

The world's premier Porsche magazine

January 2018

Issue 195

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SPORT TURISMO

Panamera tourer

ONE MILLIONTH Celebratory 911



CLASSIC PORSCHES:

911 SC

Road Trip 911 SC hits Europe

911 Targa Soft window 2.0-litre

Reborn hillclimb 911



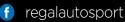
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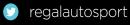
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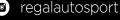








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Ignition



his issue looks back over 2017 examining what was another bumper year for new Porsches. The 911's model count alone was bolstered by a new GTS, and not one but two thoroughbred GT cars, in form of the GT3 and GT2 RS – the latter being the fastest 911 ever built. The all-singing, all-dancing performance-orientated GT2 RS was balanced-out by a paired-back 911 created in the vein of the 911 R of 2016 – the 911 Carrera T. In conjunction with the celebratory 'one millionth' 911, a special one-off car built to mark the millionth 911 ever produced, looking back it was a certainly good year for Porsche's most famous creation.

Naturally we saw plenty more from Porsche outside of 911 derivatives, the all-new Cayenne being a case in point. There were, and still are, those who believe Porsche should not be producing SUVs at all, but the success of the Cayenne has not harmed the firm's bank balance one iota. The fact that the Cayenne is a class-leading vehicle, one capable of delivering even more astonishing levels of driver satisfaction

in its latest guise, makes it a true Porsche in my book.

In the Sport Turismo, a version of the Panamera first teased to us five years ago, Porsche delivered arguably the most desirable version yet. We get our first drive of the new wagon on page 40, and it, along with all the other 'Greatest Porsches of 2017', are reviewed and rated in this issue too, starting on page 54. And, though it's a tricky game, we've also predicted what we can all expect from Porsche during 2018, p76.

With this retrospective look back over the past 12 months in mind, I started wondering what the highlight of my Porsche year had been. Without doubt it was driving the Nürburgring in a second-generation 991 Carrera (pictured), with Destination Nürburgring and Bilstein, for our July and August issues. While it is a place I'd never been too fused about visiting, driving the circuit for our pictures while it was closed to other traffic, and even parking on the Karussell for some snaps, is a memory that has stuck with me. What was your Porsche moment of 2017?



Contributors



Richard Tuthill

"" @Tuthill_Porsche

The frontman of Porsche specialist, Tuthill Porsche, Richard has been involved with building and driving Porsches of all kinds for a great many years...

This month: Richard writes from the front line of the Safari Classic Rally, where he has more tales of Porsche motorsport daring...



John Glynn

©CultofPorsche

The man behind Ferdinand Magazine and porschevaluations.com, Mr Glynn has been writing about Porsches for more than a decade...

This month: Our new columnist wonders if he should replace his ageing Cayenne with a more basic (non-Porsche) shopping car?



Philip Raby

y @RabyPorsche

Specialist Porsche dealer and consultant, Philip has been driving, and writing about Porsches for more than 20 years...

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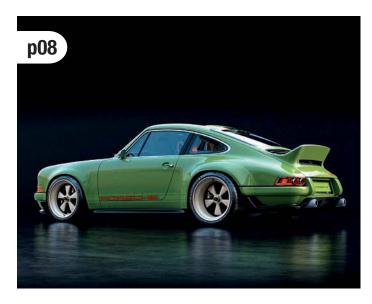
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Features

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Ross McDonald's 911 SC has been stripped and rebuilt with a purpose: to compete in sprints and hillclimbs around the UK.

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O76 Farewell 2017. Hello 2018...

Just what can we expect from Porsche during 2018? We take a look at the likely possibilities...

080 911 Targa

The first 'solt window' 911 Targas, produced between 1967 and 1973, were initially intended to satisfy new safety-conscious regulatory bodies, particularly those in America.



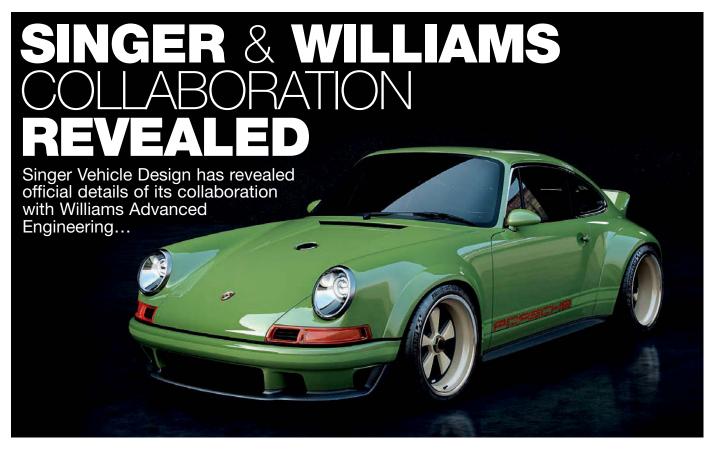












Singer Vehicle Design's latest project, built in collaboration with Williams Advanced Engineering, has broken cover. Commissioned by Porsche enthusiast, Scott Blattner, the car is based on a 1990 964 and designed to be the ultimate 911 on both road and track. The result of a two year study and development effort by Singer Vehicle Design and Williams - part of the Williams Grand Prix Engineering Group – it has been built in collaboration with the likes of Michelin, Brembo, and BBS in order to achieve the project's main goals: adding lightness and increased performance to an air-cooled 911 in ways never seen before.

Resulting from the study has come what Singer Vehicle Design is calling

DLS (Dynamics and Lightweighting Study), Porsche legends Norbert Singer and Hans Mezger were consultants on the project, imparting their experience in aerodynamics and engine development. Racing driver Marino Franchitti and former *GT Porsche* turned Top Gear host, Chris Harris, also played a part.

Presented in a new colour,
Absinthe, the car boasts a Blood
Orange leather interior, at its heart
sits a Porsche four-valve, fourcamshaft, naturally aspirated, 500hp
air-cooled flat-six engine that will rev
to 9,000rpm. The power unit was
developed by Williams Advanced
Engineering in consultation with Hans
Mezger. Norbert Singer assisted CFD
analysis in the creation of underbody

aerodynamics. What Singer Vehicle Design calls 'lightweighting, enhanced geometry and improved adjustability' has been added to improve the car's suspension setup, developed using bespoke damping by EXE-TC.

Magnesium, titanium, carbon fibre and other advanced materials have contributed to the vehicle's minimum weight of 990kg. Michelin created bespoke Pilot Sport Cup 2 tyres for the car, BBS Motorsport provided lightweight 18-inch forged magnesium monobloc centrelocking wheels. Behind them sit lightweight brake callipers with carbon composite discs from Italian firm Brembo. From Hewland comes a magnesium six-speed transmission.

Chris Harris commented: "I'm not an engineer by trade, but just look at the list of clever people around me and you'll see that's no great problem. I'm here for two reasons: to help define how the car drives, how it feels — how it will interact with each of the lucky owners. And to document the entire process from start to finish. Rob, Maz and the team are visionaries in this space, and this is a once-in-a-lifetime project. Just thinking about the finished machine makes me grin."

Just 75 cars are to be created as part of the project, all of which are set to be built at a Williams facility in Oxfordshire called 'Singer at Grove', the cost of such a conversion largely remains a mystery.











PORSCHE MOURNS PETER SCHUTZ



Porsche has released an official statement on the passing of its former President and CEO, Peter Schutz...



Porsche has released an official statement on the passing of its former President and CEO, Peter Schutz, who passed away recently aged 87. Schutz is the man held responsible for saving the 911, and introducing the 911 Cabriolet to the US market.

Schutz took over as President and CEO of Porsche in January 1981, when the company was in trouble, having recorded its first ever losses the year before. Just three weeks into the job, Schutz reversed the company's decision to axe production of the 911, much to the delight of enthusiasts around the world. Schutz's tenure is also remembered for bolstering

Porsche's range of models outside of the 911 coupé, successfully introducing the 911 Cabriolet to the US and expanding the transaxle range with the introduction of the 944 Turbo, 944 S and S2.

Schutz trebled Porsche's sales and aided it in setting financial records for five years in a row. The economic crisis at the end of the 1980s brought Schutz's tenure as President and CEO of Porsche to a close. He left the company in 1987, retiring to Florida in 1988 where he became a renowned motivational speaker who also remained popular in Porsche circles. Schultz is survived by his wife, daughter and two sons.







ULTIMATE DRIVES

ROAD APP

Driving events company, Ultimate Drives, has launched an interactive road trip app documenting Europe's greatest driving routes.

After years of organising driving tours across Europe for hundreds of individuals and organisations, Ultimate Drives is now sharing its expertise via an intriguing new interactive app for iOS and Android. For the first time driving enthusiasts will be able to access, via their smartphone, a database of Europe's greatest driving roads. Allowing users to build a personal profile and share experiences with other enthusiasts, the app aims to build an exciting community of like-minded people.

Through 'Browse' and 'Map' functions, the app enables users to locate iconic mountain passes, scenic wine routes, coastal cruises and picturesque national parks. Cleverly, the 'Discover' feature also makes road recommendations based on individual preferences and driving style. Review the details of carefully curated routes with rankings and points of interest, add roads to your 'Favourites' and organise them into a 'Trip'. Navigate to the start then use 'Drive Mode' to track personal stats, users can even upload and share

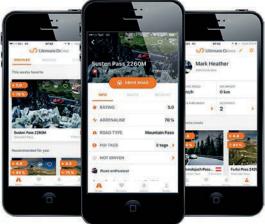
experiences through social media.

Available to download now, users will have access to the 'Top 20' roads for free, a premium subscription (£7.49 per annum) adds the benefit of a real time stream of new roads as they're added. To find out more visit the dedicated website at: app. ultimatedrives.net

Mark Heather, company Director and Founder of Ultimate Drives, commented: "For me, driving a car should be more than just getting from A to B, it should be about the journey, and the greater the road, the more enjoyable the journey. Our team

has driven hundreds of roads across Europe, identifying the most rewarding drives combined with the best sights and stops along the way. The Ultimate Drives app is the latest extension to this passion, and will bring this knowledge to an even wider audience."

