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Classic PORSCHE

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I've just got back from the very atmospheric Goodwood Revival meeting which, if you've never been, is definitely one to add to your bucket list of events. It may not be high on Porsche content, but what there is makes it all worthwhile. This year there were five 356s participating, along with a pair of 910s.

The great thing is you get to see them race against the very cars they would have competed against in period, with no quarter given. Let's put it this way, if a little 'love tap' happens while jostling for position negotiating the chicane, you won't

“NOW WHERE'S THAT CHAMPAGNE YOU PROMISED?”

automatically get black flagged (unless, of course, it was a deliberate act), unlike some events we could mention...

The race of the weekend for us was the Fordwater Trophy, in which our very own Robert Barrie competed in Simon Bowery's Pre-A 356 (above). Robert tells his story on page 22, but I have to add that he drove a fabulous race, qualifying in 7th place (out of 29 cars), and finishing 8th out of 23 finishers. To put that into perspective, of the seven cars ahead of him, four were Jaguar XKs, along with a Ferrari 225S, an Aston Martin DB2 and pole-sitter Sam Tordoff's own 356 (which would surely have won, had Sam not stalled it on the line!). Many congratulations, Robert. Now where's that champagne you promised?

Keith Seume
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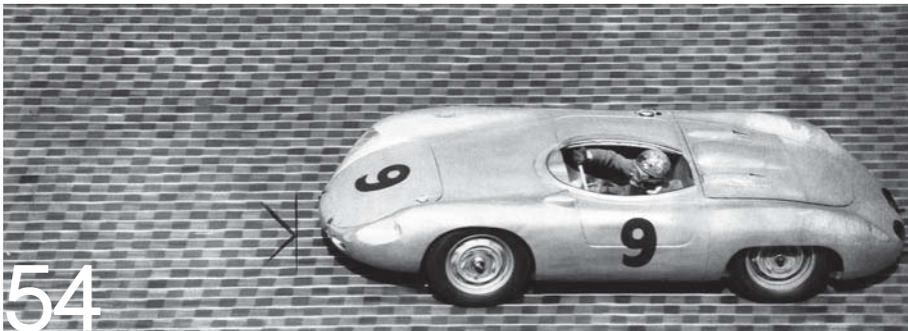
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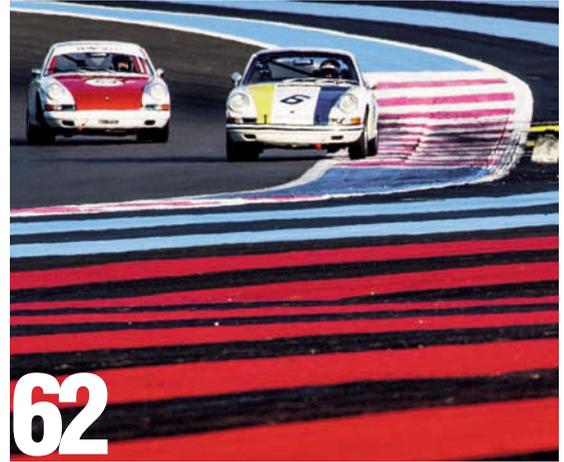
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Words: Johnny Tipler Photos: Antony Fraser

THE FINISHED ARTICLE

Knowing when to call time on a restoration project is crucial: a matter of personal taste possibly, funding more than likely, but most of all, retaining the car's original character. This 2.2 T went as far as its owner felt was aesthetically correct



Enough is enough! The body's done, the engine cleaned up, it's good for another 100,000 miles. But, hold on, how come the cabin's showing its age? Simple. Owner Anthony Edwards wished to retain a sense of the car's history. You can easily over-restore 911s, taking away all traces of their past life. Sure, this 911T couldn't have survived without deep remedial action on its bodyshell, but there was nothing fundamentally wrong with its powertrain or cabin furniture. Best simply spruced up, as far as Anthony is concerned. That way you can still relate to the car's character and the manner in which it's been used over time.

Anthony has the bare bones of a history. The 911T's first owner was one Dennis Elsberry, who purchased it on 7th June 1970 from Gruber Porsche Audi, Inc., based in

Cedar Rapids, Iowa. The last entry in his service book was dated 28th June 1974, and for twenty years between 1975 to 1996 it was placed in long-term storage. 'Back then the car didn't have a massive value, probably had a few issues and needed a bit of money spending, so he just sent it off to storage and that's where it stayed.'

In June '96 it was extracted from the warehouse and underwent unspecified 'major mechanical repair', but it must have been pretty obvious that bodywork restoration was also required. Dennis's nephew expressed an interest in taking on the project, so the title was signed over to him. Mileage at that time was 99,699, getting close to a milestone number, which might have had some influence in his decision.

The provenance then goes cold again. 'I don't know how long the nephew used the car or what he did with it,





but in the event, he decided to sell it. I've no reason to believe it would ever have been out of the States at all.' One way or another it travelled the length and breadth of the USA, though. Anthony again: 'I bought the car at the end of 2013 from a company called Driversource in Houston, Texas, who specialise in European sportscars.

'The previous owner before Driversource listed on the Certificate of Title issued earlier in 2013 was Gullwing Motorcars of Astoria, New York State. I bought it with a Porsche Certificate of Authenticity as a complete, matching-numbers car for restoration, and Schumacher Cargo shipped it over to the UK in early 2014.' The

odometer at this point recorded an ambiguous 600.

Anthony's initial plan was to simply run the 2.2 T as found. Judging by the seller's description it would benefit from a tidy-up, but it seemed as if it was, to all intents and purposes, a usable old 911. Like a long-distance love affair – or, more troubling, an on-line marriage bureau – buying sight unseen can backfire. One person's notion of serviceable can be at variance with the reality.

Anthony's local specialists are SCS Porsche, located in the poetically-named Nag's Head Farm near Honiton, Devon, where techie Stuart Manvell took a long, hard look, and declared that a

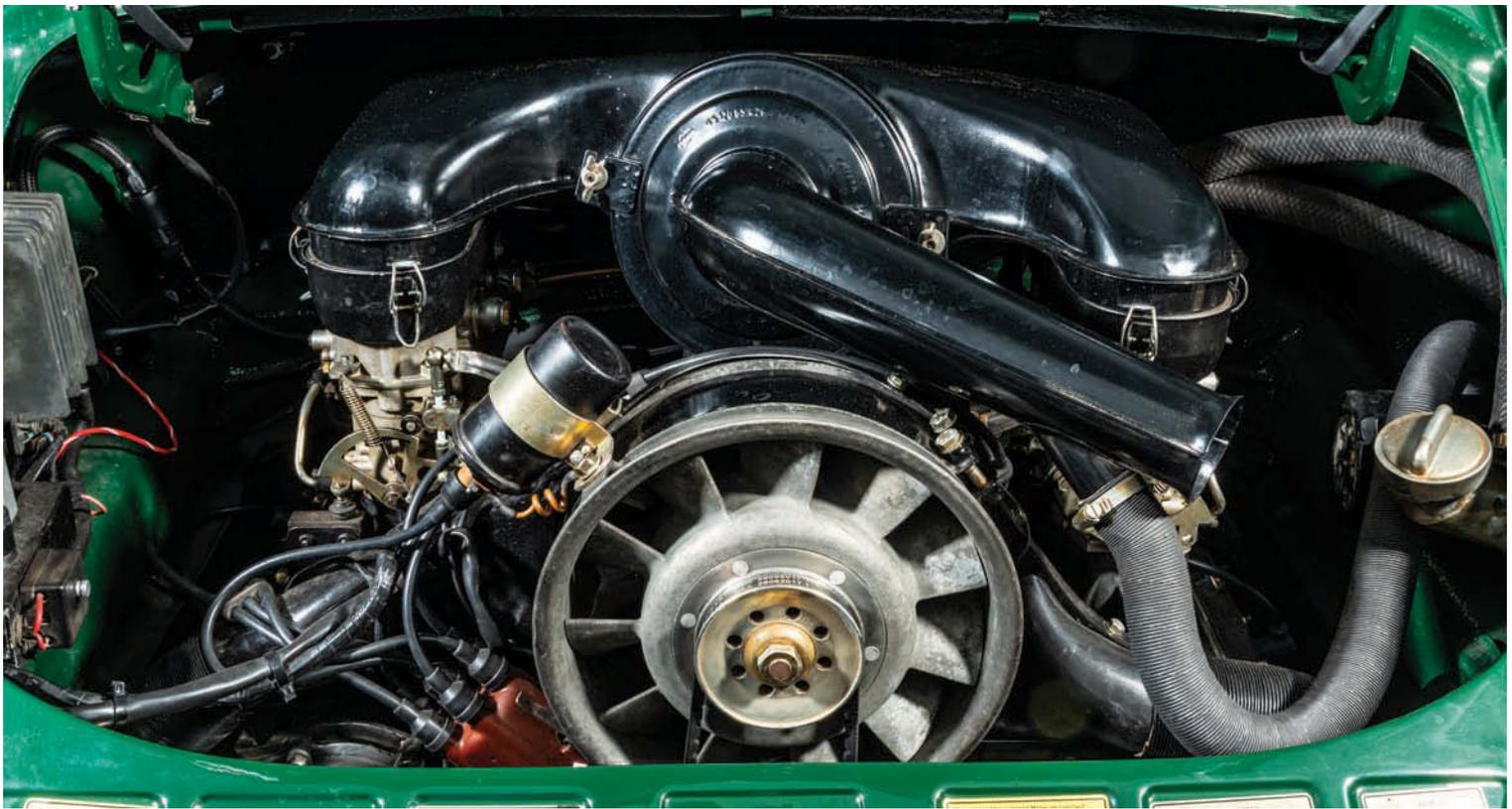
comprehensive bodywork job was necessary. 'The whole

Above: Can there be a finer shade of green than Irish Green? In our eyes it's one of the nicest colours offered by Porsche back in the 1960s and early '70s

“I BOUGHT IT AS A COMPLETE MATCHING-NUMBERS CAR...”

Below left: Unrestored bonnet badge is a nice touch – it's all too easy to destroy all evidence of a car's past life during a restoration...





Above: The 2.2-litre engine looked a mess when delivered, but proved to be basically sound. A sympathetic external 'rebuild' was all that was required

Below: Looking at these post-resto photos, you would never believe how bad the car was when first delivered to the UK. Between them, SCS Porsche and T&T Coachworks have done an impressive job

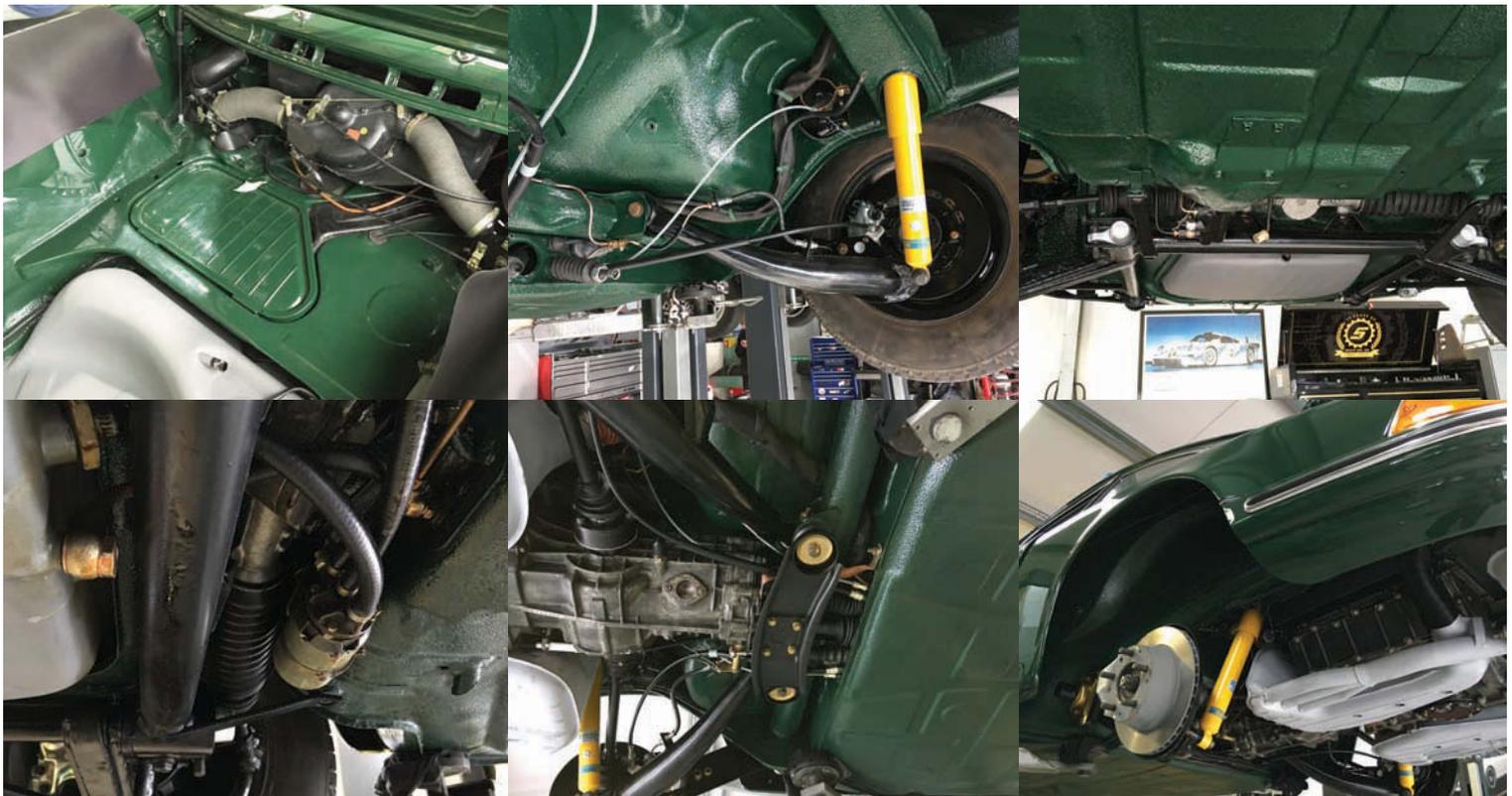
project escalated' Stuart explains, 'because the owner (Anthony) wasn't really aware of how bad the body was until we discovered that there were areas of the floorpan, especially the rear footwells, that were so corroded that you could actually see the road beneath. We couldn't even get it on the ramp when we first saw it.'

Anthony takes up the story: 'Mike Humphries of SCS stripped the car in my barn in late summer 2014. All parts were boxed and labelled, and in the autumn of 2014 the bodyshell went to T&T Coachworks in Feniton, our local bodyshop, for the back-to-bare metal rebuild, and they sand blasted it, and then we realised there wasn't very much left of it at all. It was completely gutted, there was no floor, no chassis to speak of, really.' As for the schedule, it was no overnight sensation: 'It re-emerged in autumn 2016, and

rebuilding at SCS Porsche then started in earnest in autumn 2017 and was completed in early summer 2018.'

The reparations to the shell were thorough: 'The floor has been totally replaced – though you would never know it, they've done a really good job,' applauds Stuart. In the first place it was stripped down by one of our lads, and ironically that was probably the most difficult aspect of the whole project. All the parts were boxed up and labelled, each little bag containing rusty nuts and bolts removed, and the rolling shell was sent off to our bodyshop people, T&T Coachworks. It was indeed in an atrocious condition.'

Large quantities of corroded bodywork were removed, duly replaced with pieces of new steel, welded into the skeletal shell, including floorpan, inner and outer sills, kidney bowls, door-shuts, torsion-bar housings, A- and C-posts, and





wheelarches. A comprehensive metal makeover in other words. The repaired shell was then treated, primed and painted the correct Irish Green, a wonderful colour and a warmer hue than Oak and its ilk.

Many people consider the 2.2-litre flat-six to be the best of the smaller-bore screamers: it loves to rev, sounds wonderful and delivers admirable performance. Back in the mid-'80s I put a deposit on one at Autofarm (when it was based at Amersham) and it would have been my first Porsche. Freshly painted body (Roman Purple) and rebuilt engine, it was an animal on my maiden test drive. But I got in a money muddle and walked away, though not without it making a strong impression on me as the archetypal six-pot snarler.

In the case of this 2.2 T, 'The engine was a bit of a mess,' Stuart remembers. 'Externally, I mean. All the crankcase castings and cooling fins were clogged up, and everywhere

that muck and dirt could get trapped, it was full of it. I think things had been living in there for some time, what they call flora and fauna.

'After I'd finished it was a bit more like it should be, though it wasn't like a full rebuild, but all the gaskets are changed, all the exposed bits have been powder-coated, lots

of bare metal parts have been anodised using chemical anodising kits, such as nuts and bolts and washers, so they have a gold-brass finish. You can't buy them like that anymore so a chemical kit is the way to go.'

A lot of effort has gone into making it look as it would have done when it was brand new. It's even got its original heat exchangers: 'I've just cleaned them,' says Stuart. 'Basically, I was confronted

with boxes of very rusty junk that'd been taken off, and we tried to re-use as many things as we could, so it's still the same car, rather than restored to within an inch of its life.

Above: Out on the open road, the 2.2-litre 911 engine really comes into its own. It's free-revving and arguably the most enjoyable of the early sixes – and it sounds great!

“IN THE CASE OF THIS 2.2, THE ENGINE WAS A BIT OF A MESS...”

Below left and right: Basket-weave dash insert, period radio, correct badging – all just as the car left the factory





Above left and right: The 911T was the basic model in the line-up, the rev counter red-lined at a relatively sedate 6400rpm, or so. Original 'bat wing' steering wheel feels nice to hold

There are some new things, obviously; the brakes are new, the shock absorbers are new, and a lot of it we cleaned, sand-blasted, powder-coated and treated so we'd have as many original bits as possible but still make the car look like it would have done when brand new.' Typically, it runs the same size wheels back and front, with the centres re-blacked and a polish up, and shod with Michelin MXV-P 185/14 90H tyres all round.

The 911 bodysell was delivered back to SCS to be repatriated with its internals. 'There was no wiring loom, nothing at all, just completely bare metal,' recalls Stuart. 'I built it back up, starting with the wiring and the plumbing for the brakes; I just kept on building as much as possible, doing it in big chunks rather than trying to do little bits here and there, which doesn't really work very well.'

New components included wheel bearings, ball joints, brake lines, ignition, brake calipers, with lower control arms sand-blasted and powder-coated. 'I was just short of one door pin, and it hasn't got that yet, which makes it slightly

difficult to close the door. The interior isn't immaculate but, by contrast, we have a 912 that comes in which has been totally redone inside – it's even the same colour on the outside – but it looks a bit odd, it looks a bit over-done, because it's like brand new, and you think, "Well, it's not new, it's a 1970 car," and although you don't want it to look tatty it's got to have a bit of patina, whereas some cars look overdone, and that spoils the effect of it.

'So, we've attended to as many of the visual bits as you can actually get away with, but still making it nice to look at. Now, it's mechanically exactly as it should be, top notch, and that's a nice combination of new and retaining some of the old classic war wounds, which is exactly what the customer wanted, nice and reliable, the sort of thing you can just jump into and do some miles in, hopefully without any issues.'

Anthony concurs. 'I think it's all too easy to replace everything if you've got the money, but it's more important to retain the integrity of a project like this. The seats and the carpets have been part of the history of the car from the

Below: The interior has been largely left alone, the gentle patina hinting at the car's use over the last 48 years. A retrim would have spoiled it





beginning, and it's a pity to chuck all that out in the search for something that looks brand new. I like the originality of all the ingredients as much as the finished car. The Americans in particular tend to over-restore things so they're more like what came out of the showroom; they're almost too good.'

There's a bit of personal history, too. 'I used to have an impact bumper Carrera which I sold and, like everyone else, you want to replace it shortly afterwards. I thought, well, if I'm going to get another one I'm going to get a pre-'74 car and this one just came up, and I have to say Driversource were fantastic. They normally sell really pristine examples, and this one they were obviously wanting to offload, so we had a good chat about it, and we did a deal. I didn't go and see it, but I wasn't disappointed when it arrived, and I think I was probably quite lucky.'

For the driving experience, I take it a few Devonian country miles to the local deer park, aptly named the Deer Park Country House Hotel, where there's a hospitable welcome and the bonus of a small collection of classic cars, including a 930 Turbo Cabriolet that's housed in a specially-built motor-house. The 911T is in fine company. Here, curator Stephen Poat also looks after a unique 1930s Chevrolet

Universal Phaeton, a 1926 Rolls Royce with Mulliner body, a 1938 Packard sedan and a Jaguar XK150 that was the official 1958 press car.

I ease the 2.2 T around the park lanes. It may be a period piece, but the gear shift is absolutely precise, not one to be hurried, and everything including dog-leg first falls into place absolutely as it should, and the steering is agreeably precise during turn-in and cornering. It's got its original radio, and the lattice-weave panel across the dash and in the seats and door cards, all patterned correctly, and the door bins operate properly, too.

I can't resist blipping the throttle, and there it is: that glorious six-cylinder shriek. Only a 2.2 can deliver that. Rebuild or not, you have to admire Anthony Edwards' restraint. Of course, it's a precious thing in its own right, but it's not so done up to the nines that you daren't use it without kid gloves, nor wonder about the true identity of the car that you're having fun with.

As far as this Porsche fan is concerned it's about quitting time, knowing where to draw the line. Besides, you've always got something to look forward to, in this case a rebuild of that marvellous 2.2 engine sometime in the future... **CP**

Above: You can almost hear the spine-tingling roar of the 2.2 'six' as it accelerates away from the camera...

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Below left: A nice touch – service reminder left over from car's days in the USA

Below right: Wheels are the correct 14-inch Fuchs, shod with 185 Michelin MXV tyres





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PORSCHE HEAVEN ON EARTH!



How does the thought of being able to rock up to a modern development set in the heart of the English countryside, home to businesses dedicated to the Porsche marque and a future host to Porsche events large and small sound to you? This is the brainchild of Porsche aficionado Frank Cassidy. And the concept is called Boxengasse.

In his own words, 'Boxengasse is a destination with over 25,000sq ft of bespoke-built premises for services and hospitality, all set within 100 acres of outdoor event space, amongst woodlands and lakes; and it's entirely dedicated to Porsche!'

The location has been carefully chosen – it's purposely situated in central England, 90 minutes from over 50 per cent of the UK's entire population and only 30 minutes from Silverstone Circuit and "Motorsport Valley", the area that has become home to so many race teams. Boxengasse will be a one-stop destination for Porsche enthusiasts.

The major news is that, after more than a year of development, Boxengasse is proud to announce that marque specialists Autofarm will be offering a full range of Porsche services on site in early 2019. Autofarm is, as few will need reminding, the longest-standing independent Porsche specialists in the UK.

Frank is understandably excited about the whole project, one which has been a personal brainchild for many years. The build work is coming along well, and it will only be a matter of time before we can give you some more news. But as you can see from the 'work in progress' photos, this is no pie in the sky project – and we can't wait to see it completed.

Future plans are to hold regular 'cars & coffee' meetings, as well as an annual Porsche show, something we can all look forward to. If you want to keep abreast of developments – or run a business which you think would like to become part of the Boxengasse project – then log on to...

www.boxengasse.com



IDA3C WEBERS ARE BACK!



It's just been announced that Weber 40IDA3C & 46IDA3C carburetors for the classic Porsche 911 will soon be produced once again, and will be available from Webcon.

The carburetors are being produced from 100 per cent new tooling created from the original Italian Weber factory drawings. Although the product is as original, the manufacturing now uses the latest technologies to ensure that the very finest quality is maintained for every component.

The carburetors are expected to be available from October 2018 – watch the Webcon website for confirmation of a release date.

Retail prices are as follows: both the 40IDA3C 3130000100 and 40IDA3C1 3130000200 are priced at £1295, while the larger 46IDA3C 3136000100 £1395 and 46IDA3C1 3136000200 will cost £1395. In each case, these prices are plus VAT.

They'll be available directly from Webcon and from appointed Webcon dealers around the world. For further details contact Webcon UK on +44 (0)1932 787100, or log on to www.webcon.co.uk

HAPPY BIRTHDAY PORSCHE



Marco Marinello of Elevenparts in Switzerland managed to bring together no fewer than 70 Porsches, representing each year of the company's existence. What makes this so special is that each of the cars shown was originally sold by Swiss Porsche importers AMAG. Having tried to arrange photoshoots for just three cars, we can only guess at the effort required to get the photo!

PRIVÉPERFECTION



Great news from Mick Pacey of marque specialists Export 56, based in Newport Pagnell. Mick took a number of cars along to the prestigious Salon Privé concours d'élégance at Blenheim Palace in September and one of them, the very rare and desirable right-hand drive Carrera Speedster, took home three trophies, including best engine, best open top car and the Duke of Marlborough award for Best In Show. www.export56.com

CARBONE PINS



Here's something fresh and new from Pawel and the guys at Carbone: high quality metal and enamel pins. There are four designs: crossed bones, 70 years of Porsche, flat-six engine and a side view of Porsche with a ducktail – and they're presented in these neat matchboxes. Cost? Just \$19 plus postage. Details at www.car-bone.pl

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Targa top frame arms often break at the hinge points due to metal fatigue and use of a brittle alloy in the original. After more than a year of development, Lakewell now have a solution.

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The remanufactured arms perfectly cross-fit with the original parts, so you can safely just change one side. The new frame arms are available for '70–'73 models with standard centre pin and '74–'85 models with locking centre pin. Prices start from €260 plus VAT. You can find more details on www.lakewell.com



PULL IN TO CANFORD CLASSICS



Dorset-based specialists Canford Classics held their annual Porsche Pull-In in August, welcoming an impressive number of Porsches (and owners) for a day of checking out the latest projects and raising money for charity. A great day out, it was the perfect opportunity to catch up with all the gossip! www.canfordclassics.com



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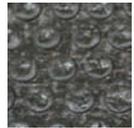
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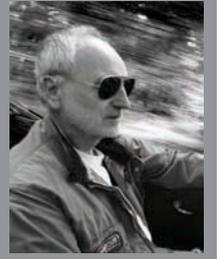
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DELWYN MALLETT

FOLLOWING A TRIP TO THE GOODWOOD REVIVAL MEETING TO WITNESS A MAGNIFICENT DRIVE BY SAM TORDOFF IN A 356, MALLETT REMINISCES ABOUT HIS LESS NOTEWORTHY RACING CAREER...

