amounts of power or losing the character of the standard car.

In that context, it's hard to see why the 912 has taken such a long time to find its niche. Budget constraints might have limited Joe to four cylinders, but a razor-sharp focus on fitting the right parts means his car is anything but the poor relation. It's a pure interpretation of the 911 formula, tailor-made for the canyon roads on its doorstep that's unlikely to ever fall out of favour. Who says there's no substitute for cubic capacity? *CP*

Above: Future plans call for 911R-style taillights and quarter windows, along with a louvred engine lid

Below, left and right: Momo Prototipo wheel is the classic choice for any hot-rod Porsche of this vintage. And talking of vintage, how about this original Blaupunkt radio?







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SO-CAL SO GOOD

Held for eons along the Pacific coast in the city of Dana Point, California, the 356 Club's Concours was forced to adopt another venue a few miles away in 2018. Participants loved it and returned *en masse* this summer, with a bunch of 356s of course, but also another impressive pack of vintage Porsches – stock and not-so-stock!

Words & photos: Stephan Szantai

ounded in 1985, the 356 Club of Southern
California can be considered a prime mover and shaker of the local vintage Porsche scene, being heavily involved in a variety of shows. They include North Meets South and Friends of McQueen, a multi-brand car get-together with Steve McQueen as a theme, attended by many 356 owners – Classic Porsche has featured both events in the past.

The group has also promoted a successful annual So-Cal rendezvous simply called '356 Club's Concours'. This year marked the 33rd edition, invading the Bella Collina Towne & Golf Club, in the city of San Clemente, halfway between LA and San Diego. For years, the 356 Club welcomed participants in a park overlooking the ocean in the nearby city of Dana Point; but having lost the venue three years ago, the team went on a hunt for an alternate location. A short stint in



Welcome to Bella Collina Golf Club, the perfect venue for the 33rd Annual 356 Club Concours!





Far left: Not often do we see 356B T5 Roadsters, the replacement of the '59 Convertible D – this Outlaw received disc brakes

Left: From the Cameron Healy Collection, the Emory-restored '51 356 SL Gmünd won first in class at Le Mans in 1951



Left: We are big fans of magnesium American Racing wheels, as found on Jerry Murray's '67 911 Right: Kurt Zimmerman's 912 (see CP issue #16) saw its four-cylinder substituted for a 300bhp 3.5-litre twin-plug, slide-injected flat six!

Far right (top): Matt Clawson displayed his family's Pre-A, bought new by his dad in '52 and resprayed as seen here way back in '59

Far right: Among the Pre-A 356s, this '53 example, a model recognisable thanks to its turn signals fitted straight below the Hella headlights

Below: Rod Motorsports' 356B had people talking, due to its 964 technology and twin-turbo 2.4-litre flat-four motor





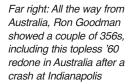


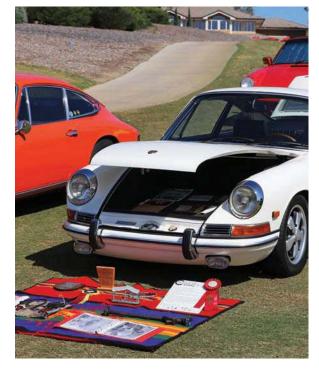












Far right: When was the last time you witnessed three oneyear-only Continental coupes parked together?

Right: Craig and Leslie Kudrle spent three years restoring their low-mileage'68 912, using many NOS parts







a park in Huntington Beach ensued (2017), before adopting the San Clemente's golf club (2018).

The place lends itself beautifully to a concours d'élégance, with hilly grounds surrounding a pond. Setting up with your Porsche on the grass in the corral costs only 20 dollars, while parking and admission for spectators are free – can't beat that. Over 150 356s lined up on the lawn this year, though the 356 Club also invited other Porsche owners to

park in an adjacent area. This second faction accounted for another 150 vehicles, 90 per cent of them air-cooled.

Although not compulsory, participants were encouraged to enter the judged concours in one of the three divisions, depending on the level of detailing (Full Concours, Street Concours and Wash & Shine) and the model of choice (356A, 356B and 356C). Promoters presented four 'People's Choice' awards, too: Special Interest, Roadster, Outlaw and

Above left: Built over 20 years ago, Rod Emory's Outlaw '64 Cabriolet with a 200hp 2.2litre Dean Polopolus flat four still looks fresh!

Above: Lowered suspension, no bumper guards, additional lights: neat theme for this duo of Outlaw '57-59 356As



Left: One of three Continental coupés that were parked in a line – a rare sight, indeed!

Below left: Coachbuilders Reutter and Drauz shared the construction of the 356 bodies in '59, with Drauz handling the Convertible D as reminded by the body badge on the wing

Below: Some Outlaw 356 owners like their rides with a smooth apron, even devoid of slots for the bumper brackets





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Far left: Carrera GS/GT bumper trim and roll bar contribute to the hot rod look of this Cabrio parked next to the Porsche 356 Club booth

Left: The red coupé runs Mahle 'Gasburner' rims, weighing less than 10 pounds each – Porsche offered them as an option



Unrestored. Indeed, there was something for everyone.

On the vintage front, the crowd could enjoy some truly exceptional German metal, starting with several Pre-As, some of the most talked about being a trio of Continentals parked next to each other. It was quite a treat to see such rarities, produced in 1955 for the US market only. As you might expect, we saw various 1950s Speedsters (plus a few Convertible Ds and Roadsters that followed them later), having experienced great commercial success in North America back in the day.

Outlaws? Oh yeah, plenty – and folks love them over here. Ron Goodman from Australia showed a duo of trackoriented 356s, whilst Rod Emory brought a small fleet of cool rides redone by his shop. They included the famous '51 356



SL Gmünd, the mental twin-turbo 356 RSR and his highly-modified '64 Cabriolet built over two decades ago.

Clubs such as the Early 911S Registry and R Gruppe displayed their share of 'newer' vintage Porsches, mixing both stock and modified examples. Among the restored clan, we should mention a couple of rare soft-window 912 Targas, produced until 1968. Walking through these grounds gave us the opportunity to meet a bunch of familiar faces involved with clubs and companies we've featured over the last few years (Pelican Parts, Sierra Madre, etc.) Fun times! In fact, we highly recommend any Porsche enthusiasts to attend the event in 2020. It will likely take place in July – check out 356club.org for further info. *CP*

Far left: Well over 300 vintage Porsches shared the venue, with half of them being 356s

Left: Early Targas, such as this rare 912, came with a soft rear window, replaced with rigidly-attached, heated glass in '69

Below left: Numerous R Gruppe members support the 356 Club's event, including Will Sanchez and his 2.5-litrepowered 911S

Below: Fikse wheels have a certain following in the Porsche world, seen here on an impressive 914 fitted with GT-style flares

Bottom right: All right, it's not a Porsche; but we couldn't help but show you this cool post-1967 VW Bus rebuilt with a Tiki/Hawaii theme!







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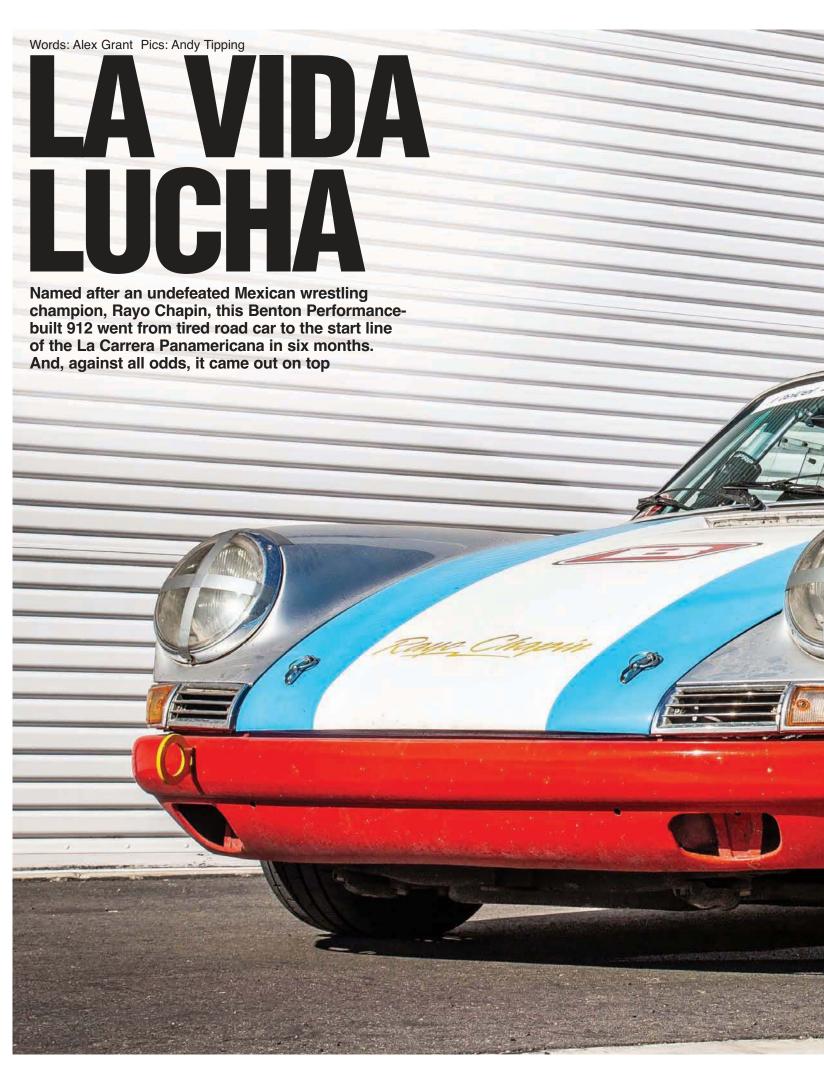


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otorsport has long been a proving ground its first outing with a rookie team driving and following an for the durability and performance of the impossibly short build. Six months beforehand, this had world's best-known sports cars, and there's been a standard car. A year beforehand, Juan Luis Ponce no test on the planet more uncompromising and co-driver Javier Fernandez Rodriguez had barely than the La Carrera Panamerica. As considered entering at all. That's quite a feat, even for the famous as it is infamous, victory at this feat most experienced team of mechanics. of driver and vehicle endurance is usually hard fought after Of course, it helps the 912 was always in safe hands. years of fine-tuning, and many don't make it at all. Based out of California's Orange County, Benton So Rayo Chapin is a bit of a rarity. While its namesake Performance isn't only a veteran builder of classic airhad been a Guatemalan 'lucha libre' wrestler, undefeated cooled machinery - it's also become a regular at the La in an unbroken 50-year career, this 912 took a class win on Carrera Panamericana. Shop owner, John Benton, has anatitamano PONCE A. J. FERNANDEZ O+ ZAMORANO



undertaken five events building then supporting the yellow 356 of American drivers Rob Curry and Ricky Shaw. Even so, he admits the 912 was a fresh challenge with the clock ticking down.