For more on Ultimate Drives activities, visit the website at: www.ultimatedrives.net





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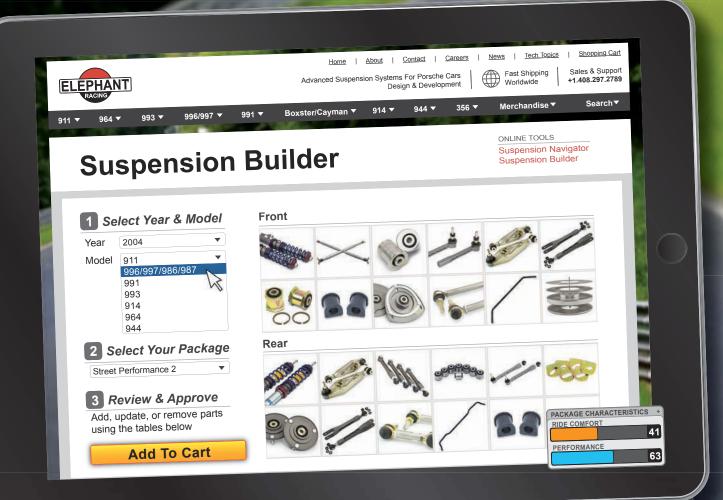


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RPM TECHNIK REVEALS CAYMAN

CSR

Independent Porsche specialist, RPM Technik, has revealed an exciting addition to its CSR range – the 981 Cayman CSR...





Based on a Cayman S, the 981 CSR is the latest addition to RPM Technik's range of enhanced CSR cars, which already include the 986 Boxster, 996 and 997. CSR models are track-focused vehicles designed to be used daily, on both road and track without compromise. This new model has been developed from data gathered via testing at Spa Francorchamps and Millbrook Proving Grounds, and in consultation with former Carrera Cup and BTCC Champion, Tim Harvey. Like its forebears, the 981 CSR features a series of technical improvements. with upgrades to suspension, transmission, running gear, brakes, and exhaust system, alongside styling modifications. All are designed to take the 981 Cayman S to a new level.

Engine responsiveness and power delivery have been improved via the fitment of a CSR lightweight clutch and flywheel assembly, and a sports exhaust system, maximum traction

and handling is afforded through the fitment of a CSR Limited Slip Differential (LSD) upgrade. Addressing the issue of the 981 Cayman's tall gear ratios is a custom design of CSR low-ratio crown wheel and pinion, altering acceleration and perceived horsepower.

Braking is improved through the fitment of custom CSR brakes, the fronts redesigned to incorporate large six-pot callipers with floating discs. Taking care of the new vehicle's handling comes modified Ohlins coilover suspension coupled with stiffer ARBs, 19-inch HRE alloy wheels wrapped in Michelin Cup tyres sit on each corner. Finally a full geometry setup, including ride height and corner weighting on the very latest Biessbarth geometry equipment, has been performed by RPM Technik's in-house Motorsport Department.

Aesthetically speaking the addition of a CSR Aero Spoiler, rear diffuser and an uprated front









RPM Technik's Commercial Director. Darren Anderson, commented: "For some time now we have been asked when we would produce a 981 CSR. As with all models, we spend a considerable amount of time evaluating the project to see what would work best on each model without adversely impacting what is already a great car. Under our design and engineering protocols upgraded components are tested and appraised, often several times over. We think the 981 serves as a perfect platform for a CSR, it has great balance and has already proved to be a very dynamic track vehicle, as a result it presents a great platform to build from. I'm confident that we have again produced a winning driver's car which will be rewarding for use not only on track, but for everyday too."

The Cayman 981 CSR by RPM Technik is available to order now as a full conversion for £34,995. However as with all CSR models the conversion can be undertaken on a modular basis, or it can be built to a customer's own specification. If interested parties do not already own a 981 Cayman S, the team at RPM Technik can help source the perfect car for the conversion. We look forward to testing the 981 Cayman CSR in a forthcoming issue. Visit www.rpmtechnik.co.uk for more information in the meantime.



POLLICH REPLACES CRAFT AT PORSCHE GB

Porsche Cars GB will welcome its new Managing Director this January...

Former President and Chief Executive Officer of Porsche Cars Canada, Alexander Pollich, has been named as successor to Chris Craft as Managing Director of Porsche Cars Great Britain and Porsche Retail Group. Craft will join the board of Bentley with responsibility for its Sales and Marketing plans.

Alexander Pollich's career started with Mercedes-Benz in Stuttgart, he later joined Porsche AG in 2001 to manage the firm's portfolio of strategic projects. Thereafter, he oversaw the brand's worldwide dealer network before moving to Canada, where he has held the position of President and Chief Executive Officer since September 2013. Porsche Cars Canada thrived under him, setting sales records.

"While I personally and professionally enjoyed the past almost four and a half years in Canada, I'm looking forward to applying what I have learnt there and in the 12 years before at Porsche AG," he commented.

On that same date Chris Craft will join Bentley. Since joining

Porsche from Volkswagen UK in April 2012, Craft led the company through a period of change and sustained growth. Sales of Porsche cars in Britain have doubled since 2011, with further growth expected in 2017.

Craft commented: "It's been a privilege to lead the Porsche brand in the UK over the past five years, working closely with such a passionate team and a Centre network that demonstrates the highest levels of brand alignment and advocacy. I'm delighted that Alex is to succeed me, his breadth of experience and skills will be invaluable as Porsche prepares for the launch of its first all-electric car and adapts in order to ensure continued success in the rapidly changing automotive landscape."





PORSCHE CLINCHES TITLES IN CHINA

WORLD ENDURANCE CHAMPIONSHIP

ROUND 8: CHINA

Porsche claimed two world championship titles in Shanghai after finishing second and third...



The penultimate round of the FIA World Endurance Championship took place in China, where Porsche clinched the drivers' world championship title as well as the one for manufacturers. The sixhour race of Shanghai saw the No 1 919 Hybrid start in second, and the sister car, No2, start fourth. On his 33rd birthday, Nick Tandy started the No1 entry, quickly becoming involved in a battle with both Toyotas. Tandy successfully defended second position until a sensor issue dropped him back on lap 19. Earl Bamber managed to improve to third position at the start of the race, but the No8 Toyota got ahead before he regained the spot when the other Porsche suffered its technical issue.

Though Tandy received

instructions via radio on how to activate the backup solution to his car's running issue, it dropped him to fourth position due to the time lost, running one minute and 15 seconds behind the third placed sister Porsche. Tandy stopped to refuel after 31 laps, one lap after the sister car, and the two mirrored each other's strategies again stopping for fuel on lap 60 and 61. By the time Neel Jani got behind the wheel of the No1 car, it was now one lap down from the leading Toyota. With 75 laps completed, Jani used a full course yellow to fill-up again, on lap 91 he was lapped by the No7 Toyota. The No2 car also refuelled at the same intervals, but just three laps after the full course yellow period Brendon Hartley was forced off the track by a LMP2 car.

There was contact but no major damage incurred.

For Porsche the race stayed largely static from there, in fact it took an unscheduled pit stop for the No7 Toyota (which required repairs after a collision with the No91 911 RSR), to change the running order. Timo Bernhard was promoted to P2 in the No1 Porsche, Lotterer moved up to third in the No2 919. Thanks to the Toyota's misfortune, the points earned by Porsche were enough for it to wrapup the manufacturers' trophy for the third consecutive time, and for the Porsche trio of Bamber, Bernhard and Hartley to be crowned as WEC's new LMP world champions.

Andreas Seidl, Team Principal, said: "Congratulations also to Earl Bamber, Timo Bernhard and Brendon Hartley for the drivers' championship. For sure it's a sensational story to win all these titles and races three years in a row. At the same time, it was a big relief today not just for me but for the entire team that we could seal the two championships with one race remaining. It was not an easy situation in recent months, especially after the announcement was made to stop after this season."

Earl Bamber, said: "World Champion! It just sounds amazing. The team was fighting hard for it all year and now we grab the manufacturers and drivers world championship... This weekend is super special. I can hardly believe that I won my first championship with Porsche back in 2013, only four years ago."

EIGHTH PODIUM FOR RSR

Richard Lietz and Frédéric Makowiecki were very close to clinching their first GTE-Pro class world championship victory in China. Driving the No91 911 RSR, the pair endured a difficult qualifying which saw them start from the seventh spot on the grid. However, putting in a string of quick lap times the team fought its way to the front, after about an hour the car was running in third place. Up to that point teammates Michael Christensen and Kévin Estre were leading the race, but that was soon set to change when an engine issue ended their race, forcing the car to pull over at the end of the start / finish.

Makowiecki and Lietz soon took over the lead where their car stayed for almost an hour before making a pit stop. With approximately 90 minutes to go, the No91 RSR moved into third place then, in a spectacular overtaking manoeuvre, snatched second place. A battle ensued between the Porsche and the best placed Ford, with 35 minutes to go a collision with a Toyota prototype resulted in the Porsche loosing 15 seconds to the leader. The damaged 911 managed to salvage second place.















Race result		
LMP1		
1. Nakajima / Buemi / Davidson	Toyota TS050	195 laps
2. Bernhard / Bamber / Hartley	919 Hybrid	194 laps
3. Jani / Lotterer / Tandy	919 Hybrid	194 laps
GTE-Pro		
1. Priaulx / Tincknell	Ford GT	170 laps
2. Lietz / Makowiecki	911 RSR	170 laps
3. Calado / Pier Guidi	Ferrari 488 GTE	170 laps
8. Christensen / Estre	911 RSR	65 laps



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DMS 1M (EVO MARCH 12) "THERE'S A REAL RIP TO THE WAY THE REVS PILE ON ABOVE 4000RPM"

DMS \$L65 BLACK SERIES (EVO OCTOBER '10) "IT FEELS LIKE THE LOVE CHILD OF AN \$L65 AND A PORSCHE GT2"

DMS 135I (BMW CAR MAY '09) "THE STANDARD CAR IS GREAT BUT DMS HAVE SOMEHOW MANAGED TO TAKE IT TO THE NEXT LEVEL"

DMS 997 TURBO 3.6 (EVO SEPTEMBER '08) "IT'S EPIC, HILARIOUS AND ADDICTIVE IN EVERY GEAR, YET DOCILE WHEN CRUISING"

DMS 997 TURBO 3.8 PDK (EVO JUNE '11) "DELIVERY IS ALMOST UNCOMFORTABLY FORCEFUL"



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BMW

M5 V10 » 548+ BHP (205 MPH) X5M / X6M » 618+ BHP 1M » 411+ BHP M3 E90/92 » 445 BHP (+DE-LIMIT) M135i/ M235i » 402 BHP M4/M3 3.0T » 520+ BHP M5 F10/M6 (STAGE 1) » 680 BHP M5 F10/M6 (STAGE 2) » 730 BHP F10 520D » 240 BHP F10 530D » 305 BHP F10 530D » 305 BHP F10 530D » 252 BHP 316D/216D/116D » 160 BHP 318D/218D/118D » 225 BHP 330D E90 » 296+ BHP 320D E90 » 215 BHP 420i/320i/220i/120i » 275+ BHP 435i/ F30 335i » 390 BHP 428i/328i » 295 BHP 535D / 335D / X5 SD » 355+ BHP 640D/335D/535D/435D » 390 BHP 730D » 305+ BHP X5 4.0D / 740D » 370 BHP X5 4.0D / 740D » 370 BHP X6 X5.0I 4.4 » 500+BHP X6 M50D/X5M50D/550D » 450 BHP