Many would describe Delwyn Mallett as a serial car collector – one with eclectic tastes at that. His Porsche treasures include a pair of 356 Speedsters, a Le Mans-inspired Pre-A coupé and a 1973 Carrera RS. Some of them even work...



I have just returned from the Goodwood Revival Meeting where I witnessed some of the most exciting four-wheeled motor racing on the planet since, well, last year's Revival. (I say four-wheeled because there is absolutely no form of motor sport that can hold a candle to MotoGP for thrills, spills and sheer jaw-dropping, heart thumping bravery and spectacle. If you don't yet watch it then I suggest you start now.) But back to Goodwood. Hard to choose which of the weekend's dozen or so races was the most exciting but the closely-fought saloon car races just had the edge for me.

Whether it was a convoy of slippery-slidy drifting Cortinas or juggling Jaguars circulating with barely a bumper's width between them, it was non-stop thrills from flag to flag, and thoroughly gripping stuff.

However, displaying only a slight amount of bias, my candidate for driver of the weekend goes to Sam Tordoff, running his 1953 Porsche Pre-A Coupé in the Fordwater Trophy event for pre-1955 production-based sports and GT cars. Having led the 2016 British Touring Car Championship for much of the season, Sam just missed winning the championship by two points. His class showed in the Fordwater Trophy at Goodwood by qualifying on pole followed by a stunning drive in the race.

After failing to get off the line at the start, he fought his way through from the very back of the field to finish second, setting the fastest lap of the race en route. Shades of Lewis Hamilton. If he hadn't fluffed the start one suspects that the race would have been far less exciting as his pace suggests that he would have run away from the field. It was a rare treat to see five Porsche 356s on the grid, including two Speedsters, both running with hardtops fitted.

It says much that the constant development of historic cars over the last half-century and more has led to a situation where a 356 can defy the laws of cubic capacity and outrun cars of over twice the cc and which, in period, produced three times the horsepower. Such was the limitation of the 356 engine in the early Fifties that Porsche designed the immortal four-cam Carrera engine to go racing.

On its introduction, the Carrera produced 110bhp, a substantial improvement over the 70bhp of the pushrod 1500S. Today a well-developed 356 race engine will be easily producing 150bhp, or more, with the added handling advantage provided by less weight aft of the transaxle.

Porsche 356s were a relatively rare sight on British circuits when new and if you were serious you had to be in a Carrera. The late Dickie Stoop, whose 904, 'YOU 4', was running at Goodwood, campaigned a 356B Carrera in the

early 1960s, a car that subsequently burned to the ground in a road accident when owned by Porsche racer Nick Faure.

When my own brief and completely undistinguished racing career commenced in the 1970s in the HSCC 'Roadsports' series, my right-hand drive 1957 Speedster was just as the factory built it, other than fitting a later Super 90 engine and a roll-over bar. Extra points were given for driving to the event and most competitors did just that. In the earliest races 'tuning' consisted of little more than pumping up the tyres and fiddling, if you were so inclined, with the shock absorbers.

Running in the up-to-1600cc class, I inevitably found myself towards the back of the field and before the end of the race being lapped by the big boys in their Aston Martins and Austin Healeys. This led a few of us to form the Blue Flag Drivers Club, a very exclusive society, with membership by invitation only.

The badge for the BFDC featured a *Helix Aspersa* (garden snail) rampant brandishing said flag. Membership was restricted primarily to 356 pilots, but with an equally outclassed Jowett Jupiter driver also being a founder member.

Quite soon, and inevitably, as Porsche owners sought more speed, the cars began to be developed, becoming less 'road' and more 'sports'. The late Tony 'Doc' Standen, an ex-pat American, was only too aware that in the US the rules were much more liberal when it came to modifications and far from being 'vintage' the 356 had continued to be developed as a competitive racer, and he started the long road of upgrades. Trumpets on the carburettors, an Isky cam and stiffer valve springs were the minimum upgrade, closely

followed by Carillo rods and a lightened flywheel.

Eventually the finger of suspicion started to point at the faster cars, now arriving on trailers, having abandoned any pretext of being road cars, and tongues began to wag – were they running 'big-bore' cylinders? As far as I recall the handful of 356 boys regularly racing back then were far too gentlemanly to launch a formal protest and, as even with the enhanced performance they were still no threat to the bigger cars, the scrutineers were not too interested in a teardown. After a far too intimate caress with the Brands Hatch Armco, I retired my Speedster from competition before it, too, became unsuitable for the road.

The Goodwood cars are often criticised for the fact that they have been developed way beyond the capability of the day, distorting historical accuracy. Austin A35s dicing with Jaguars for instance is quite unrepresentative of the time period – but, what fun. And long may it continue. **CP**



A proud member of the Blue Flag Drivers Club (a reference to the marshall's flag waved to warn of a faster car about to overtake) Mallett avoids an errant Healey in his RHD Speedster

“THE FINGER OF SUSPICION STARTED TO POINT...”



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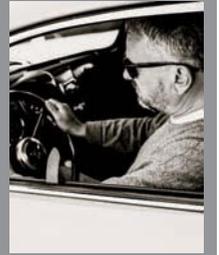
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ROBERT BARRIE

PORSCHE PUT ON A GREAT SHOW AT THIS YEAR'S GOODWOOD REVIVAL, NOT THE LEAST BEING THE MAGNIFICENT 8TH OVERALL IN THE FORDWATER TROPHY BY OUR OWN COLUMNIST...

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



As ever, the Goodwood Revival was one of the highlights of my race calendar. I was generously invited to drive my old 356 Pre-A in the Fordwater Trophy by Simon Bowrey, its new owner. There was an element of unfinished business in that I knew the car could, and should, go better than we did last time. We took a couple of seconds off our previous best in testing and a couple more in quali. We were moving in the right direction, even if we still weren't anywhere near Sam Tordoff, who put his Pre-A on pole and came through the field in the race to finish second to Darren Turner's Aston Martin after a fluffed start. For the record, I managed to get ours off the line *without* stalling...

Goodwood is also a place to see and be seen and the Pre-A is a seriously pretty little car. I seem to remember there was some debate as to whether it is exactly the right shade of silver-grey, but there's no doubt it suits the car perfectly.

Simon has added bumpers, re-fitted the window winders and re-trimmed the interior. It's all unnecessary weight in a sense – something like 75 kilos to be precise – but the net effect is that the car is stunning. The lad has a good eye.

I am more of a numbers man myself, and can claim the pointlessly trivial, but possibly unique, double of having raced a 356 numbered 356 and a 911 numbered 911 at the circuit. I will happily do the maths again if someone wants to stick me in a 904 or a 910!

More generally, the competition department seems to have become a bit keener on our cars of late. If so, long may it last. After the Members' Meeting, in which classic Porsches were, if anything, over-represented, there was another strong turnout of our sort of stuff at this year's Revival.

There were five Pre-As in the Fordwater, three 904s in the TT and two 910s in the Whitsun Trophy. It was also tremendous to see a team of early 911s – including David Kennedy's rare RHD example – acting as course and safety cars alongside the regular GT40s. Well done to Andy Prill who helped put that together.

Over the course of the weekend, I spent some time away from the track taking in the attractions and distractions at some of the commercial stands.

I found a number of period photographs of UK-based 904s. According to Denis Jenkinson, there were up to six such cars, including Stirling Moss's metallic green car and Dickie Stoop's Irish Green example that raced at the circuit in period and has done so again this year at both the Member's Meeting and the Revival.

I found some photographs of AFX 1B – the car that briefly belonged to Ronnie Hoare. Elsewhere at the event, I bumped into Alain de Cadenet who confirmed he bought the car from Hoare. De Cadenet paid for the car in

instalments, the first of which was some start- and prize-money he won from borrowing and racing it!

I also found a couple of photographs of chassis 097 – a silver car that was first owned by John Morris who, like Mike De'Udy, went on also to race a 906. The car had an interesting, if largely domestic, competitive career including a top ten finish at Goodwood, along with Stoop and De'Udy in their 904s in the 2-litre support race at the 1964 TT meeting.

The race – which appears only to have been run in 1964 – was won by Mike Spence in a Lotus Elan, with Stoop second and De'Udy third. If the comp department are looking for new period-correct ideas, a re-run of that format could be worth considering.

I bought the photographs, as well as some others, from a couple of established old-school vendors. They knew what they had, but didn't seem over-bothered about selling it. They were enthusiasts themselves. Our sort of people, in fact.

In contrast, some others seemed only to be interested in making money. They had interesting images, but didn't know or care much about them. Their pricing structure was complicated and more or less prohibitive. They said I mustn't do anything with anything I bought.

They weren't sure they should be there and I am not sure I should be writing this now. God preserve us from these people and keep our pastime in better hands. You didn't think we were going to get through this without a rant about something, did you?

Actually, that's the wrong note on which to end. I must thank Simon again for the opportunity, Steve Winter for his calm and very capable support and lots of other people for lots of other things – it was all great fun! **CP**



Robert in full flight in Simon Bowrey's Pre-A 356, a car which he used to own. A well-earned 8th overall was an impressive result in the Fordwater Trophy race. (Photo credit: Jayson Fong)

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911S MEMORIES

I was delighted to see the 2.0S that I owned in New Zealand feature on the cover of *Classic Porsche* issue #53. I had the privilege of being its keeper from 2002 until 2015 when I sold it to Alistair Isles, a thorough gentleman I might add! Whilst in my care I had the vehicle fully restored to the extent that I got a bit anal about driving it, hence the sale.

I am probably, however, one of the few folk that has had the pleasure of owning, all at the same time, a 2.0 911S, 2.2 'S' and a 2.4 'S' (Targa), as well as a 1973 Carrera RS, all in right-hand drive.

The 2.0S and the RS are now resident in the UK, but I still have the Targa, though, and use it a lot throughout the summer. The 2.2 is in the final stages of a nearly 13-year restoration – it's a long story!

It was wonderful to see the 2.0-litre car there in all its glory. It was a great car to own and was driven regularly. I do miss it. I never saw its claimed top speed of 143mph but not long after I became the owner I saw a number not far short of it!

Incidentally, our family nickname for the vehicle was 'Pepper' as folk knew I was buying another car but assumed it was going to be a Cayenne, hence pepper. Get it?

Ian Nott, New Zealand

Keith Seume replies: Thanks for the message, Ian. That was a pretty amazing collection to own – everything from a 2.0-litre 'S' to a Carrera RS, all at the same time! Not many people can boast of that. However, it begs the question: how did you know which one to take out for a drive on a summer's evening?

PAINT TO SAMPLE

I greatly enjoy reading your magazine – each issue is packed with information and fascinating tales that take me back to my early days of Porsche ownership in the 1960s and early 1970s.

Back then, I used to own, first of all, a 356B coupé, followed by a 356C Roadster and finally a new 911T. Of the three cars, I enjoyed the 911 most of all as I felt the 356 was showing its age by the mid-1960s. Nice cars, but slightly out of date by then (I'm sure that comment won't go down well, but it's true – at least, in my mind).

When I went into my local Porsche dealership here in Pasadena, I had no idea what colour Porsche I wanted. I thought I'd take a look through some colour charts and go from there. Top of my list was red, followed by what I

think they called Light Ivory. I hated any kind of yellow or green, and wasn't keen on blue.

Your cover feature on the paint to sample 911S (in issue #56, which my daughter bought for me when she was in London last month) jogged my memory. When I spoke to the salesman, I had no idea you could order a

Porsche in whatever colour you liked, as long as you could provide a sample and were prepared to pay a small premium for the pleasure – I think I was quoted well under \$1000 for what he referred to as 'special order paint'.

That set me thinking, and I looked around to see if there was any colour that grabbed my attention. My fiancée (now wife) was wearing a pretty floral dress, and had a burgundy handbag to match. That was it! That was the colour! But how to match it?

It was my wife who suggested handing over her bag (as long as I replaced it), so as far as I know, it was sent off to Germany with the order for my car. Whether that really happened or not, I guess I'll never know, but about three months later, the car was delivered – minus the handbag... Oh well, at least I now owned a rather nice shiny new 911 in an unusual colour.

Thanks for reminding me of a very happy period in my life. Soon after, though, I was drafted into the Army and sent out to Vietnam...

Gene Erikson, via E-mail

INSPIRATION

Having just read your latest issue, I just wanted to pass comment about the Le Mans Classic coverage.

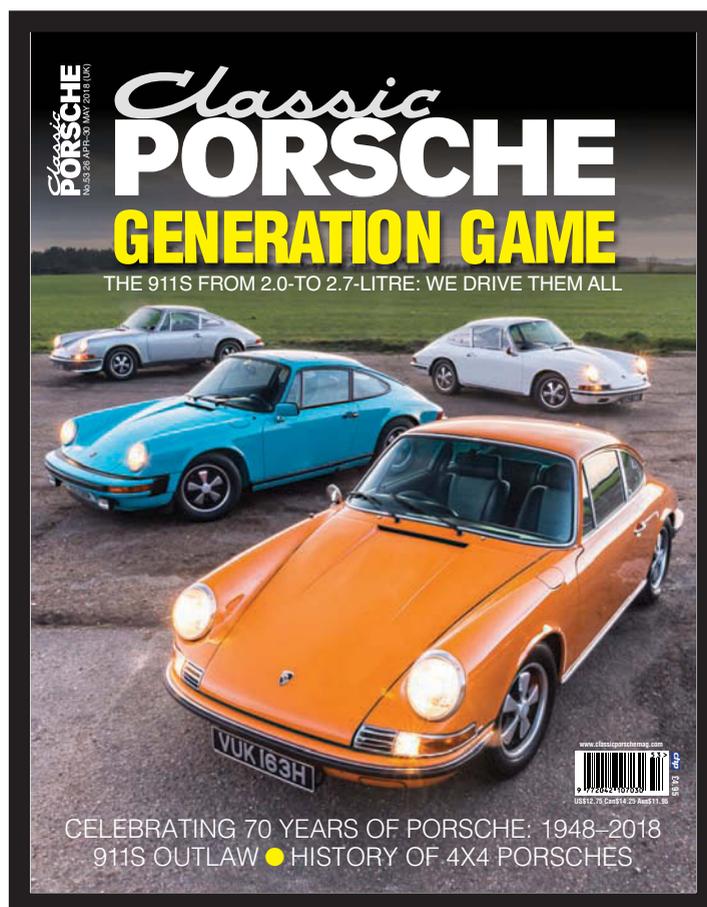
I went to the event myself for the very first time and, despite listening to the commentary in English, struggled to work out which class was which, and why some Porsches ran in different races, when they appeared to be the same age and model. All that was made clear, I'm pleased to say, by your explanation of the classes!

This really was a fantastic weekend and I think your coverage captured the spirit of the occasion well, especially the photos. My only

complaint is that there were not more nighttime images in the report, but that's a small point.

Peter Hicken, via E-mail

Keith Seume replies: Glad you enjoyed it – and sorry, I had to get some much needed sleep in the wee small hours of the morning!



Ian Nott used to own the 2.0-litre 911S that formed part of our group test in issue #53, but his garage went one better at the time: he owned one each of the 2.0-litre, 2.2 and 2.4 911Ss, plus a Carrera RS. Not bad, eh?

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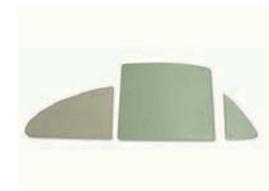
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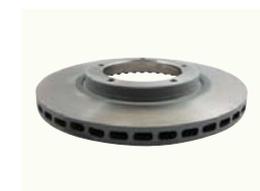
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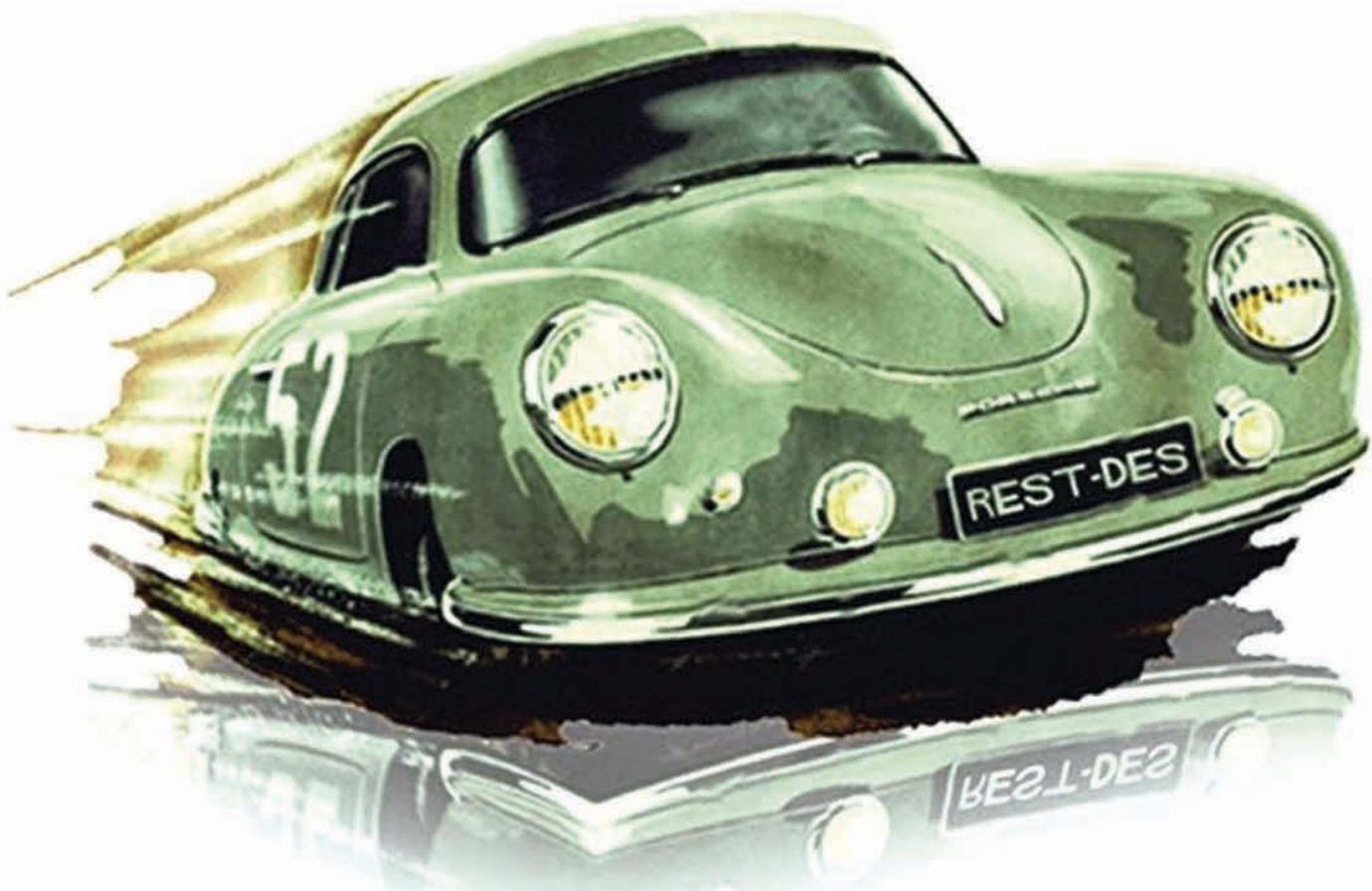
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KING OF THE ROAD

Excited! No, how about over-excited! Today, we're going for a drive in a 917, without a race suit or helmet. In a 917 on the open road – and legally, too! OK, so insurance costs prevent us from actually taking the wheel, but even so, as a passenger it promises to be an unforgettable experience. The owner, Claudio Roddaro, went out of his way to allow us to live this moment – it's impossible to know how many (or rather how few) people have had the opportunity to go for a ride in a 917, whether on road or track, so it wasn't an opportunity we were going to pass by!

Words: Josué Chevrel Photos: Tom Wheatley



Below: You can hardly begin to imagine the sound as the 917 accelerates up into the hills above Monaco. Other road users just stopped and stared in awe...

In the history of the 917, only two previous examples have been homologated and duly registered for road use. The best known is certainly that intended for the personal use of Count Gregorio Rossi di Montelera, owner of the brand Martini & Rossi and, incidentally, the first patron of the factory team in the 1970s. When a financial partner of this calibre calls for a small automotive favour, usually the factory is quick to help out.

We covered the story of Count Rossi's car in issue #54, but it's worth a brief recap. In 1974, Gregorio Rossi had a desire to hit the streets in a genuine 917. Porsche looked through its inventory and 'discovered' one that had been gathering dust since the end of 1972. It was chassis number 917-030, a test car that only ever raced at the 1000km at Zeltweg in the hands of Helmut Marko (a few days after his victory at Le Mans) and Gérard Larrousse. It didn't finish the event, but it had made it possible to test the new ABS braking system in real conditions.

Because Monsieur le Comte wanted his 917 to be as close to a race car as possible, the small modifications made at Weissach intended to make the machine more 'practical' were limited, more or less, to a muffler and a cockpit that was trimmed in leather and carpeted. It was also painted a single silver-grey colour so that it didn't look out of place in his collection. But nobody was fooled, certainly not the TÜV...

Gregorio Rossi turned to the authorities in Alabama (USA), who granted him a collector's registration on condition that the 917 never turned a wheel in the state! The car was driven from Stuttgart to Paris the very day the Count took delivery on 27 April 1975. Still owned by the Rossi family today, 917-030 is no longer eligible for use on the public road, its last registration (in Texas) no longer valid according to American law.

The second 'road legal' 917 bears the chassis number 917-021. Once again, this is a car which we have featured





in the past (see *Classic Porsche #22*) but to recap, it was raced for whole 1970 season under the colours of AAW Racing. Today, it is best known for competing in historic races in its 'hippie' psychedelic livery in the hands of owner Vincent Gaye. But at the end of the 1970 season, the car's 'vital organs' were used to rebuild a 917 Spyder with which Kinnunen won the Interserie championship in 1971.

The original chassis-body assembly of #021 was sold to Manfred Freisinger in 1972 then, three years later, Joachim Großmann bought the remains for the price of a new 911. The man, a modest carpenter, worked like a madman to rebuild the 917, restoring it for the sole purpose of getting it homologated for road use by TÜV. He obtained the certificate on 3 June 1977 with the registration number CW-K917. The following owner made the decision to restore #021 back to a strictly competition configuration, and so ends the story of the second street-legal 917...

And so to our subject shown here. Claudio Rodarro has been collecting Porsches for a few years now, with a

preference for Porsche racing cars, including prototypes, and preferably winning examples if at all possible. He's the kind of collector for whom the 917 represents the Holy Grail, but they rarely come onto the market. When 917-037 appeared on a specialised website late in 2016, Claudio Rodarro leapt at the chance.

At first glance, #037 raises a few eyebrows. Various 917 registers list it as one of the four reserve numbers that were never assigned. A 917-037 had been recorded in the entry list for the 1970 24 Hours of Le Mans, entered by John Wyrer under race number #22 for Hailwood and Hobbs, but it turns out that it was chassis 917-026 which ran under this race number.

Porsche works driver and historian Jürgen Barth sheds light on this: 'This #037 chassis is the last one manufactured by Bauer, who built the 917 chassis for Porsche from 1969. This chassis was not given a number before the end of production. In the 1990s, it was sold by a former Bauer employee who had acquired it from his employer. Then the

Above: We'd give anything to listen again to the soundtrack as the flat-12 motor is given free rein through the tunnels!

Below: You can spend a day doing nothing other than studying the details. The 917 is every inch a hand-built car, from the welding on the fuel filler to the hand-applied markings on each wheel





Above left and right: Not what you'd expect to see every day – a 917 at the local petrol pumps, or cooling down outside the local bar...



chassis passed briefly through the hands of Marco Marinello (Elevenparts, in Zurich) who sold it to Carl Thompson, of Hermosa Beach in California. That's when 917-037 enters the scene.'

Thompson was Race Director of famed Porsche dealer and team owner Vasek Polak for a long time; he knows the subject by heart and it is he who undertakes the assembly of the car from the chassis and a lot of spare parts from the factory, including the twelve-cylinder engine, serial #052.

Californian specialist Kevin Jeannette of Gunnar Racing had the body moulds so agreed to build a new one. Unveiled at the Rennsport Reunion II in Daytona in April 2004, #037 in its all-white livery was the most paradoxical 917: it is the last 917 built, and cannot boast of any wins or even any proper racing history, but it is arguably the most authentic 917 of all.

Its chassis comprises all its original tubes, each in perfect

condition since it never took part in a race. Ninety-five per cent of the parts used to build the car are original, a proportion which few other 917s could still boast after a single season. The body remains unrepaired, and weighs no more than it would have done originally. One man can lift the

engine cover, for example, which is not the case for all 917 covers which have often been repaired many times over the years!