'Juan and Javier had seen a documentary featuring the 356 that has been a participant in the LCP for

participant in the LCP for many years,' says John. 'They flew to Mexico from Guatemala to meet me at the start of the 2017 La Carrera Panamerica, to get a live view. When I returned to the shop in Anaheim, we discussed the build further, and decided to go.'

That sort of front-seat viewing experience meant they would, at least, be going in with their eyes wide open.

This rally isn't a celebrity-studded VIP jaunt broken up by champagne parties in luxury hotels – the route covers 2000 miles through central Mexico, with long hours in high temperatures, and surfaces rougher than most off-road vehicles would ever be tasked with. Almost 70 years after the

first event, there's still nothing quite like it. Nor is there an offthe-shelf setup designed for that level of abuse.

'Time was always going to be a challenge because the clients wanted two cars – this one, and another to be finished first for them to practice in Guatemala,' explains John. 'The

practice car was shipped to us by the clients and set up in a similar fashion, but without the FIA safety equipment. It meant they could move into the race car and feel confident immediately, but we would have to be very efficient to complete both builds in 11 months.'

Thankfully, there was at least a slight shortcut here. John had a tired Signal Red 912 at the workshop, originally earmarked to be built to safari

spec but suddenly with a much more challenging future ahead of it. La Carrera Panamericana cars have to strike a tough balance, not only withstanding the worst that the Mexican landscape can throw at them, but to do so within FIA regulations and the constraints of road legality. It's a

Above: As John Benton says, the great thing about this car is that it is fully street-legal, so can still be enjoyed out on the streets of Orange County

Below left: Lexan windows with sliding ventilation flap help reduce weight

Below right: 'Flat' six-inch Fuchs wheels are light yet strong enough to withstand the rigours of driving at speed on rough Mexican roads. 205/55x15 Pirelli P-Zero 'Trofeo R' tyres are fitted all round











Above left: Novel strut brace allows installation of spare wheel between strut towers – regular stowage space is taken up by the fuel cell

Above right: Engine retains stock capacity but is modified with forged internals, mild camshaft and ported heads

Below: No room for creature comforts. Massively braced roll cage dominates the cockpit. Sparco seats and Schroth harnesses keep occupants in their place... steep hill to climb in six months.

'We learned a lot from the 356 – to keep it simple, build it strong, make it easy to work on and bring lots of spares,' he says, with a smirk. 'This was the first time we had run a 912, but why wouldn't you? It offers a capable chassis, great brake options and simple maintenance that are well suited to the event. Why wouldn't you?'

Class rules for Histórica A set strict limits on performance, including a 1600cc ceiling for any non-standard engines. So, while it might seem easy to go straight for a capacity increase to up the power, *Rayo Chapin* runs a standard Type 616, rebuilt with a 10:1 compression ratio using forged internals and featuring ported heads with a mild cam and Weber 40mm carburettors.

Looking to protect the engine while it's working hard, the fan blades are now welded – not pressed – into the hub to avoid high-speed failure, while an Accusump accumulator

system ensures there's always plenty of oil pressure.

'The cars have to run on 91 Octane Mexican pump gas, so full race motors are not a good idea,' explains John. 'Although the high altitude allows for 10:1 compression ratio without issue, we must build for reliability, so the most significant modifications are oil pressure and cooling related.'

Accompanying chassis upgrades are a little less restricted. The body features heavily reinforced strut and shock mounts designed to shrug off what would normally be a lifetime of wear in a mere seven days. These are paired with adjustable Koni shocks and standard-rate springs which John says offer as much control and feel of the road surface as possible, while alignment is set at an 'aggressive' two degrees all round. Race-spec pads and 911SC brakes seem wholly sensible given the terrain.

Engine and chassis work was undertaken in-house, but the 901 transmission was shipped out to a nearby specialist





"A 2000-MILE

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for a full rebuild. The Rennsport shifter lets the drive slot between a set of straight-cut rally gears, put power down through a limited-slip differential and Pirelli Trofeo R tyres and Fuchs wheels. Slight increases in body width are permitted, but they weren't needed here.

In turn, that meant the team could concentrate on renovating the 912's tired bodywork. All traces of soft material were stripped from the interior, with weak points braced throughout and a full FIA-spec roll cage welded in around a pair of Sparco bucket seats. Juan and Javier then picked out a livery incorporating the blue and white of the Guatemalan flag - and the

mask of Rayo Chapin - to finish it all off.

356, the main challenge is space. Especially with an FIAspec build, which means accommodating a cage, fuel cell, fire system and navigation equipment. It's tight. So you can imagine our consternation when we discovered that one of

the drivers was too tall to fit under the roll cage crossbar when he was wearing a helmet. That meant going back to the drawing, cutting and welding board.'

Not surprisingly, the final shakedown turned into a last-

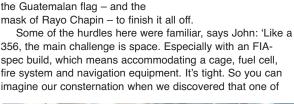
minute affair. With days to spare, the 912 was put through final testing and loaded up to the trailer for John and mechanic Steven Kaufman get to Oaxaca in plenty of time for scrutineering and adding sponsor graphics to the body. The deadline proved tight enough that the team was still fabricating parts, including a rear skid plate to protect the engine, with hours to spare.

Juan and Javier might have made a first-time victory look easy, but top honours in their class wasn't all plain sailing. There's no amount of road testing that can simulate the effects of a 2000-mile baptism of rock, dust and heat and, despite the heavy testing, that level of abuse uncovered the weakest link in the chain. A blocked metal

Above: Built, along with a sister 'practice' car, over a period of just six months, the 912 excelled in its first outing, winning its class in this most gruelling of events

it frequently does on La

Below, left and right: Safety first - hefty cross-braced roll cage and window net give the driver a fighting chance should the worst happen. As











fuel line on day one caused the engine to lean out, stretching the exhaust valves and causing the car to miss an afternoon of driving. A hurdle, not a road block, by La Carrera Panamericana standards.

The rebuild – carried out by torchlight on a Mexico City roadside, using parts from a spare engine the team had on board – was completed 15 minutes before the start of day two. And, with time to make up, John says the team quickly regained its momentum. 'From then on we won every stage. We all had mechanical challenges, but we did what we had to do and our team came through in the end, with a class win against veteran competitors. The first time we've won with a 912, and a Guatemalan team.'

You'd imagine a well-earned rest might be in order, but adrenaline (and a helping of pride) took over instead. Despite the pre-event rush, and seven sleepless nights between stages, John and Steve took turns on a 30-hour, non-stop return drive back to California with the Porsche in tow. Just 48 hours after it had crossed the finish line, the team had it

parked out on the lawn at Santa Anita Park for the inaugural Zuffenhausen in the Park show. Much to the confusion, he says, of many attendees.

Class regulations also mean there's no need for it to be gathering dust in the workshop between events, says John. 'Because La Carrera Panamericana cars must be street legal, this can be driven on the streets of Los Angeles. It's no dragster but it carries its speed well and it's very capable of handling rough and twisty roads. People really appreciate the car when we show up at local meets.'

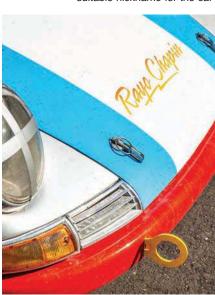
If there's one aspect of *Rayo Chapin*'s debut event, it's that it won't be their last. The experience left enough of an impression that Juan and Javier have signed up for 2019, and there's a different mad dash ahead this year. When the 912 arrives at the start line in October, John and the team will also have their yellow 356 in their care. In the toughest road race conditions left on the planet, it's not only the machines' durability and performance which are set to be put to the test. *CP*

Above: The Benton Performance-prepped 912 will never win any concours prizes but its battle scars are worn with pride...

Below left: No fancy workshops for La Carrera Panamericana competitors – roadside rebuilds are the order of the day...

Below right: 'Rayo Chapin' honours a famous lucha libre wrestler and seemed like a suitable nickname for the car









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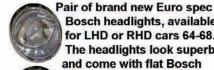






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DOUBLE DELIGHTS

One weekend, two great events, each celebrating the love of Porsches from two very different points of view. On the one hand we have the Rennsport Collective gathering at Donington Hall, on the other we have the Porsche Club GB's celebration of 50 years of the 914 at Brooklands...



RENNSPORT COLLECTIVE

orn out of a collective desire to bring together the finest Porsches and a group of like-minded enthusiasts who share a common love for the marque, the Rennsport Collective comprises owners of what can only be described as very special Porsches, ranging from relatively humble 356s to race-winning full-on race 911s, RSRs and, in this instance, a well-documented 917 in iconic Gulf colours.

The setting for the RC event was the majestic Donington Hall, a mere stone's throw from the historic Donington Park





Words & photos: Andy Tipping

race circuit. The event was a one day affair on a Saturday in July, preceded on the Thursday by an invitational 'open' track day at the circuit. Where else could you expect to see the aforementioned 917, a Brumos-liveried RSR, a Monte Carlo class-winning 901 and a variety of other noteworthy Porsches on track at the same time?

The event, the brainchild of Paul Geudon, was a perfect example of quality triumphing over quantity – there have been bigger events but we challenge you to name many that have seen Porsches of such pedigree. Here's to 2020... *CP*





Above: Thursday before the event witnessed a track day like no other, with the crème de la crème of historic Porsche competition cars taking to the Donington circuit, headed by 917-008. Look out for a driving feature on this car in the next issue (Photo: Antony Fraser)

Far left: Rainer Becker's 910 is a regular at classic race meetings across Europe, and a crowd gatherer wherever it appears – and yes, restaurant owner Rainer drives it on the road, too!

Left: Johan Dirickx brought along his 911R (#02), which took the best of show award

Far left: Safari 911 served to emphasise the versatility of the 911 as a race car...

Left: Donington Hall made an impressive backdrop for the cars on display



















Monte Carlo rally

Clockwise from top left: Paul Howells pressing on in his 2.8 RSR, a car he's not afraid to



BROOKLANDS: PCGB 914 @ 50 Words & photos: Richard Gooding



ince its introduction fifty years ago, the 914 has been undeservedly called the 'poor man's Porsche' or not considered even a Zuffenhausen machine at all. Its joint Porsche-Volkswagen parentage made some enthusiasts sniffy, but in 2019, the little mid-engined sportster is now a fully-fledged member of the Porsche dynasty. And what better way to celebrate its five-decade birthday with a gathering of cars at Brooklands Museum on a – largely – sunny day in July?