MERCEDES-BENZ
A200CDi/C200CDi/E200CDi » 175 BHP
A250/C250 » 260 BHP
A45/CLA45 » 420 BHP
C300 HYBRID » 285 BHP
A220CDi/C220CDi/E220CDi » 215 BHP
C350/CLS350/E350/S350 » 315 BHP
E400 / C450 » 420+ BHP
C400 » 400 BHP
'63' 5.5 Bi-TURBO ALL MODELS » 690+BHP
'500' 4.7 Bi-TURBO ALL MODELS » 498+BHP
S65 (W222) » 780 BHP
SL65 BLACK » 720+ BHP (+DELIMIT)
SL65 AMG » 690 BHP (+DE-LIMIT)
'55' AMG KOMPRESSOR » 580+BHP
C63 AMG 6.3 » 530+BHP (+DE-LIMIT)

C63 AMG 4.0T » CALL FOR DETAILS SL63 AMG 6.3 » 560+BHP (+DE-LIMIT, RE-MAP & LOWER ABC SUSPENSION) CL600 Bi-TURBO » 580+ BHP SLK55 AMG » 420+ BHP (+DELIMIT) 320 CDi V6 » 274 BHP 420 /450 CDi V8 » 358 BHP

ALL 2015 RANGE ROVERS AVAILABLE R ROVER SC 5.0 » 580+ BHP R ROVER 4.4 SDV8 » 395+ BHP R ROVER 3.0 TDV6 » 315+ BHP R ROVER 3.0 SDV6 » 345+ BHP EVOQUE/DISCO SPORT 2.2 DIESEL » 240+ BHP

PORSCHE
997 TURBO/S 3.8 INC PDK » 611 BHP
997 TURBO/S 3.8 INC PDK » 611 BHP
997 TURBO/S 3.6 » 625+ BHP
997 GT2 RS » 670+ BHP
996 TURBO/GT2 » 600+ BHP
997 CARRERA S PDK » 400+ BHP
997 CARRERA S » 376+ BHP
997 CARRERA PDK » 368 BHP
997 CARRERA GTS » 435 BHP
997 GT3 UP » 436 BHP
BOXSTER 3.4S » 336+ BHP
CAYMAN S » 342 BHP
MACAN 3.0D » 315 BHP
CAYENNE GTS » 440 BHP

CAYENNE TURBO 4.8 » 578+ BHP CAYENNE TURBO S 4.8 » 600+ BHP CAYENNE 4.2 DIESEL » 450+ BHP CAYENNE DIESEL » 315+ BHP PANAMERA TURBO » 600+ BHP PANAMERA DIESEL » 315+ BHP

EXOTIC / MISC
FERRARI CALIFORNIA » 487 BHP
FERRARI 599 » 647 BHP
FERRARI 430 » 525 BHP
GALLARDO » 546 BHP
LP560 » 608+BHP
LP560 » 608+BHP
LP640 » 707 BHP
HURACAN » 640+ BHP
AVENTADOR » CALL FOR DETAILS
MCLAREN MP4-12C » 700 BHP
MCLAREN 650S » 720 BHP
MURCIELAGO LP640 » 707 BHP
MASERATI GHIBLI 3.05 PETROL » 470 BHP
BENTLEY 4.0 T V8 » 690 BHP
BENTLEY 4.0 T V8 » 690 BHP
BENTLEY GT SPEED (INC 2013) » 680+ BHP
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PODIUM FOR HYBRID'S

FINAL RACE

WORLD ENDURANCE CHAMPIONSHIP

ROUND 9: BAHRAIN

Porsche's LMP1 919 Hybrid bid farewell to the World Endurance Championship in Bahrain, the setting for the final round of the 2017 championship...





Porsche and its 919 Hybrid bid farewell to LMP1 racing in the World Endurance Championship in Bahrain, the setting for the final round of the 2017 championship. Earl Bamber, Timo Bernhard and Brendon Hartley were crowned world champions two weeks before (p14), but there was still plenty to play for as the WEC circus headed to the night race at Sakhir. The event marked the end of one of the most successful chapters of Porsche's motorsport history. Since its debut in 2014 Porsche's LMP Team clinched three consecutive Le Mans victories and three successive manufacturers' world championship titles, Porsche drivers won the drivers' world championship titles three times, accruing 17 wins, seven of them being one-two victories. Furthermore, 20 pole positions and 13 fastest race laps were achieved. Qualifying for the 919 Hybrid's

final race went well, with Neel Jani, André Lotterer and Nick Tandy starting from pole position in the No1 919 Hybrid. Jani managed to stay ahead of the Toyotas at the start and also at the restart after a safety car period at the end of lap 5. Bernhard in the sister car improved from third to second at the start, but on lap three he ran over a bollard that got stuck underneath the car. At the end of lap seven he pitted to get the bollard removed and to change the car's nose, taking on fuel as well, he lost almost one lap. By lap 19 Jani couldn't hold off the No8 Toyota anymore, on lap 20 he was also passed by its sister car the No7 Tovota.

For the No1 Porsche the race ebbed and flowed as it and the No7 Toyota traded places as they each made pit stops for fuel, tyres and driver changes. A decisive moment came on lap 130 with a collision while lapping a slower car caused a front left puncture. Tandy limped to the car back to the pits to have its front end changed, Lotterer jumped in, later serving a stopand-go penalty for Tandy's collision. For the sister car, No2, things were progressing slightly better, it improved from P4 to P3 following a collision for the No7 Toyota caused it to pit for repairs.

The No2 car refuelled for the last time after 177 laps, Bernhard, the driver who completed the initial laps with the very first test chassis of the 919 Hybrid back in 2013, drove its last racing miles, coming home in second place one lap down on the race winner. Lotterer brought the No1 car home – also one lap down to the leader – in third place for a double Porsche podium. By way of consolation for not winning the final race, Lotterer took the fastest lap.

Andreas Seidl, Team Principal,

commented: "Over the past four seasons, Toyota has been an incredible competitor, and I congratulate them on today's victory. Thanks to the whole team here and in Weissach, to our drivers and partners for four sensational years. This definitely was the last race for the 919 Hybrid. We are very proud of the success we were able to achieve with this technology-driven car. Next year we will celebrate these innovations with some very special events. But these details will be unveiled at a later date."

Echoing the thoughts of his fellow drivers, Timo Bernhard said: "It is the end of great era. I'm honoured having been part of this programme from the very beginning until the last lap. A great crew, great people and great teammates. I will miss them. This programme definitely is the highlight of my career."





motosport month



LIETZ & MAKOWIECKI SECOND IN GT-PRO CHAMPIONSHIP

The gap in the GT-Pro Drivers World Championship was just two points going into the final race in Bahrain, with Lietz and Makowiecki trailing Calado and Guidi in the Ferrari. But the title aspirations of the pair looked to be a distant dream when the lights went out in Sakhir. The two 911 RSRs struggled for pace in the opening stint of the race, which saw the pair at times running at the back of the GTE-Pro field. Porsche switched tyre strategy as a result, sending title aspirant Kévin Estre in the No91 car back out to redress the balance. He gradually worked his way back up the field, eventually snatching the lead two hours into the night race.

Teammate, Michael Christensen followed Estre on tyre strategy, rejoining the race in third place and he subsequently moved up into second. However, at half distance an LMP1 Toyota squeezed past the 911 RSR, shunting it into retirement. With 90 minutes left to the flag, Makowiecki sat second behind the leading Ferrari. However, in the last hour of racing, he was unable to maintain the same level of performance. Despite his determined efforts to defend his position, he ultimately had to let the second Ferrari and then a Ford by him, meaning his RSR finished the race fourth in the GTE-Pro class. He didn't, however, relinquish the runner-up spot in the overall drivers' classification of the world championship.

Richard Lietz commented: "We did a lot of things right in this first season with the new 911 RSR. Ultimately, we were in a position to fight for the drivers' world championship. In today's race, we tried several courageous measures and learned a lot, albeit a little too late. Nevertheless, I take my hat off to the team for being so brave. We were beaten by a very strong opponent. For the 2018/2019 season, we now have to prepare even more intensively in order to fight for victories and the world championship title."



Race result: IPM1: 1. Nakajima / Buemi / Davidson 2. Bernhard / Bamber / Hartley Toyota TS050 199 laps 198 laps 919 Hybrid 3. Jani / Lotterer / Tandy 919 Hybrid 198 laps GTE-Pro: 1. Rigon / Bird 2. Calado / Pier Guidi 175 laps Ferrari 488 GTE 175 laps Ferrari 488 GTE 3. Priaulx / Tincknell Ford GT 174 laps 174 laps 4. Lietz / Makowiecki 911 RSR 911 RSR DNF. Christensen / Estre DNF Final Points Standings: LPM1: 1. Bernhard / Hartley / Bamber 919 Hybrid 208 points 2. Nakajima / Buemi Toyota TS050 183 points 3. Davidson Toyota TS050 168 points 4. Jani / Lotterer / Tandy 919 Hybrid 129 points Manufacturers: 1. Porsche 337 points 2. Toyota 287 points GTE-Pro: 1. Calado / Guidi Ferrari 488 GTE 153 points 2. Lietz / Makowieck 911 RSR 145 points 3. Priaulx / Tincknell 11. Estre / Christensen 142.5 points 911 RSR 67 points Manufacturers: 1. Ferrari 305 points 238 points 2. Ford 3. Porsche 224 points





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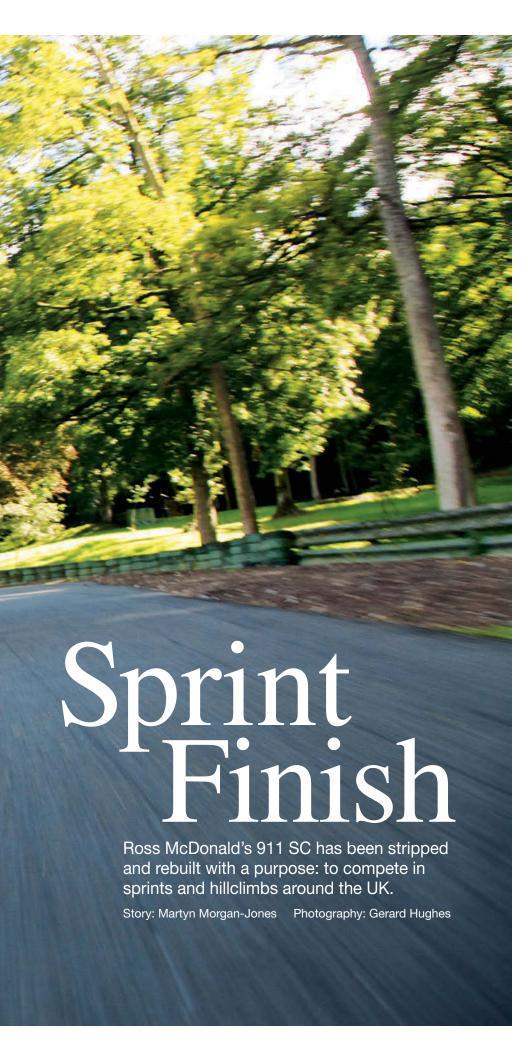
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oss McDonald is a fan of highperformance cars. And, in recent years, he's become a fan of the Porsche marque. His daily drive is a Cayenne, the third he's owned, and his wife has a Boxster, which also happens to be her third. Then there's Ross's love with the air-cooled 911.