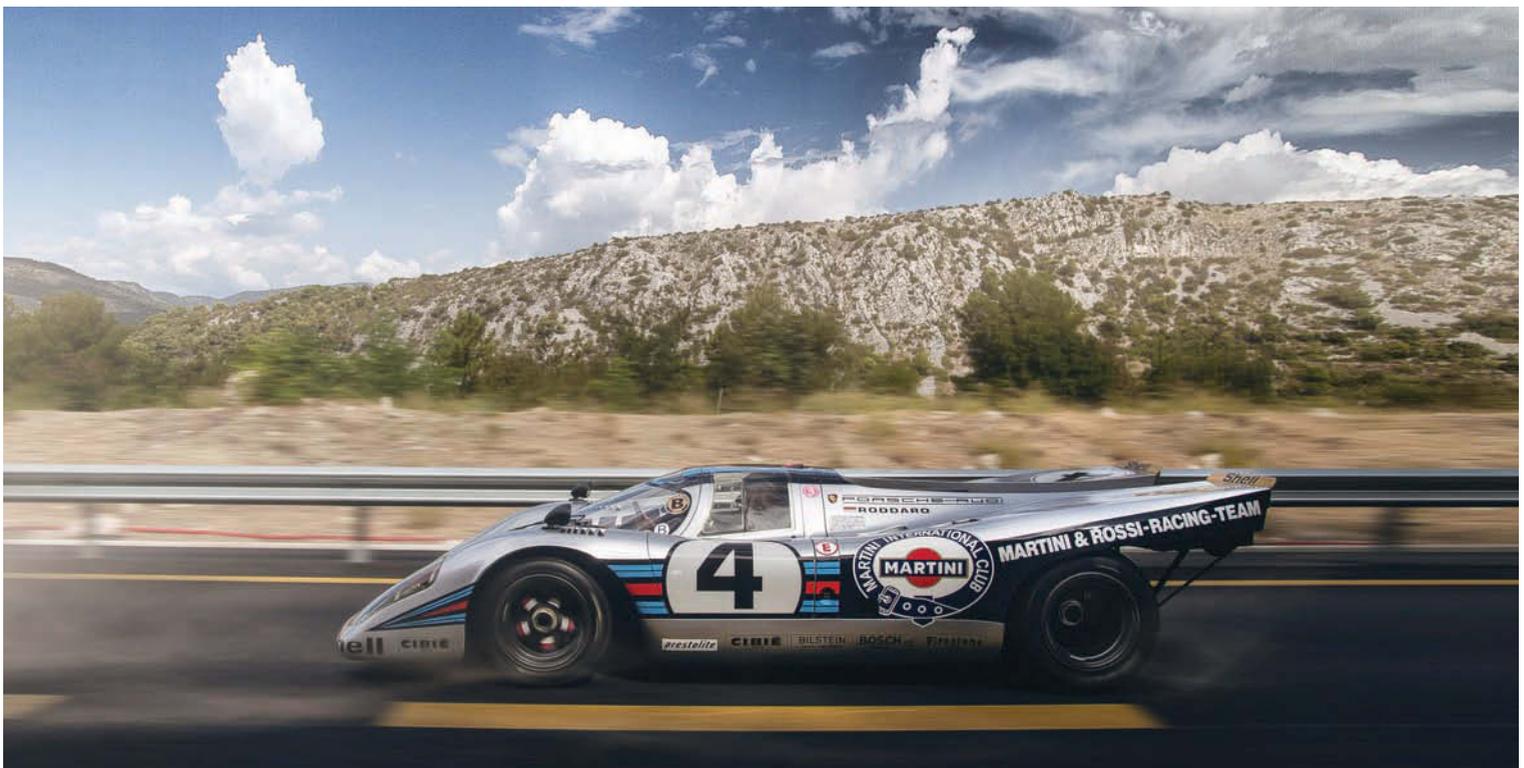
When the car reappeared two years later at Techno-Classica in Essen, 917-037 became the property of Manfred Freisinger, who entered Le Mans Classic the same year, entrusting the car to Stéphane Ortelli. Then, in 2011, Freisinger handed it over to American collector Greg Galdi,

painted in Martini grey, before it was delivered to Laguna Seca for the Rennsport Reunion in September 2011.

Since #037 does not really have any race history, Galdi started out with a blank canvas on which he had full latitude to determine the livery he would like. He chose the one featured on 917-023 on the day of its last race at Daytona.

“IT IS ARGUABLY THE MOST AUTHENTIC 917 OF ALL...”

Below: It's difficult to judge here, but the 917 is very small compared to most modern cars. But loud pipes and extravagant Martini livery makes it hard to ignore





The Martini livery was applied on the spot, while the car was still in its trailer!

In December 2016, Claudio Roddaro bought and repatriated 917-037 to Monaco. And with that came the idea (make that 'desire') to take a tour of the Formula 1 circuit in a 917, very early on a Sunday morning when the roads are still deserted. But it wouldn't be possible without a licence plate and, as such, would remain a dream. Or would it?

When two other cars of the same type have already been granted the necessary registration documents elsewhere in the world, it's theoretically a little easier to motivate the authorities in Monaco. At the very least, it would have been necessary to build a concrete file, with supporting documents of all kinds, such as FIA documents or Jürgen Barth's letter stating that the 917-030 driven by Count Rossi in 1975 was identical to #037 in all respects.

Claudio laughs when he remembers: 'In Monaco, it's like in France. In cases like this, they try to hang around to discourage you. Everyone passes the ball to someone else. But as Monaco is very small, the ball can't travel very far and is quickly passed back! It didn't take more than a couple of months...'

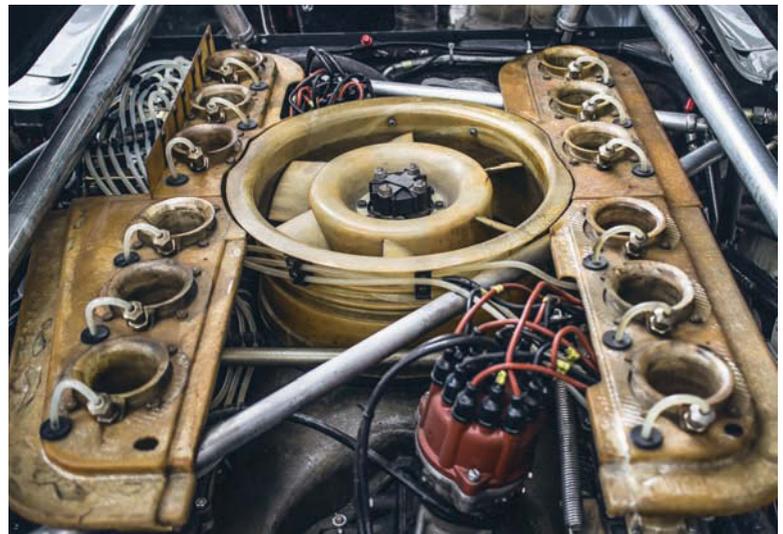
“IN DECEMBER 2016, CLAUDIO REPATRIATED 917-037 TO MONACO”

Technically, a 917 is not much more than an evolution of the 908, of which some factory specimens were road-registered. They have all the lighting, including turn signals, a horn, a passenger seat and even a spare wheel. All that was required was the VIN plate, which Porsche provided!

It is thus that, with the registration documents in our pockets, we head out for an assault on the roads which overlook Monaco. But before that, we'll have to wake up the beast from its slumbers, sitting between two 911 RSRs that seem disproportionately high. Apart from when you turn the steering wheel, pushing it by hand to pull it out of the parking

Above: It's hard to imagine a more perfect way to experience the roads along the Mediterranean coast. The 917 proves to be easier to drive on the street than you might first imagine

Below: The 4.9-litre engine produces more than 600bhp – more than enough in a 917 that only weighs just over 600kg 'wet'





Above left: The driver's feet were incredibly vulnerable in the event of a frontal impact, for they projected ahead of the axle centre line

Above right: Getting in and out of the 917 isn't quick or easy – a process made all the more difficult if wearing a helmet and race suit...

Below: You can't help but wonder what's going through the minds of the policemen. They weren't against the car being out on the road, but were less happy by the way it brought other traffic to a halt, causing chaos...



lot requires no more effort than with moving a 356.

Starting the engine is quite a ritual. It's not quite like a modern race car, where a team of technicians stands by, but it's not something you can do single-handedly, either. In the absence of Massimo, the mechanic who's been looking after his 'baby' since its arrival in the collection, Matteo will follow us all day in the Scuderia Classica assistance truck. Well, you can never be too sure...

It would be too easy if the twelve cylinders could be coaxed into life with just a turn of the key when cold. You need a touch of choke – except there isn't one, so one mechanic has to manually operate the enrichment device on the fuel-injection, while another holds the engine cover. A third person then turns the key on the dashboard.

While the fuel pump whistles away, the starter turns over, two, three times and then the flat-12 bursts into life, spitting the occasional flame from the exhaust. It coughs and complains, it's violent, it punches you in the diaphragm. But it's alive!

The first step is to add fuel. There's nothing specifically required, and the local service station serves 98 octane petrol. You might think the size of the 917 would be a problem, but it's easier to manoeuvre than a 356 – and you don't even have to open the bonnet to fill it with fuel.

We left with the two cars for the first of a series of photos on the highway to Nice. We'd taken the trouble to warn the

police about our intentions. Clearly, nothing can surprise them: 'As long as it is registered and insured' was their only comment. In fact it was other motorists who were the problem: as we tried to take our photos so they wanted to take theirs from their works vans and family saloons.

Once we'd got our tracking shots 'in the can', it was time to head off in the direction of La Corniche before the previously accommodating police began to lose their patience due to the traffic problems we were causing. The 917 is so low that the roof is only just above the level of the parapet alongside the road. But while the 917 may be so low it's hard to spot from another car, you can't fail to hear it. The throaty roar of the flat-12 resonates against the wall and fills the air with sound.

It's time to take our place in the cockpit. Who said 'cramped'? The lady who previously occupied the 'passenger seat' seems to have been cut out for the role, a simple question of size that must correspond to that of the tub, the roof height and shoulder width. I'm afraid I don't enjoy the same comfort, that's for sure! Climbing on board is quite simple, the sill that has to be negotiated is neither as wide nor as fragile as that of a 962. But after that it gets complicated, when I try to find a place for each of my legs as I slide to the bottom of the tub.

The chassis tubes and the dashboard are the problem – I can't see it, but I know that the clutch pedal is by my right





ankle (I'm sitting on the left side) while the left is jammed against the chassis. Can we really close the door? Ouch! My shoulders are squeezed on both sides, my head against the door – I am stuck. And so much the better because, even when homologated (as a 1970 car), the passenger harness wasn't even on the list of options.

Claudio engaged first gear. It's too late to turn back now. The 917 is a sacred monster whose reputation precedes it. There are those twelve cylinders behind my shoulders and, in #037's configuration, the 4.9-litre engine produces more than 600bhp in an object that, while wet, weighs just over 600kg. Okay, with two people on board there's a little extra weight, but you can't ignore the extraordinary power to weight ratio of 1000bhp per tonne.

Of course, there's no soundproofing and what you hear from the outside is what we hear in the cockpit. As we exit the parking spot, I tuck my head into my shoulders and await the jolt...which doesn't come. The suspension of the 917 proves amazingly compliant, but then the car was built at a time when race tracks were far from the billiard-table smooth surfaces they are today.

The acceleration that follows is phenomenal. You feel the glassfibre of the passenger seat weaken under the g-forces which multiply your body weight, at the same time as you feel the beast coming alive. The thrust is indescribable, with nothing else to compare it to in the common automotive universe.

Claudio is more than familiar with the handling and character of the 917, and has already driven on circuits like Vallelunga, Jarama, Monza and the Nürburgring. He knows how efficiently the 917 slows down, and when you have to brake – I trust him.

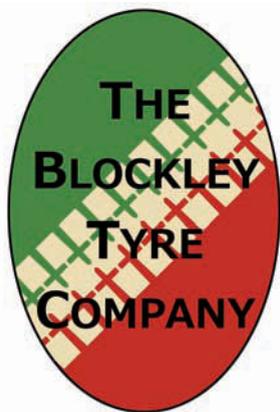
This does not prevent a slight nervous twitch when a bend is fast approaching. Surely he's forgotten that I have neither harness nor a grab handle? The force of the acceleration is only matched by that of the braking, but to see Claudio having fun without really fighting, I have the clear feeling that the 917 is an 'easy' car to drive, even on open roads.

It's the ideal way to escape to the hills above Monaco on a Sunday morning at dawn, maybe less so for longer trips. Although Claudio will admit to having gone to dinner one evening in Italy in the 917... **CP**

Above: Well, this is one way to save on parking and toll charges. 917 is low enough to fit under automated barriers, but feeding the cash machine is no easy task...

Below: All the comforts of home. Hand-written reminder on steering wheel appears to show correct rpm for the legal speed limit...





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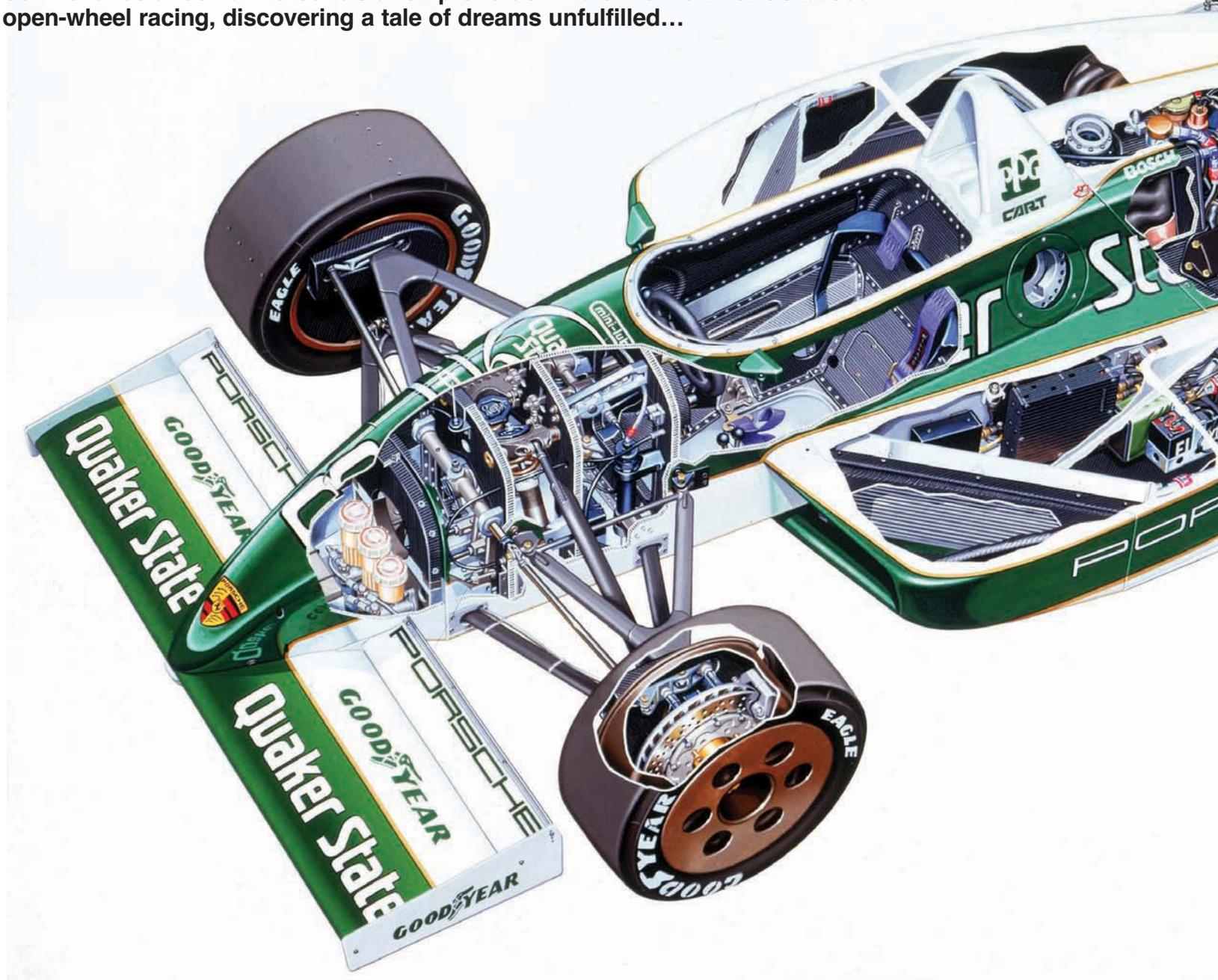
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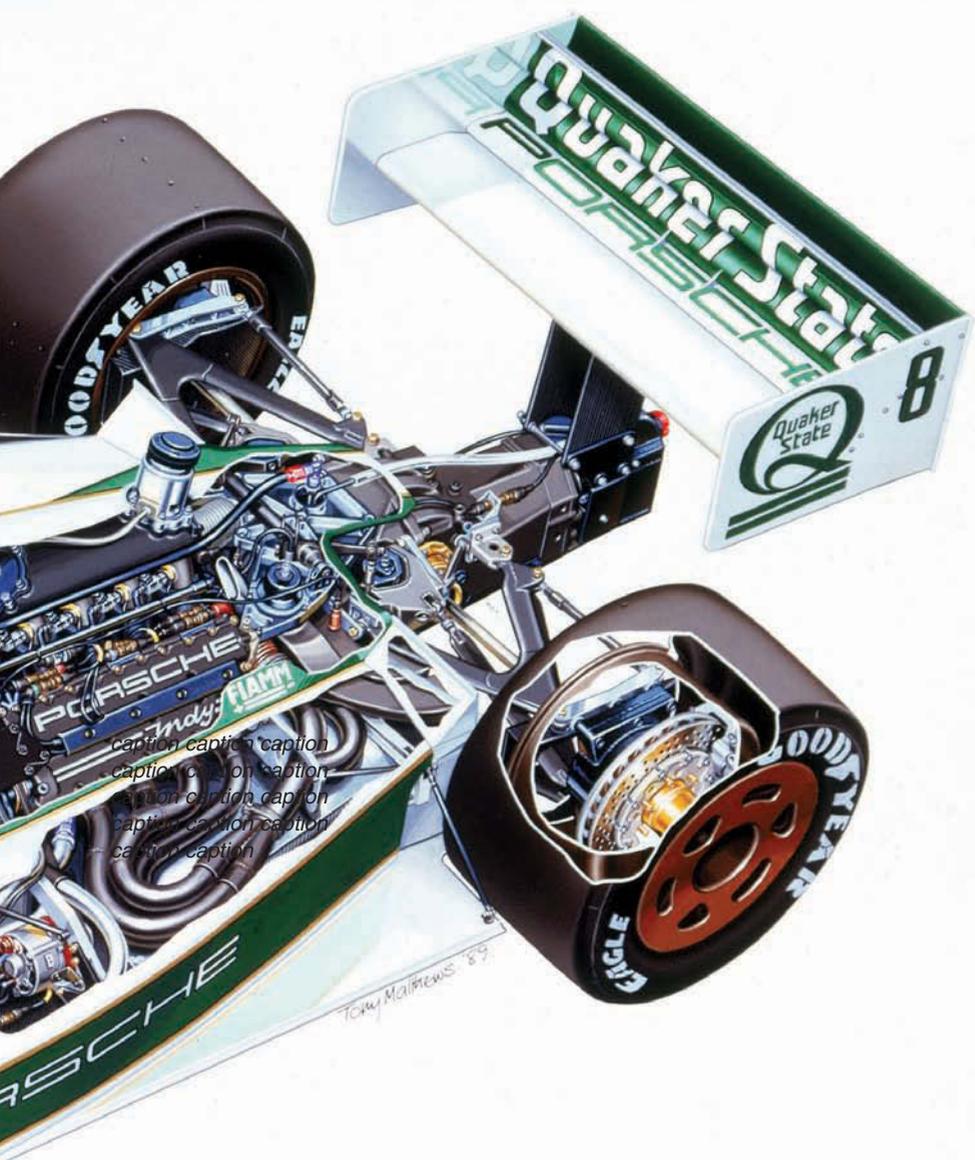
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Words: Keith Seume Photos: Porsche Archiv

DREAMS TO DUST

Porsche has a long history of racing single-seaters, going back to the Formula 1 and 2 cars of the late 1950s, before turning most of its attention to sports car racing. Following an unsuccessful foray into the world of Indycar racing in the 1970s, Porsche turned its attention to the CART series in the 1980s. Keith Seume takes a look at Porsche's attempts to dominate the world of US-based open-wheel racing, discovering a tale of dreams unfulfilled...





Bruised and battered after the disappointment of failing to break into the world of Indycar racing in the 1970s, and not having made any recent attempts to venture into Formula One, Porsche had some serious thinking to do if it was to broaden its racing horizons. What had made the whole Indycar episode such a bitter pill to swallow was the way that the US-based 'establishment' seemed hellbent on making life impossible for Weissach.

Porsche was still determined to make inroads into the world of single-seater racing and chose to pursue a different challenge following the Indycar debacle. It was clear that the company's strength lay with engine design, so a new venture beckoned: developing and building a new Formula 1 engine.

Once again, after six successful years of building turbocharged V6 engines under the TAG (*Techniques d'Avant Garde*) umbrella, Porsche was sidelined by both TAG and the McLaren race team when imminent rule changes for the 1989 season forced them to reconsider the situation.

Why did McLaren pull away from Porsche? Surely Porsche could have developed a suitable engine to meet the new regulations? To put it simply, McLaren's new partner Honda was happy to give engines to the team – Porsche was not. The only proviso was that McLaren sign a young up and coming driver by the name of Ayrton Senna...

Meanwhile, back across the Atlantic, Al Holbert, Porsche's head of motorsport in the USA, suggested to Porsche of America's boss, Peter Schutz, that a return to Indianapolis might be a good move. Although German-born, Schutz had been raised in the USA and needed little reminding of the importance of the open-wheel scene to the North American market. Together the two men hatched a plot...

The key decision was whether Porsche should simply supply engines to an established team, as it had to McLaren in F1, or start from scratch and build a car of its own design. It was Holbert who made the strongest argument for going it alone: 'Porsche should race at Indy with its own engine and chassis. It's a technical challenge typical of what Porsche is capable of meeting. As in any racing,' Holbert continued, 'the entire package of car, team and driver wins the race.'

It had been more than 40 years since any volume manufacturer had won at Indy with a car of its own design powered by an engine of its own manufacture. Maserati had been the victor in 1940 and Porsche was keen to prove it could do the same in the 1980s.

Given the project number Type 2708, Porsche's first attempt to build its very own single-seater for over two decades proved to be a problem child. And it didn't take long for CART to place a spanner in the works. Porsche had learned a lot about chassis design through its association with McLaren and Formula 1, applying this knowledge to the creation of a carbon-fibre monocoque that met the 1984 CART regulations. But then CART changed its mind, and decreed that all monocoques should be built from aluminium...

By mid-1985, work had progressed on a new chassis design to the point that attention was now concentrated on a suitable engine. Dyno tests of a Cosworth DFX engine (the industry standard in CART) showed that to be competitive, Porsche's new engine would need to, at least, match the UK-built V8's 750+bhp and 380lb ft of torque.

Hans Mezger, Porsche's legendary in-house engine guru, chose to pursue the design and build of a 90-degree V8 based on lessons learnt with the all-aluminium engine in the 928, which would have the added benefit of being suitable for use in a chassis from either Lola or March, the two leading chassis builders in CART racing. It was also deemed important to bear in mind the possible use of a similar engine in a future road car.

By the autumn of the same year, the board of management finally gave the project its full backing – much of the work up until this point had been carried out, if not in 'secret' but certainly in a relatively low-key manner. After the messy Indycar effort of half a decade earlier, keeping things below the radar was



Above: Public 'roll-out' of the new CART contender in September 1987 at Weissach, with Roland Kussmaul at the wheel

probably a wise move. The project number, 2708, was derived from the approximate swept volume of the new engine (2.7-litre) and the number of cylinders (8). The engine itself was referred to as the Type 2708/80.

Mezger and his team sat down and began to examine the CART rule book in detail. Past experience had shown how fickle CART could be when it came to laying down firm rules regarding engine specification. This time Mezger and his team hoped to stay in step with CART, but it wasn't long before the US governing body got up to its old tricks again.

The regulations covered such matters as what size turbocharger could be used, while a 'control' pop-off valve set at 9.4psi would govern how much boost could be produced. And that's when the fun started.

For 1988, the proposal was that a new pop-off valve should be introduced, limiting boost pressure to just 7.9psi. Compared to the figures Porsche had been used to, this was chickenfeed. Much of the development work on the new engine was based around the higher figure, where the 2708/80 engine proved capable of producing far more impressive dyno figures than the tried and tested Cosworth DFX motor. Buoyed by the success of

the TAG race engine in Formula 1, the men at Weissach were confident of being able to develop a CART-legal V8 which would trounce anything offered by Cosworth.

The result was a 2649cc V8, with 88.2mm bore and 54.2mm stroke, the bore-to-bore dimension of 110mm giving plenty of room for future expansion. The engine featured wet liners, of forged aluminium coated with Nikasil. These were slipped into an aluminium engine block. The crankshaft, a fully-counterweighted forging by Alfing Kessler, was a 'flat-crank' design, with the 46mm rod journals at 180 degree intervals.

At the front (nose) of the crankshaft, a pair of gears drove the dual oil pumps, while another set of gears drove the gear train which rotated the overhead camshafts (two per bank of cylinders). There were four valves per cylinder, with a single centrally-located spark plug firing the mixture. To take into account the use of methanol fuel, and the relatively low turbo boost levels, the compression ratio was initially set at 11.0:1, but rose to 12.0:1 by 1988.

The problem which Mezger and his team faced was that CART imposed some pretty restrictive rules in an effort to bring about a level playing field between the teams. Or, as others saw

Below: 1988 and Porsche desperately tried to keep up with the opposition. After years of dominance in sports car racing, the whole Indycar and CART experience left a bitter taste in Porsche's mouth



it, rules to stop Porsche's engineers steamrolling their way through the opposition. First was a ban on intercoolers of any kind, something which Porsche had made good use of for many years. Then came a ban on pressure bypass systems, which help keep a turbocharger spooled up even when the throttle is closed, thereby reducing turbo lag.

The CART-supplied pop-off valve meant that Porsche's engineers needed to restrict the speed with which boost rose when the throttle was floored, for example when exiting a corner. The problem was that the valve could open prematurely as boost increased rapidly, resulting in a sudden fall off in power.

The answer was to install an electronically-controlled wastegate which allowed the precise control of boost pressure. Developed by Bosch, it formed part of the Motronic engine management package, which also controlled the ignition system and the supply of methanol fuel. Fuel was injected at the rate of over two gallons per minute at wide-open throttle, and was supplied via a pair of injectors in each inlet tract, downstream of each individual throttle body. Another benefit of the Motronic management system was that it allowed the use of telemetry, feeding information about up to 30 different parameters back to engineers in the pits.

The new project was launched to a hungry audience in New York in February 1987. Peter Schutz announced that, following planned tests that summer, the new cars would appear at the three final rounds of the CART championship later that year. At 6.14pm on 16th September 1987, all was ready. Race engineer and test driver Roland Kussmaul recalled, 'For the previous two weeks, we had been getting several phone calls a day from journalists, the Porsche press office, people within the industry generally and from colleagues in other departments, all asking the same question: "When is the roll-out?"'

Delays were caused by the late arrival of various out-sourced components, the wheel rims being the last to arrive from Italy. But finally all was ready for the first tests of the completed car.

Kussmaul, a veteran of the Paris-Dakar Rally in a 959, was the driver on this occasion, completing two laps of the Weissach

track in front of a select audience. 'I was incredibly pleased to be the first person to drive the car,' said Kussmaul. 'For me, it was a truly fascinating experience, a great moment in my life...'