That's precisely what 914@50 was. Organised by the Porsche Club of Great Britain (PCGB), an apt 50 914s congregated on the hallowed Surrey motorsport Tarmac on 20 July. Showers dampened proceedings a little in the morning, but gave way to a gloriously sunny afternoon as bright as the period-perfect colours that graced some of the cars in attendance.

The largest-ever meeting of UK 914s, standard cars rubbed tyres with modified machines in front of the Brooklands Clubhouse. More common four-cylinder cars vied for attention with their rarer six-cylinder siblings and Kevin Clarke, PCGB 914 Register Secretary was delighted with the turn-out. '914@50 was a very special and uniquely colourful

event in recognition of the 914's anniversary milestone, and I was very proud that 50 examples made it to 914@50 to celebrate,' he enthused.

Mandy Sear, PCGB Club Manager echoed Kevin's comments: 'What a great event. It was good to get 50 914s on their fiftieth birthday, and a big thank you to Kevin Clarke who brought two of his 914s to get the number to 50! I love the colours of these Porsches and they looked fantastic lined up on the banking.'

Bren Taylor, a PCGB member from the Midlands who brought his 1975 Martini-liveried 1.8 car enjoyed the day: 'The threat of bad weather didn't disrupt a fabulous day. The chance to park up with 49 other 914s on the famous banking and drive out in convoy was a colourful sight – those '70s shades certainly make a splash! This year I've attended both the 914 International and Porsche Museum 914 50th celebration events.'

Overall, 914/50 was an enticing appetiser for the 2020 Porsche 914 International event, which will be held in Wales next summer from 12–14 June, as it's the UK's turn to host the prestigious global 914 gathering. After 914@50, the thought of a sea of eye-poppingly-coloured 914s is definitely one to get excited about! *CP*

Above: 50 cars to celebrate 50 years of the mid-engined 914. Brooklands' iconic banking was the perfect backdrop for a group photo

Below left: Brian McDonnell and Kate Maynard commissioned their 2.2-litre 'No36' Viper Green 914/6 GT tribute restomod and had it built in the US before being shipped back to the UK

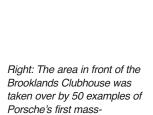
Below: James Puttock's Signal Orange 914/6 GT recreation was inspired by the trio of cars that won the 1970 Marathon de la Route at the Nürburgring in 1970





Right: Bren Taylor has owned his white 1975 matching numbers 1.8 for five years, and has covered 20,000 miles on tours around Europe

Far right: The 914/50 event was staged by the Porsche Club of Great Britain to celebrate the car's 50th anniversary



production, mid-engined sports car – arguably the

model in the UK

largest gathering ever of the







Right: Ian MacMath's stripped and multi-event-winning 914/6 hillclimb car has a glassfibre bonnet and integral roll cage. Ian also brought along his very rare RHD Crayfordconverted 914

Far right: Signal Orange was available for four of the 914's six-year life, and is arguably its signature shade!





Right: Kevin Clarke's highly original Irish Green 1970 914/6 is well-known on the Porsche scene, in part thanks to that distinctive plate!

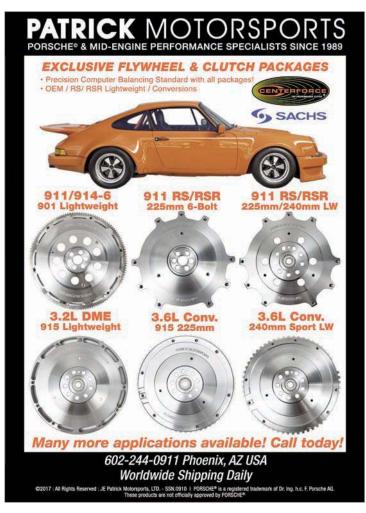








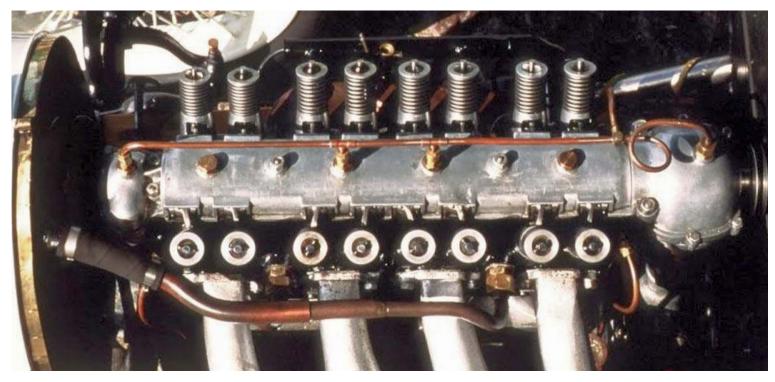




Words: Karl Ludvigsen Photos: Ludvigsen Archives

PORSCHE DISCOVERS OVERHEAD CAMS

Only two years into his career as a designer of auto engines, Ferdinand Porsche produced a masterpiece. The result not only cemented his reputation as an engineering genius but also put Austria-Hungary's Austro Daimler on the map as a major car maker. How did he do it?



or all his creativity and confidence, in 1907 the 31-year-old Ferdinand Porsche was a complete neophyte at designing cars with gasoline engines. Trained in electrical engineering, he made his reputation in that sphere with electric cars, trucks, taxis, buses and fire engines. Now, however, as the newly minted chief engineer of Austro Daimler in Austria-Hungary's Wiener Neustadt, his task was the design of new petrol-fuelled cars for both road and racing.

Ameliorating some existing Austro Daimler designs, Porsche soon settled in. Their engines were what was known as 'T head' with valves at the side, inlets on one side and exhausts on the other. This was the layout of the 6.4-litre fours that powered Austro Daimler's entries in the 1909 edition of the Prince Heinrich Trial, a test of speed and reliability over more than 1100 miles throughout Europe.

Although all three factory Austro Daimlers completed the demanding trial intact and with no loss of marks, none placed in the top dozen. Wielding his slide rule during the banquet for the winners in Munich, his brain whirring with future solutions, Ferdinand Porsche grasped the need for speed to gain better placings. He began outlining his car for 1910 before 1909's engines had cooled.

For his entries in the 1910 Prince Heinrich, run entirely within Germany, Porsche used a smaller cylinder bore than he had in 1909, 105 instead of 115mm, to reduce his engine's taxable-horsepower rating. He married this with the longest stroke allowable under the rules, 60mm greater than the bore, or 165mm. The resulting capacity was 5715cc.

Having opted for relatively modest cylinder dimensions, Porsche's challenge was to build an engine that would deliver exceptional performance for its size. That was the only way Above: When Opel designed a racing car to compete in the 1914 French Grand Prix it adopted Porsche's distinctive valve gear, with its exposed valve springs, in its 16-valve four-cylinder engine

Right: Vienna's Automobil-Zeitung hailed the triple success in the 1910 Prince Heinrich Trial of a team of Austro Daimlers specially designed by Ferdinand Porsche, who drove the winning car



Above: The Austro Daimler driven by Eduard Fischer showed the slim lines and faired suspension designed by Porsche to gain maximum speed in the Heinrich Trial's special speed tests

Below right: With a relatively small bore and long stroke to take full advantage of the Prince Heinrich regulations, Porsche's engine for his 1910 contender was a pure racing four with a single overhead camshaft and inclined valves

to beat the bogey times that the organisers established for each level of taxable horsepower in the Trial's speed tests.

The bald facts of the design that Ferdinand Porsche chose for his 1910 car's all-new engine are straightforward enough. He used a shaft-driven single overhead camshaft to open vee-inclined overhead valves in hemispherical combustion chambers, through rocker arms. But this was a quantum leap in the engineer's technology. Nothing in Porsche's previous work suggested that such a solution would or could be on his agenda. Moreover he came up with an unique valve gear. Where and how did he come up with such a radical and advanced design?

Credit for the first use of an overhead camshaft in a car engine belongs to the Maudslay brothers, whose eponymous three-cylinder overhead-cam car was introduced in 1902. Designed by Alexander Craig and produced in Coventry, it used a vertical shaft and worm gears to drive a camshaft that

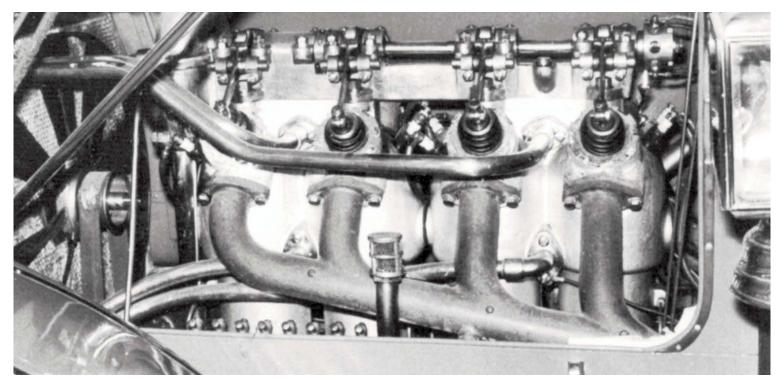
opened the exhaust valves through rocker arms. In 1903 the inlet valves were added to its repertoire. Maudslay later built both two- and six-cylinder versions.

The year 1903 also saw the completion by Germany's Daimler of a marine engine with features specified by Russian-born Boris Loutzky. The six designed for him by Wilhelm Maybach and built by Daimler had a combustion chamber shaped like a truncated cone, with its inlet valve vertical at the top and its exhaust valve on the left side at a 70-degree angle from the vertical. Between their stems Maybach placed a single camshaft that opened the valves through rocker arms with small rollers at both ends.

Meanwhile, in far-away America other engineers were building power units of remarkably advanced design. In 1903 work began in Indianapolis on a racing car commissioned by entrepreneur and auto fanatic Carl G Fisher. Intended to compete in the first Vanderbilt Cup race of 1904, it was







designed by George Weidely and built by the Premier Motor Company. 'I want it to be the fastest damn race car in the world,' was Fisher's succinct instruction to Weidely.