"I'd always longed for an air-cooled 911, ever since I was given one for my birthday back in 1973... although that particular 911 was an Airfix model! But it most definitely sowed the seed," he said.

Family, and work commitments meant that seed didn't germinate until much, much later in life. In fact, it was 2013. And it happened as a direct result of Ross reading a number of magazine features.



"I'd seen a number of late '70s and early '80s (G Series) 911s in magazines such as *GT Porsche*," he explains. "But they'd been 'retro backdated' to give the appearance of an earlier, classic, high performance variants, such as the Carrera 2.7 RS. Backdating really appealed to me. And, as it happened, I had a bit of spare cash... which was burning a hole in my pocket! I started looking and spotted a nice, yellow 911 that had been converted by 911 Rennsport, but it sold very quickly."

Nevertheless, Ross's interest had been well and truly piqued. Cue visit to Rennsport.

"I was very impressed with Rennsport," enthuses Ross. "It not only restores 911s to factory-original specifications, impeccably, but also it is an expert in the field of 911 recreations, as well as building, and backdating, 911s to one's own specification. There were three suitable donor cars there at the time, two were Carreras, one was an SC. The SC really appealed. It had been stored for nine years. The body was very sound, the engine was really good and it had the lighter, 915, gearbox. Although, the gearbox had broken, hence the reason for the car being laid-up.

"The SC was within my budget, and after discussing my requirements, I commissioned Rennsport to strip, repair, rebuild, and backdate the car for me, including a change of colour to Blood Orange. What I wanted, was for it to look like a Carrera 2.7 RS. However, what I didn't want, was any of the black detailing such as on a genuine car. I didn't want to pretend it was the real thing. Under my instructions, Rennsport stripped and polished all the trim, fitted chrome light surrounds, F and R screen trim and a polished alloy engine grill. It also fitted GRP bumpers,

bonnet and boot and installed a half rollcage. The half cage was installed mainly to provide secure attachment points for the full harnesses I wanted to use.

"When I went to collect the car, I was thrilled with what Rennsport had achieved. The end result more than lived up to my expectations. The car looked incredible and was an absolute joy to drive. It was on the road from mid-2014, and I used it as often as I could. For a while, it was purely a road car. Then, my plans changed."

Motorsport has long been a great interest of Ross's. Yet, until recently, he's never competed... at least not as a driver. Then he read a feature in a magazine.

"I was reading about the Porsche Club Speed Championship," recalls Ross. "In my youth I'd done a lot of rallies as a navigator, but I never ever driven anything competitively. The Speed Championship really grabbed my interest though, so I decided to enter one of the road-going classes.

"This was in the latter part of the season, and I was immediately hooked. The following year, I entered again. However, in order to make it more competitive, I decided to get some work done to the car.

"The Speed Championship categories are based on power outputs. I compete in Class P3, which spans from 160hp up to 205hp. When we put the car on the rolling-road, my car it made 180hp, which was pretty good for a standard engine. But it was a good 25hp or so down on the quickest cars. I could have had the engine upgraded to 250hp, but this would have put me in the highly-competitive P2 class. As a novice, I felt that this wasn't a good move.

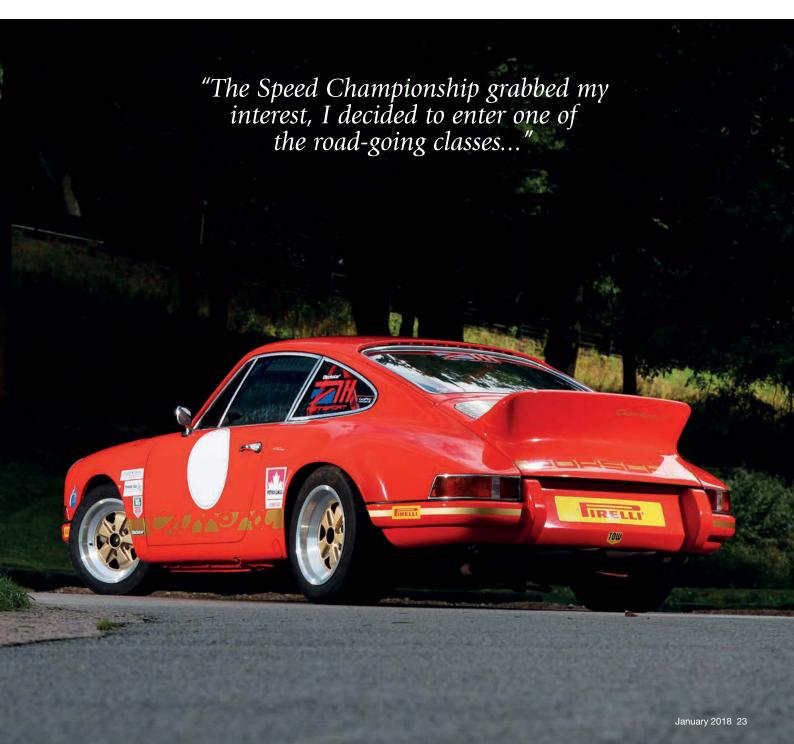
"Therefore, to raise the power to around the











class limit, Rennsport fitted high-compression pistons, new, standard, camshafts, and blueprinted the engine. It's the sweetest thing ever and pulls like a train. Power is 206hp. It's 1hp over the class limit, but you are allowed a two percent discrepancy."

Because of the engine improvements, and because Ross was getting quicker with each event, at the end of the 2015 season, he had Rennsport uprate the car's chassis.

"Rennsport fitted Bilstein Clubsport dampers all-round, and brand new SC callipers and discs at the front, with refurbished callipers at the rear. The improvements were immediately noticeable... and beneficial. Nevertheless, looking at photos of the car in action, I could see that it was still rolling a little too much, particularly in tight

corners. Even so, I really didn't want to overly stiffen the chassis. After talking to a number of competitors, the best solution was deemed to be a move to larger diameter anti-roll bars.

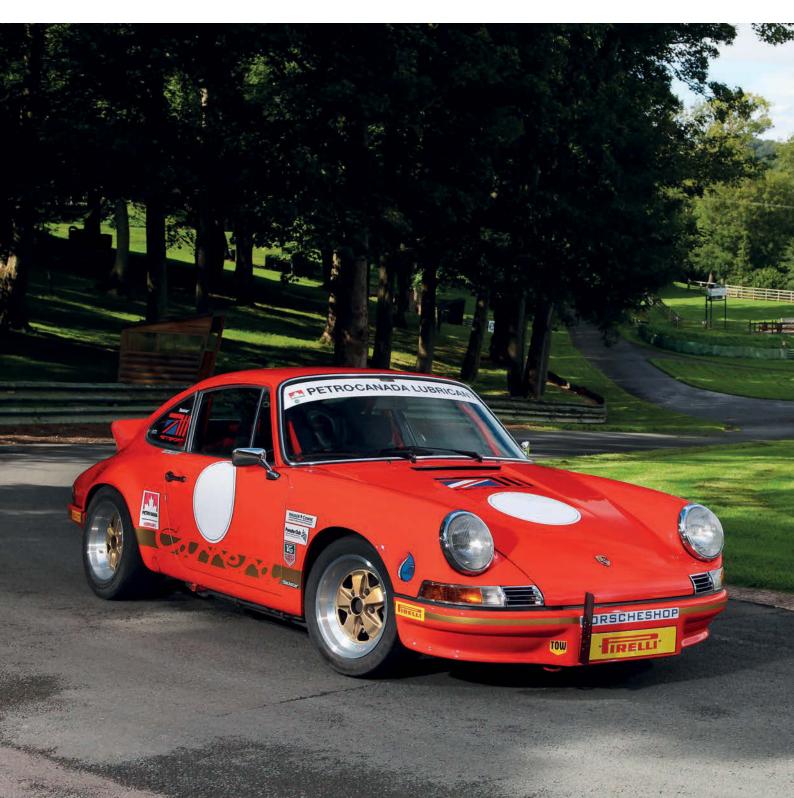
"I bought a set of 930 Turbo anti-roll bars from Porsche Swindon. Rennsport fitted these, and a full set of polybushes. Also, by this time, the car was running on Fuchs replica alloys, seven-inches at the front and eight-inches at the rear, which have improved the handling, and the aesthetics. It still rolls a touch, but much less than before, and it grips well and is really nicely balanced."

In terms of its safety equipment, until the end of the 2016 season, Ross's 911 had been equipped in line with MSA recommendations. When these recommendations were amended, so too was the 911.

"Previously, the MSA recommended the fitment of a rear cage, a HANS device, a harness, and a fire extinguisher," says Ross. "Then, over the winter of 2016/2017, the recommendations changed. A full FIA rollcage was now advised. I decided to have Rennsport fit a Safety Devices bolt-in cage. Having done so, they suggested that it really should be fitted in conjunction with an FIA race seat, complete with head protection. So one was then fitted.

"However, before the cage and seat were fitted, they rang and asked me whether I'd like the soundproofing material removed. I said no. Although primarily used for competition, it's still very much a road car, and runs in the road-going class. I wanted to keep it as such.

"Mind you, because of the soundproofing





"He thought it was spot-on, his advice was not to change a thing..."

and other items, it's quite heavy, which meant that the recently refurbished brakes were still being worked very hard. The limit for P3 is 1050kg, with the driver. My car is 1125kg... without the driver! "

Ross isn't planning to address his 911's avoirdupois, well not for the foreseeable future, but he has improved the braking system somewhat.