The choice of Roland Kussmaul as the test driver appears slightly strange in hindsight as he had never driven a single-seater of any type before, let alone a thoroughbred such as the Type 2708. 'I had no experience of driving a car like this,' he recalls. 'For example, the oil pressure might have dropped too low and damaged the engine. I would have been furious with myself if I had failed to recognise something like that... It isn't easy to concentrate on the track, the new car and the instruments, and at the same time observe every detail of the car's behaviour.'

There was an amusing tale related to the roll-out. Many of the insiders expressed surprise at how restrained the new engine sounded – the exhaust note was deeper than expected, and seemed almost muffled compared to similar units.

Kussmaul explained: 'We soon discovered the root of the trouble. There were four electrical units which supplied current to the ignition coils. Two of them were built into the main control unit. The original plan was to fit only two of the units, but this was changed at the last minute, and two new units were fitted externally.'

'When we inspected the engine closely the next day, we noticed that the two new units were suspiciously light, far lighter

than was normally the case. It transpired that we had fitted two dummies, empty casings which Bosch had sent us to try out for size on the wooden mock-up! The noise the spectators had heard was, in fact, a four-cylinder engine running at 9000rpm, not the full-on V8. No wonder it sounded muted...'

The car's first outing was set for 11th October at Laguna Seca, but first an exhaustive period of testing lay ahead. Kussmaul knew he wasn't the ideal person to get the best from the car, and expressed his relief when Mario Andretti was flown in to take over. However, the experienced Indycar driver shared his predecessor's concerns about several aspects of the car, most notably tyres and chassis set-up. In the end, Norbert Singer suggested trying a secondary wing at the rear, ahead of

“FOR ME IT WAS A TRULY FASCINATING EXPERIENCE...”

Below left: Al Holbert adds his input, while Norbert Singer listens

Below right: Ulrich Bez, board member responsible for Porsche research and development, and Helmut Flegl with a scale model of March 89P





the main spoiler. It worked, transforming the car's wayward character in an instant.

Back in the hands of Kussmaul, the 2708 was only driven a further 750 kilometres in testing, which wasn't really enough ahead of its first outing at Laguna Seca. There was a test session in Portland, Oregon, where old hand Al Unser was to give the car the once-over. Unser had ironed out bugs for the new Cosworth DFX when it was released, as well as tested Chevrolet's CART engines.

Unser, however, was restrained in his comments after driving the car, pointing out that he'd hardly had time to get to grips with it. But there had been time for the engine to display teething problems: a broken camshaft as a result of a failed petrol pump (the dual pumps were driven off the camshafts). More seriously, the new Porsche was some six seconds a lap slower than Geoff Brabham's March Honda.

When the car arrived at Laguna Seca a few days later, news of the test had already reached the ears of rival teams. The car was surrounded by inquisitive onlookers, all keen to learn the 'secrets' of the new Porsche. Normally this would have been grounds for the car to be whisked away, safely out of sight, but Norbert Singer shrugged his shoulders and said 'Since we are slower than everyone else, there's nothing for them to copy.'

The first timed sessions placed Unser way down in 21st

place – hardly the kind of performance Porsche was used to. The engine was fine and still had plenty in reserve, but the chassis was lacking. It proved difficult to get the car to hook up out of corners, while it also showed a propensity for understeer when entering the two sharp bends at Laguna Seca. 'Perhaps we should have fitted a limited-slip differential,' pondered Singer. Instead, the 2708 had the usual 'spool', which only served to exacerbate matters.

Come race day and nobody really expected too much of the car, or its driver. Unser was brief in his conversations with journalists: 'What else can you expect if you use a race for testing purposes?' After just seven laps, the new car with Unser at the wheel spluttered to a halt in front of the pits, a sudden loss of fuel pressure bringing about its early demise. What caused this wasn't clear, but it was also discovered that the water pump was leaking, which would probably have caused overheating problems later in the race.

The car was flown back to Weissach in an effort to get to grips with its many shortcomings, both in terms of engine reliability and chassis development. There was too little time to make any major changes ahead of the next race, just two weeks later at Sebring, in Florida, but Norbert Singer did have his way with the installation of a limited-slip differential in an effort to control the understeer.

Above: The first two races in 1987 ran as part of an extensive test programme. The results were so disappointing that engineers were forced to reconsider many of their ideas...

Below left: Al Unser is shown here at a pre-race test session at Weissach. The experienced Indycar driver provided a lot of valuable feedback

Below right: Hans-Joachim Esch, Helmut Flegl and Hans Mezger with engine type 2708, 1990



A disagreement with Al Unser over his wish to drive a Penske March in a support race led to Porsche dispensing with his services, Al Holbert taking charge instead. But things were still not right, and Holbert's qualifying lap times were almost five seconds slower than those of Andretti in a Lola-Chevrolet. This placed the Porsche in 29th position out of 33 entries. Unfortunately only the first 28 cars were eligible to start the race...

Singer appeared philosophical about the situation but inwardly must have been disappointed. His team had a few months to ready the car for the first race of the 1988 season but it was clear the major problem was the chassis. It lacked torsional rigidity.

With the departure of Unser, and Holbert being little more than a temporary stand-in, efforts were made to find a new driver. Jochen Maas offered his services, but Porsche had other plans for him in the long term. Mass did assist with testing at both Weissach and Paul Ricard, which included driving a Lola-Cosworth for comparison, but Italian Teo Fabi was the man finally chosen to take over as team driver.

One of Fabi's first jobs was to drive both the Porsche-built 2708 and a March chassis fitted with the 2708/80 engine. A

decision to use the 1988 season as an extended test session gave the team the luxury of trying a number of ideas at what amounted to be a late stage in proceedings.

The process of installing the Porsche engine in the March chassis was far from straightforward and the prototype racer suffered oil pressure problems caused by oil surge brought about by the greater centrifugal forces generated by the new chassis. Fabi tried his best to remain stoical, reminding people how long it had taken Honda to get to grips with Formula 1.

All eyes were on Indianapolis – a good showing here would do wonders for Porsche's reputation in North America. The

March-chassis 2708 showed promise in testing but, on the day, it all went wrong because of a simple error in pit crew signalling. One misread hand gesture brought about the demise of Porsche's efforts at the Brickyard.

After qualifying 17th on the grid, Fabi pitted on lap 34 while the field was under caution. Unfortunately Steve Erickson, head mechanic of the Quaker State-backed team, gave Fabi the signal to exit the pits a moment too soon: the left rear wheel hadn't yet been properly secured.

As a consequence, the wheel became detached as Fabi nailed the throttle along the pit lane. The errant wheel and tyre bounced off into the distance, leaving Fabi stranded. It was a sad end as, prior to the pit stop, Fabi had made his way up to ninth position (he'd actually been as high as fifth, due to pit stops by rival teams). Somehow, this scenario seemed to epitomise

Porsche's showing in CART/Indycar.

Throughout the 1988 season, Fabi drove well, but the results were unspectacular. The best showing was at Nazareth, where the green and white 2708 finished fourth after having led the field for a couple of laps. But a week later, the team suffered a major blow when arch-supporter Al Holbert was killed in a light aircraft crash.

1989 saw a change in personnel, with Helmut Flegl placed in charge of the racing effort, his past experience with Roger Penske while running the Can-Am 917s proving invaluable. Also added to the team was Brit Derrick Walker, Penske's former manager and someone who would be a useful 'go-between' twixt Porsche and the CART organisation. Joining him was Tony Cicale, aerodynamicist and former race engineer to Mario Andretti.

All eyes were now focused on the 1989 season, the Indy 500 being the race on which all hopes were pinned. Sadly, once again, the Indy curse was to strike, with Fabi – who qualified 13th – being forced to retire with ignition problems after just 23

“SINGER APPEARED PHILOSOPHICAL ABOUT THE SITUATION...”

Below: Foster's sponsorship for the 1990 season was the result of a 'wanted' ad in the Wall Street Journal! Not a course of action one would normally associate with Porsche...





laps. This was a major blow to morale, even though the rest of the season was reasonably satisfying. The Quaker State March-Porsche ended the season with one outright victory (Mid-Ohio), two seconds, a third and five fourth places.

The 1990 season looked set to be 'the one', with March developing a new chassis – the 90P – and Fabi joined by new driver, John Andretti. The chassis was real state of the art, and followed the proposed 1990 CART rule book to the letter. The monocoque was fabricated out of carbon-fibre composite and built specifically to work with the Porsche-designed 2708/80 engine.

But, in an amazing turnabout, CART suddenly announced that the carbon-fibre chassis would not be eligible because of 'safety concerns'. This was, of course, complete bunkum. The real reason was that Penske (and Lola) had been developing its own carbon-composite chassis, but it wasn't ready for the new season. Nobody at CART wanted to upset the all-American Penske operation, and who really cared if the German 'upstarts' had their noses put out of joint?

March redesigned the chassis so it could be built from aluminium honeycomb, but this meant a lengthy delay before any testing could be carried out. At its first race in Phoenix, it was obvious the car was little better than the previous year's, proving unresponsive to aerodynamic changes, so the race was run using a pair of 1989 chassis.

At Indianapolis, the new chassis was pressed into service and the car appeared at the Brickyard wearing the colours of new Australian-based sponsors, Foster's Lager. Andretti just squeezed into the top ten in qualifying, but Fabi was way down the field, in 23rd place.

The race itself was another disaster, Andretti kissing the wall on lap 135, ending the race classified in 21st position, while Fabi's March-Porsche suffered transmission failure on lap 162, at which point he was classified as finishing in a lowly 18th position.

The 1990 season was a disappointment from beginning to end. The best result for Fabi was a pole position at Denver and a solitary podium finish at New Jersey. The cars were underdeveloped, overweight and best described as lacklustre in performance. It was not what people – especially the board – had come to expect of Porsche.

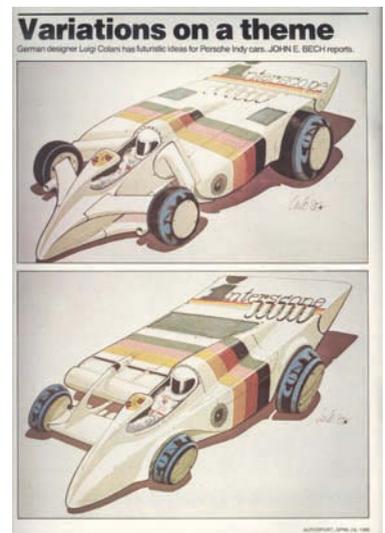
It came as no great surprise, then, that the plug was finally pulled on Porsche's CART efforts at the end of the season. There had been moves to use a Lola chassis, but there were no funds to pursue this avenue of development, and Flegl felt he wasn't in the best of positions to ask for more.

For Porsche, this was a costly and, frankly, embarrassing period in its racing history. Perhaps, said the pundits, Porsche should have stuck to endurance racing. And maybe they were right. **CP**

Above: New March-designed chassis was an improvement over the original Porsche effort, but there was still a long way to go if Porsche was to become a dominant force in CART racing

Below left: Sitting in the workshop at Weissach, the first Type 2708 chassis is checked over after testing. Porsche's new single-seater showed early promise

Below right: Designer Luigi Colani had some strange ideas for Porsche's IndyCar project...



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SOMETHING SPECIAL

Back in the late '40s and early '50s, entrepreneur and race enthusiast Walter Glöckler built a small series of cars, the design of which clearly influenced the development of the Porsche 550. *Classic Porsche* caught up with Californian Herb Wysard, who divulged the secrets of his superbly restored 1952 'Special' – the third of Herr Glöckler's Porsche-powered creations...



**“THE GERMAN
ENTREPRENEUR BUILT
HALF A DOZEN PORSCHE
‘SPECIALS’...”**





Above: He may be in his 80s, but Herb Wysard has no plans to take things easy, enjoying his small but impressive collection of Porsches whenever he can. The rare Glöckler-Porsche is the jewel in the crown...

Some folks envision retirement as a time to relax and occasionally do, well, nothing. Not Herb Wysard. Now in his 80s, the California resident shows little sign of slowing down, remaining professionally active in real estate to this day; but he also enjoys playing with his small fleet of vintage Porsches during his free time.

His love for automobiles started at an early age, leading to a string of domestic cars once he got his driving licence, including a handful of hot rods. He later came to appreciate European vehicles, along with a range of motorsports, which led him to own a full-fledged racing team during the late 1970s and '80s. Fans of Indycar competition might remember Wysard Racing and some of its drivers, such as Derek Daly, Johnny Parsons and Hurley Haywood (who incidentally won Le Mans three times with Porsches).

With his trackside days behind him, Herb can now concentrate on his trio of street-driven classic Porsches. They certainly aren't your run of the mill models, starting with a rare 1957 356A 1500 GS-GT Carrera sunroof which has been used heavily over the years, including France's Tour Auto competition in 2007. He also enjoys a mind-boggling, road-legal 'Prototype' built in small numbers by Kraftwerk

(Australia) that accurately replicates the first Le Mans-winning 917. Herb and his always supportive wife Rose often cruise the local freeways, travelling to a concours d'élégance in Palm Springs for instance – itself a four-hour round trip.

While we appreciate these two vehicles, the purpose of our visit is another stellar sports car, which has more ties with the Porsche brand than many realise: the 1952 Glöckler-Porsche. Herb, who purchased the silver roadster a decade ago, owns quite a piece of history, the work of Walter Glöckler (1908–1988). The German entrepreneur built half-a-dozen 'Porsche Specials' between 1948 and '54, all recognised for their historical significance, largely due to their success in competition.

Walter became a motorcycle and car dealer between the two world wars, although his career blossomed during the second half of the 1940s when he ran a Volkswagen dealership in the Frankfurt region. In 1950, he turned his attention to Porsches as well, soon opening another major local agency. The company Otto Glöckler Sportwagen GmbH still exists to this day, though Frankfurters know it better as 'Porsche Zentrum Frankfurt'. (In case you're wondering, Otto Glöckler was Walter's father.)

Before becoming involved with Porsches on a business

Below: Incredibly, the Glöckler-Porsche sat outside for several years, the 'victim' of a stalled restoration project. Fortunately, the dry Colorado climate helped preserve the fragile aluminium body





Above: In the early 1950s, the roadster was a regular competitor at events in Germany, appearing with and without the aluminium hardtop. Note the heavily drilled disc wheels



level, Walter Glöckler already had a deep appreciation for racing automobiles. Money was tight in Germany after WWII, leading resourceful enthusiasts to use plenty of imagination when building race cars. Glöckler assembled his first 'Special' in 1948 using mechanical components from German-made Hanomag production vehicles.

In 1950, he and colleague Hermann Ramelow concocted another unique creation, this time using Porsche parts. And so was born the Glöckler-Porsche (G-P) 1100, featuring an aluminium body over a tubular frame. Motivation came from a tuned 1086cc flat-four that produced 50bhp with regular fuel, although output reached 62bhp when using alcohol.

Walter and Hermann then concentrated on building a second Porsche Special in 1951, the G-P 1500, equipped with – you guessed it – a 1.5-litre Porsche motor, delivering 85bhp. That same year, the vehicle was sold to the New

York-based Max Hoffman, best known for his involvement with the import of European cars into the United States. Think Mercedes 300SLs, BMW 507s and, most famously, Porsche Speedsters...

Glöckler constructed four more Porsche Specials afterwards, starting with the subject of this article (we'll get to it in a minute), followed by the G-P 1100 Roadster in 1953. Later that season, Walter unveiled his G-P 1500 Super, another roadster, fitted with a 1500 Super engine, which made 100bhp.

The Porsche factory took notice once again and some historians even argue that the lightweight tub influenced the

“GLÖCKLER ASSEMBLED HIS FIRST ‘SPECIAL’ IN 1948...”

Below: The original hardtop had been damaged in a fire, so an accurate replacement was made during the extensive restoration carried out in 2004–2005





development of the Porsche 550 Spyder. The sixth and final Glöckler-Porsche was a coupe with a panoramic rear window and a four-cam Carrera engine, built in 1954 to run the Mille Miglia; sadly it never competed, not being finished in time. This car was featured in *Classic Porsche* issue #6.

Back to the topic of this piece: Herb's Glöckler-Porsche No.3 was known as a '1500' model, being powered by a 1500cc motor – 1488cc to be precise – located in the back, unlike Herr Glöckler's previous mid-engined Specials. The car's design involved a complete Porsche 356 chassis, #10447, purchased new from the factory in 1952 and covered with a full belly pan.

This platform, which retained its factory wheelbase, was fitted with a handcrafted aluminium body made by Glöckler and Hermann Ramelow; however, to their dismay, the car proved heavier than the previous G-P, weighing 1133 pounds even after plenty of lightening holes had been drilled wherever they could. Another interesting note, this Glöckler was built by Frankfurt's Weidhausen shop in 1952, while the same carrosserie

handled Porsche 550-01 and 02 in 1953...

Among the details, you'll notice the semi-skirted rear fenders/wings, while the nose accommodated 356 headlights and an air intake for the oil cooler, plus two slots to improve front brake cooling. The vehicle was conceived as a roadster, although it also ran with the neat removable aluminium

hardtop seen in our photos.

The windshield remained attached to the body but both Plexiglas side windows can flip up to facilitate entry into the cockpit. In accordance with Walter's previous Specials, the shell received a few coats of silver paint, complemented by a yellow stripe across the front, a 'Glöckler Racing' trademark.

Motivation for the roadster came via a 1.5-litre Porsche motor equipped with a high-lift

camshaft and dual carbs, which were fed from a pair of custom-made tanks located in the trunk. These were made of brass, because of the type of fuel used in some of the races: corrosive alcohol. As a side note, we should mention that the vehicle as seen today hasn't retained its original 85-horsepower engine, as the crankcase's mix of

Above: Small grille in the nose fed cool air to the oil cooler, while slots on either side ducted cold air to the front brakes

“THE SAME CARROSSERIE HANDLED PORSCHE 550-01 AND 02...”

Below left and right: The interior is sparsely trimmed, with bare aluminium panelling in plain view. The hub of the removable steering wheel is a veritable work of art





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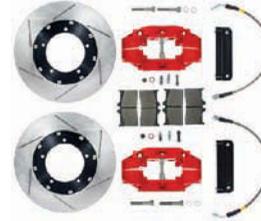
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Above: The car is powered by an 85bhp 1500 Porsche engine. The original crankcases were lost, having been damaged by the use of alcohol as a fuel

magnesium/aluminium did not survive the alcohol use!

The first two Glöckler-Porsches, both mid-engined, suffered from delicate handling, as Walter had opted to reverse the rear suspension arms (like the early 550); but installing the flat-four in the back and keeping 356-style rear suspension with lever shocks solved the issue on his third Special. Braking relies on BMW drums, fitted over aluminium backing plates with cooling scoops and holes up front. Based on pictures from the 1950s, the vehicle sat on either magnesium rims or disc wheels à la BMW 328, drilled for lightness and improved brake cooling.

The car did well in competition from the outset, with Walter's cousin Helm winning his category and setting a

class record at the Nürburgring, ahead of more victories and a German championship title in 1952. With Hans Stanek behind the wheel, it also participated in a hillclimb competition in the summer of that same year, before being

sold to Max Hoffman in the United States.

Hoffman entered the car in a Long Island road race in May '53, though his friend John Von Neumann handled the driving duties, finishing a commendable third in the 1500cc category – as is well known, Von Neumann would later become a successful Porsche distributor in his own right.

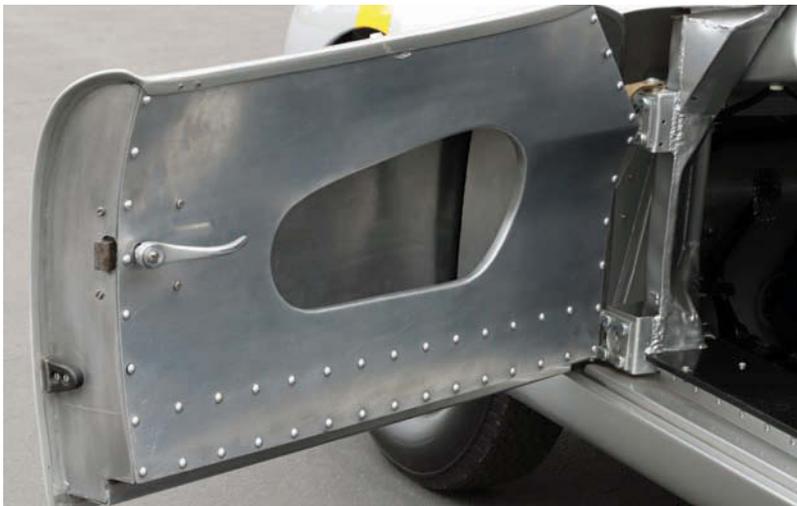
Realising that G-P No.3 was heavier than No.2, which he

had purchased in 1951, Hoffman sold the former to Fred Proctor Jr, who entered his new toy in a few races with different drivers, leading to three second in class and a third

“THE WHEREABOUTS REMAIN A BIT OF A MYSTERY...”

Below left: The body restoration was carried out by Tempero Motor Body Builder Ltd in New Zealand

Below right: Fuel tanks were made of brass to withstand the corrosive effects of alcohol-based race fuel





Above: One of Herb's other cars is this Australian-built Kraftwerkz 917 recreation. The road-registered replica sees regular street use

in class. The vehicle's later whereabouts remain a bit of a mystery until 1958, when it belonged to Alex Thompson, who would be followed by several other owners. In the late '60s to early '70s, automotive sculptor Larry Braun became the next custodian and embarked on a restoration, which quickly stalled. It then sat in an open shed for years; thankfully, the dry Colorado climate helped preserve the aluminium.

A private collector eventually managed to purchase the sports car from Braun in 2000 and went on to embark on an ambitious restoration, certainly worthy of the vehicle's history. So, G-P No.3 was shipped all the way to New Zealand, where Temporo Motor Body Builder performed miracles on the chassis and aluminium shell, in 2004–2005. It now wears its distinctive silver colour adorned with a period-correct yellow stripe, as seen on the roadster's earliest version when raced by Helm Glöckler in '52.

As the removable top had been damaged in a fire, the team used the remains as a template to create a new one. The restoration includes a bunch of accurate details, from the

leather hood straps and Hella taillights, to the BMW wheels and instruments. Notice the removable Banjo steering wheel, along with the shift gate with a locking plate to avoid engaging reverse. As you might expect, the unique gas tanks remain in place, too.

Herb and Rose Wysard have been wonderful caretakers of this fantastic survivor, with Herb even occasionally 'gentleman racing' it until a few years ago. Besides participating in prestigious American events such as Pebble Beach, the couple have travelled abroad to show the car, including Goodwood in the UK and Concorso Villa d'Este in Italy. Herb adds: 'We are still competing in Historic Racing, like Porsche Rennsport Reunion at Laguna Seca in September this year, the car now being driven by son Jeff.'

The importance of this Glöckler-Porsche cannot be underestimated, not only due to its Porsche ties, but also its role within motorsport history. Who knows, maybe without the series of Glöckler-Porsches, many of us would not be daydreaming about owning a 550 Spyder, right? **CP**

Below: Herb's 1957 356A 1500 GS-GT Carrera sunroof has been used extensively over the years, including 2007 Tour Auto





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MICKEY MOUSE

Oddball or standard-setter? This was the mystery that has long surrounded Porsche's Type 645 Spyder, an unique and advanced design built to meet tough competition. We lift the veil to tell the story of the advanced prototype whose behaviour won its 'Mickey Mouse' nickname

Below: Co-creator Ernst Fuhrmann, in jacket and tie behind the car, showed fatherly concern for his Type 645 at Avus in September 1956. This would be the Spyder's final race



One of the oddest episodes in Porsche history is the brief and literally meteoric career of the Type 645 Spyder. The 645 was in public view in Germany for less than four months from its first appearance to its last in the autumn of 1956. Its design, which dated to more than a year earlier, had been prepared as a successor to the Type 550 that would be lighter, more aerodynamic and superior in roadholding.

Porsche pitched its 550 Spyder into Europe's most competitive sports-car racing class. France was in the 1500cc category with its Gordini, Britain with Cooper and Lotus, East Germany with its six-cylinder EMWs, Italy with both Maserati and OSCA, and Germany herself with fuel-injected Borgwards. Although the 550 was off to a good start with the Fuhrmann engine's 1954 introduction, its chassis concept dated in some respects to Walter Glöckler's racers as far back as 1950.

Egon Forstner decided to address this shortcoming. An Austrian who had joined the Porsche cadre in Gmünd in the 1940s, Forstner was a versatile engineer with patents in brake design, cooling systems, valve gear and tractor design among others. Moving to Stuttgart, he took over from long-serving Josef Mickl as head of the

calculation department. It consisted of his assistant Ernst Henkel and, from 1956, newcomer Hans Mezger.

'The calculation-department office was above the experimental department,' said Mezger, 'where everything was in one big area. We were on the third floor above the second-floor office known as the D-Zug or D-Train because it had side windows like those on a train, looking out on the experimental area below. In the D-Zug office were about eight engineers in total with the chassis people on the left and the engine designers on the right.'

In the latter part of 1954 Egon Forstner decided to start work on the design of a new body and chassis to carry the Type 547 four-cam engine. Counting on their enthusiasm for racing cars, he reached out to others on the Porsche staff for

help with the project, given the Type 645 designation. Two who signed up were engineer Ernst Fuhrmann and body designer Heinrich Klie.

Fuhrmann's involvement could well have taken place because he saw this project as an opportunity to burnish his credentials in the design of racing vehicles as well as the engine field in which his four-cam engine was already established as successful. Ambitious as he was to lead Porsche's engineering team, Fuhrmann needed to be seen as more than an engine expert.

So that their Type 645 could slip more smoothly through the air, the engineers reduced its frontal area by narrowing its track. Instead of the 550's 49.0 inches this became 46.9 inches at the front and 45.3 inches at the rear. Producing a fifth-size clay model, Klie fitted its body closely around the wheels, partly shrouding those at the rear, and rounded its nose in plan view.