The result was an air-cooled four with individual cylinders measuring 177.8 x 152.4mm for a total of 15,136cc. The Premier's rods and crankshaft flailed in the open air with total-loss oiling. Most strikingly, George Weidely fitted the four with a single overhead camshaft driven by a shaft and bevel gears at the front. Valves inclined at a 60-degree included angle were closed by dual coil springs and opened by long rocker arms, pivoted on a shaft above the camshaft. Completed in 1904, the Premier Special was too heavy to race for the Vanderbilt Cup. However, it marked a striking step forward in overhead-cam engine design.

Other American experimenters had similar ideas. In 1901 the Welch brothers of Pontiac, Michigan used hemispherical chambers fed by two automatic inlet valves and exhausted by a single pushrod-operated exhaust valve in their first twincylinder engine. In February 1904 the Welches introduced a vertical four-cylinder engine with two overhead valves at a 90-degree included angle, opened through high-leverage rocker arms from a single central camshaft. Its drive came up the front of the engine through a shaft and bevel gears.

Production of Welch cars began in earnest in 1905, when Allie Ray Welch and Fred Stimson Welch obtained a patent on their design that was published widely in engineering

magazines. The 1906 Welch four measured 117.5 x 127mm for 5508 cc and developed 50bhp at 1250rpm. In 1910 the Welch Motor Car Company was subsumed into the expanding General Motors empire and soon expunged both as a technology and as a brand.

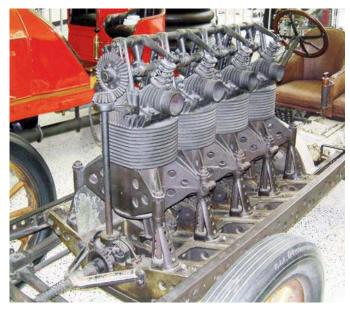
Up to 1907 Chicago's Tincher was producing big fourcylinder motorcars with shaft-driven single overhead camshafts. In 1907 Jackson, Michigan's Jackson Automobile Company introduced its Model E, a dramatic advance over its usual flat twins. Designed by Byron F Carter, its fourcylinder engine had a single overhead camshaft operating inclined overhead valves through pairs of roller-tipped rocker arms whose pivots were neatly encased. Inlet manifolding on the right and exhaust on the left were smooth, clean designs.

By 1910 Jackson was making its overhead-cam engines in three different sizes, the two largest with vertical-shaft drive at the front of the engine and the smallest a chain drive at the rear. Looking eminently well suited to high-speed power production, three Jacksons were entered in the first Indianapolis 500-mile race of 1911. One, the largest with a 9.2-litre four, placed tenth. Jackson failed to regain pace after the war and faded away after 1923.

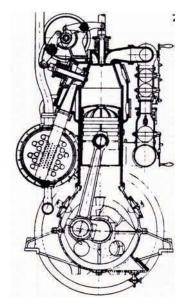
Not unlike these American examples was the British Weigel entered in the 1908 French Grand Prix. Founded in 1906, Danny Weigel's London-based Weigel Motors Ltd had entered straight-eight cars in 1907 but now fielded fours with

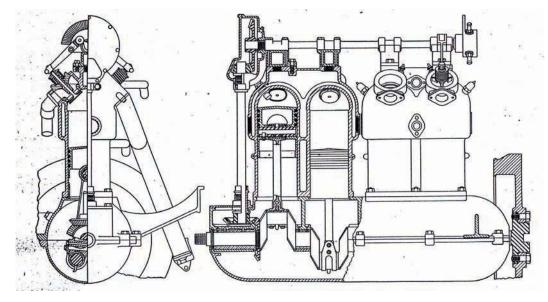
Above: In America the Welch brothers were authentic pioneers of vee-inclined valves operated by a shaftdriven overhead cam and rocker arms. Such fourcylinder Welch engines were produced from 1905 and their details widely published in engineering journals

Below, left and right:
Although unlikely to have inspired Ferdinand Porsche, George Weidley's 1904 creation for Premier in Indianapolis topped its 15.7-litre capacity with a shaft-driven overhead camshaft and inclined valves. Porsche would devise a more compact rocker-arm layout









Above: In his 1902 design of a large marine engine for Boris Loutzky, Wilhelm Maybach fitted a single overhead camshaft operating vertical inlet valves and angled exhausts through rocker arms. It was the first engine design of this genre

Above right: Built with two cylinder blocks on a common crankcase, the 1906 Welch produced 50bhp from 5.5 litres. Its overhead cam and rockers were entirely exposed in the manner of the day

Below: Britain's Weigel racing cars in the 1908 French Grand Prix had inclined overhead valves operated by ungainly rocker arms from a single overhead camshaft, driven by a vertical shaft at the front

single overhead camshafts operating valves vee-inclined at a 90-degree included angle. Also having single overhead camshafts and vee-inclined valves in the 1908 GP was France's Clément Bayard, which used the same principle in its aero engines.

Closer to home for Ferdinand Porsche was an engine designed by a fellow Austrian. In 1878 Hans Ledwinka was born in Klosterneuburg on the Danube a few miles northwest of Vienna. Three years younger than Porsche, Ledwinka trained in the mechanical arts in the workshop of an uncle and also in a Vienna trade school before moving to Nesselsdorf in Eastern Moravia in 1897 at the age of 19 to take up work there in a leading maker of railway carriages that was just taking an interest in the car business.

Ledwinka was active in the creation of Nesselsdorf's first autos, based on Benz designs. For Theodor von Liebieg he built a special racing car in 1900. At the end of 1905, Ledwinka launched a crash program to design a completely new car with the help of a young draftsman, Antonin Klicka. By the end of 1906 he had completed the design of his new Model S Nesselsdorf.

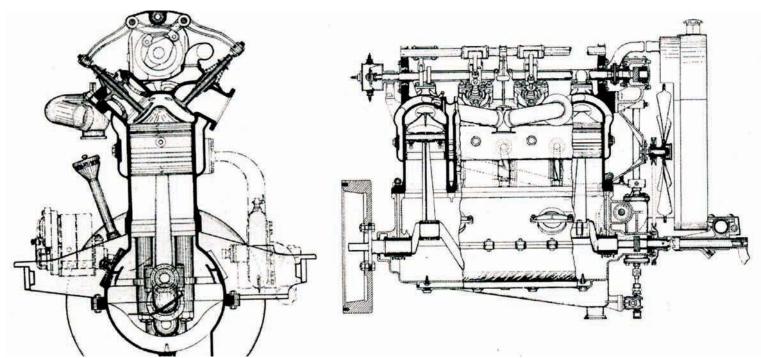
This was a car on which the company's future depended—Nesselsdorf was contemplating quitting the car field—so Hans Ledwinka pulled out all the stops. The Model S's crown jewel was its engine, an in-line four cast in two blocks of two measuring 90 x 130mm for 3308cc. Bevel gears and a vertical shaft at the front drove a single overhead camshaft that opened overhead valves through

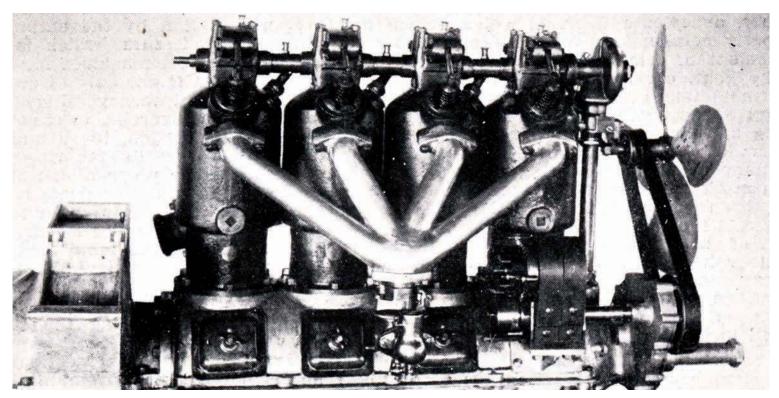
rocker arms. Inclined at an included angle of 90 degrees, inlets were on the right and exhausts on the left. A transverse shaft, also at the front, drove a water pump on the left and magneto on the right.

Combining as it did some of the most advanced features of the day, Hans Ledwinka's Model S was a technical *tour de force*. Rated at 30bhp at 2200rpm, the new engine gave birth to a 5.0-litre six as well, a handsome engine that in 1910 was credited with 50bhp at 2600rpm. Both types remained in production to the World War. They gained a sister, the 45bhp Nesselsdorf Model T, in which all four cylinders shared a single block and the valve gear was fully enclosed. Nesselsdorf survived to become Tatra, where Ledwinka ploughed more fresh engineering furrows.

In the automotive world of Austro-Hungary, Porsche and Ledwinka were well acquainted. Their paths crossed at suppliers, shows and sporting events. Among the entrants in 1907's Semmering hill climb, gathering place near Vienna for Europe's automotive nobility, was Ledwinka in a Nesselsdorf. The innovations of his new Model S, said one historian, 'made it a hit at the Vienna Auto Salon.' We can be confident that Ferdinand Porsche was well acquainted with the technology that Ledwinka synthesised so well.

At Mláda Boleslav, half-way between Maffersdorf and Prague, another advanced prototype matured by 1909. After helping launch auto-maker RAF in Reichenberg, talented engineer-racer Otto Hieronimus moved to Laurin & Klement in 1908. For L&K he developed several racing cars,





including the four-cylinder FCR of 1909 with 5675cc from the extreme dimensions of 85 x 250mm. He topped its two cylinder blocks with vee-inclined valves at an included angle of 120 degrees, opened by a shaft-driven overhead camshaft. The two FCRs Hieronimus made were active competitors at Semmering and elsewhere.

Thus Ferdinand Porsche had a small but well-defined cache of suitable solutions at his disposal when he mulled over ways to increase the specific power of his 1910 Prince Heinrich engine. They pointed unerringly to inclined overhead valves in a compact combustion chamber. 'Why the valves need to be set in the cylinder head is no longer a mystery,' said Porsche. 'We do it to reduce as far as possible the dead volume' – the space that remains above the piston at top dead centre.

This was another way of saying that the layout encouraged a higher compression ratio than the T-head or L-head chambers with their 'dead volume' sprawling out at the sides to house the heads of their side-mounted valves. As in Ledwinka's Model S, Porsche's Austro Daimler's two valves per cylinder – a generous 71mm in diameter – were equally disposed at a 100-degree included angle.

Next was the question of valve actuation. Porsche could have used pushrods and rocker arms from low-placed camshafts in the manner of Pipe, Benz, Fiat and others and

as he did in his first aviation engines. For his new Austro Daimler, however, he chose a single overhead camshaft driven by a vertical shaft and bevel gears at the front of the engine. Though heavier than the pushrod alternative, weight was less worrying in a car than in an airplane. Valves were opened by short and light rocker arms, roller-tipped where they contacted the cam lobes, giving the small multiplication ratio of 1:1.11. In this way, said Porsche, 'We gain an advantage because the reciprocating parts are kept as small as possible.'