"The brakes worked well, but they were still approaching their limits, particularly on the twistier courses where they are used much more often, and get little chance to cool down," he elaborates. "Fortunately, I was offered a complete set of 3.2 Carrera brakes. The callipers needed refurbishing, but the discs were brand new. The pads I've opted to use, and which perform very well, are Pagid Grey RS-15. They are ceramic-based.

"The new setup was installed in time for the Goodwood sprint. Goodwood isn't particularly hard on the brakes. But, coming across the finishing line, I thought I'd give the pedal a really good push and see how the new brakes performed. Well, the car almost stood on its nose! Quite some improvement."

Collectively known as 'Speed Events', sprints and hillclimbs are intense and acutelyfocused branches of motorsport, yet they have long been bastions of sociability and general helpfulness. It's quite common to see competitors, even great rivals, not only helping each other, but often providing spare parts. Ross, like many newcomers to the sport, has been impressed... and helped.

"There's a great atmosphere, and the other competitors are really helpful," smiles Ross. "Being new to the sport, and the championship, I was concerned that my car, although performing well, could be better.

"At a recent Donnington sprint, I asked a couple of fellow competitors to do a few laps and then give me some feedback, suggesting things that could possibly be improved. Paul Howells was there. He runs a 2.8 RSR recreation in the Porsche Club Hillclimb Championship, and he was Champion in 2016. After doing a number of laps in my 911, he came back into the pits. He thought it was spot-on and so his advice was not to change a thing!"

The 911 is undoubtedly running beautifully, and Ross is completely content in Class P3... and he's getting quicker. But there is the possibility that he might, eventually, make the move to P2? Or, perhaps, he might even change discipline altogether?

"I love competing in P3, and am very happy," admits Ross. "But who knows? I might go to P2 in the foreseeable future. I'll have to switch to Perspex windows, fibreglass doors and remove a lot of the trim. Then the engine

January 2018 25







will need hotter camshafts, throttle bodies, twin-spark ignition, which would easily push power to 250hp, if not more.

"The Speed Championship is a series of one-day events. However, this year, I've also been able to do a number of the Porsche Club's Hillclimb Championship rounds. There are only two classes: Production and Modified, and events run over two days. I've really enjoyed the hillclimbs. They are very competitive, great fun, and very sociable. I'm planning to do more hillclimbs in the future. In fact, it's been so good, I might make the switch from the circuits to the hills next season. Watch this space!"

Purists might not approve of backdating, and it's certainly become a polarising subject of late, but I love the retro vibe. Admittedly, such cars are not cheap. Indeed, there are companies that will bill you a cool half million for one of its sublime creations. And, should you wish to have the real thing, and invest in an icon such as the Carrera 2.7 RS Lightweight for example, a prime example can fetch seven-figure sums. Which is why, a backdated 911 has to be regarded as costeffective -assuming you adopt a sensible approach in terms of build and detailing. If you do, the end result is a car that provides classic visuals, a more modern driving experience, is tailored to suit the owner, and is not about to drive you off a fiscal cliff. Ross's 911 is a thing of timeless beauty, and it's very capable. Long may it terrorise the tarmac O









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9t infographic



919 Hybrid Key Numbers

The 919 returned Porsche to the top class of endurance racing after a 16-year gap – 34 races later it's a case of 'mission accomplished'...

June 2013 —

Initial roll-out of the first 919 by Timo Bernhard at Weissach.



- *April 2014*

919's maiden race at the Six-Hours of Silverstone. Bernhard, Hartley and Webber finish third.



November 2014

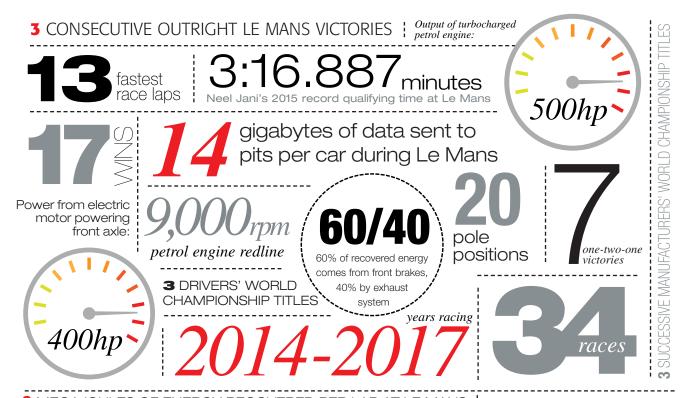
Dumas, Jani and Lieb achieve 919's maiden win in São Paulo, Brazil. It's the sixth podium finish in the car's debut season.



– June 2015

Bamber, Hülkenberg and Tandy clinch the 17th overall victory for Porsche at Le Mans. Bernhard, Hartley and Webber make it a one-two result.





8 MEGAJOULES OF ENERGY RECOVERED PER LAP AT LE MANS 260 team personnel (160 of them engineers)



Dumas, Jani and Lieb take the 18th overall Le Mans victory for Porsche after a dramatic race where the leading Toyota stops with just one lap to go.



Bamber, Bernhard and Hartley claim Porsche's 19th overall Le Mans victory. Having led the race for more than ten hours, the sister car retires.



November — June 2016 — November — June 2017 — November 2015 — 2016

Porsche secures the World Championship title in Shanghai with one race left on the calendar. Bernhard, Hartley and Webber clinch the Drivers' World Championship.



Porsche wins the World Championship title for Manufacturers for second time in a row. Dumas, Jani and Lieb become the new Drivers' World Champions.



Bamber, Bernhard and Hartley secure the Drivers' title in Shanghai. Porsche wins the Manufacturers' title for a third consecutive year. Porsche retires from LMP1.





911 Carrera RS (964)

Maritime Blue • Tri-Tone Leather Bucket Seats • Manual Gearbox • 17" Magnesium Cup Wheels • 93,753 km (58,595 miles) • 1992 (J)

£209,995



911 GT2 (996

Polar Silver • Black Leather Sport Seats Manual Gearbox • Porsche Ceramic Composite Brakes • 18" GT2 Wheels 21,725 miles • 2003 (03)

£149,995



911 Turbo (997 GEN II)

Carrara White • Black Leather Adaptive Sport Seats • PDK Gearbox • Ceramic Composite Brakes • Sport Chrono Pack Plus • 19,312 miles • 2010 (10)

£84,995



911 Turbo (997 GEN 1.5)

Basalt Black • Black Leather Adaptive Sport Seats • Touchscreen Satellite Navigation • Sport Chrono Pack Plus 36,089 miles • 2008 (58)

£67,995



911 Turbo S (996)

Seal Grey • Black Leather Seats • Manual Gearbox • Satellite Navigation • Porsche Ceramic Composite Brakes • 63,721 miles • 2004 (54)

£64,995



911 SC

Guards Red • Tan Pascha Seats Manual Gearbox • 15" Fuchs Wheels Electric Sunroof • Porsche Certificate of Authenticity • 69,879 miles • 1982 (X)

£64,995



911 Carrera S (991)

Basalt Black • Black Leather Sport Seats • PDK Gearbox • 20" Carrera S III Wheels • Sports Exhaust • 55,178 miles 2013 (13)

£62,995



Cayman S (981)

Carrara White • Black Leather Sport Seats • PDK Gearbox • 19" Cayman S Wheels • Full Leather Interior • 5,386 miles • 2015 (65)

£46,995



Cayman 2.7

Jet Black • Black Half Leather Seats with Alcantara • PDK Gearbox • 20" Turbo III Wheels • Touchscreen Satellite Navigation • 24,061 miles • 2015 (65)

£42,995



911 Carrera 4 S Targa (997)

Carrara White • Black Leather Sport Seats • Manual Gearbox • Satellite Navigation • 19" Turbo Wheels • 54,139 miles • 2007 (57)

£39,995



Boxster 2.7 (981)

Agate Grey • Agate Grey Leather Seats PDK Gearbox • 20" Sport Technology Wheels • Touchscreen Satellite Navigation • 38,612 miles • 2012 (62)

£31,995



Cayman S

Cobalt Blue • Black Leather Seats Manual Gearbox • 19" Carrera Classic Wheels • Switchable Sports Exhaust 58,725 miles • 2007 (57)

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porsche moments

by Richard Tuthill



Frontman of Tuthill Porsche, Richard has been involved with building and driving Porsches for decades...

Writing during the Safari Classic Rally means that, unsurprisingly, Richard has one thing on his mind...

egular readers will know that I have already written one column on the subject of preparing for the Safari Classic Rally, but, given that this column was due on day six of the rally and it's currently all my head is filled with, I must write a little more.

Day six is the one after a rest day for the drivers and co-drivers: their sole day off from this punishing rally schedule. While the drivers rest, the service crews have an extended service window, where they get six hours to work on the cars. Only three mechanics are permitted on a car at any one time, so it is not that easy to carry out a full strip and check programme.

After yesterday's rest, this morning we have started the second half of the rally. We've just crossed into Tanzania and we are parked next to a sisal field at 08:20, waiting for the first car to clear the first stage of the day. It's already thirty degrees Celsius here.

Our highest placed car is now the Porsche 911 of Richard Jackson and Ryan Champion, who are currently running in second position, just 99 seconds behind the leader in a rival 911. Up until to a couple of days ago, we were leading the rally with Stig Blomqvist, but all that changed in less than 24-hours and Stig is now running eighth. It was, in all honesty, a bit of a shocker.

The effect of this and yesterday's efforts by the team are the focus of this column. We are a smaller team than normal with only four cars entered, however I am still surrounded by hugely talented, hard-working people, who impress me and all around, on a daily basis. They simply refuse to give in, regardless of the outlook.

On day two, for reasons yet to be understood, Stig's engine showed signs of an issue. Given that we are allowed to change an engine as part of the rally, the team set about making a plan. Peter (who amongst other things looks after on-event finances) and I were absent from the planning phase: we had set off on a 7.5-hour non-stop drive, mostly in the dark, to collect the replacement flat-six.

In deciding what strategy to adopt when faced with potentially terminal issues, we have to consider event regulations and the implications of our actions. This normally involves taking a time penalty. We consult with all the technicians who are going to be on hand at the time, ensure that we can keep our other competitors on schedule and finally commit

wholeheartedly to what we've collectively decided.

A few phone calls during our road trip and the guys had, in our allocated service time, removed the engine and gearbox from the car and placed it back into Parc Ferme. ready for what turned out to be a career highlight the next morning. The car came out of Parc Ferme being pushed by the crew, then, once over the control we were able to tow it the two hundred metres to service. Within 12 minutes of leaving the control, a new engine and gearbox had been fitted and the car left in good shape and on its way to the first stage of the day.