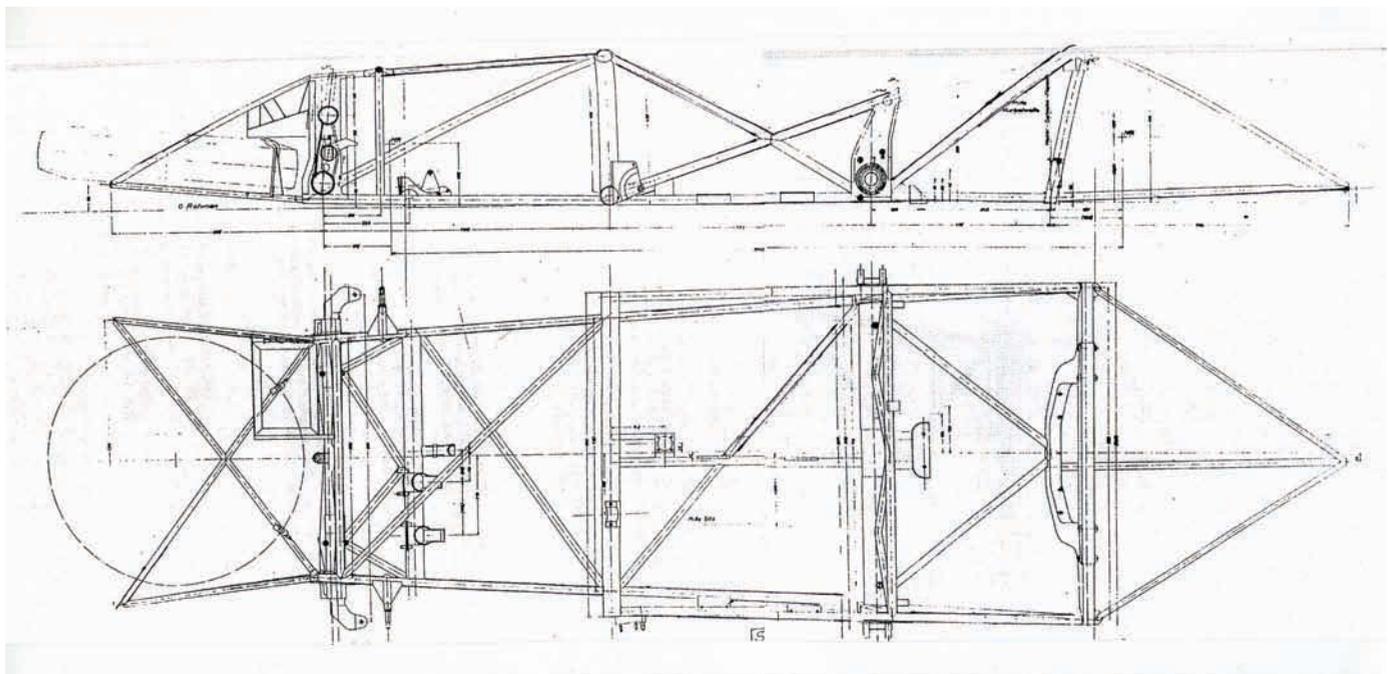
**“REDUCED ITS
FRONTAL AREA BY
NARROWING THE
TRACK...”**

The usual drag-inducing opening for air for the oil cooler was eliminated by making the front lid itself a surface-type cooler, with a labyrinth of passages underneath its surface, left unpainted to improve heat radiation. Intriguing highly styled shapes were given to faired-in lamps at both ends of the car.

An aerodynamic feature that appeared on Klie's design model of the Type 645 was a headrest for the driver behind which was an oval-shaped grilled air passage into the engine room. As expressed in the patent granted Fuhrmann and Klie on the design, the headrest was shaped to create a turbulent zone of high pressure behind it, above the grilled aperture, to reduce the power lost in supplying cooling air to the engine.

Also patented by Klie and Fuhrmann was an alternative means of delivering cooling air to the engine bay. This was a rearward-facing slot almost the full width of the lid covering the engine, positioned and designed to preserve smooth airflow above the deck while admitting air under pressure into the rear compartment. A small central bulge covered the engine-fan housing. Rearward-facing air inlets

Below: Engineered by Egon Forstner with the support of Ernst Fuhrmann, the Type 645 took shape in 1955 as an advanced racing Spyder built on a tubular-steel space frame





were above the carburetors.

The narrowness of Forstner's Type 645 was to help make it lighter, as would a 6.2-inch reduction from the 550's wheelbase to a mere 76.4 inches. It was to be bodied entirely in magnesium, lighter but less durable than the usual aluminium. There was no right-hand door and indeed there could not be one, for the fuel tank was placed along the right side of the body, counterbalancing the weight of the driver on the left.

An important attribute of the new Spyder was a multitubular space frame. The concept was well known to Forstner and also to Fuhrmann, who had been with Porsche in Gmünd when it was working with Italy's Cisitalia, which specialised in such frames. Indeed Erwin Komenda had designed a space frame for the mid-engined VW Sports roadster of 1948, later hailed as the first 'Porsche' car.

The frame designed for the 645 was breathtakingly sparse. One key element was a rectangle of large tubes located at the cowl, carrying the steering-column mounting.

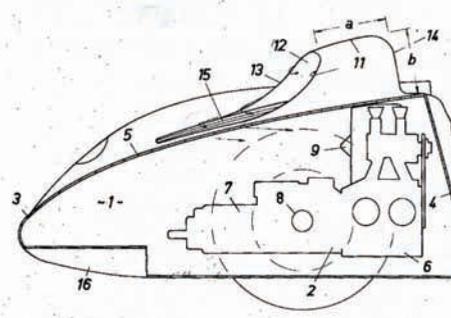
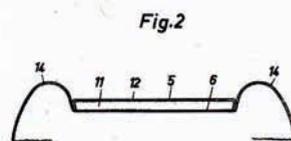
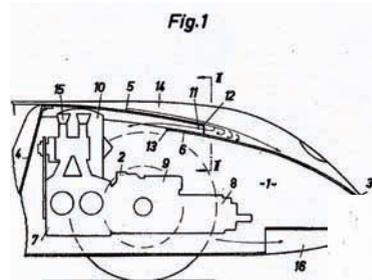
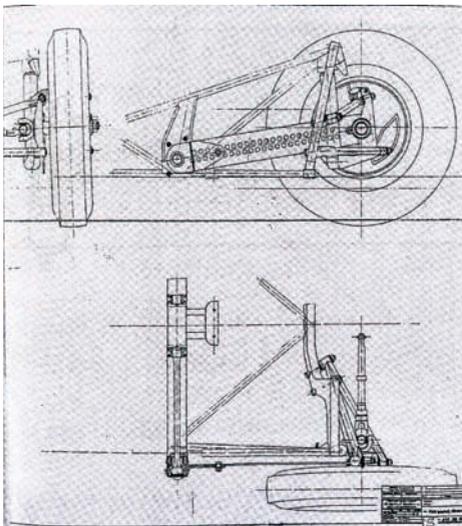
Three tubes at each side braced this to the assembly of crosstubes that carried the narrowed trailing-arm front suspension and its anti-roll bar. Steering was by equally divided track rods, operated by a small drag link from the steering box, unlike the standard car's unequally divided track rods.

Another important element was a braced structure of small tubes above the familiar crosstube that housed the rear torsion bars. Rising rearward from it were small tubes that peaked at a high crosstube whose ends were mounts for the rear dampers. Hanging from it was a fabricated cradle that carried the engine-gearbox assembly, attached under its bell housing. Completing the frame was an X-brace at each side of the cockpit plus single diagonals of small tubes bracing each of the structure's open quadrilaterals.

For the Grand Prix Cisitalia of 1947-48, Porsche's Type 360 project, the engineering team in Gmünd, Austria designed a sophisticated rear suspension. Instead of the swing axles of the pre-war Auto Unions it used upper and

Above: The Type 645's first public appearance was in practice at the Nürburgring for the May 1956 1000-kilometre race, showing the right-hand filler for its cockpit-side fuel tank

Below far left: The Type 645's rear suspension used double lateral links to guide its rear wheels. This was a radical advance, indeed too much so for the car's trailing-arm front suspension



Left centre: Instead of the head-rest inlet the engineers patented a slot across the rear deck which, tunnel tests showed, delivered a supply of air under pressure to the cooling blower

Left: The wind-tunnel model showed a planned headrest which was designed to capture air for the engine in a grille behind it. Fuhrmann and Klie were credited with the patent

lower lateral links to guide each wheel hub, with brake and traction torque taken by a trailing arm. Giving precise wheel control with low unsprung weight and far less camber change than the usual swing axles, this was an immense step forward.

This suspension made its reappearance in the Type 645. Here the trailing arms were the usual VW-Porsche blades, drilled for lightness and set at a static angle of 10 degrees above horizontal. Upper and lower tubular links went inward and slightly forward to pivots attached to the back of the engine cradle. While the lower links were horizontal the upper ones sloped downward, toward the centre, at 13 degrees. This gave a rear roll centre that was higher than that of the Cisitalia yet not so elevated as that of a swing axle. The design provided for two degrees of negative camber at rest to enhance the grip of the era's narrow 5.25 x 16 tyres.

Fabrications attached to the ends of the trailing arms carried each rear hub in a double-row ball bearing. Drive half-shafts had Hooke-type joints at their outer ends and pot-type inner joints that could slide to adapt their length to suspension movement. Although simply arrived at, with its telescopic dampers this was a sophisticated linkage for 1955. Not until later in the 1950s would such suspensions begin to be adopted in Grand Prix racing.

This ambitious project was well on its way to realisation when Porsche chief engineer Karl Rabe, taking a break from his concentration on tractors, discovered what Forstner was up to. On 15 February 1955 he memoed Porsche's senior executives that he felt it 'absolutely essential' that 'a fundamental discussion take place with Herr Porsche about this vehicle.' He made the following observations:

'I can't envision that one man carries this forward alone who at the same time remains the only remaining theoretician for the design office. I would not like to hide the

fact that Herr Forstner has already asked several times for our help, which with the best will in the world I could not provide in view of the present workload in the design office.

'I consider it necessary to clarify the question of the cost of this vehicle. Hitherto Herr Forstner has only remarked that the vehicle will not be more costly because it will largely be built in-house. To this I would add that I have found no primary contract covering the creation of such a vehicle.'

Rabe had rumbled Forstner's end run around Zuffenhausen's procedures. The Type 645 hit the buffers, apart from some discussion about the addition of lightness by using magnesium instead of aluminium for its gearbox housing. It languished during 1955 when the existing 550 Spyders seemed able to hold the fort. For 1956, however,

when Borgward was known to be readying its 16-valve fuel-injected four, competition looked to be intensifying. Type 645 was relaunched on 16 February by work order number 9159 calling for the production of two cars 'as soon as possible'.

Assuming sensibly enough that Porsche's management wanted these cars to play some part in the 1956 season, on 28 February Egon Forstner advised

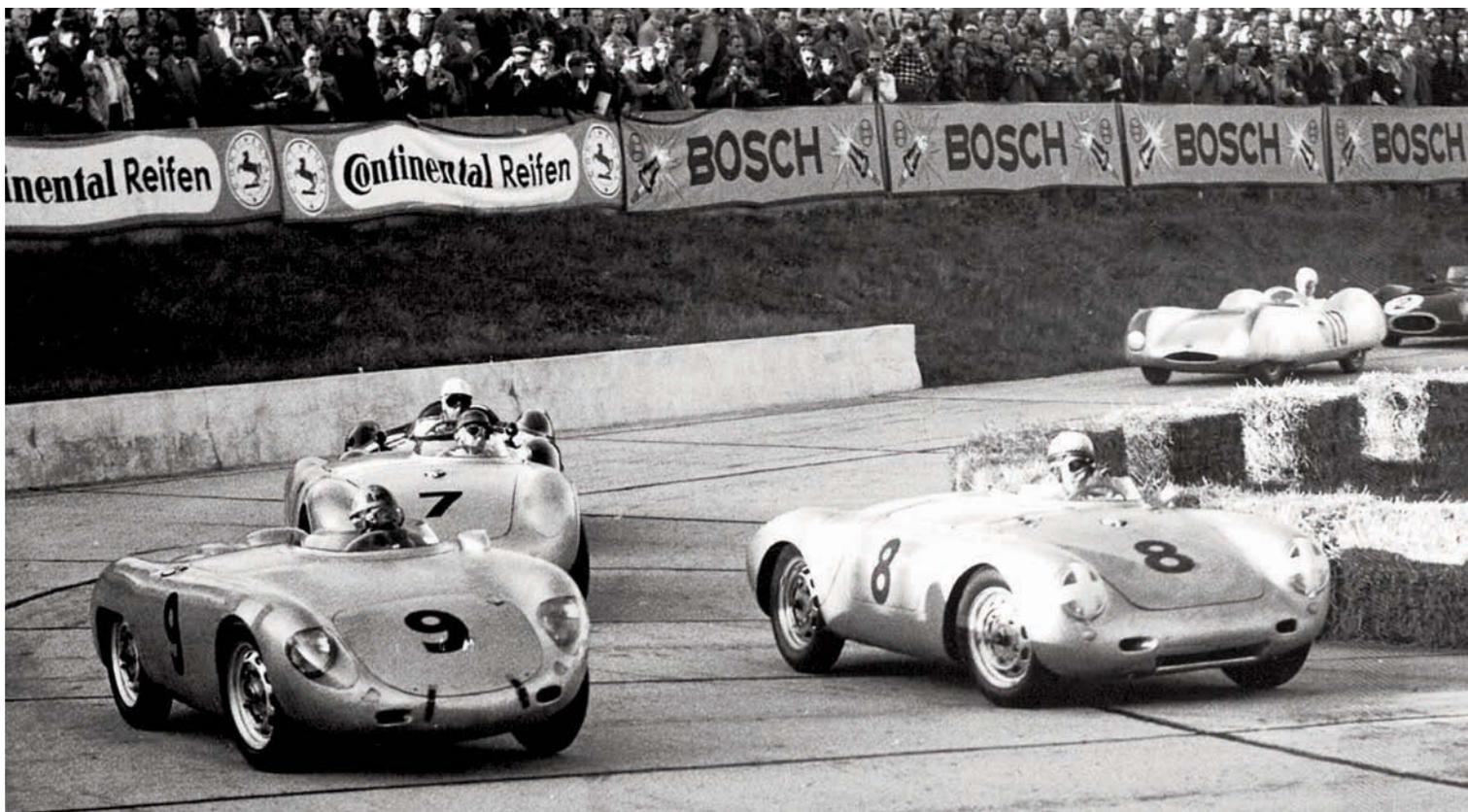
Messrs Rabe, von Rücker, von Hanstein, Hild and Fuhrmann that he considered the timing 'exceptionally tight and requiring the greatest haste.' Raw materials and drawings were available, he said, for the cars to be built in the experimental department. The magnesium bodywork could be formed in parallel with the other work to speed things up, he considered.

The latest development with the Type 547 engine was to drive its distributors from the nose of the crankshaft instead of from the ends of the camshafts to eliminate variations in timing caused by the latter arrangement. Space for the new drive, said Forstner, was not obviously available in the tightly packed 645. Although he requested a drawing that would show space for the newer engine, this never materialised so his 645 would always be equipped by the older style of

“RABE HAD RUMBLED FORSTNER'S END RUN...”

Below: Forstner and Fuhrmann worked with Porsche stylist Heinrich Klie to produce a wind-tunnel model of their new Spyder with much-reduced frontal area for lower drag





engine, whose output disadvantage Forstner considered to be as much as 20 horsepower.

In mid-June of 1956 Egon Forstner recapped his brainchildren's state of affairs. One of the two cars had been completed and tested on the Malmshiem skid pad. It was finished just in time to be taken to the 'Ring for trials on 15/16 May alongside a 550 and a 550A. Taking its wheel, Wolfgang von Trips just broke 11 minutes on his second lap but did not persevere further. In contrast, Herrmann in the 550A kept slashing his times, after various changes of tyre pressures and anti-roll bars, to a brilliant 10:35.2.

Having also tried the 645 Hans Herrmann said, 'It was certainly faster but totally undriveable. Von Trips and I declined emphatically.' Hans's judgement that it was faster was a form of validation for what Forstner and his small team had wrought, but a racing car must be manageable as well as fast. Herrmann's verdict in particular was anything but positive because he was undeniably skilful.

Nonetheless the 645 was among the cars that Porsche fielded for the 1000-kilometre race on 27 May at the 'Ring, where it was driven in practice by Richard von Frankenberg. Still immature, it was rejected by Frankenberg in favour of the 550A Spyder in which he turned faster laps.

The Type 645 showed that its expected high-speed

advantage was indeed present. On straights, Forstner reported, it had 'very steady roadholding'. With suitable gearing its maximum speed was 162mph against 158mph for the 550A in its best 1956 factory trim, in spite of the horsepower deficit of its outdated engine. Forstner said its four was producing a meagre 98bhp.

Handling, however, was judged treacherous. Herbert Linge tested it at Malmshiem and concluded that 'the car was so terrific in the back that the front axle was overwhelmed.' You must remember that it was always hard to get enough testing time. Drivers wanted the latest, fastest car immediately. In this case there wasn't enough time to set up the front suspension properly.

'Rear adhesion was enormous,' Linge told Jerry Sloniger. 'You started out with a great deal of understeer. But when the tail did break loose it came around like a cannon shot. Nobody could catch the spin.'

The new rear suspension offered better grip which was not counterbalanced by the cornering power of the car's front trailing arms, which leaned its wheels outward when the body rolled. 'The existing difficulties that have shown up with cornering,' assured Forstner, 'must be able to be eliminated by rational judgement without undue difficulty.'

Among the changes already implemented was a new

Above: At the head of the field after the start, next to the 550A Spyder of Wolfgang von Trips, the smaller size of Richard von Frankenberg's 'Mickey Mouse' was evident

Below left: The Type 645's front view at Solitude displayed its faired-in headlamps and the deck lid that served as a surface cooler for the engine oil, the filler for the tank behind it

Below right: When the Type 645 raced at the Avus on 16 September 1956 additional vents were cut in its tail to assist engine cooling. Dents showed the fragility of its magnesium body



linkage arm that speeded up the steering by 28 per cent to help drivers catch the sudden breakaway. Interference between the new central steering arm and the abutment screw for the upper torsion bar was eliminated. The Silentbloc bearings supporting the front of the engine were reoriented to prevent tearing. The height of the fuel tank was reduced to cut its capacity from 130 to 80 litres, lowering the 645's centre of gravity. Compensating would be a tank of 40 or 50 litres outside the frame to the driver's left.

In spite of his car's evident promise, Egon Forstner complained to Porsche, Rabe, von Rücker, von Hanstein and Hild on 19 June, 'it's been standing in Experimental for weeks, completely abandoned.' He enumerated the improvements made in the interest of better roadholding. Putting its front suspension and steering back together would take a mechanic only two days, he said. All that was needed in order to resume trials was an engine.

Moreover, Forstner added, the frame for 645 number two was half-finished. Some expenditure was needed to source such parts for it as the rear uprights and half shafts, torsion bars and dampers. 'The outlays already made oblige that the final step should be taken, namely to commence trials of the vehicle to win all the knowledge that is there to be won.'

Egon Forstner concluded his report to Porsche's senior racing cadre with a heartfelt query about the future of the Type 645, its half-finished sister and its assortment of components. Always insightful, the experienced Karl Rabe had raised reservations a year and a half earlier about the potential of what was essentially a one-man project in the demanding Porsche environment where every man and every expense had to count. Now he was asking — no, begging — the powers that be for their support of what would be his only attempt to create a complete automobile.

Their response was to leave the second car unfinished and to authorise completion and testing of the first Type 645.

Even after modifications its handling was demanding. Causing heavy initial understeer, in turns its rear tyres would grip much better than those in front. This would be followed by a sudden and hard-to-catch transition to oversteer at the limit. Contributing to this were its short wheelbase and low moment of inertia about its vertical axis, a function in part of its centrally-mounted fuel tank.

Having tasted the Type 645's speed in practice at the 'Ring in May, Richard von Frankenberg was willing to cast his lot with it. Then 34 years of age and wearing glasses with heavy lenses, Frankenberg was not only skilled as a sports-car driver but also renowned for his bravery. Although he took this new kind of Porsche under his wing, he had no illusions about its attributes. He dubbed it 'Mickey Mouse', not because of its smaller size but in recognition of its tricky behaviour.

Mickey Mouse first raced close to home on the Solitude circuit on 22 July 1956. Von Frankenberg qualified the new model in the front row, second only to Herrmann in a 550A, but lost first gear even before the 99-mile race began. On his first lap braking problems surfaced, a regular feature of the car which made approaching corners as exciting as driving through them. Power faded, too, as oil temperature soared — a limitation of the front-deck radiator? — but von Frankenberg soldiered on to a fourth-place finish behind winner Herrmann, von Trips in a Porsche and Edgar Barth's East German AWE.

In August Mickey Mouse practiced for the sports-car race that accompanied the German Grand Prix at the Nürburgring but did not compete. All Porsche's drivers concluded that its handling idiosyncrasies were too daunting a challenge for a 312-mile race over that treacherous track.

The Type 645's next appearance was at West Berlin's Avus for the 152-mile Grand Prix of Berlin on 16 September, round six of the German Sports-Car Championship. Because high speed was decisive at the Avus, with its long straights and steeply banked turn, von Frankenberg chose the Type 645 for this race in spite of the car's known quirks. Like

“CHOSE THE TYPE 645 IN SPITE OF THE CAR'S KNOWN QUIRKS...”

Below: Amidst a stellar field of top 1.5-litre sports cars at Solitude on 22 July 1956, von Frankenberg in the Type 645 made a lively start in second gear from the front row





Porsche's other Avus entries it was given a tighter tonneau covering the cockpit with a low wraparound windscreen sheltering the driver.

Practice at the Avus promised no dominance for the Mickey Mouse, which clocked the third fastest time behind Barth's AWE and Roy Salvadori's mid-engined sports Cooper-Climax. Soon after the start, however, von Frankenberg took the lead from Salvadori on braking for the flat South Turn and moved ahead of the field, trailed closely by the 550A of Wolfgang von Trips.

On their third of 30 laps, the two silver Porsches droned down the back straight and banked onto the vast brick bowl of the North Curve. Built in 1937, it provided a running surface 24 yards wide, 13 yards of this banked at 43 degrees. It was a constant-slope banking deliberately intended to allow cars to run both high and low. Rudy Uhlenhaut of Mercedes-Benz said it was 'very dangerous and you had to treat it exactly as if you were driving on a normal road. If you went too fast you just slid over the top.'

Among the 50,000 Berliners all eyes were on the leading von Frankenberg when his car veered abruptly to the right and powered at an angle across and over the vertical lip at the top of the banking, which flipped it. Cartwheeling as it vaulted two yards above the rim, the car bounded off the outer earth wall, over a wire fence and landed, a crumpled flaming mass, in the street between a Mercedes 300SL and an open-topped Opel Rekord.

Not until some five minutes after this spectacular crash did a Porsche technician, Harry Lörcher, discover the unconscious von Frankenberg lying in the greenery on the earth wall. Having plummeted from the Mickey Mouse as it brushed through an acacia tree he was not, after all, a victim of the white-hot magnesium flames that were consuming the inverted Type 645.

Richard von Frankenberg was never able to remember what happened during this 'Miracle of the Avus.' The three

minutes before his crash were erased by the impact of his fall. 'That he survived with only slight injuries or none at all is mythical,' said his son Donald. 'He had to lie five weeks in a Berlin hospital, several weeks of those on his belly.' This was the result of severe injuries to the skin of his back caused by the forces of his ejection from the cockpit.

The organising auto club, the AvD, asked the fastidious engineer from the Glöckler racing days, Hermann Ramelow, to examine the wreckage on its behalf. He found no evidence of sudden failure or malfunction of the steering or suspension.

Some speculation centred on the right-side suspension, which had been virtually immobilised on all the Spydys to cope with the g-forces on the banking. Be that as it may, the Type 645 had worn out its welcome at Zuffenhausen.

'The Mickey Mouse type,' wrote von Frankenberg dryly, 'was not subsequently recalled to life.'

It did not expire without teaching the Porsche racers some useful lessons. The Type 645 had shown that frontal area could be reduced and that performance benefits were to be derived as a result. Further improvement of its suspension seemed possible, even essential, especially at the front end.

The oil cooler built into its front deck lid had proved its potential and would be used in the RSK.

Best of all, its frame design pointed out the new direction for the successful 550A, which Trips drove to victory at the Avus. It showed the clear advantage of the tubular space frame that later Porsche racers would use. 'The car led its race,' Herbert Linge reflected of the 645. 'It couldn't have been a complete failure and it taught us a lot.'

As for Richard von Frankenberg, he was able to attend the Porsche company's Christmas festivities but only with the aid of a cane. He managed to maintain his work as the editor of Porsche's *Christophorous* magazine but, wrote his son Donald, 'Number 23's appearance was delayed.' Richard von Frankenberg would race again, and win, in 1957. **CP**

Above: Fortunately Richard von Frankenberg was thrown out of the Type 645 when it left the steep Avus banking. The car had a nearly-full fuel tank when it crashed. Little of value survived its terminal inferno – it is amazing nobody was killed...

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Words: Robert Barrie Photos: 2-litre Cup/Jayson Fong

THE FINAL CUT

The first season for the 2-Litre Cup for pre-'66 FIA-spec early 911s came to a close at the Peter Auto Dix Mille Tours du Castellet meeting at Paul Ricard. If you are going racing, a sunny late-summer weekend in the South of France is not a bad time and place to do it

Below: Paul Ricard has to be the most colourful track in the calendar! Johan Dirickx's 'Art Car' adds even more colour to the occasion. A great image from the very talented Jayson Fong

A field of thirty or so cars set-up, signed-on and scrutineered on Friday, practiced on Saturday morning, qualified on Saturday afternoon and, not for the first time, raced last thing on Sunday. Hopefully next season's timetable will be more varied now the series has shown itself capable of delivering good grid numbers and good racing.

For those that haven't been to the circuit, Paul Ricard's a challenge to drive and, despite the fantastic location, it's not everyone's favourite. Lewis Hamilton was rather critical ahead of the French Grand Prix earlier this year. It's flat and, for all the vibrant colour you see in photographs, it's a bit featureless from the driver's seat.

At times – not least the approach to the chicane on the otherwise flat-out Mistral Straight – it's not even clear where it goes. It is also, to use the jargon, a bit 'technical'. There are corners that tighten awkwardly, and uncompromising kerbs. It's easy to over-drive and it's tough on the car. Those are my excuses, anyway.