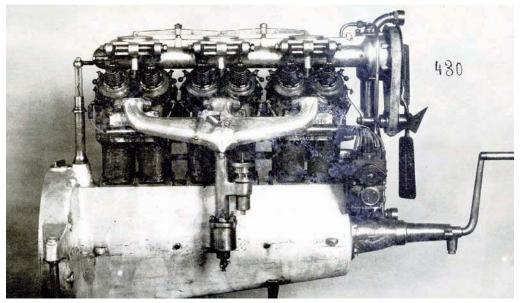
Each rocker arm had a wide-based pivot at the periphery of the central aluminium housing that contained the camshaft. To keep his engine's profile low and compact Ferdinand Porsche innovated in its rocker-arm layout. If he placed the rockers above the valve stems pushing them down, like Welch and Nesselsdorf, he'd have to use long rocker arms and a high-placed camshaft. Instead he forked the valve end of the rocker arm so it could push down a collar, integral with the stem just above the valve guide, to open the valve. Thus each valve's coil spring protruded outward, reacting against an abutment bolted to the head to close the valve. In addition to compactness this had the merit of giving better cooling to the spring and thus to the valve.

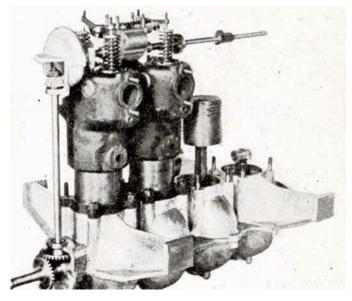
Each valve seated in a cage, also serving as a stub port, which was clamped into position in the non-detachable

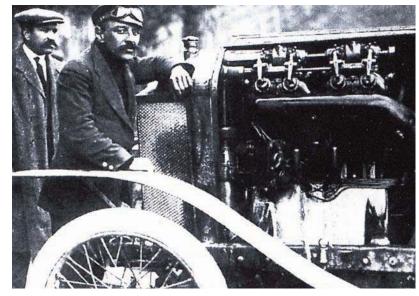
Above: Designed by Byron Carter, the 1909 version of the Jackson Model E had a newly designed inlet manifold intended to ensure a more equal distribution of mixture among its cylinders

Below left and right: The 3.3-litre four designed for Moravia's Nesselsdorf by Porsche's contemporary Hans Ledwinka appeared as its Model S in 1907. Its single OHC and vee-inclined valves were advanced features certain to have been noticed by Porsche before he designed his 1910 Prince Heinrich contender









Above left: The big fours powering Chicago's Tincher vehicles had vertical overhead valves operated by rockers from a shaft-driven single overhead camshaft

Above right: An awesome piece of machinery, the longstroke 5.7-litre engine of the 1910 Laurin & Klement Model FCR designed by Otto Hieronymus was used in

Below: Porsche's unique

valve-gear solution placed

the coil springs above the

cylinder head by a large toothed ring. Removing these port cages was the normal manner of extracting the engine's valves. Both cages and ports were isolated from the coolant, which circulated around them but not through them. 'I willingly admit that this was the biggest risk in the whole design,' said Ferdinand Porsche. 'At the beginning of the Trial it aroused much

headshaking among the German competitors.

'I only decided in favour of it,' the designer added, 'because otherwise removing the valves is very difficult. If we had also wanted to make the valve stem water-cooled, the cooling water would be lost when the valve is removed. Although each valve seat was not directly connected to the water

of cooling proved to be totally satisfactory.'

The hotter exhaust-valve cages and their adjacent ports were heavily finned for cooling. To ensure an ample draft, Porsche supplemented his usual flywheel fan with an additional fan behind the radiator, belt-driven at faster than engine speed from the nose of the camshaft.

With its large valves the engine's cam timing didn't need

to be radical; an avoidance of overlap assured good pulling power. Porsche tailored it to give good flexibility through its range to a maximum of 2300rpm with peak torque of 238lb ft at 2000rpm. At 1000rpm it was already developing 32bhp and 168lb ft of torque. It produced 86bhp at 1900rpm and reached its maximum output of 95bhp at 2100rpm.

This was exceptional specific power for 1910, indeed one of the highest, if not the highest, power levels per litre yet attained by any auto engine built for any class of racing. Yet it was achieved without fuss or fury for a car that was designed to cope with the requirements of a demanding road rally.

And cope the 1910 Prince Heinrich Austro Daimler certainly did. The company built ten cars of the new design, seven for customers and three for a factory

team. The latter finished one-two-three, with Porsche himself driving the winning car. Of the 16 trophies on offer, the Austrian cars went home with half.

Opel's Fritz Erle joked, 'Do you Austrians really have to come to Germany and take the prizes from us?' When Opel built a Grand Prix car in 1914 it paid Porsche the compliment of copying his valve gear. Newcomer though he was to auto engines, Ferdinand learned very fast and very well. CP

LEARNED VERY competitions by its designer **FAST AND VERY** WELL..." cavities, it has what you might call contact cooling. This type

rocker arms, which had the advantage of making the latter much shorter, stiffer and lighter



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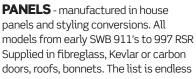
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CAPTAIN COOK'S ORANGE ROCKET

We meet one of Australia's most successful, and popular, Porsche pilots, Graeme Cook, whose Australian IROC 911 – aka, the 'Orange Rocket' – played an important role in Porsche racing circles down under

Words: Richard Holdsworth Photography: Bob Taylor, Sam Lacey





Above: The Orange Rocket, with Graeme Cook (left) at the wheel, invariably has the spectators on their toes with its three-wheeling antics

Below: Last seen in action in Graeme Cook's hands and the Orange Rocket chalked up another first; this time the inaugural SA Porsche Club's Modern Regularity competition, September 2018 hen Captain Cook sailed into Botany Bay on 29 April 1770, he could never have dreamt that another Cook would make a name for himself on the race tracks in the country he was about to claim for King and Country. Two-hundred-and-fifty years on and Graeme Cook (no relation) shows the same determination, drive

Graeme Cook (no relation) shows the same determination, drive and devil-may-care that brought success for the man commanding the helm on HMS Endeavour on that historic voyage Down Under.

There are not many other similarities. Today's Cook shows his exploits behind the wheel of the bright orange1974 IROC 911, and exploits they are. Graeme now has a 911 GT3 Cup car but he first grabbed my attention at the 2016 Adelaide Motorsport Festival with what soon became known as the Orange Rocket.

Going into the hairpin at the end of the dog-leg straight on the Adelaide city parklands circuit, I couldn't help noticing that the brake lights glared red some fifty paces deeper into the corner than most other competitors. And on corners, the inside wheel

was taking the liberty of kicking up the dust on the wrong side of the kerb. When I mentioned that to one of the race officials, he said, 'Graeme is not averse to squeezing every inch out of the track – and more...'.

And he has had plenty of Porsches over the years to perfect this 'squeezing'. In fact, eight race cars in total – a 993 GT2, two 996 GT3 Cup Cars, a 996 GT3 RS, 996 GT3 RSR and a TCM (Touring Car Masters) car – plus, of course, the IROC Orange Rocket. And the very latest, another 996 GT3 Cup Car but this one which he actually owned 15 years ago and has been sitting in a warehouse for the past 10 years, unloved and uncared for.

To this total has to be added another seven road cars, the first Stuttgart product, a 356A Speedster, then a 911E, followed by a 993, a 996 GT3, another 996 – this time a GT2 – a 964 RS and, finally, a 996 which was equipped with Cup car running gear – all these road cars have been used in competition in one form or another, mainly club events in South Australia. That is, except the Speedster which Graeme remembers as one that could not be relied on to get to the track, let alone compete!







It is the first day of the Adelaide Motorsport Festival and I am sitting alongside Graeme in the pits and suggest that he might be a contender for the Guinness Book of Records as the man who has owned the greatest number of Porsches in Australia. He flatly denies the accolade, but I reckon he's pretty close!

There's more to come... Graeme Cook's first cars were all Volkswagen Beetles – the first an oval-windowed early model, 1200cc and six-volt electrics. 'By the time I was 21 years, all the cars I had ever owned were Volkswagen Beetles and I was hooked on rear-engines and air-cooling. They were great little cars that were just starting to get popular for modifying – wide wheels, flared wings, larger capacity engines and a host of other modifications.'

Graeme Cook's motorsport bug started with souped up Beetles and he spent most weekends at motorkanas, hillclimbs and rallies. The Volkswagen Beetle revolution had started a few years earlier when they won the Ampol Round Australia Rallies – there was no stopping the little air-cooled, rear-engined cars from Germany.

It was the same for me. When I stepped ashore as a twenty-year-old from Blighty, I also shunned British cars for German technology and bought a Sahara Grey Beetle that excelled in

the Australian bush and never let me down once. The year was 1958. Now I am back in Adelaide nearly 60 years later and it is first race day of the Adelaide Motorsport Festival and I am talking cars with Graeme Cook and, more especially, Porsche. It is not easy — never mind the roar of race-bred engines being fired up all around us, Graeme has dates with the track and my questions have to be quick-fire and to the point!

'After the Volkswagen Beetles, what next?' His answer has us smiling. Like me, he parked the VWs and moved to Porsche, a 356A Speedster, but while the Speedster that replaced my Beetle was successful on the track at club level, Graeme Cook's was a 'basket case, lucky to get me round the block.' He tells me the experience could have put him off the Stuttgart product had he not wanted to get into racing.

In his Volkswagen days he had set up a company specialising in VWs (Bug Power Automotive in Melbourne), and that allowed him to 'tinker', resulting in a Beetle-based sports sedan with modified suspension, bigger brakes, lightweight panels and a 2.2-litre engine.

This was just the start to Graeme's life-long desire to enjoy racing and it never left him. That's where our parallel history ends. Graeme Cook ditched the Speedster and became the

Above and below, left and right: Graeme Cook pictured with his RS 3.8 outside the South Australian Sporting Car Club premises, Adelaide





owner of a 1970s 911E. I married, moved back to the UK and started a Volkswagen camper business...

Graeme Cook stayed on in Australia. A Melbourne lad, he left school and started an electrical apprenticeship which led to working on lifts in the city centre. But it was not long before he accepted an offer from his brother-in-law, Mike Abay, to join him in a start-up business repairing and modifying Volkswagens.