Having reviewed the process (we will share the video), we think that less than ten minutes is possible, but this sort of thing doesn't happen by mistake. Each and every

team member involved from start to finish got it right. The techs had every spanner ready and any spare bolts that may have caused an issue to hand. This combined with a highly choreographed routine and an exceptional ability to work under pressure made the feat possible. It was awesome to watch.

To make this even more impressive, some of the team had already endured a 26-hour working day the day before. I'm not quite sure where we stand with the EU working time directive on this one, but it's stories like this that make the Safari Classic Rally so compelling. It's also what keeps us all coming back. If it was simple, it would be dull: if it was dull it would lose its appeal, and if it lost its appeal we wouldn't have the need to gather a remarkable bunch of people in the same country for a great event every other year.

So, long may Safari continue! Thanks to all involved from the organising team through to the drivers and the team personnel for making it what it is \bigcirc

Within 12 minutes of leaving the control, a new engine and gearbox had been fitted...



The views of the author are not necessarily shared by the magazine.









The diary of a specialist Porsche dealer and consultant – www.philipraby.co.uk

This month, Philip turns agony uncle and makes a sale out of a crisis...

like to think something good always comes from something bad. And so it was recently, when I was in the showroom on a Saturday morning, as I often am, meeting a couple of customers. They left, and I was just about to lock-up for the day, when a young family friend, who often helps out cleaning cars for us, turned up at the door in a bit of a state. I won't go into details but suffice it to say, he's 17 and was having women problems... I sent him off to get sandwiches for both of us, and we then sat in my office having a heartto-heart over lunch.

While we were eating, my phone rang and, as I was talking to someone enquiring about a car, I could hear voices in the showroom. I gestured to Casanova to go and see who was there and, once I'd finished my call, I went out to meet a father and son who were interested in a very nice 996 Carrera we had in. "We were on our way to look at a 996 Turbo at another dealer but I'd spotted this

online and thought we'd drop in to take a look," explained the father, who was actually the one looking for a Porsche

Coffees were produced and it transpired that the father had never driven any form of 996 and wasn't sure what he wanted, while the son was already a delighted Cayman owner. "Well, I've got a 996 Turbo outside which I'm using, so why don't you have a drive in both of them and see which one you prefer," I suggested.

Thankful of my young assistant, we juggled cars around to get the Carrera out and then both the

They were impressed that I had been willing to let them drive the cars...

father and the son each had a drive of that and the Turbo, with my friend accompanying one person, and me the other.

They were impressed with both cars but the father couldn't quite make a decision there and then, but he said they wouldn't now be going to the other dealer. I'm never one to put pressure on customers, so I sent them off to the local pub, which does excellent food, and suggested that he mulled it over.

The next day, I got a call from the father, saying he wished to buy the 996 Carrera, as he liked its compact size and nimbleness. I could see his thinking – as phenomenal as a Turbo is, there's something fun about the standard 996.

The following week, the gentleman came to collect his new Porsche, again accompanied by his son. They told me that they were impressed that I had been willing to let them drive the cars – "almost forced us to drive them" – as they'd found so many dealers

who refused to let them do so. One dealer said a test drive was only possible after they'd agreed on a price to buy the car, while another — and this is outrageous — said they would have to pay a non-returnable deposit before being allowed to try the car for themselves.

I've always been happy to take people out for test drives. It lets them get a feel for the car and, more often or not, leads to a sale. That said, not everyone wants to, and are happy to go ahead and buy without trying. Indeed, increasingly, cars are sold over the phone or internet without the buyer viewing the vehicle in advance.

The really nice thing about this story is that, if it hadn't been for my Saturday boy having his relationship crisis, I probably wouldn't have been in the showroom at the moment these customers arrived (we are usually open by appointment only). I therefore wouldn't have made a sale that day, and I wouldn't have made someone very happy with a new Porsche O



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FOUNDED 1919



by Dino Zamparelli



Single seater ace turned Carrera Cup GB driver, Dino is enjoying his third season racing Porsches

Having tested the second-generation 911 Cup car at Silverstone, Dino is already working towards 2018...

he 2018 racing season will be quickly upon us. It's already the end of November as I'm writing this. As I clicked onto my Spotify account to get some inspiration to write this blog, I saw some Christmas songs back into the charts already; so, Christmas will quickly come and go. And before you know it, we'll be bouncing off the limiter through the Brands Hatch pit lane for a pre-season test day.

It is for that reason, that I'm making the days count, as opposed to counting the days. I've always wondered when I'd be able to use that cheesy saying, and finally I've found the right context for it!

I trialled the new Gen 2 Carrera Cup car at Silverstone recently. This is the car that will be racing in the UK next year and that has been competing in Supercup and German Carrera Cup in 2017. My understanding is that this new Cup car has 25hp more than the old one, with the new 4.0-litre engine kicking out 485hp. The car has new front and rear spoilers for improved aerodynamics as well as some other new bits. But that's effectively it.

It looks very similar to the old car and feels very similar, driving wise. It's still incredibly well balanced, with just a touch of understeer but with some great traction. The few laps I had at Silverstone were on slick tyres but in damp conditions. I had won at Silverstone this year in similar conditions with the Gen 1 Cup car, so it was a good comparison. The only thing that I could feel a difference with was the power and torque. I found myself changing up the gears faster and getting wheel spin in second and third gears. In the old car, wheel spin in second was your lot.

That was actually pretty cool because it changed the car a bit more for us. but it's not so totally radical that it feels alien. It still feels like the Carrera Cup car, but just with more power. It's like going out with a girl for a few years, only to realise her prettier sister who was living in Germany for a while, has now moved over to the UK. It's possibly time to move on. Well with the racing scenario, there's no choice in the matter, the Gen 2 is racing next year across the world in every championship, and I'm very much putting my seal of approval on the new 911.

My main sponsor, DMS, also bought up a simulator it has. This went down really well with everyone, who set out to try and beat my time on the Silverstone National circuit. Thankfully my dignity was still intact by the end, as being the professional racing driver, there are always a few guests giving it the big chat prior to getting on it! Unfortunately, their lap times didn't quite reflect their bravado, but everyone had a great time and it was good for me to hold the event for my existing sponsors, and potential new ones.

The other project that I've been working on, is a European Driving Tour in 2018, which we're looking

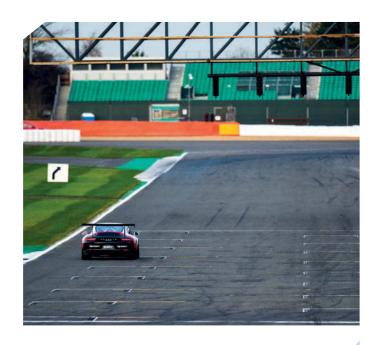
to start in Stuttgart incorporating the Porsche museum and factory. From there we'll do three to four days driving around some amazing roads with some great people and cars. We'll be advertising the tour for people to join very soon. What I like about this European driving tour, is that we're sort of theming it around Porsche. From starting it with a Porsche tour, and with me racing in Carrera Cup, it's a good tie-in. I've been on the museum and factory tour before, it's really cool to see the heritage and how the Porsche brand was created.

I believe I'll be driving over to Germany from the UK the day before in a 911. I'll just have to try and convince someone to let me upgrade to a GT3 RS! Or, I'll try and convince someone to let me make my Gen 1 Carrera Cup car road legal and drive that over there... now that really would be cool O

It's still incredibly well balanced, with just a touch of understeer but with some great traction...

I've already started to work with my sponsors and partners to put together a racing plan for 2018, so hopefully we can get ourselves sorted and share our plans soon.

I organised a 2017 Sponsors
Evening recently too. It was held
in conjunction with Porsche Centre
Bristol, and took place in its centre.
We welcomed Mike Gascoyne,
former F1 designer and engineer,
who had some truly brilliant and
inspiring stories from his time in
F1. What I enjoyed about having
Mike there, was that he didn't hold
back with his stories. This meant he
was to the point and with it, very
funny. We both sat up on stage and
entertained the 100 guests before
the networking began.



The views of the author are not necessarily shared by the magazine.









Simon has worked across several automotive publications for more than a decade

Simon looks at the 928's high-speed world record attempt on the salt flats of Bonneville in 1986...

hough a facelift for the 928 had been in the works since 1982, it was a full five years later when it was actually implemented. Amongst the changes for the S4 of 1987 was a 13 percent reduction in the car's drag coefficient, which played its part, alongside the introduction of more power and torque, in the new model's top speed being a claimed 270 km/h (168mph). This would make it the world's fastest catalystequipped production car, naturally Porsche wanted to prove it. And so it was that a mildly modified 928 was sent to the famous salt flats of Bonneville in Utah with Al Holbert lined-up to drive.

The prototype 928 sent to the salt had previously been used for wind tunnel tests, yet it differed from

the production model only slightly. A lengthened undertray section, lowered, stiffer Bilstein suspension, and alterations to the front end were the important changes. The debate over whether the car ran a unique ECU is a long one but it seems somewhat likely. Holbert was given a switch to modify the front-mounted air inlets between closed, 30 percent open and fully open. The difference between closed and fully open was a marginal decrease in drag coefficient, it was determined that running them fully closed caused the engine to run too hot. Scrubbed Pirelli tyres were wrapped around wheels of seven-inches in width all the way round, they were inflated to a mammoth 64PSI.

Prior to the Utah test Porsche took the 928 to the 7.9-mile track

at Nardo in Southern Italy during March of '86. Taping over the brake ducts, and deleting the windscreen wipers on an otherwise production standard car, it conducted a 24-hour non-stop high-speed trial. Peter Lovett, Peter Zbinden and Gerhard Plattner drove the car, stopping only for fuel, driver changes and on one occasion, fresh rear tyres. The trio averaged 156mph for 24-hours, reaching speeds of 181.8mph. The Bonnveille attempt was given the green light and in late April the car was crated-up for transport stateside.

Now painted red over its factory white by Holbert's own Pennsylvania Porsche dealership, and with new rear axle ratios fitted intended to allow the car to exceed an imposed 6,500rpm limit hit at Nardo, the 928 headed to Tooele County.

In August 1986 the 928 took to the dry lake bed at Bonneville, its goal was to set a new record for standard production cars. Timed officially by USAC (United States Automobile Club) under the umbrella of the FIA, on 7th August 1986 it set not one but two new international records at an average speed of 171.1mph for a flying mile, and 171.9mph over a kilometre.

"It's about what I expected, it's pretty nifty," said Holbert at the time. "The car is pretty stable, it's basically a finger tip guidance system — I should've turned the radio on as it was so quiet."