The top crew of Olly Bryant and Andrew Smith had taken pole in the two previous rounds and Paul Ricard turned out to be no different. Their silver Historika-run car duly headed

the time sheet. That said, the ever-reliable Nigel Greensall was only a few thousandths of a second behind in Colin Paton's light ivory car, while series newcomer Julian Lepphaille announced his arrival by qualifying third, in Jose Zanchetta's recently-acquired silver car with an Argentinian flag on the bonnet.

Elsewhere, the heat, the circuit and some hard racing were taking their toll. The attrition rate was relatively high again and a number of cars didn't make it to the race start – including one or two of the fancied runners who had shown good form in previous rounds.

As ever, the race started behind a pace car. As it developed, a talented motoring journalist put in some quick times and moved into the lead. Sadly, it wasn't your correspondent, but Dickie Meaden who set a searing pace – including a fastest lap – as he returned to the series to share a car with co-founder James Turner. Could we be on for a late-season upset? Nearly, but not quite.

A longish pit stop by the green car and Turner's steadier pace after the driver swap allowed Smith to ease back into the lead. The race went the full distance and Smith and Bryant scored another win at the flag. A clean sweep for a





talented and consistent crew in a well-prepared and reliable car – a performance made no less impressive by the fact that other car and driver combinations had at times been close and, occasionally, quicker.

Ross Goodwin was second after an accomplished solo drive in Sandy Watson's car, while Turner and Meaden completed the podium with a slightly emotional and well-deserved third. Further down the order, there were strong solo drives from Didier Denat and Erwin van Lieshout. Steve Jones and Robert Barrie (*who? – Ed*) made a long overdue appearance in the top ten as the latter finally almost got his act together. Finally. Well, almost.

Looking back at Spa, Dijon and, now, Paul Ricard, the first season of the series has been a remarkable success. Well done to all those responsible – you know who you are. If most of us wrote down what we wanted from a race series this would be it. The grid numbers have been good and so have the driving standards – the quick cars have been quick

and the rest have been competent.

The racing has been close, yet contact has been minimal. Some more established series could usefully take note. There have been compliance checks and, with very few exceptions, the cars have been correct. Anything that hasn't

been correct has quickly been corrected. Just as importantly, the paddock has been a fun place to be right from the start, when none of us really knew quite what to expect. *Chapeau!*

The plans for next season are already in the works – and so, as I understand it, are more cars. It's possible the series will run at some additional venues on the Peter Auto calendar and that the regulations will be tweaked

slightly. If anything, however, the theme is likely to be more of the same.

After such a successful first season, it's not clear that significant changes are required. For anyone who has been thinking of joining the series and wanted to see how the first season turned out – come on in, the water is fine! **CP**

“SOME MORE ESTABLISHED SERIES COULD TAKE NOTE...”

Above: The second-place car belonging to Sandy Watson was solo driven by a determined Ross Goodwin

Below left: Winning Historika-prepared car driven by Olly Bryant and Andrew Smith

Below right: From left to right, Ross Goodwin (third), Olly Bryant and Andrew Smith (overall winners) and Dickie Meaden and James Turner (second) fill up the podium at Paul Ricard



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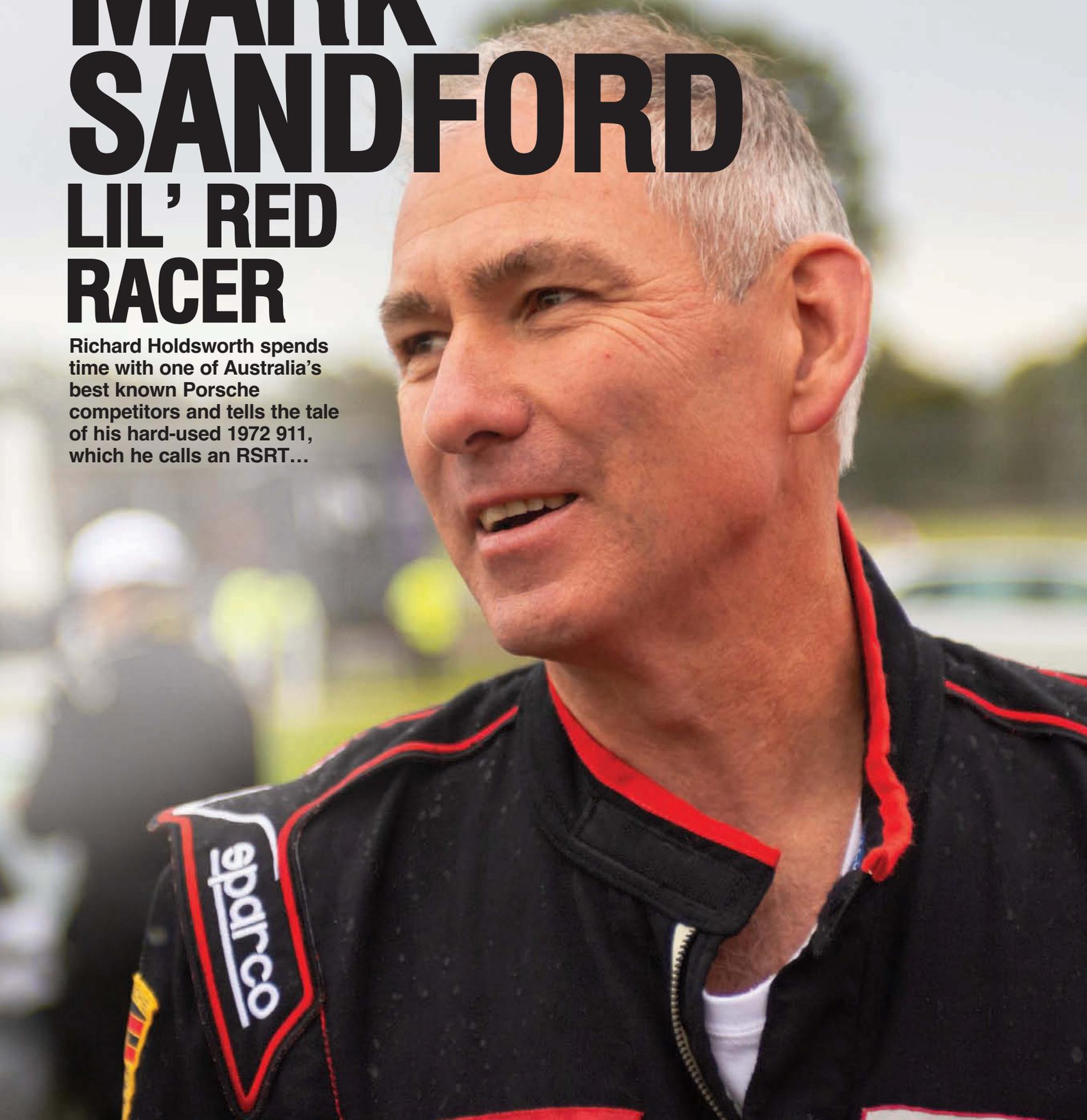
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Words: Richard Holdsworth Photos: Sam Lacey, Mark Sandford, Bob Taylor

MARK SANDFORD

LIL' RED RACER

Richard Holdsworth spends time with one of Australia's best known Porsche competitors and tells the tale of his hard-used 1972 911, which he calls an RSRT...





Above and below left: Having fun in the 911! Mark Sandford at the wheel in the Adelaide Motorsport Festival Adelaide Hills Rally

Yes, I've got air con... I wind the window down.' So says Mark Sandford with a wry grin. This throwaway line sums up this racer and his wonderful '72 911. OK, the car is nearly 50 years old, but with Mark at the wheel this iconic 911 punches way above its weight, gives more youthful Stuttgart machinery a run for their money whether it is on a sprint, rally, hillclimb or out-and-out race track.

And what fun in the process. 'I drive the car as I feel it should, no holding back, that is what it was built for.' And I can testify to that having been his lucky passenger earlier this year at The Bend in South Australia, the first journalist to get to see the twists and turns on this fabulous new international race track. 'We were only doing seven-tenths,' says Mark as we pull into the pits. I am glad it wasn't tenths – I am not sure my life insurance policy could have stood a ten-tenths white knuckle ride.

Mark's 911 – he calls it a 911 RSRT for no other reason than it represents a 1972 RSR but it started life as a T – has morphed over the years as previous owners have tried to make it look like current models in the Porsche colour

brochures. 'I want to bring it back as it was when it left the Stuttgart factory in 1972,' he says.

It is not only air-conditioning that the car lacks. 'I don't have power-assisted steering or traction control, no ABS, no stability management...and no sat nav and no water...' Mark smiles, 'Just spartan lightweight, plenty of power, tyres with heaps of grip and tuned suspension... My 911 stands out in the crowd, it is entirely visceral when driven hard, communicating with the road with wonderful feed-back to validate its control.'

Mark's 911 is used on the road most days and there are no fancy trailers to take it to race meetings: Mark simply climbs in, starts up and heads for the track. I can't imagine how the car doesn't attract the attention of the Boys in Blue – the raucous sound of the exhausts can be heard streets away and the bright red colour is hardly designed to slip beneath the radar.

Early history: Mark admits he doesn't know much about his 911T after it rolled off the Stuttgart production line on 29 December 1971, other than it was right-hand drive, Signal Yellow and destined for the UK. 'It seems that at some stage it was converted to RSR-spec with a 2.7-litre engine,

Below right: Our man Richard Holdsworth about to get the ride of his life in Mark Sandford's 911 at The Bend, the new international race track located at Taillem Bend, South Australia





alloy trailing arms, S brakes and a '73 interior, and at some time was raced in England.' It was also clear that the owner tried to keep pace with developments in the design of the 911, and as part of that had 930 impact bumpers and whale tail installed.

The 911 was imported to Australia in the mid 1980s, but once again research turned up little of the car's history after unloading at Adelaide docks. 'I did discover the car was raced at the Mallala circuit with some decent times in the mid 1.20s (the current Porsche lap record is held by a 997 GT3 Cup car at 1.09). But then it seems to have been retired from any form of competition and parked up.'

Then it came into Mark Sandford's life. 'My first car had been a VW Beetle and it was logical to move up to an air-cooled Porsche. I wanted a project car and ran an advert in Gumtree and to my surprise this guy phoned. He said his car wasn't really a project but it did need some work and might suit me. He said it had been stored for 20 years. This seemed too good to be true but then the guy changed his mind – it took two years of gentle persuasion to change it back again!'

Mark continues, 'When I first saw the car it looked in good shape and the oil was clean – another plus point. But in reality, that was either because the oil had settled or, perhaps, had been changed before being put up for sale. Buyer beware! The owner wanted one last bash around Mallala – fortunately I persuaded him otherwise as the carbs had succumbed to corrosion and could have done untold damage to the engine.'

'Once the car was in my garage, I changed all the fluids, rebuilt the brakes, stripped and cleaned every part of the 40IDA3S carburetors and fired up the engine. Out on the road I found very few mechanical issues and that made me feel happier with my purchase.'

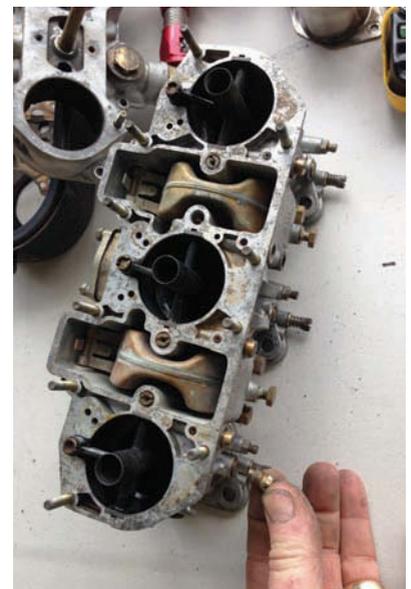
Mark stood back and looked at the 911 in detail. 'I wanted to bring it back to its original spec and the first thing I cottoned onto was the opening for the external oil filler had been filled in and welded over. It was an iconic feature of the 1972 car; positioned as it was just to the rear of the passenger door on the right rear quarter.'

'I plucked up courage and cut open the hole to expose the original filler and then located an original oil tank (from

Above: A feature of the Adelaide Motorsport Festival is the Gouger Street party where the general public can get close to the cars and meet the drivers

Below left: The end of the 2016 Adelaide Motorsport Festival Rally for Mark and the 911

Below right: The corroded Weber carburetors from when Mark first bought the 911. They hadn't fared well after such a long time in storage and needed a complete overhaul





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Above left: Looking pleased with their day's work – Mark Sandford and his rally navigator, John Hunter, Adelaide 2016, car #86

Above right: Mark's 911 as rescued 'from oblivion' – at some point it had been 'updated' to impact bumper spec. That was the first thing to go...



the United States) – this was the first step in returning the car to the uniqueness of its factory specification. I replaced the front slam panel with the long nose version and installed a carbon bonnet and glassfibre bumper. My 911 started to look good.'

The rear reflector panel was removed and the heavy impact bumpers replaced with glassfibre units and the duck tail was sourced locally in Adelaide. Mark thought the car looked odd with 16-inch three-piece Porsche Cup wheels and matching tyres, and they also tended to lose traction under heavy braking from the alloy S calipers. 'I tried to get Fuchs from eBay but in the end sourced TUV-compliant replica Fuchs from Classic Wheels in Melbourne which had been imported from Germany.'

Mark was keen to enter the Adelaide Motorsport Festival rally that was coming up in late November of that year (2016), but was concerned with a rattle that appeared to be coming from the timing chains. Mark set to work. The chain guides were replaced and a new timing chain inserted by joining the new chain to the old and rotating the crank. 'It's a bit fiddly,' Mark tells me, 'but can be done with perseverance.

However, in the end the noise turned out to be from the 915 gearbox. But at least the operation had given me confidence that the old chain wouldn't jump a cog and punch a valve through the piston crowns at 7000rpm!

The car performed well in Mark's first rally until the engine blew the rear seal on the downward run at George Road coming out of the Adelaide Hills, spilling oil over the road and producing a spectacular plume of smoke as the oil sprayed over the exhaust. 'The rally was over for me and my co-driver, John Hunter, but we had enjoyed ourselves with much

to smile about. We decided at that very moment we would be back next year...'

With the engine out of the car, Mark took the opportunity to seal other leaks and, as with many magnesium Porsche engines of that era, found problems with the through-bolts. 'You can't actually get the bolts out without first removing the cylinders but you can fit new O-rings by stretching the rings over the head of the bolt and under the washer where the bolt neck reduces in diameter. Again, it needs perseverance, but can be done...'

The next decision was to take off the cylinder heads and Mark was pleased to see honing marks, no step in the cylinders and, as the Time-Serts/case savers had already

been added to the magnesium case, there was cause to feel satisfied.

Twin-plugged cylinder heads were also installed and the inlet manifold ported to match the heads. 'Ported, not polished, as I reasoned that leaving some texture would improve boundary layer turbulence and better mixing of fuel entering the cylinders,' says Mark.

To provide power for the twelve spark plugs, Mark used some ingenuity – yes,

“IT NEEDS PERSEVERANCE, BUT IT CAN BE DONE...”

this is a man of considerable ingenuity as well as a great engineer by trade (he runs a consultancy business, Hone Prime Global). He machined a cover to fit over the standard Bosch distributor and adapted a Jaguar V12 cap and then made another adaptor from a modified Jag rotor arm. Now each of the two plugs on each cylinder fire in unison.

Mark reasoned that a single MSD was more than ample to provide power for the NGK BP7ES plugs and give the engine smooth running right up to 7200rpm. The rev limiter from the MSD unit gave the necessary confidence to put the



foot hard to the floor.

The 2017 Adelaide Rally was on the horizon and Mark next turned his attention to the handling of the car. He sourced and fitted 11Jx15 Fuchs for the rear and 9Jx15s for the front, tyres being Pirelli P7 305/35R1x15s at the rear and 235/40Rx15s up front to match the RSR of 1973. 'I pump them to 28psi early in the day and work up to 30psi when the tyres warm up. I find the rear tyres take a little time to come up to temperature.'

Handling was further improved by making and fitting camber plates for the back – experience had shown that the standard camber bolt was limited in achieving the required geometry. Mark explains that adjusters are available on the market and these allow a negative camber of around two degrees at the rear and one-and-a-half at the front. 'I have tightened up the Koni 'Orange' shock absorbers. The rear shocks have to be taken off the car to be adjusted as they have to be fully compressed to engage the adjustment mechanism, but the fronts are dead easy and simply done with a key.'

The next problem to raise its head was at a race day at the Mallala circuit north of Adelaide. 'With the new level of grip I got from those liquorish tyres and with a hard gear change going into the turn at the northern hairpin, the differential skipped a tooth and cracked the magnesium side cover of the 915 box...' Tracking down a 4.43:1 ring and pinion was not easy but a friend found one 2000 miles away in Perth (the Perth in Western Australia) from an advert in a Porsche magazine. It was fitted with an aftermarket aluminium billet side cover.

Inside Mark's extraordinary 911 it is all 1973, he has no intention of bringing it back just one year to match its 1972 vintage. 'At one stage a stereo was fitted but I have no plans to fit another – the music I hear is that of the flat-six working hard just a few feet behind my ears.'

I couldn't agree more. Having sat in the passenger seat around the race track – and with that music also a few feet behind my ear drums – I wouldn't want a single thing to interrupt the sheer joy of hearing Mark's air-cooled Porsche at full blast! **CP**

Above left: Fuchs-style wheels were supplied by Cameron at Classic Wheels

Above right: New exhaust system helped both power and sound outputs!

Below: Mark at work on the Adelaide Motorsport Festival Adelaide Hills Rally (photo: Bob Taylor)



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Words: Delwyn Mallett Photos: DM Archives

BOXING CLEVER

With a history of designing such engines going back to the 1920s and beyond, you could be forgiven for thinking it was Ferdinand Porsche who popularised the 'flat' or horizontally-opposed engine layout. But you'd be wrong. In a fascinating look back at engine design, Delwyn Mallett brings you an insight into the history of the flat-four engine...



Here's a little test of your automotive knowledge. I recently passed a pleasant and fascinating few hours driving a 1952 Le Mans 24-Hours class-winning sports car around my local country lanes. Designed by an Austrian professor of engineering responsible for the pre-war Auto Union Grand Prix cars, it was aluminium-bodied, torsion bar suspended and powered by a flat-four engine originally from a family saloon – what was it? And no, it's not the Porsche Gmünd coupé that won its class that year – that would be too easy (although I am very willing to take it for a spin. Please contact me via this magazine), so try again.

Give up? Before you rush to Google, it was a Jowett Jupiter R1. In terms of specification, the similarities to a Porsche 356 are remarkable but the execution could not be more dissimilar. The Jowett is a skimpy open skiff of a machine, with its 1500cc water-cooled engine placed not in the tail but as far forward as possible, ahead of its radiator and jutting beyond the front wheels.

Those of you whose automotive interests encompass more than just Porsches may have guessed the answer, but few will actually be familiar with the R1 as only three were built and later scrapped by the factory when their racing was done. This survivor was rescued by an employee and reassembled – sort of – before finding its way into the hands of a friend who, over many years, restored it to its Le Mans specification.

The 1950 race was the first time that a flat-four engine had competed at Le Mans and the 1951 event was the first occasion that two flat-four petrol engines of different makes had raced against each other. The 1953 race would be the last at which rival makes of flat-fours slogged it out.

Porsche-centric souls are prone to thinking that the good professor invented the flat-four engine when his team designed the Volkswagen Beetle, but the horizontally-opposed 'boxer' engine is virtually as old as the motorcar itself.

At the turn of the century, the future of the horseless carriage was still far from certain in terms of motive power. Steam, electricity and the internal combustion engine were all in contention. Ferdinand Porsche was backing electric power with his Lohner-Porsche designs of 1900 to 1905 and, for those backing the internal combustion engine, its configuration was also far from settled.

Karl Benz patented the first Motorwagen in 1886, powered by a 'flat-single' – a horizontal single-cylinder engine. A decade

later Benz designed the first horizontally-opposed internal combustion engine, a water-cooled twin-cylinder device patented in 1896. Benz referred to his twin as a 'Kontra-engine', contra due to the fact that the opposed pistons worked in contrary motion around the common crankshaft. Advantages of the engine were its low profile and, as the cylinders were set at 180 degrees to each other, the dynamic masses were well balanced resulting in smooth running.

Such engines of various capacities were fitted to Benz autos and commercial vehicles and in 1899 the Kontra engine, with its crankshaft set longitudinally in the chassis, was powering the first purpose-built Benz racer – and, as it happened, due to the engine's low profile it was rear engine, positioned under the driver and passenger. In 1900 the engine gained an extra two cylinders, creating the world's first flat-four. The 5444cc flat-four, still fitted over the rear wheels, powered a racing Benz – which, incidentally, was the first Benz to feature a steering wheel

on an inclined column – and was also the last Benz 'flat' engine.

In France, Mors was not far behind Benz in producing a flat-twin. The 850cc Mors 'Petit Duc' of 1899 featured air-cooled barrels with water-cooled heads – something that Porsche didn't adopt until the late 1970s, once again proving that there's nothing new under the sun!

The first car designed entirely in Britain, and in 1899 rather late out of the starting blocks, was the work of Frederick Lanchester and featured a remarkable horizontally-opposed 4033 cc engine in which each opposed piston carried two connecting rods coupled to two contra-rotating crankshafts, resulting in a remarkably smooth running engine. Even more extraordinary was that each cylinder was serviced by only one valve, functioning as both inlet and exhaust.

In 1901 another British company, Wilson-Pilcher, offered an advanced front-engined 'silent and vibrationless' water-cooled flat-four powered car, complemented in 1904 with a flat-six option. Just one example survives, a four cylinder.

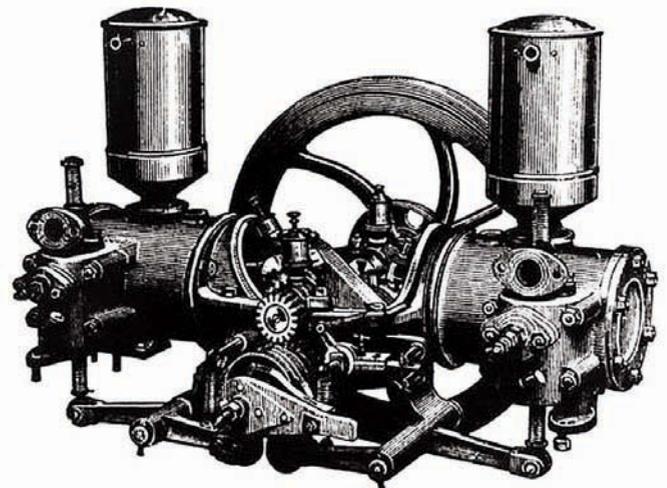
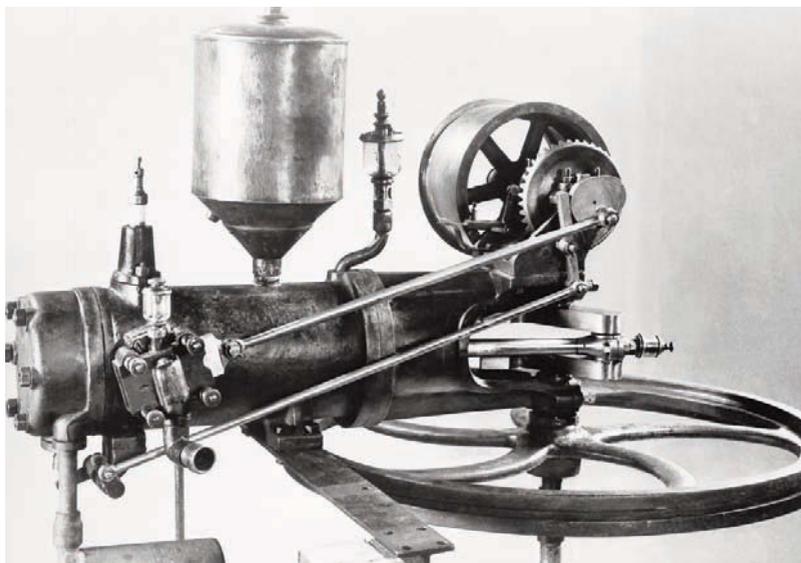
In the USA Henry Ford was making his first tentative steps on the way to becoming an automotive giant. His one-off 'Sweepstakes' racer of 1901 had an opposed-twin engine with a massive 7-inch bore displacing 593 cubic inches (9.7 litres!). Ford's first production car, the 1903 Model A, was powered by a flat-twin of 101 cu ins (1668 cc) and the follow up models C and

“1950... THE FIRST TIME A FLAT-FOUR HAD COMPETED AT LE MANS...”