Through a family connection, the two were introduced to BP and were soon operating the Volkswagen business from a BP

petrol station. Seems it was so successful the forecourt was crammed with customers' vehicles – the name had spread far and wide. Mike was 21 years old and Graeme just 20.

The downside were the targets to sell fuel – keeping both the forecourt and the Volkswagen service customers happy seven days a week put pressure on the two and they moved to a

purpose-built premises where they could concentrate solely on their Volkswagen work. This also allowed the two to build their own Volkswagen special, the 2.2-litre engined Sports Sedan. Graeme tells me, 'We were soon racing the car all round the country – pitting my skills against other drivers gave me the bug and it has never left me...'

Racing the souped-up Volkswagen may have given Graeme a taste of the thrills out on the track but it came to an end when his business partner's marriage suffered and Mike Abay took an extended break with a trip to the UK.

On arrival in the UK, Mike came across a 911E that he thought would be a good buy for the future and would also provide wheels while overseas. A quick phone call and Graeme stumped up the money for the 911, thus securing a car for Mike while away and also giving Graeme a great 911 when the time

came to ship it back to Australia.

Graeme says, 'It seemed a great idea until I got the second phone call – the 911 engine was stuffed. I put my hand in my pocket again. But at least I got a better Porsche than my first, the Speedster!'

When Mike returned to Australia, the decision was made to close the Volkswagen business and the two went their separate ways. With a young wife and family to look after, Graeme Cook needed a steady job, a future and assured income – and this

came in the form of Nissan
Australia. 'Through another
relative I found myself working at
Nissan and over the next 20
years I held a variety of roles
starting in the company's
Product Engineering
Department and progressing
through to executive
management level...'

One of the benefits of working for a large organisation such as Nissan enables the professional to build his

business skills (Graeme Cook had plenty already) and when a friend came to Graeme with a business idea, he soon saw the potential. Redundant shipping containers littered the docks throughout Australia – Container Solutions was the result, with Graeme Cook at the helm finding customers ready to put down their cash, organising lifting, transport and delivery. It was a highly successful 15 years to the extent it enabled him to indulge his passion and get out on the track once again. And also pay for it!

The era of the souped-up Beetle was long gone; now he was out on South Australia's Mallala track in a Porsche 993 GT2 replica. It brought mixed success but the next step – and even bigger one – was when he moved on to a 2003 996 Cup Car and made his mark by winning the 2005 South Australian Sports Car Championship.

"WE WERE SOON RACING THE CAR ALL ROUND THE COUNTRY..."

Below: Cook's IROC is based on a 1986 Carrera and was built by local Porsche specialists, BUIK Motorworks, specifically for the Australian IROC series in 2015





In 2008, Australia saw the introduction of a new competition, named the GT3 Cup Challenge, it was aimed at drivers wanting to take the step up from State level racing while at the same time finding a home for Porsche 996s that were not eligible for the National Carrera Cup competition. And Graeme Cook took full advantage. At Round One at his home track at Mallala, he posted pole position in his 996 GT3 RSR, winning all three races ahead of a bevy of 996 GT3 Cup Cars.

Soon Graeme Cook was racing throughout south-east Australia and this triggered another start-up business. Race cars needed to get to tracks all over Australia and Australian tracks are, necessarily, hundreds, if not thousands, of miles apart. Graeme could see other owners scouting around for transport just as he was. He reasoned there was an opening there and built a 48 foot, six-car transporter and learnt the art of the long-distance truck driver.

The TCM car and the Orange Rocket were now the cars that enabled Graeme Cook to compete – invariably punching above his weight. And every time the cars went out on track they were emblazoned with the signage 'Racemoves/Tracttrans' – it was the best advert for the business, and all for free. The company soon had more clients than it could handle and that, in itself, became a problem... As a good businessman, Graeme Cook knew clients came first and that meant the Orange Rocket

stayed at home in the workshop.

As we sit in the pits at the Adelaide Motorsport Festival, it is the 911 IROC Orange Rocket that I want to hear about, but that will have to wait for the moment, for Graeme and the car are being called up to the grid and he is reaching for his gloves and helmet. It is day one of the racing on the Adelaide parklands track and the flat-six air-cooled 3.6-litre engine fires up. On the day before, Practice and Media Day, the Orange Rocket had already chalked up some great lap times.

Adelaide Motorsport Festival is a big event in the Australian motorsport calendar – it attracts all manner of cars from historic sports sedans, pre- and post-1969 sports cars, open-wheel racers, souped-up saloons to recent F1 Ferraris. Graeme Cook's Orange Rocket is competing in the group Porsche Through the Ages and, as its name suggests, is a barrel-full of fun. There are 12 Porsches taking part – from Tom Klaveniek's 1964 356SC to Bernie Stack's 993 RS, and a couple of 944 Turbos, two 928s and a 986 Boxster S thrown in for good measure.

Cook's IROC is based on a 1986 Carrera and was built by local Porsche specialists, BUIK Motorworks, specifically for the IROC series which came to Australia in 2015. And the specification? 3.6-litre engine, PMO carbs, coilover suspension, Boxster brakes, weight 1100kg with driver and 350bhp. The total

Above: Look behind you! The Orange Rocket closes in on his old rival, Bernie Stack. At the end of the day, Graeme Cook and the Orange Rocket took the honours

Below: Job done! Graeme Cook (below left) has just beaten his old friend, Bernie Stack, after many years of on-track rivalry. This is at the Adelaide Motorsport Festival 2017





cost was some \$175,000. Not bad for a figure that roughly equates to £70,000 at the time and included the donor car.

And the Adelaide Motorsport Festival is of special significance for Graeme Cook. Out on the track will be an old foe – Bernie Stack. The two have been friends for years but also keen rivals when it comes to bumper-to-bumper stuff in competition. 'Bernie was what I would call a superstar from a slightly earlier era than me and I have always looked up to him. When I finally got to race him in the TCM and IROC series, he was my yardstick as to whether I was competitive or not,' says Graeme.

Over the past five years they have come up against each

other many times. Graeme admits Bernie took the honours every time. And here we are again, and because it is a sprint rather than a race it doesn't come down to who crosses the line first but who puts in the fastest lap time.

Ten minutes racing with the Porsche Through the Ages – sandwiched in between the Supercars (which includes a couple of GT3 Cup Cars) and the Ferrari contingent – and Bernie posts the fastest lap of

53.6746 seconds for the 1.5km track. Cook in the Orange Rocket is just 0.46 seconds slower. 'Better luck next time.'

The clouds are clearing and Adelaide is sweltering. The car parks are already full and there is not a space to be found around the track with enthusiasts trying to get as close as they can to the action.

It's time to get back on the track in the Adelaide Motorsport Festival – it was here at last year's Festival that the Orange Rocket first arrested my attention. Cook was not holding back, every inch of track (and more) was being used and braking seemed to be a last-minute thing. And the same today; Graeme Cook is just 0.22 seconds off Bernie Stack's time. 'Getting

closer,' I observe as he returns to the pits.

"I GRABBED THE

NARROWEST OF

MARGINS. BINGO!

JOB DONE!"

Next day in Adelaide and the sun still shines. This time it is another Porsche that shines in the first session out on the track – Christian Fitzgerald posts just 52.4641, a mere 0.2743 ahead of Bernie Stack and Graeme third fastest with a lap a further 0.9213 seconds off the pace.

I am watching at the Fullarton Road hairpin on the beautiful Victoria Park track and there is scarcely the proverbial fagpaper between the two, Bernie Stack leading, Graeme inches behind. The session ends and I find my way back to the pits to see smiles on both drivers' faces. It seems 0.08 of a second... but that's all it needs.

'My plan was to hang back two or three metres and try to close the gap. I thought I wasn't going to do it, but on the last lap of the day I grabbed the narrowest of margins. Bingo! Job done...'

The last time the Orange Rocket was driven in anger was at the Porsche Club of South Australia's inaugural modern regularity run held last September at the new International track at Tailem Bend. It was also Graeme

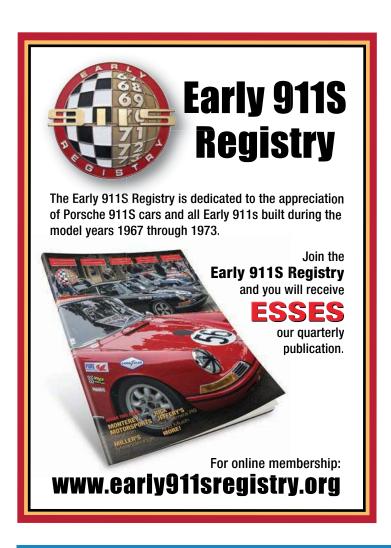
Cook's first attempt at this type of event – and it resulted in a very satisfying first place.

Since then the Orange Rocket has been sold and Captain Cook's driving ambitions are to be confined to Club sprints and track days in the 2003 996 GT3 Cup Car which he raced successfully back in 2008. The car is now back in his possession and being restored to competition standard as it was when he first owned the car 20 years ago. Graeme Cook will also be involved in The Bend with younger drivers and putting back into the sport some of the experience and pleasure that it has given him.

The pat on the back is well deserved - very well. CP



Below: In the thick of it. The orange IROC-style car has now been sold while Graeme concentrates on sprints and track days with a more modern GT3 Cup car





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Words: Dan Trent Photos: Evan Klein

SETTING THE SCENE

Classic Porsche pays a visit to TRE Motorsports, unsung heroes of the Californian Porsche scene and masters of mix-and-match custom 911s





Above and left: Dave Bouzaglou's TRE workshop is jammed full of Porsches, but this is no disorganised back-street operation. TRE (the name comes from 'Toad Racing Enterprises') has proved to be one of the most influential Porsche specialists in Southern California race any path through LA's sprawling and endlessly diverse Porsche community and the chances are you'll eventually wind up at the door of TRE Motorsports. Tucked away in a low-rise industrial area beside North Hollywood's Van Nuys airport, this unassuming workshop has been a springboard for countless projects, restorations, fabulously detailed recreations of classic RS, RSR and S/T models and the custom builds they've inspired. This culture has hit the mainstream in recent years with cars like Singer's fabulously 'reimagined' 964s, built just down the road and exporting the dream of restomod 911s to millionaire customers across the world. TRE's role in all this may be smaller on the face of it but goes back a lot further and is arguably even more influential.

Indeed, when Singer founder Rob Dickinson was new in town and looking for someone to help realise his dream of his own personalised retro 911 it was TRE who helped him build it, combining influences from the R and S/T into a unique custom 911 that's gone on to inspire a phenomenon.