There's a fantastic period video on YouTube of the Bonneville attempt, in which Holbert takes the whole thing in his nicely stride while an American voiceover artist does he best to hype up the drama. Regardless the lightly modified 928 looks, as it does here in one of the few stills from the attempt (sourced from the Porsche archive in Stuttgart), simply stunning. Porsche used the record run in its publicity, there are posters from the period depicting the facts and figures, and even a TV advert. Some might say it needed all the help it could get given that the S4 was a more expensive 928 than any that had been seen before it.

The S4 used for the attempt went on to become a support car for the American IMSA series, now fitted with new equipment and repainted white. But just a handful of years ago it was returned to the track as a competition car, resplendent in its salt flat red colour scheme. Racing on the club circuit in America, at last count it was still using its original Bonneville running gear, the engine having remained untouched since, according to its owner. Driven to and from races, this 928 had (again according to the owner) never retired from a race during multiple seasons of competition. Al Holbert would've been proud... o

On 7th August 1986 it set not one but two new international records at a speed of 171.1mph



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by John Glynn



The man behind Ferdinand Magazine, John has been writing about Porsches for more than a decade

John Glynn wonders if a shopping car can really replace his ageing Cayenne?

It's been a busy old month for the *Tyre Kicker*. Along with supporting a couple of big motorsport events on the PR side, a boatload of Porsche valuation work has crossed my desk, including a couple of divorce cases, an impending Trading Standards criminal prosecution, some matching numbers and part-exchange discussions, and the usual flow of agreed insurance valuations. In the background there has also been the ever-present question: what to do with the Cayenne?

Maybe it's my age and decreasing testosterone, maybe it's an impending fiftieth and an increasing openness to early retirement (and the accompanying budget lifestyle) or maybe it's just itchy feet, but I am embracing the idea of permanent downsize, and spending less time in big 4x4s. The Cayenne feels increasingly like it is on the down escalator, heading for eBay.

I've said this several times before, but then I drive the car and change my mind: it is a wonderful machine. I am also one of the few people who really love the look of the original Cayenne. I often walk back towards my car parked in a supermarket car park and think about how nice it looks when approached from the front. Walking towards it from the rear might be a different story.

What do I want in a downsized replacement? Cloth seats, a hatchback and dog guard for Ted the Jack Russell Terrier, five doors for school pick-ups, petrol engine, £30 a year road tax and under £2k if possible: depreciation is no friend of mine. I narrowed my choice down to the Volkswagen Polo, which is good as I have been driving a 2001 Polo for the last three years, clocking up 30k miles in that time. I just bought a new-to-me Polo Dune from a friend who sells Bentleys and Rollers and that is going quite well so far. While the 2008 1.4 16v does not hit the £30 tax target, it's on top of the rest

I'm not alone in my love for the Polo: Alois Ruf is also a fan. Having a small, abandonable car on the fleet that can fit in any parking space or that can be left in the streets around various airports has sidelined the Cayenne, to the point that it only really gets used when I need it for towing. That's turned out to be quite a bit this year, as we've been playing in the building site that is my back garden, but, as my garage build project now moves indoors and I stop hauling reclaimed bricks around, the Cayenne may begin to take root.

I bought my Cayenne five years and fifty thousand miles ago. A week after buying it, I had it converted to run on LPG and have run it on gas ever since. It returns 18mpg on gas, but when LPG costs 55p a litre —

I have learned that Cayennes are tough but not unbreakable...



less than half the cost of unleaded – that is knocking on the equivalent of 40mpg. The DVLA gives me a paltry £10 a year off the road tax as a low emissions vehicle and insurance isn't free, but the Cayenne only costs about £200 more than the Polo to put on the road: 50p a day, so no great hardship. The hardship comes when things break.

Over fifty thousand miles in my 2004 Cayenne S, I have learned that Cayennes are tough but not unbreakable. And when stuff does break it's expensive. A month after purchase the gearbox let go: that cost me £4k by the end. The fuel pumps started playing up: £700. A coil failed so I changed them all and the plugs: £350. Tyres and brakes are often cited as a Cayenne addiction, but I've found my V8 to be easy on both. I run Gislaved winter tyres all year round at £350, a set and Mintex brakes are £220 a set. Both have been brilliant: maybe partly due to sensible driving. Despite all of this, my bank account fears the next failure.

Now the winter is upon us, 4x4s are into their season and Cayennes are thin on the ground, this is the ideal time to advertise. Mine has done 165k miles and it will easily do the same again. Maybe I should keep it and drop the Polo instead, but that is so handy and is a great little car to drive. Also I have a big old Land Cruiser sitting around costing storage that I'd like to be using again and the Cayenne is more car than I need, so I think it's off to pastures new. I've taken the pictures, written the advert and will put it on eBay when the first snows hit Manchester. Then we'll see how the market reacts o

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Can adding a boot to the Panamera increase its appeal and ability? We drive the Sport Turismo in Turbo and Hybrid guises to find out...

Story: Matt Zuchowski Photography: Matt Zuchowski, Porsche

eing an inside observer of the Porsche community, I come to conclusion that it's good manners amongst the brand's aficionados to frown upon the Zuffenhausen-born SUVs from time to time. The Cayenne, which was supposedly clear evidence of the brand's demise, was only the beginning of a wide array of models and technologies that fuelled panic amongst Porsche fundamentalists. Panamera, Macan, diesel and hybrid powertrains were all headline-grabbing novelties that they loved to hate. When Porsche hinted at its upcoming all-electric Tesla-contender, it became a very loud (if nearly completely silent) sign that the end of the world was near.

How ironic it is then that Porsche was closest to its death around a quarter of century ago, when, in the pre-Wendelin Wiedeking era, the company zealously stuck to its roots, failing to find a convincing strategy for its future. According to Wiedeking's plan, putting the Cayenne into production was in fact the first step towards transforming a niche performance car manufacturer into one of the world's leaders in the premium segment. Paradoxically, now that Porsche has more money and greater technical abilities than ever, it can finally go back to its roots in glory. As Porsche's stand at the most recent IAA Frankfurt show metaphorically illustrated this, for each new Cayenne and Panamera Sport Turismo there comes a 911 GT3 with Touring Package and 911 GT2 RS.

At this point, it's fair to note that neither SUVs nor limousines can dilute Porsche's character, if under their family-friendly boxy bodies they hide thoroughbred performance cars. On the other hand, speaking of Porsche's traditions, it's also worth remembering the dicey romance that the brand has had with the utilitarian side of the automotive industry for most of its history. Besides more than 100,000 red tractors that bore the Porsche-Diesel name on their sides, there's also this little known yet fascinating history of Porsche estates. A design resembling a shooting brake was seen within the company's walls for the first time nearly forty years ago, an attempt at extending a 911 to generate the space needed for a pair of full-size rear seats. In 1984, the Zuffenhausen workers built a handsome 928 one-off with a slick estate body as a present from the factory's workers to Ferry Porsche for his 75th birthday. Three years later, an even more advanced 928 H50 study was finished, boasting both an extended wheelbase and additional doors.



Sport Turismo First Drive

Those who remembered all this while visiting the Paris L'Auto Mondial show in 2012 could already see the new Panamera Sport Turismo concept car shown was there as something more than just a mere "what if" idea. They knew it was a serious evaluation by Porsche of a potential wholly new type of a car coming from Zuffenhausen, the first series production Porsche estate in fact. The fivedoor design study received a warm reception from the Parisian public, but it took it another five long years to reach the point at which it was ready for us to take for an extensively long loop around Croatia.

It looks as though Porsche's design department has had the least work to do since the 2012 Paris motor show; its vision of the future has turned into production reality with virtually no changes. Now we know

that the concept car heralded the new design direction of the all-new, second-generation Panamera, first shown last year in the default saloon form. The new estate derivate (or Sport Turismo; as the Porsche marketing team pains to indicate, they have their own nomenclature for this kind of a body style), premiered at this year's Geneva show, utilises the same wellknown Panamera recipe. It has then the same audacious front end dominated by the four LED crystals and the in-vour-face air inlets that you are unlikely to find in any other estate this side of Audi RS6 Avant. Even if the rear has taken a new form, it has retained the subtle reference to the iconic 911 in its shape and the looks of the rear lights. The Panamera has come a long way from an unidentified body type akin to a bloated wurst to an athletic GT, and I daresay the new Sport Turismo has taken

its allure to another level. While the four-door coupe still comes across as being rather controversial for its limousine standards, its new sibling makes for a convincingly sleek estate. But is it an estate really? Maybe the Sport Turismo moniker is more accurate after all. With its contrastingly coloured air vents helping hot air to exit the front wheel arches, the huge 360mm brake discs, the enticing hips sculpted around the rear wheels that dominate the view in the side mirrors, and the proudly exposed exhaust tips, this 'estate' does a far more convincing impression of a performance car than many coupes.

Still, even looking at the photos, it's easy to figure out that this a big car. Measuring more than five metres in length and nearly two in width, it is big indeed. It's by no means bigger than the base Panamera though; it has









the same dimensions and wheelbase down to a millimetre, bar the roof line, which is five millimetres higher and kept on that level longer before it gently falls downwards to form a radically raked tailgate. The new shape of the roof will be especially appreciated by the passengers occupying rear seats, as their surroundings now make a far less claustrophobic impression. It can still be tight, mind, as for the first time in the Panamera's history, there's an option for the second row of seats to house three passengers. Due to the still radically shaped seats on both sides and a massive transmission tunnel biting into the foot, the back row is not a true threespot bench that can be found in a regular estate. Even Porsche calls this solution a 4+1 arrangement, although it's easy to think of situations in life when the third seatbelt may come in handy. Come to think of it, it's hard to find a reason why the owners of a standard Panamera shouldn't be able to benefit from this solution as well.

Albeit boasting identical dimensions as the limousine, the Sport Turismo's new body has introduced a 25-litre increase in boot space with the rear seats up, and 86-litres with the seats folded (advancing to 520- and 1390- litres respectively - still not numbers to worry other überkombis). Despite that, the Sport Turismo tries hard to be a good estate. The loading sill is now pegged lower, making the boot opening noticeably bigger. The boot itself keeps its regular shape with a flat floor after folding the rear seats. For a full family-friendly effect, you can even spec the boot with some gadgets that help to keep small items in their places, and an electric socket to keep a charger or travel refrigerator working on the way. The title of the most utilitarian Porsche is still safe in the Cayenne's hands though, which has a noticeably bigger cabin and boot, swallowing as much as 770-litres with the three full-sized rear seats in their place. Apart from that, the recently introduced third-generation flagship SUV is

much the same car as this Panamera, bearing strong similarities not only with design, but in terms of powertrains and technologies as well. It may come as a serious surprise then that the smaller model may be as much as nearly £20,000 dearer, bearing a £5,000-£10,000 bonus over the standard body style, depending on the powertrain chosen.