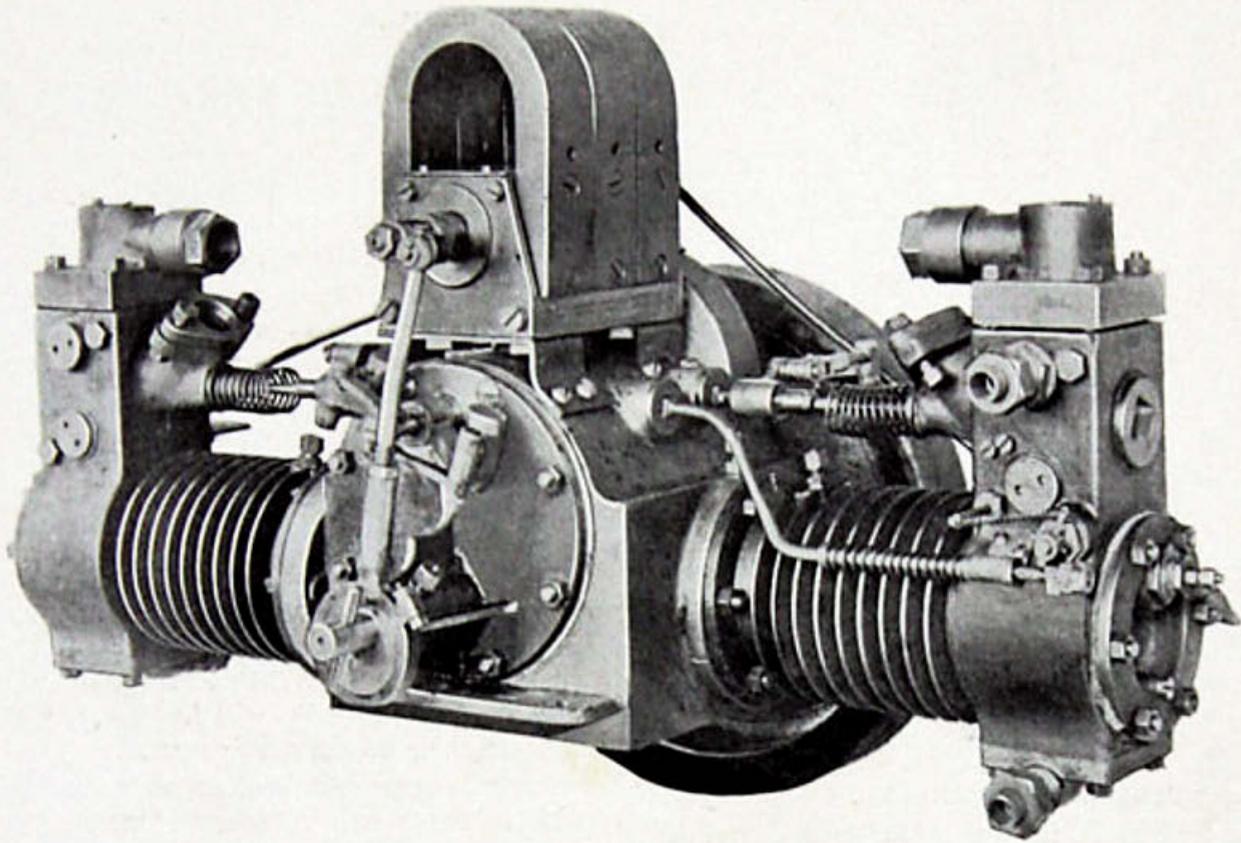
Opposite: Le Mans 1952 – a pair of Jowett Jupiter R1s (#46 and 64) sandwich an Osca as they chase after the Porsche 356SL of Lachaize and Martin. Both Jowetts were powered by flat-four water-cooled engines

Below left: 1877 Benz engine from which the 'horizontal single' engine for the first motor car was developed

Below right: In 1896, Benz patented this water-cooled horizontally-opposed twin, called the 'Kontra-engine'



A MORS ENGINE WITH MAGNETO IGNITION.



F also had boxer engines but of slightly larger capacity before adopting an in-line four in 1908 for the car that made Ford a legend, the Model T.

As the 20th century got underway the front mounted, multi-cylinder, in-line or 'V' engine soon became the norm in automobiles and the flat-four boxer went into hibernation. However, flat engines were well suited to use in aircraft and persist to this day. The first was used by Brazilian aeronautical pioneer and superstar Alberto Santos-Dumont in 1909 in his 'Demoiselle' series of monoplanes which were powered by both air-cooled and water-cooled twins. In time, the VW, the 356 and the 911 engine were all modified for use in aircraft.

Bradford's Jowett brothers, blacksmiths and intuitive engineers, had ambitions to build a better small car engine than those then available and set up business in 1901. In 1910, after a few false starts, they launched a light car (curiously out of date as it was steered by tiller, the last to be so guided) powered by a torquey water-cooled 816cc flat-twin that would stay in production until Jowett ceased car production in 1953 when it was still powering their 'Bradford' vans – making it the longest production run of a British engine.

Obviously very much of the 'if it ain't broke don't fix it' school, it was not until 1935 that Jowett added an extra pair of cylinders, and an extra carburettor, and increased capacity to 1166cc. The four-cylinder engine was in production until the outbreak of WWII but was not as popular with conservative Jowett customers as the venerable twin.

The flat-four may have dropped out of favour in automobiles but flat and V-twins proliferated throughout Europe before and after WWI in lightweight cycle cars and motorcycles from literally hundreds of different manufacturers, the Morgan three-wheeler, launched in 1909, being one of the longest lived. In the USA there were even flat-twin-powered washing machines for rural

communities without electricity!

In Britain, ABC (All British engine Company), Rover and Aerial were notable for their flat-twin machines, but the most influential twin-cylinder design of the interwar years was the Czechoslovakian Tatra T11 introduced in 1923. This groundbreaking design was powered by an air-cooled 1105cc engine mounted on the nose of its torque-tube spine chassis. A four-cylinder version, the T30, followed in 1926, and rear-engined prototypes in 1931/33, which continue to stir passions and controversy when discussing the gestation of the Beetle – but we won't go there now.

Tatra launched a much more sophisticated, aerodynamic and rear-engined saloon in 1936, the T97, (a smaller version of their

V8 T87) powered by an air-cooled 1.8 litre flat-four engine derived from the 3-litre V8. The T97 was short-lived due to the war and Czechoslovakia's annexation but Tatra introduced an updated version, the T600 or 'Tatraplan' in 1948 with a new 1952cc flat-four air-cooled engine – with a cast aluminium fan housing that could be mistaken for that of a 911. Incidentally, the

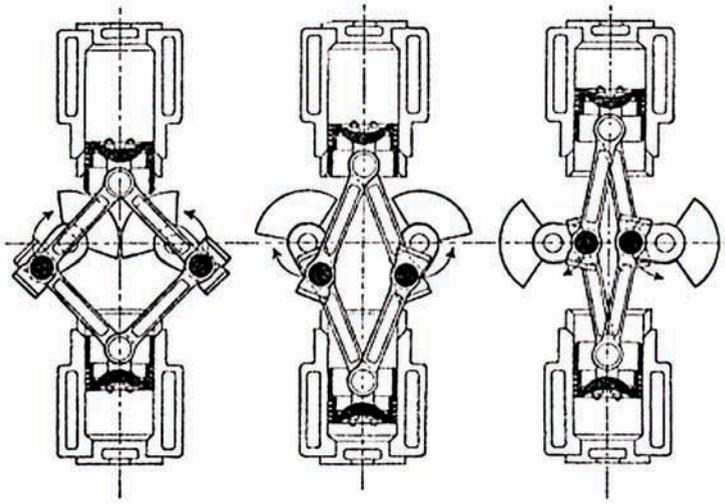
'other' major Czech manufacturer, Skoda, built an advanced one-off streamlined saloon in 1935, with a flat-four engine mounted ahead of the rear transaxle.

Although little known in Britain, the influence of the Tatra T11 and four-cylinder T30 should not be underestimated. Hans Ledwinka, the highly respected chief designer of Tatra, was a contemporary of Porsche and much admired by Hitler who cited the little Tatrás as inspiration for his own 'people's car'.

With the idea of a 'Volkswagen' becoming an obsession in the German-speaking countries, Austrian company, Steyr, introduced their own 'people's car' in 1935, the pretty, streamlined, Type 50 'Baby', powered by a front-mounted 984cc flat-four, water-cooled engine. 13,000 were built before WWII ended production.

Above: The 850cc Mors 'Petit Duc' of 1899 featured air-cooled cylinders with water-cooled heads – rather like Porsche's race engines of the late 1970s and '80s!

“STEYR INTRODUCED THEIR OWN PEOPLE'S CAR IN 1935...”

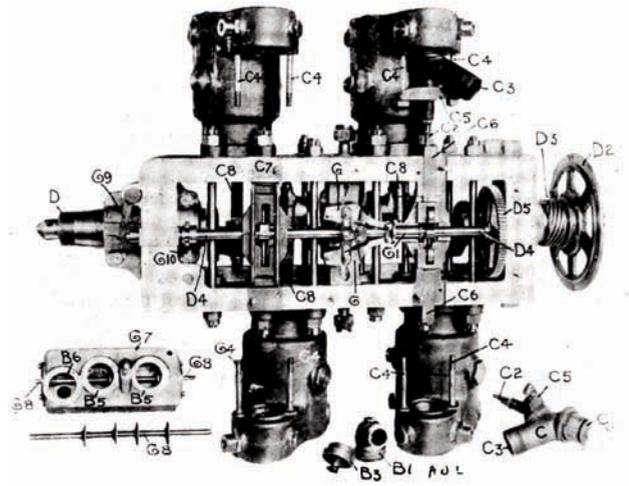


Above left: Bizarre in the extreme, the 4033cc Lanchester engine in which each opposed piston carried two connecting rods coupled to two contra-rotating crankshafts...

Above right: In 1901, Wilson-Pilcher offered an advanced front-engined 'silent and vibrationless' water-cooled flat-four powered car. This was joined in 1904 by a similar flat-six (see bottom right photograph)

Below left: Ford's 'Sweepstake' engine was a flat-twin displacing 9.7 litres!

Below right: Ford's first production engine was this 1668cc flat-twin of 1903



Flat-four engines were once again gaining favour with the engineers of middle-Europe, but it was by no means certain that the VW – and subsequently the first Porsches – would follow that route. For quite some time the Prof favoured a two-stroke vertical twin with double pistons in each cylinder. A flat-twin was also a front runner, as was a three-cylinder radial two-stroke (Porsche's 1931/32 Zundapp prototype had used a 5-cylinder radial) – even a diesel was tested.

It was not until late in the design evolution that the 'new boy' at Porsche, Franz Xaver Reimspiess, took another look at a four-cylinder boxer and laid out the engine that powered the Beetle and eventually the Porsche sports car to their extraordinary success. (as an aside, Reimspiess also designed the VW logo.)

During WWII Jowett, now under new management, hired Gerald Palmer, a promising young designer, gave him a clean sheet of paper and more-or-less said 'surprise us'. Palmer came up trumps, producing the fastback Javelin saloon. Launched in 1947 the Javelin, despite initial reliability problems with the engine, was a sensation, praised by the motoring press for its outstanding ride and handling, as well its looks.

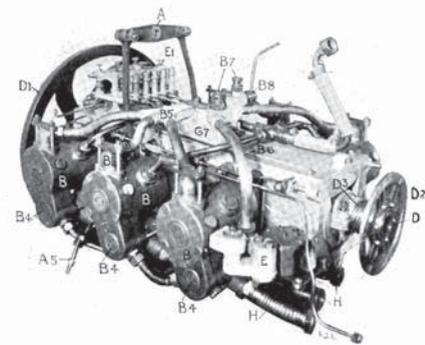
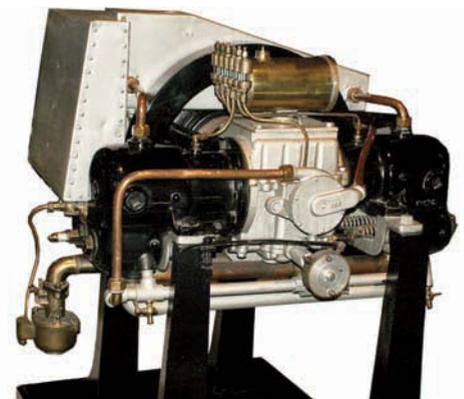
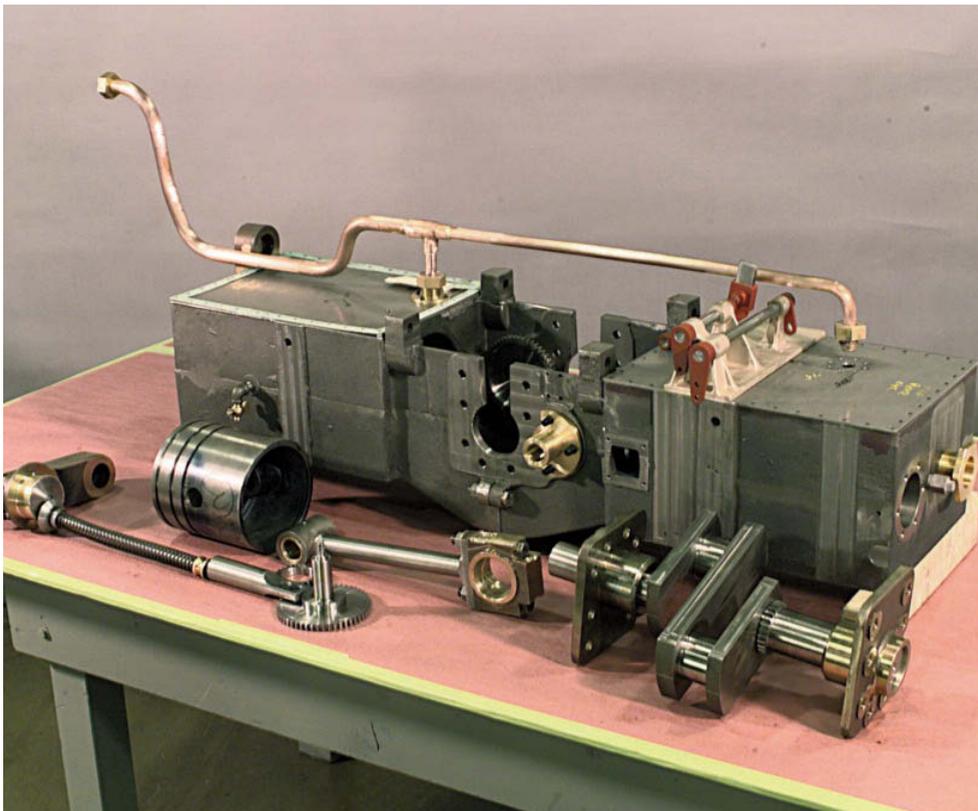
Palmer chose the flat-four configuration for his engine, almost certainly in deference to Jowett's legacy in the 'flat' tradition but also due to its advantages in smoothness of operation and low centre of gravity. Despite the engine being

well up in the bow and in the airstream Palmer chose to water-cool the engine, again, as Jowett's twin was so cooled. (Alec Issigonis, working at Morris Motors Ltd on the soon to be launched Morris Minor, had also specified a flat-four engine but it was vetoed by the management for cost reasons.)

The merits of the Javelin were demonstrated by a sensational class win in the 1949 Spa 24-Hours race and the team prize in the Monte Carlo Rallye, which prompted Jowett to build what would become the Jupiter two-seater sports version. Gerald Palmer had left the company by this time and through a convoluted chain of connections and aspirations Jowett entered into collaboration with ERA (English Racing Automobiles) to build the proposed and as yet to be designed car, and this is where Professor Eberan von Eberhorst enters the frame.

Although Ferdinand Porsche's team had, in 1933, designed the V16 Auto Union Grand Prix car, it was not to be built in Stuttgart but at the Horch works, part of the Auto Union conglomerate, 400kms away in Zwickau, Saxony. Horch had to create a racing department from scratch and Professor Porsche recommended Austrian engineer Eberan von Eberhorst should be in charge. Von Eberhorst remained at Horch until the war and was responsible, after Porsche's contract expired, for the new 3-litre formula V12 Type D of 1938.

Fleeing the Russian occupation at the end of the war, von Eberhorst arrived in Gmünd in time to try 356/01, the mid-





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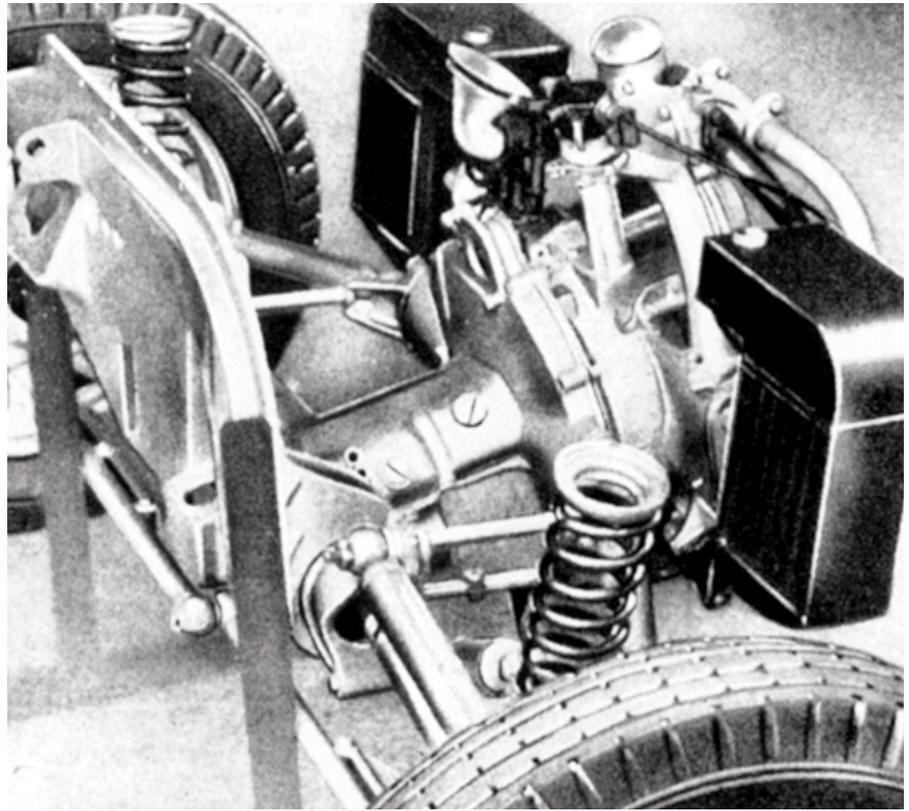
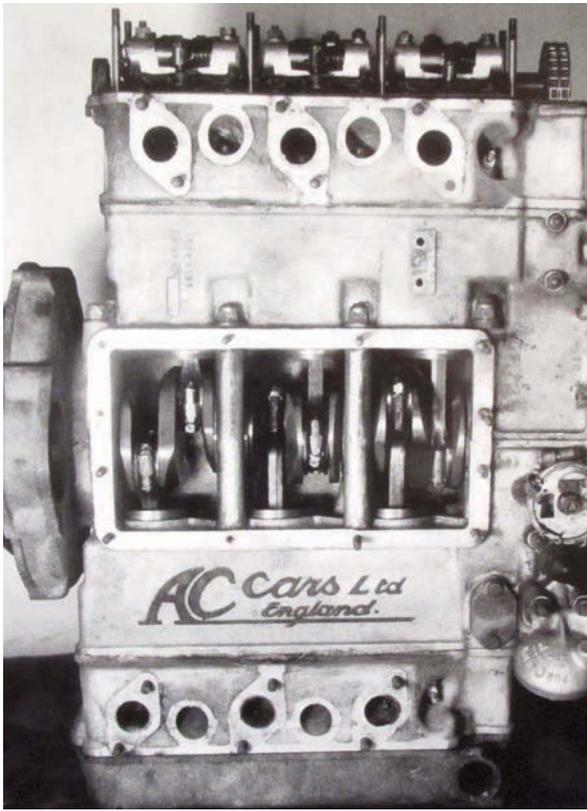
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money! By 1952 sanity prevailed and the prize money became the same for the overall and Index winners.

Running into financial trouble and lacking the resources to develop a new car, Jowett abandoned racing while on a high and only two years later ceased car production.

The engineers at Porsche were only too aware of the limited potential of the VW-based engine and, having committed the company to racing as a way of gaining publicity and sales, Ferry Porsche commissioned a new engine from his team. The man tasked with the job was Ernst Furchmann. Using the experience gained working on the flat-12 Cisitalia engine, Furchmann designed a double-overhead-cam engine, using shafts and bevel gears to operate the camshafts. Requiring a watchmaker's precision to set up but when done properly famously reliable in use, it was destined to become one of the great race engines of all time.

Given work number 547 it would soon be known simply as the 'Carrera' engine and from its first appearance in 1953 would power Porsche's giant-killer racers for the following decade.

The last 356 ran at Le Mans in 1957, a privately-entered Carrera Speedster, which failed to finish. The last flat-four Porsches to run in the event were a quartet of privately-entered 2-litre 904s in 1965, by which time the factory 904s were running six- and eight-cylinder engines.

Post-war austerity had prompted a European resurgence in small capacity engines. Citroen launched its own people's car,

the 2CV 'Tin Snail'. Conceived before WWII intervened, it featured a cleverly designed but somewhat feeble 375cc air-cooled flat-twin. The engine would, in various enlarged forms, power several Citroen variants through the 1950s and '60s.

Pioneering French marque, Panhard, hitherto a builder of luxury cars, now threw all of its effort into lightweight aerodynamically efficient small capacity cars, at first powered by a 610cc flat-twin, later enlarged to 850cc. Glas, DAF, BMW and Steyr would also produce small flat-twin-powered cars in the 1950s.

The 1957 Steyr-Puch used a Fiat 500 body supplied under licence but powered by its own flat-twin developed by Erich Ledwinka, son of the pre-war Tatra designer. Starting at 493cc and 16bhp by 1964 the engine had been enlarged to 660cc and the hot racing versions were pushing out up to 60bhp. In the hands of Polish rally ace, Sobieslaw Zasada, the potent Puch even won the 1966 Group II European Rally Championship, becoming (and remaining) the smallest capacity car to do so.

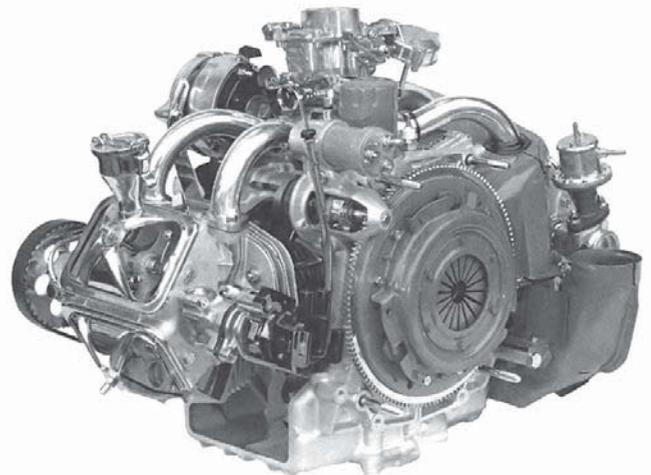
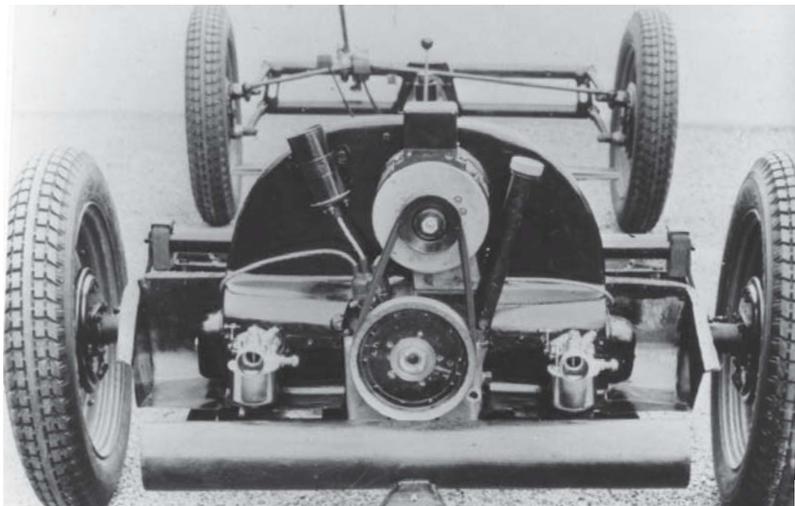
A French 'might-have-been' luxury car of advanced design was the 1950 Hotchkiss-Grégoire of which fewer than 250 were made before production ceased in 1954. The chassis and much of the running gear was composed of aluminium castings and it was powered by a 2180cc water-cooled flat-four engine driving the front wheels. Citroen intended their magnificent and revolutionary DS, introduced in 1955, to be powered by a flat-six air-cooled engine, but sadly, although prototypes were tested, it

Above left: AC Cars also got in on the act, spending money they could ill afford on developing a water-cooled flat-six engine

Above right: French twin-cylinder Mathis VL333 featured water-cooling, with individual radiators for each barrel and head

Below left: The V1 prototype that ultimately led to the VW Beetle was powered by a flat-twin air-cooled engine

Below right: A complete contrast in every respect, Citroen's flat-four water-cooled GS engine of 1971 featured overhead camshafts



had to make do with the existing in-line four-pot engine from the Traction Avant.

In Britain AC Cars spent more money than they could afford building, without success, prototype flat-four and flat-six engines designed by their Polish ex-aero engineer Zdzislaw Marczewski.

Irish-born tractor mogul Harry Ferguson devoted much effort in the late 1950s developing an advanced 4-wheel drive car that featured anti-lock brakes and a belt-driven SOHC 2.2 litre flat-four engine. He died in 1960 but his company continued development and the R5 was first shown in 1965. It was not pretty but technically way ahead of its day and went much better than it looked. Subaru launched its first 4WD boxer-engined car, the Leon, in 1971.

In the US Preston Tucker made a bid for automotive fame in 1948 with his Tucker 48 sedan – the 'car of the future'. Tucker's own engine ran into design problems so he bought-in a Franklin flat-six air-cooled engine most commonly used in helicopters and somewhat inexplicably then set about turning it into a water-cooled motor. Eventually only 51 Tuckers were built.

Towards the end of the 1950s American automobile manufacturers began to think small(er) to counter the European imports. The most radical amongst the 'compacts' was the 1960 Chevrolet Corvair, the nation's first and only air-cooled, rear-engined car. The six-cylinder, aluminium engine was secretly road-tested in converted Porsche 356s (see *Classic Porsche* #37). The first six-cylinder Porsche road car? In 1962 the 150hp Corvair Spyder turbocharged option became available.

Undoubtedly prompted by the success of the Beetle, and Porsche, there was a renaissance in the flat-four configuration.

Lancia introduced its aluminium 1500c water-cooled engine in the Flavia in 1960, variants of which would be produced until the mid 1980s. European Car of the Year in 1971 was the technically advanced Citroen GS, powered by an all-new 1015cc four-cylinder ohc air-cooled boxer engine.

Another exceptional boxer-powered car to hit the highway in 1971 was the Alfa Sud, designed by ex-Porsche engineer, Rudolf Hruska. Born in Vienna in 1915, Hruska was yet another of Porsche's Austrian engineers, joining the consultancy in 1938 where he stayed until the end of the war. Hruska then moved to Turin where, along with Carlo Abarth and von Eberhorst, he was involved with Piero Dusio's Cisitalia project, liaising with Porsche, still then based in Gmünd.