Known as the 'Brown Bomber', that customised '69 911E was the seed from which Singer eventually grew, the fact it was on display at the nearby Petersen Automotive Museum as part of its Porsche Effect exhibition underlining how the culture of personalised, custom Porsches has now gained mainstream respectability and acceptance.

Back at his modest Van Nuys workshop founder Dave Bouzaglou seems content to maintain the enthusiast-led spirit TRE has always embodied, this being as much a hub for likeminded fans to swap ideas and concoct projects as it is a regular service centre and workshop. So it has been since the mid-70s when he and two friends set up Toad Racing Enterprises at home, tinkering first with whatever came to hand (Dave started his competition career in a Mini Cooper) before graduating into the Porsches that have become a lifelong obsession. The business has moved a couple of times since and ticks along nicely with regular service work on more modern Porsches, Dave saying this is 'where the gravy is' in terms of the bottom line. But it doesn't take long in the workshop to realise there's a lot more going on than oil changes and basic servicing.

Indeed, if you want an insight into what it must be like inside Dave's head just look inside the workshop. Because it's absolutely stuffed to the rafters with Porsches, Porsches and more Porsches of every type and vintage. OK, it's a weekend when we visit so all the customer cars have been pulled into the workshop and take up every inch of floor space. But, as you carefully thread your way through the narrow gaps between them, it's an accurate representation of how broad a church TRE really is.

There are a couple of 928s, one on the shop floor and another suspended on a lift. G-series 911s in various shapes and forms are packed in tightly while squeezed into the middle is a very smart looking restomod long-nose built by Revival Road Co further up the way in North California. Beside it is a 356 while on ramps and further back are several 914s, including Dave's own wide-arched race car with its engine bay awaiting installation of its hopped-up 3.3-litre six. There's even a rat look 3.2 Carrera, lifted on off-road tyres and built to go desert rallying. It's an eclectic and fascinating mix, nearly every car here carrying some form of personalisation or custom feature.

Shelving along the back wall contains body panels, bumpers



and larger parts and you're never far away from an air-cooled motor part-way through a rebuild, nuts, bolts and components carefully laid out on authentically oil-stained work benches and mobile cabinets. In a sectioned off engine build area there's an exposed crankcase part-way through reassembly, pistons, rods, cams and valves carefully laid out while on the walls around are stacked gearboxes, heads, cam covers, crankcases and all manner of engine parts.

In an atmosphere thick with the waft of engine oil and old car bits it's easy to understand how conversation with Dave and his colleagues could escalate from a straightforward restoration or service job into something a little more creative. Because while they understand as well as anyone the quirks and eccentricities of working on old Porsches, TRE's real specialism is playing around with them and helping owners realise their wildest dreams.

But you can't break the rules without first understanding them. And in over 40 years of mixing and matching Porsche bits Dave has an instinctive feel for what works and what doesn't, and how to stay faithful to the spirit of the original cars while treating that as a springboard for builds configured to each

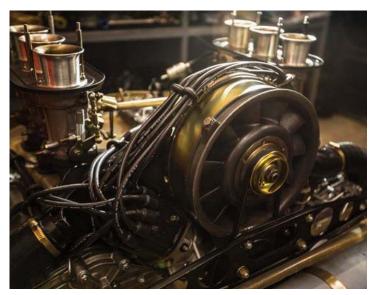
customer's desires. Maybe you want to turn a 912 into an authentic R replica or build your ultimate S/T tribute. Or perhaps you'd like an original-looking '70s 911 with a custom-built, carbfed 3.2 to combine classic looks with modern performance. Whatever your dream Porsche build the guys here have the expertise – and likely the parts – to support it. These are the kind of folk for whom a blown engine isn't a disaster – it's simply an opportunity.

'It really started back in '74 with a kind of self-imposed change,' reflects Dave. 'I was working out of the house and woke up and realised I'd moved the stove in the kitchen to hook up an arc welder to prep a race car for Willow Springs. I had a high fence around the property to hide it all from the neighbours but a local inspector had seen all the cars coming and going and asked me if they were all mine! I kind of realised I needed to set up properly.'

Once properly established it quickly evolved into building race cars for himself and friends, ties with the Porsche Owners' Club leading to him running race series and other events. Cars would come and go, or simply evolve over time, Dave's long-serving race hack starting out as an engineless SCCA 2.0-litre

Above: You'll find Dave working on every model of Porsche, from 914s to waterpumping 928s. TRE's aim is to help customers realise their dreams

Below, left and right: From engine rebuilds to regular servicing, TRE handles it all. Creating one-off hot-rod 911s is a speciality...







Above: It's not only the workshop that's full for the yard outside is packed with customers' cars, too. There's no denying that TRE is a very popular company to do business with!

machine based on a '67 911. It gained a 3.0-litre motor before that was replaced with a 3.2 and it was transformed to look like a 934. 'It still had the carburetted 3.2 when I had my first experience of racing on slicks and that was like crack — it was so frickin' fast!' laughs Dave. 'That eventually evolved into a pseudo 935 when I got a real engine for one. We went to compete at Silver State and found out how thirsty it was — the fuel wasn't

going in fast enough and we just ran out of gas on the start line! We fixed that and had some real fun in that car. I sold it to a guy in Bakersfield and it's still going.'

Meanwhile the day job focused on catering to customers wanting their roadgoing Porsches just that bit spicier. That started with projects like fitting a Ruf five-speed transmission to a '79 Turbo and quickly evolved into flatnosing, widearching and turbocharging regular Carreras as

the era of 1980s excess really took hold among the Hollywood set. Fashions came and went and in time the fashion for forward-dating older cars to look like new ones was flipped on its head and they were backdating SCs and the like to look like pre-impact bumper cars. Read it and wince but back then people weren't precious about originality, either.

from the back catalogue in his photo album. 'It was actually an RS 3.0 and we didn't know how few had been built. It was a French car, it had been raced to hell so we fixed it up, widened the fenders and the like. We shouldn't have but we wanted to build an RSR and had all the proper stuff. We tracked it for a while, it was a really fun car. But it had been the real deal!'

He shakes his head ruefully

at the idea of taking an angle grinder to a car of that provenance but things were different back then. Are people now looking to have cars turned back? 'It's only really in the last five years originality has become a mainstream thing,' says Dave. 'But there's been a huge shift into matching numbers and all that kind of thing. I mean, there was always a group within the club who

were into that. But in general people didn't care – you blew a motor you went and bought another one, usually bigger because bigger is better, right? But a lot of the cars, you could never bring back to original. I mean, there was one English client, he brought an SC over with him and we wide-arched that – it's never going back to stock, it's gone too far.'

"BACK THEN PEOPLE WEREN'T PRECIOUS ABOUT ORIGINALITY..."

Below: 'tt's only really in the last five years originality has become a mainstream thing,' says Dave Bouzaglou. 'But there's been a huge shift into matching numbers and all that kind of thing...'





And it's this very American attitude to customisation and hot-rodding – with a Porsche twist – that has been at the heart of TRE's work for so long. That may come as an anathema to those more precious about originality but is deeply embedded in Californian car culture and entirely respectful of the source material. It's also underscored with more than a little pragmatism.

'I think the desire is there to restore but I don't think people realise how expensive or intensive originality is,' he says. 'I'm building an RS tribute a customer wants 110 per cent and I'm doing my own '73 S that I'm putting back to original but that's it, it's just too stressful and takes so much time. And the overheads and costs never stop. And I think people will always be customising, so long as there are chassis still available.'

That said the pressure for donor cars for Singer's rebuilds or the myriad other backdate or replica builders means prices for even tired, old cars and engines is going through the roof. 'People are paying 10 grand for a worn out 3.2 motor or \$15–20,000 for a 993 engine – a guy we built a car for and he'd enjoyed for a good few years sold it recently for \$160,000,' he reflects. 'He wants me to build him another one but my pattern is full.' Hence the growing popularity of more affordable cars like the 914, several of which are in the 'shop at the time of our visit.

There may be glitzier operations out there but Dave and TRE are the real deal. Some will be happy sending off a blank cheque and a spec sheet and waiting for a 'perfect' car by return. Here you get the sense it's more about long chats with coffee cups balanced on engine blocks, picking and choosing from Dave's encyclopaedic Porsche knowledge to help concoct your perfect 911.

That might mean choosing the right carb set-up and cams to complement your capacity bump. Or incorporating faithfully recreated welded-in S/T style chassis reinforcements into a regular restoration to make sure it can take a beating out on the road. Stuff you could only do if your head is full of the kind of Porsche history you couldn't learn in a book.

It's clear also that many of TRE's long-standing customers are just as geeky and clued up as Dave himself and he enjoys the kind of to and fro conversations about how to build something faithful and as Porsche perhaps would have done it. And yet customised to individual tastes or need.

Those wanting show ponies can go elsewhere – TRE's cars are as beautifully finished as any but primarily built to be driven and driven hard. The way they achieve that may not always be 'period correct' in the purist's sense, but it's sure as hell authentic. *CP*

Above: Workshop content looks like a who's who of Porsche models, from 356 to 914, 911 to 928. Dave is more than happy to tackle anything, as this photo clearly shows

Contact:

TRE Motorsports https://tremotorsports.com 001 (818) 909-9220

Below left: Dave Bouzaglou is at his happiest when he's working away on a project, be it a full engine rebuild or creating one-off 911 for a valued customer







356

356 Porsche for sale, 1965 356C coupe, car is a show car but a great driver, 9 out of a 10, have cared for said car 40 years, serviced and maintained very well, needs a new driver who really wants a real nice collectable car, £85,000, worth more than asking price. Tel: 561 633 5901. Email: garyr356@ aol.com (Florida, USA). C65/002

911



911 2.2 T 1971 LHD not used since 1989, pretty rare, car was only 18 years registered, 911 Coupe in Tangerine Red, five pieces of 6" x 15" Fuchs rims with stamp 71, Soptions, interior black, with German registration documents, car comes with huge stock of spares new and used, in 1988 the rear axle tube had been replaced, £35,600. Please feel free to ask any questions or for detailed pictures, car is located one hour from Munich airport. Tel: +49 16098 985969. Email: andgo@web.de (Germany). C65/004



911 Carrera 3.2 Sport convertible, in excellent unrestored condition, for example the headlight bowls are perfect, no issues with the kidney bowls. G50 gearbox, Marine Blue with Linen leather interior, only 45,000 miles from new. Full service history, all MOT certs, Porsche CoA. I have owned the car since 2007, £44,000. Tel: 01245 223262 (Chelmsford). C65/019