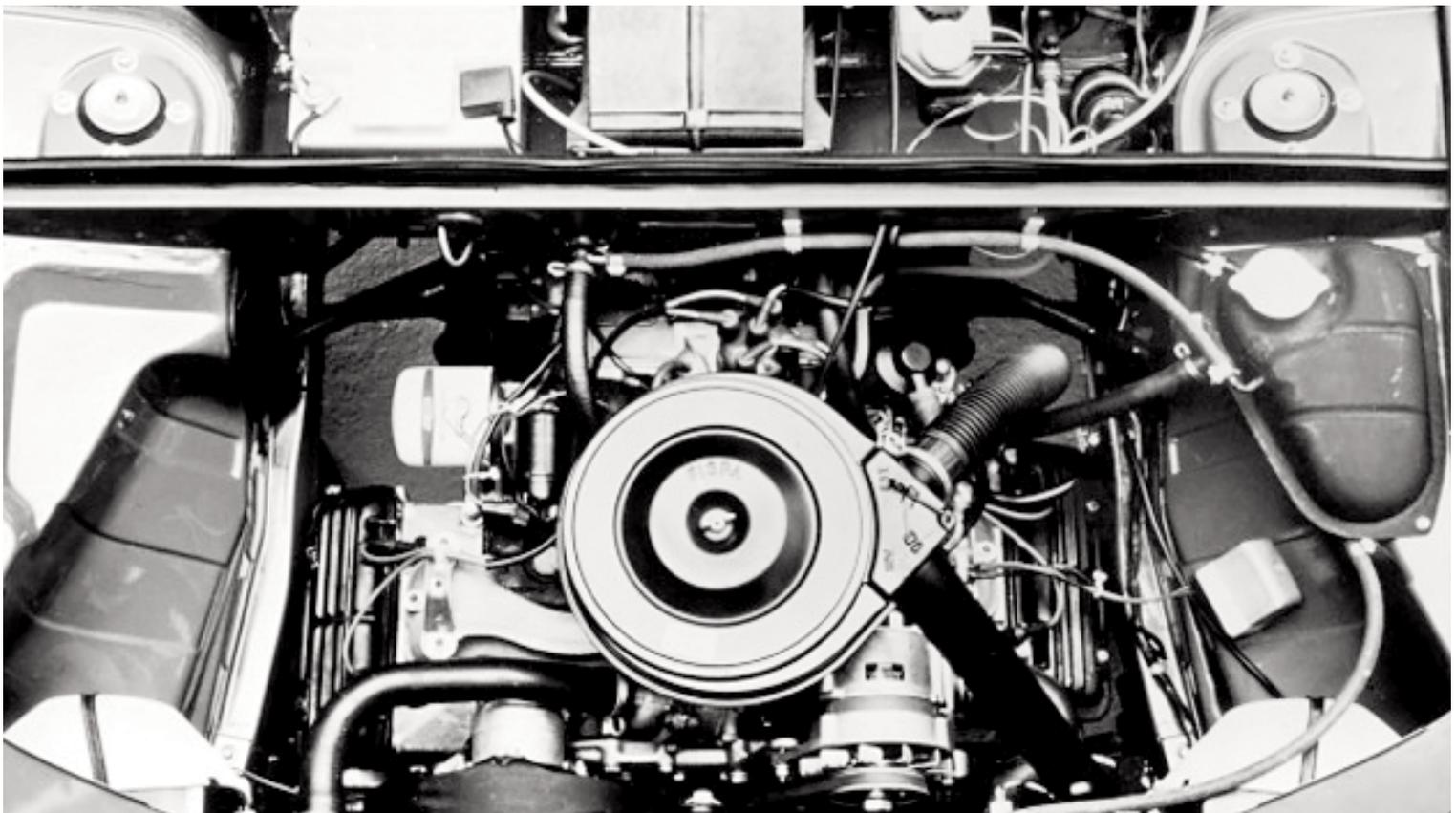
After Dusio pulled the plug on the Cisitalia effort, Hruska worked for Alfa Romeo, Simca and FIAT before, in 1967, being offered the chance to design Alfa's first fwd car. The resulting Sud featured an 1186cc OHC boxer engine (later it grew to 1490cc) that would happily spin to 7000rpm, provided revelatory handling and was one of the great cars of the 'hot hatch' era.

By the late 1960s, Porsche was a flat-six company as far as its road cars were concerned but was forced by marketing circumstances to lend its name to the VW-powered 2.0-litre 914. In 1976 Porsche introduced the 912E as an entry-level model for the American market using the same VW engine but it was short-lived and after a few months it too went out of production.

The Beetle itself refused to die, becoming a living fossil, until the final one rolled off the Mexico production line in 2003. Since then it has been left to Subaru to uphold the tradition of the four-cylinder boxer engine but in recent times Porsche returned, somewhat controversially, to the flat-four arena with the turbocharged Cayman 718. **CP**

“PORSCHE RETURNED TO THE FLAT-FOUR ARENA WITH THE 718...”

Below: One of the finest, most free-revving flat fours of modern times was the 1186cc Alfa Sud engine (it later grew in size to 1490cc). It was designed by Rudolf Hruska, an ex-Porsche engineer who had worked on the post-war Cisitalia project, among others



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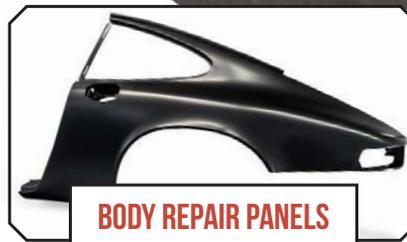
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PORSCHE PARADISE

Take it from us, the 356 Club of Southern California's annual concours and the well-established Werks Reunion are two of the best West Coast events in the classic Porsche calendar. We attended both gatherings to brighten your day with a touch of SoCal sunshine

Words & photos: Stephan Szantai (356 Club Concours) and Kristina Cilia (Porsche Werks Reunion)



Left: Nice view, eh? Participants and visitors loved the new venue adopted by the 356 Club



Far left: 356s aplenty... But other flat-four-powered rides came as well, starting with a pack of 912s

Left: Running Techno Magnesium rims, this Outlaw wears an uncommon 1959 colour, Porsche Orange



Far left: Deleted horn grilles, hood straps, GT-style bumpers and mirror: the perfect 356 outlaw outfit?

Left: The crowd enjoyed a handful of rarities, such as this pair of 1953 356 Pre-As



Above, left and right: The outlaw gang ran a variety of hopped up engines – a 2.5-litre Polo motor in the case of the Speedster

356 CLUB OF SOCAL CONCOURS

Any event promoter in his own right will concur that selecting a proper venue will make or break a car show. Stating the obvious, an aesthetically pleasing site is a must; but size matters, too. You don't want it too small, right? Then again, not too big either, as it might result in the vehicles appearing to be 'lost' on the grounds, thus ruining the meet's whole vibe.

Below: We love the look of these aluminium wheels – Rudge replicas manufactured by HRBB!

Bottom: Here is a rather unusual but good looking combo: a 356A equipped with later 356C wheels

Below right: 'NO COPY' says the licence plate of this '58 Speedster, in the hands of the same owner since 1978

By most accounts, the 356 Club of Southern California had found the perfect compromise for their annual Concours, thanks to a large expanse of grass – a section of a park in the city of Dana Point. It welcomed a few hundred vintage Porsches, driven by a bunch of enthusiastic owners who could enjoy the view of the Pacific Ocean, too.

But following the 2016 show (the 30th), club members got word they could not use the venue anymore, hence they went on a hunt for an alternative. It turned out to be another nice park in Huntington Beach, with hills and winding roads, as described in *Classic Porsche* No.48.

Guess what? The same gloomy scenario took place after that event! So, for 2018, the 356 Club settled on what

appears to be the ideal site, the Bella Collina Towne and Golf Club in San Clemente. The coastal community, the Southernmost city in Orange County, sits at equal distance from Los Angeles and San Diego, about 60 miles each way. Well-known by the surfing community for its waves, another claim to fame for the city is one of its former residents, Richard Nixon, who purchased an estate there in 1969 a few months before the Watergate scandal.

Publicised as 'the largest 356-only fully-judged concours in the world', the 356 Concours can be certain to attract a large pack of enthusiasts due to its reasonable participant admission price, while visitors enter the grounds at no charge. Other vintage Porsches are invited to join the festivities as well, resulting in about 400 vehicles sharing the lawn, though 356s represent the bulk of the entries.

The show competition revolves around three main classes, 'Full Concours', 'Street Concours' and 'Wash & Shine', depending on how much partakers want their cars to be scrutinised by the panel of judges. We should comment on the top job performed by the 356 Club, which neatly organised the field based on models and production years –





Clockwise from top left: You've got to love the simplicity of a 1953-54 Cabriolet, fitted with 'turbo' wheel trims; John Laur is a Porsche show regular, having purchased his '56 convertible 46 years ago; Yes, we were fooled by the patina... This is a convincing 550 Spyder replica!; The one-day meet gathered no fewer than three early 'soft window' Targas; Dave Eck's 911 sunroof coupé looks excellent with its fresh 'Rennsport' lettering; The crowd enjoyed a handful of rarities, such as this pair of 1953 356 Pre-As

it made for great photo opportunities.

As you might expect, a handful of 'oldies' made the trek to San Clemente, in the shape of several Pre-As and even a rare '55 Continental, a 356 version specific to the US market. Herb Wysard also drove his most impressive 1952 Glöckler-Porsche Special, which is featured in this issue. It was great to catch up with a few other friends, too, including Pascal Gai and his '58 Speedster, seen on the cover of *Classic Porsche* #5 in 2011. The tub has changed a bit since, adopting hubcaps, side mouldings and more – we love it.

Visitors additionally enjoyed a fantastic squadron of 356 outlaws, personalised in a variety of ways, starting with

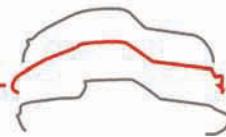
sometime exotic powerplants. Among them: several 2.5- and 2.6-litre four-cylinder Polo motors based on 911 engines, beautiful pieces of engineering. Speaking of outlaws, the area designated to 911s and 912s gathered a number of them, with Kurt Zimmerman's mighty 300bhp 912/6 coming to mind – see *Classic Porsche* #16.

It appears that the 356 Club has finally found a worthy successor to the Dana Point park, with another verdant yet different venue in San Clemente. Keep in mind that the show takes place in the summer, so it could make for a nice vacation destination in 2019. Just saying... Check out 356club.org for further information about next year's affair! **CP**

Below left: Our friend Pascal Gai has recently changed the look of his '58 Speedster, a lovely car

Below right: Humberto Baca owns a fleet of air-cooled cars, including this Rudge wheel-equipped '59 'A'





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Above: A Carrera tribute vehicle, Alan Surgi's grey 1957 356A Coupé sits on the fairway at Corral de Tierra among other notable outlaws

2018 WERKS REUNION

Performance met art as Porsche celebrated its 70th Anniversary along the fairways at the beautiful Corral de Tierra Country Club, in the company of numerous Porsche outlaws, the featured genre at this year's Werks Reunion. The fifth annual west coast gathering, hosted by the Porsche Club of America and presented by title sponsor Michelin, is a free spectator event that welcomes all automotive enthusiasts – notably Porsche owners.

A cool overcast morning gave way to midday sunshine as attendees perused the concours field, while those

participating in the judged show polished and prepped their cars. This year the spotlight was on Porsche outlaws, a

tradition that began at Valley Custom Shop in Southern California by Neil Emory over 60 years ago. The business came full circle when grandson Rod Emory, of Emory Motorsports, continued popularising and creating bespoke outlaw Porsches.

Rod is most recently known for his restoration of Porsche #46, a 1951 356 SL that won first in its class at Le Mans that same year (featured in *Classic Porsche* #40). For the outlaw display this year Rod brought a few of his truly exceptional Porsche 356s: a black 1959 356 Coupé, a 356 Cabriolet pulling a trailer with two bicycles.

“COOL OVERCAST MORNING GAVE WAY TO MIDDAY SUNSHINE...”

Speedster and his silver 'Emory Special', a 1964 356 Cabriolet pulling a trailer with two bicycles.

Below left: Rod Emory enthusiastically talks about the build of his 356 'Emory Special' Speedster and the road trips he has taken with his family

Below right: This 1954 Mistral-bodied Porsche, one of only two known to exist, was raced throughout the Kansas City region in the late 1950s through to the early 1960s



Right (clockwise from top left): 1958 356A 1600 Super Speedster on display in the Werks Reunion drivers' corral; Spectators ogle the Le Mans winning Porsche #46, a 1951 356 SL restored by Rod Emory and featured in Classic Porsche #40; West Coast Customs' all steel black 1965 356 convertible built on a 2008 Cayman chassis. It has a 2.7-litre flat-six with automatic transmission. The chassis was shortened 9ins and the body widened 9ins; Owners Bob & Kathy Murray created their outlaw by adding Speedster seats, an electric sunroof, disc brakes all round, and a 2400cc motor to their dark green 1956 356; Rod Emory's blue 356 Speedster outlaw with its Weber-fed 911-based four-cylinder motor



Below (clockwise from upper left): The licence plate says it all; Owned by Troy and Tracy Muller, this Mexico Blue 1974 IROC RSR tribute car pays homage to the late racing driver George Follmer; An early 356 arrives at the Corral de Tierra to be judged at the Porsche Werks Reunion; A Bahama Orange 1967 911 ST-inspired outlaw flanks a Glacier Blue 1973 911T with a modified 3.0-litre engine





Other outlaws included a widened Speedster on a 987 (Boxster) chassis built by West Coast Customs, a highly modified Glacier Blue 1960 356B with custom metalwork and an 1883cc engine with a full flow oil filter, Weber 44s, custom interior, driving lights and third brake light, and a 1956 dark green 356 with an electric sunroof and a 2400cc fuel-injected engine with a crank-fired ignition set-up.

Throughout the day, visitors swarmed round the Porsches in the concours as well as those in the Corral, rounded up lunch from a variety of gourmet food trucks, and listened to various presenters on the award stage, including Porsche Cars North America's (PCNA) President and CEO Klaus Zellmer, outlaw customiser Rod

Emory, racer Hurley Haywood, and Mike Brewer from TV's *Wheeler Dealers*.

Another eye-catching stage was Michelin's display called 'Performance Meets Art', which featured a modern collection of Porsches that were all Paint to Sample (PTS), most of which were owned by Porsche enthusiast and collector, Lisa Taylor.

Awards were presented late afternoon to the enthusiastic owners as they drove past centre stage, all of which was being streamed live via the Porsche Club of America Facebook page for the world to see.

Porsche Werks Reunion 2018 was a delight for the eyes and an inspiration to the soul. To be able to view the cars and meet their owners is an experience that shouldn't be missed. Hopefully

we'll see you there next year – cheers! **CP**

Above left: A Porsche owner's hospitality at its finest!

Above right: RS-inspired hot-rod 911 heads colourful line-up of Porsches old and young

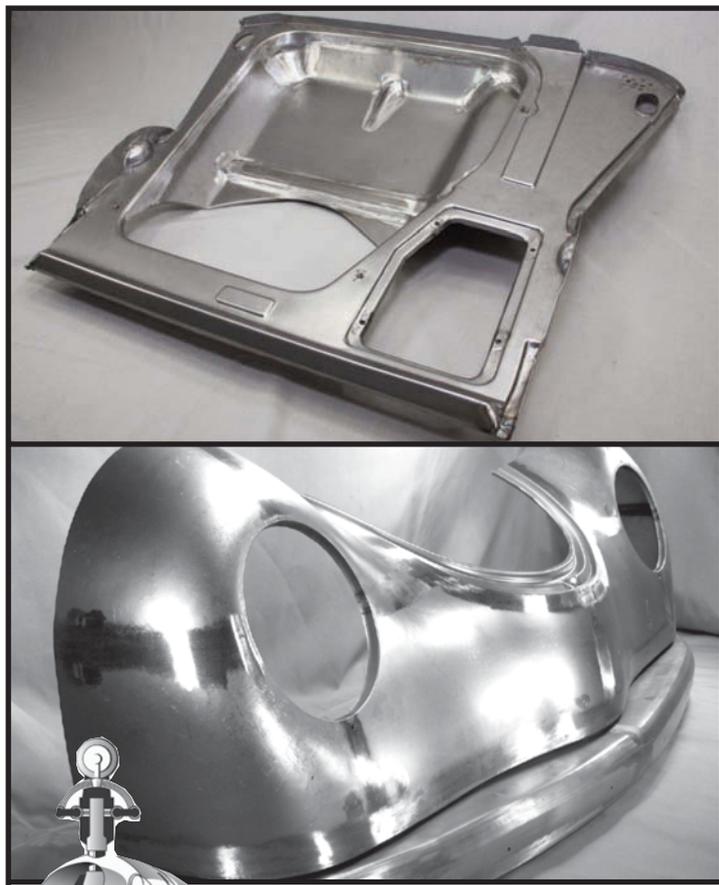
Below left: A wide variety of Porsche 356s parked in the drivers' Corral

Below: Manny Alban, PCA Past President, interviews Rod Emory of Emory Motorsports

Bottom: A 1959 Convertible D sits ahead of a red 1957 356A Carrera 1500 GS

“PORSCHE WERKS REUNION WAS A DELIGHT FOR THE EYES...”





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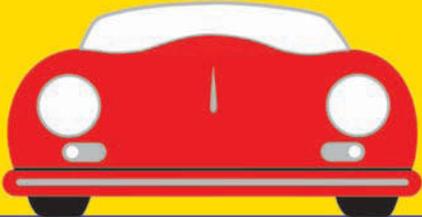
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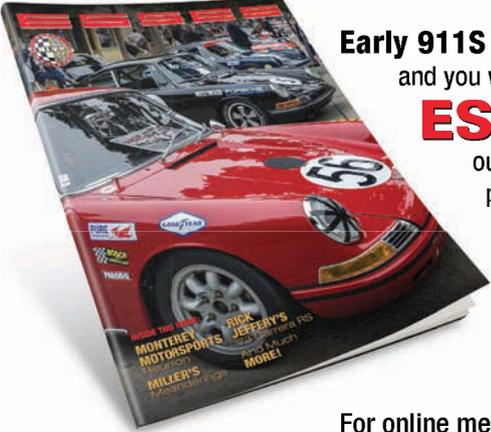
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Words & photos: Kieron Fennelly

PORSCHE CLASSIC LIFE

One of the best known names in the UK's Porsche industry, Dick Lovett's Swindon-based Porsche Centre has recently opened a dedicated Porsche Classic operation at the historic Bicester Heritage site



Visitors to this summer's Luftgekühlt show will no doubt have noticed that a Porsche Classic outlet appeared to have established itself in the former RAF site's fire station. This is an initiative by Porsche Centre Swindon and might seem a surprising move on the part of a Porsche Centre – after all, isn't their *raison d'être* new cars?

Anyone who knows Porsche Centre Swindon, though, is probably aware that long before Zuffenhausen started promoting Porsche Classic, the West Country dealership – its sites extend to Cardiff, Gloucester and Bristol – has always opened its arms to the air-cooled cars. Indeed there are very few Porsches Centres which can trace their links back to pre-impact bumper days. One that can is Porsche Centre Swindon, still known unofficially by its old name of Dick Lovett, which also has the distinction of remaining one of the rare family-owned PCs.

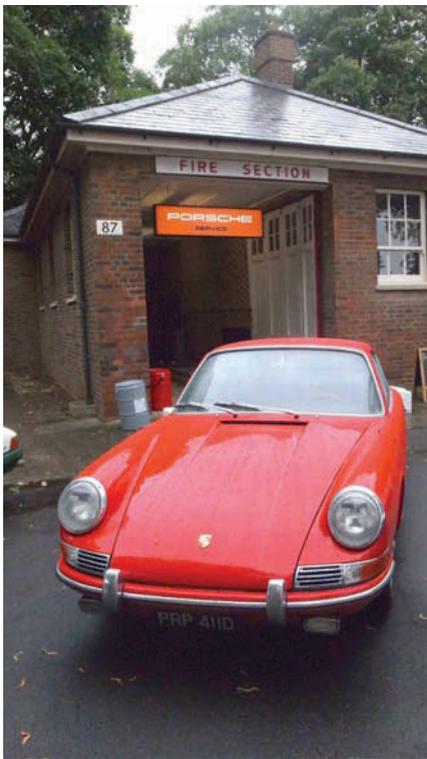
Founder Dick Lovett branched into specialist cars in 1966,

eventually acquiring franchises for Ferrari, Lamborghini, Maserati and Porsche, all exotic and rare makes at the time. Today its two major concessions are Porsche and BMW, though it still retails Ferraris and Maseratis.

The company's history with Porsche goes back to 1970 when it took on Ferrari: Porsche importer AFN realised it was missing a trick here and approached the Swindon dealer, and the upshot is that in 2021 Lovetts will celebrate 50 years as Porsche distributor. Dick's son Peter, managing director today, was quick to press the 3.0 RS into service on the track and recalls how he took the brand new Turbo 930 from the showroom to race it without his father's permission!

He would go on to race 911s successfully right through the air-cooled car's competition heyday, so it is hardly surprising that Porsche Centre Swindon has always remained attached to the earlier Porsches, its enthusiasm long predating the rise of the Zuffenhausen-inspired classic movement. Such enthusiasm manifested itself not just in

Above: A former airfield fire station may seem like an unlikely venue for a new Porsche Classic business, but it's slap bang in the centre of the amazing Bicester Heritage facility



Above right: Stephen Brown joined the Lovett team early in 2018 with the task of developing the Porsche Classic Life branch of the business. He's a Porsche man, with his own 911SC

continuing to sell the air-cooled cars, but in offering to service them as well, a facility unusual among Porsche Centres.

Of course, with entry-level SCs and 3.2s now selling at £40,000, the classic side has become a serious business in itself and the development of RAF Bicester as a motoring heritage centre was too good an opportunity to miss to give it a specific focal point. In late 2017 Lovett's arranged to lease a building which had become free just as another manufacturer, by coincidence, also from Stuttgart, was moving its collection of F1 cars to Bicester, joining the several motorsport heritage operations which are already established there.

'Bicester is unique in the market and something the group is very proud of,' says Stephen Brown, who joined the company at the beginning of 2018 to develop its reach within the classic Porsche community. A fully paid-up petrolhead who runs a 911SC and races a Caterham, Stephen Brown did a BA in journalism and advanced his knowledge about cars by working in a motorsport bodyshop, following a long stint in financial recruitment.

In what he describes as a niche job, he finds himself shuttling between Swindon and Bicester: 'The space here is limited but we see the site as an appointment centre at which we can perform vehicle inspections for customers as a starting point for them in terms of future works, with appointments available at the customer's convenience.'

'Bicester Heritage is very accessible from all directions and it's a wonderful backdrop for talking classic Porsches with

potential customers. In the long run, we may even look into leasing a second building here to make a workshop for classic Porsches, which will take some of the pressure off Swindon and get classic owners into the habit of coming in here.'

Though it has the blessing of Porsche Classic in Zuffenhausen, the Bicester 'Classic Life' operation is entirely a Porsche Centre Swindon initiative, run in collaboration with Porsche Cars GB: if plans to have regular weekday opening and the online parts configurator have to await 2019, Porsche's 'Fire Station' has already seen plenty of weekend action: 'We invite people down here from the Porsche Cup meetings at Silverstone, and through the year we have seven major events ranging from the Luftgekühlt show to Bicester Heritage's Wings and Wheels gatherings. Other events include the Scrambles, Flywheel days and privately-arranged drive-outs.'

'The airfield site is vast and if things continue to work out, it could have a perimeter track and a hotel within five years. The whole Heritage concept is brilliant: it's attracting first division tenants and the key will be to continue to keep development tightly controlled. Everything so far reinforces Lovett's decision to set up its Porsche Classic Life here.'

This is all rather good news for classic owners: although there are annual gatherings throughout the year, the prospect of a dedicated and eventually full time Porsche 'clubhouse' at southern England's outstanding new heritage centre is exciting indeed. **CP**

Contact:

www.dicklovett.co.uk

Below left and right: The former fire station may be modest in size but it's a welcoming place and is used to meet customers to carry out vehicle inspections ahead of possible restoration



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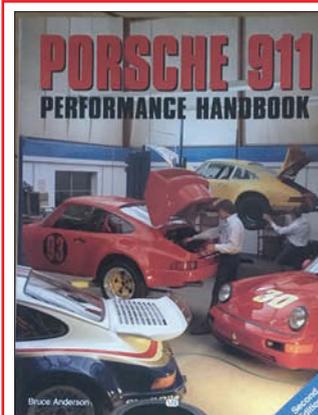
993 transmission bracket, part # 993 375 313, £30 incl post. Tel: 01423 709175. C57/017



Porsche 912 Sebring exhaust, exhaust taken from my 1968 912, surface rust but solid, no holes. One mounting bracket is broken but repairable, as shown in photo, collection from West Hallam, Derbys, or can post at cost to buyer, £120 or nearest offer. Tel: 07842 272833. Email: andrewwarley23@sky.com (Derbyshire). C57/019

Miscellaneous

Porsche - 70 years, by Randy Leffingwell, pub 2017, 250 pages, £25 incl post. Tel: 01423 709175. C57/023



Porsche 911 Performance Handbook, 2nd edition, 272 unmarked pages, great condition, only £4.50. Tel: 07399 359072. C57/004

200+ Porsche Post/Trading Post magazines, free! Space needed! Approximately 200 PCGB Porsche Post/Trading Post magazines, collection only. Tel: 07941 468437. Email: jsr917@gmail.com (Warwickshire). C57/020

911 & Porsche World mags for sale all mint, consecutive issues 62 to 131, issue 139, issue 156, issue 159, consecutive issues 162 to 165, consecutive issues 175 to 234, issue 244, issue 251. I was a subscriber for many years and the mags have been read once and then stored, I now need the space, £5 each. Tel: 07809 206694. Email: alan@brytech-eng.co.uk (Beds). C57/021

Classic Porsche mags for sale all mint, consecutive issues-8 to 30, I was a subscriber for many years and the mags have been read once and then stored, need the space so will not split, £70. Heavy, so you collect from Bedfordshire or arrange a carrier. Tel: 07809 206694. Email: alan@brytech-eng.co.uk (Beds). C57/022

Registration 'JCZ 4911' for sale, number is on retention certificate and ready for immediate transfer, £1150, price includes all transfer costs. Tel: 07889 359184. Email: eddie.fry@talk21.com. C57/024



Vintage Porsche AFN dealer sticker, concours reproduction of the AFN Porsche dealer sticker fixed on all UK sold Porsches between 1970s and 1990s, 70mm by 70mm self stick to inside of glass, £13. Tel: 07979 902363 (Bucks). C57/001

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