911 3.2 Targa 1987 model, 73,400 miles, G50 gearbox, special order colour Cassis metallic, all old MOTs, 2 owners from new, present owner 16 years, full service history. Tel: 01582 472509, £41,950. Email: fishingsteve@hotmail.co.uk (Bedfordshire). C65/025



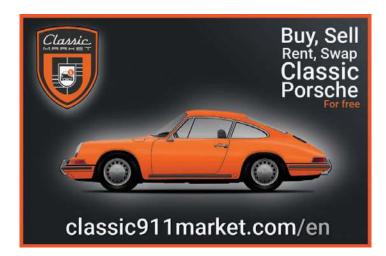
911 930 935 SC RS project VIN 9114101***, 911 Coupe 2.7 of 1974 (first reg Nov '73), with huge stock of spares to choose from to build SC RS, 930, 935 etc. Engine 2700cc K-jetronic, gearbox 915. Started 13 years ago, completely dismantled, welded, sandblasted, prime coated, all parts are in boxes, some new parts (front wind shield, rubbers, brakes, gaskets, etc), £19,935, please feel free for any further questions or pictures, 1 hr to airport. Tel: +49 16098 985969. Email: andgo@web.de (Germany). C65/003

1976 Turbo Carrera 3.0 LHD, 63,000 miles since new, 3 owners, full records, all original car, will work with a foreign buyer on shipping, PPI etc. This is a lovely car and I wouldn't hesitate to drive it anywhere, the car is located in Alberta, Canada, it runs and drives like new, more details and photos at turbocarrera.com, £135,000. Tel: 1 403 998 5006. Email: scott@turbocarrera.com (Canada). C65/021



911 (993) Turbo, 125K mileage with good service history. In Midnight Blue with Marble Grey ruffled leather interior, it's just had a major service and went through massive maintenance work on 2 February 2019, invoice costing a total of £13,249.20. It comes with every option on the list, full bookpack and toolkit etc, no advisories on last MOT test certificate, MOT till 10/10/2019, £89,995. Tel: 07435 454645. Email: kamgills@hotmail.com (Leeds). C65/005

964 RS Lightweight, 1992, GP White, triple grey/black interior, genuine 59K miles, concours condition, full service history, owned by me for 23 years, original paintwork/glass, original radio/tape player boxed, the original 17" mags (refurbished) boxed and never used, runs on 18" Speedlines, three volumes of history, one of only 71 RHD 964 RSL, 964 RSL Register, Porsche Certificate of Authenticity, Porsche club member 40 years, price £225K. Email: info@zorinenergy.com (Marlow, Bucks). C65/022



912

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Rare '68 912 5 speed with sunroof,

ground up restoration, less than 2K miles on rebuilt engine, trans, gearbox. Exterior and interior near perfect, wooden steering wheel, Becker radio with 'wonder bar', California car, \$55,000. Tel: 818 599 5591. Email: alan@sbmco.com (USA). C65/027

914

914 GT perfect rustfree project car

+ spares, 916 steel flared fenders with huge stock of spares, car is 1972 and comes with US title and German customs' confirmation. Engine flat 4 cyl 'W' dismantled, gearbox not complete, some set of axles, second set of doors, lots of other spares double. Car and parts are located one hour to Munich airport in Germany, please ask for pictures, £6640, will help with shipping. Tel: +49 160 9898 5969. Email: andgo@web.de (Germany). C65/006

924

924S, 1986, 95,200 miles, MOT July 2019, serviced July 2018, Terra cleaned, Certificate of Authenticity, registered and valued by PCGB, all MOTs, new tyres 2017, always garaged, Coverdale Platinum Cover included, £7900. Tel: Julian, 07917 682770. Email: jooolsr@gmail.com (Derbyshire). C65/023

Parts

C65/010

Genuine Porsche early parts, Porsche 911 parts 1965-'73, Fuchs wheels 5.5"x15" restored, and deep 6"x15" with hearts available; Weber 40IDA carbs, pair in mint condition; 911 2.7 RS 915/08 gearbox, excellent, rare; original steering wheels; rear trailing arms; Cibie Pallas lights pair, good used; 911 2.7RS and 911T/E distributors, and many more parts in stock, call for more info. Tel: 07770 962354. Email: info@ classicporscheparts.co.uk. C65/001 Rare original steering wheels, wood rim, dished Nardi, 420mm, Porsche mushroom button horn push; black SWB 911 from '66. Also Becker Grand Prix radio 356B/C, contact for details. Email: theporscheanorak@yahoo.co.uk.

Miscellaneous



Porsche repro garage wall signs, 2ft repro garage wall sign for display on your garage or showroom wall, £50, I also have the same in 3ft x 28-inch. Tel: 07704 466754. Email: smithbarrington@gmail.com (Leics). C65/011

Porsche books, Porsche Road Tests Collection No.1 1965-1975, Brooklands Books; Porsche by Motorbooks Library by Shotaro Kobayashi, both in good condition, £20. Tel: 01590 670813. Email: robroberts7@hotmail.com (Hampshire). C65/016



911 & PW number 1 to current issue, all the magazines are within hardback binders and as such are in excellent condition, £150. Prefer collection from Bishopton but could deliver within 50 miles. Tel: 07980 455804. Email: j.knowles968@ yahoo.co.uk (Scotland). C65/012



Porsche medal - 956C, genuine factory issue medal to commemorate the fabulous 956 Group C sports racing car. Struck in heavy metal, weighs 23grms with a diameter of 40mm, with car image and model number on one side, the date 1984 and inscription Zu neuen zielen ('To aim for new') is on the obverse. Add it to your collection for £15, free postage in UK. Contact: Paul Davies at auto.writer@btinternet.com. C65/013



Porsche medal - 959, genuine factory issue medal to commemorate Porsche's first 'supercar', the 959. Struck in heavy metal, weighs 23grms with a diameter of 40mm. One side is an image of the car and the model number, the Porsche crest and the date 1985 is on the obverse. Add it to your collection for £15, free postage in the UK. Contact: Paul Davies at auto.writer@btinternet.com. C65/014

Porsche books Various Porsche books as new condition, at half new price each. Randy Leffingwell "Porsche 911 by design" (Motorbooks), £10; Paul Frere "Porsche 911 Story" (Haynes), Michael Scarlett "Porsche 911" (Haynes), £10; Adrian Streather "993 the essential companion" (Bentley), £25; Adrian Streather "Porsche 911-964 - enthusiasts companion" (Bentley), £25. All items plus p&p. Tel: 07853 763025. Email: alastairtgbell@hotmail.com. C65/018

Registration, 'JJI 9115' number on retention, £2000. Tel: 07810 058297. Email: s-blakeley@sky.com. C65/024

911 & Porsche World issue no1 to current, 911 & Porsche World magazines, from the very first issue number 1 to June 2019, 300 issues. I have subscribed from the very start, house move necessitates sale, collection only from North Worcestershire, £100. Tel: 07971 573388. Email: steve.plant@hotmail.co.uk. C65/017

'LEZ 911' registration for sale, until recently on my 964 but have now decided to sell the registration, on retention certificate, £3500, no VAT or other charges to pay. Telephone with offers. Tel: 07425 153194. Email: lezdawes@gmail.com. C65/009 **911 & Porsche World**, from Jan '05

911 & Porsche World, from Jan '05 (#130) to Dec '08 (#177), excellent condition, £55 plus post, or buyer collects. Tel: 07958 126801. Email: suzukirigger17@yahoo.co.uk. C65/015



'V8 CPU' cherished plate for sale, for your classic V8 Porsche, (1999 onwards), on retention certificate, immediate transfer, £600, includes DVLA transfer fee. Tel: 07739 642684. Email: richard@db9.org.uk. C65/025

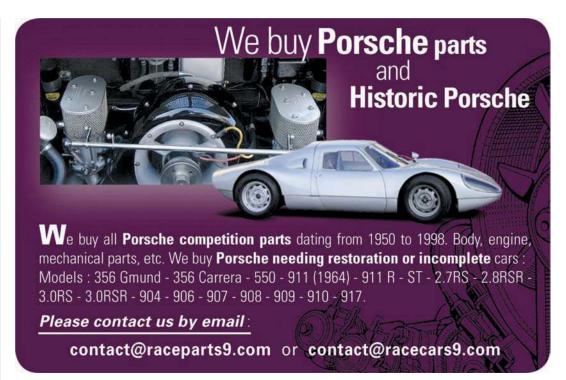


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for immediate transfer
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EMAIL: erha300@aol.com

POR 82T

Cherished plate 'POR 82T', will look great on an '82 Turbo or Targa! On retention certificate, immediate transfer, £911, includes DVLA transfer fee. Tel: 07739 642684. Email: richard@db9.org.uk. C65/008



Wanted

Wanted 356/pre-74 911 for

Interceptor, beautiful restored Mk1 Jensen Interceptor, looking for LHD 356/pre-impact 911 project in exchange as relocating to SW France. Tel: 07791 980714.
Email: montgomerywest69@ googlemail.com (Monmouthshire). C65/020



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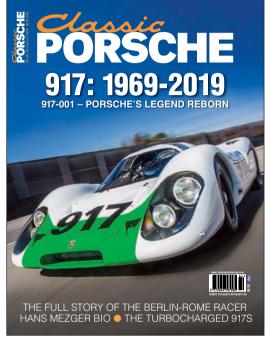
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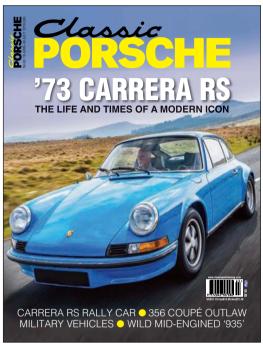
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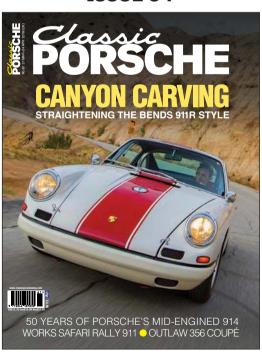


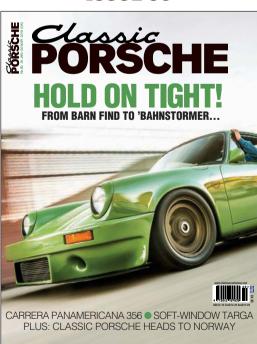


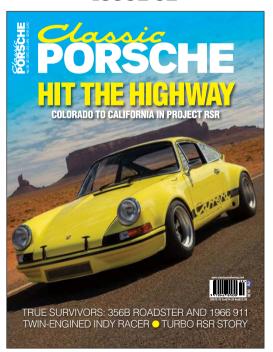
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