So what exactly makes the Panamera Sport Turismo a £74,652 car, let alone a £118,828 one? For starters, it's still a Porsche Panamera. Unbelievably, it's been eight years since Porsche's first variant appeared on the market and since then not a single competitor has come close to matching its sweet spot struck between thoroughbred sportscar and soothing top-class long-distance cruiser. The Panamera's sequel has pushed these polarities even further, spicing up the handling with increased sharpness, while at the same time adding more room and tons more tech to the cabin. It excels on the luxury front, benefiting from all the fine materials, atom-wide fitment



gaps, nostrils-pleasing rich leather scent and the comfortable ambiance you would expect from a modern Porsche exec-carrier. It does racing, too, throwing into the mix big metal pedals, embracing bucket seats and a no-nonsense steering wheel not far off the one you got in 918 Spyder. That's nothing new; what pushes the game forward though is the set of panoramic screens that cover most of Panamera's dashboard, both in its central section (featuring a neat fresh menu design) and the cluster behind the wheel (mimicking the all-familiar five gauge setup). The long array of buttons that festooned the central tunnel, in a Vertu mobile phone kind of way, have been replaced with a far more appropriate iPhone-era touch panel. None of the nigh-on perfect ergonomics and functionality are lost along the way. Even though I really want to, I struggle to find anything to criticise; maybe just the ease with which the new panes get dirty from fingerprints? It's this kind of first world

problem that a prospective owner is bound to notice here.

Sport Turismo or not, it's still a proper Panamera judging by the way it goes around corners. The additional chunk of body has added hardly noticeable 40 kilograms to its weight and hasn't changed much in its torsional rigidity either. The change in its silhouette must have altered its aerodynamic profile, just like the deletion of the huge retractable rear spoiler, which once again plays its hypnotizing spectacle on the rear of the third-gen Panamera Turbo four-door. In the case of the Sport Turismo, the active aero wing is reduced to a much smaller one-part aerofoil that changes its rake depending on your speed. It stretches even to a full 26-degree inclination, but, surprisingly, this position is reserved only for the situation when the panoramic sliding roof is open and the spoiler helps to minimise wind noise.

That doesn't make the Sport Turismo any slower, though. It's still more agile, more

dynamic and more mechanically sublime a sportscar than any five-metre wagon has the right to be. It enters the market with five powertrain options, spanning from basic 160mph 5.5-secs 0-62mph Panamera 4, through 4S, 4S diesel, and 4 E-Hybrid, all the way to 188mph 3.8-secs 0-62mph Panamera Turbo. All of them are coupled with a four-wheel drive and eight-speed double-clutch PDK gearbox. Compared to its four-door counterpart, the Sport Turismo's price list lacks the most basic and most expensive options, although the all-out 680hp Turbo S E-Hybrid is ready to hit the market any day.

During the two days I spent tasting different Sport Turismo variants, most of my time and attention was consumed by the peculiar 4 E-Hybrid (the non-Turbo one). With 56 g/km CO2 emission, 113mpg theoretical fuel consumption, green lettering and green brake callipers it's evidently the greenest model in the range. Still, that Audi RS5-sourced 2.9-litre bi-turbo V6, which pushes the car to 62mph



in 4.6 seconds, isn't exactly going to save the world. Beyond the marketing babble, it's better to treat this version as a performance car with the additional bonus of an electric engine, rather than an option to consider for the sake of lower petrol expenses. These won't go miraculously low, with the car averaging at best around 20mpg on empty Croatian roads. The input of the 136hp electric motor is still more than symbolic though. In real-world conditions, the big batteries allow you to cover around 25 emission-free miles. Once there's 15% of their charge left, the V6 will wake up again, as abruptly as ever.

This muscular monster of an engine acts in hybrid tandem like a bull in a china shop; interrupting the moments of serenity with a fierce growl, clearly letting everyone know when it takes over. Even if the EV mode is surprisingly brisk, you'll often just want to exploit the full potential that this powerful



combination brings. That comes at a price, though. Not the one written in the showroom, as there the hybrid version is sensibly positioned. However, there are still other costs to bear, like the additional 275 kilograms that bring the total weight to a far-from-sportscarlike 2.2 tonnes.

Most of that ballast comes from the batteries, which consume a big chunk of the expanded boot incidently, reducing its size back to 425-litres. And even if you're still ok with this, you also need to keep in mind that a considerable part of what's left will be drained by the hefty suitcase housing the cables you want to keep with you to charge its batteries from a power socket. Adding to this poorer brake pedal modulation burdened by energy recuperation duties, we end up with a variant that's brilliant in some places, but still fails to create a convincing argument as to why it should be chosen over a more instinctive



petrol version. Like the Turbo, which makes the Sport Turismo a properly quick and effective weapon on the road. In this 550hp guise, the all-around versatile GT you find is a sublime sportscar, unlike in the case of the torque-heavy land missiles with AMG and RS logos that boast similar power, but none of the Panamera's athletic qualities.

That's not to say that the new Sport Turismo is devoid of any sense. It doesn't take anything away from the standard Panamera but instead it gives more; more room in the cabin, a more functional boot, and a more aesthetically pleasing body style. Ultimately, the new design makes the Panamera a more accomplished prospect, simply put, it's all the better for it. That it's still not the most versatile Porsche available is true, but then perhaps the company doesn't call it an 'estate' for good reason, for this car is far more than just a load-lugger \odot





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could injure my iPhone for buzzing me out of a beautiful sleep at 4.30am this morning, but there's no time to waste on frustration. There's just enough time to grab a shower before we head for an early Eurotunnel train and a day-long drive to Bavaria.

'We' is me and Jonny Hart, MD of Classic Retrofit: a man who has been quietly revolutionising the world of aftermarket Porsche parts. To celebrate Classic Retrofit's first three years in business, we've organised a special three-day tour in Jonny's 1982 911 SC. Fitted with the complete Classic Retrofit product range, including its revolutionary Electrocooler electric air conditioning system,

a 1500-mile drive in the SC to meet a new partner in Germany will give a great insight into just how effective the air con is on a long road trip.

More comfortable touring is one of the reasons given by the thirty Porsche 911 owners who have each put down a £1500 deposit to reserve one of the first batch of Electrocooler systems. The first hint of the system's usefulness is revealed just before 5am on this damp, misty morning, when the thick condensation on the inside of the windscreen clears within seconds of starting the engine. I note the heated elements inside the glass, but Jonny has not switched the windscreen on.

"I fitted the heated windscreen when we were restoring the car and used it quite a bit before the electric A/C fit was finished. Since fitting the air conditioning, I haven't really used it. One of the purposes of air conditioning is to dry out the cabin and make it less humid. Dry air doesn't steam up the windows, so the glass stays super clear inside the SC."

Ambient temperature outside the car is too cool for a t-shirt and my fleece lies waiting on the SC's back seat, but over the three days of our road trip, it never gets used. The SC's heating system works perfectly with the air conditioning to create and maintain a



comfortable cabin temperature, even when the sun shines directly upon us through the front glass. But I'm getting ahead of myself – we still have to get out of England.

Rolling from the M20 into the Eurotunnel's plaza was once the sign of impending delight, but the experience has degraded substantially since my first journey more than a decade ago. Back then, the 'Chunnel' was marketed as a toll road and the process of getting out of the UK was slicker. Nowadays, it's like the worst sort of motorway services: all cones, pricey food and long queues.

One thing that has not changed is the unbeatable crossing time. Twenty-five minutes

after leaving the UK, we're driving off the train and onto the autoroute. The journey will take us down through France as far as Strasbourg, where we cross the border into Germany and head toward Stuttgart. Tonight we are staying in the state of Baden-Württemberg and tomorrow we drive on to Pfaffenhausen, home of RUF Automobile GmbH.

The weather in Calais is dry but exceptionally humid, so I'm grateful to the air con for keeping us cool. Having done many Euro trips in 911s of all eras, from pre-'73 cars to a Porsche Reading-supplied 997 Carrera 4S many years ago, my own 1976 911 Carrera 3.0 is the car I have used most on European

road trips. You don't go anywhere in that car with the windows closed, even when it's raining. The only time we open the windows on this trip is on the Eurotunnel train (where it is mandatory) and to collect péage road toll tickets. Otherwise, it is much more comfortable to travel with the windows closed.

This is a first for me in an impact-bumper 911, as normally I find it more comfortable cruising at 80mph with the windows open a touch. Even a crack can help most of the time, so why is Jonny's so different to the two SCs I have owned in the past? The seeds were sown during the SC's bare metal restoration.

"A lot of the Porsche professionals we



supply with our blade fuse panels and CDI units use Dynamat products or similar to keep cabin noise down," says Jonny. "Others leave the heavyweight Porsche sound deadening in place and just expect the customers to put up with the racket. I didn't want the weight of the factory parts, or the cost of Dynamat, so I did some research into what else was available.

"I ended up using the noise-reducing matting found in diesel generator cabinets. It works really well at a third of the cost of Dynamat and is much lighter than other alternatives. I then tried several carpets with my trimmer and we chose a Mercedes carpet in dark chocolate as it is nice and thick, will not fade to a muddy tan like the Porsche stuff, and is much more pliable and easier to bend."

The Mercedes carpet is beautiful quality and the colour tones well with the SC's original brown dash and door cards. Jonny also retrimmed a pair of Recaro sports seats – bought for £50 from a fellow impactbumpers. com forum member – in deep brown leather with Pascha centres. Pascha rear seat backs and bases look wicked against the Delphi Green paint: a Porsche 914 colour. Jonny also owns a fully electric 914 and we have consumed many beers on previous trips contemplating potential colour schemes for that one.

The miles tick by and the rain comes and goes. Inside the SC, all is comfortable with effortless temperature management by the air con (according to the test gauges mounted in the ashtray) and plenty of power from the Classic Retrofit CDI+ ignition box when the situation requires it. CDI+ was the original start point for the company three years ago, when Jonny had a rebuilt engine, rebuilt gearbox, retrimmed interior and fully restored bodywork, but was forced to refit an ancient CDI box, with who-knows-what history or failure potential.

"I took the back off the Bosch CDI and could not believe what I was looking at. The car I had spent almost £50k on buying and restoring was at the mercy of worn-out '60s technology. It looked like something we could do a better job of, so I started a small working group in my electronics company, which was working on real-time computing for mission-critical medical and defence applications."

Real-time computing is more interesting than it sounds and something many people will not be aware of. While your desktop computer feels like it is running applications in real time, the reality is that all tasks are run in order of priority, but none of these tasks are mission-critical. Real-time computing describes tasks which must be completed on demand and within a certain timeframe, regardless of computer load, so fly-by-wire inputs on fighter jets, defence weapons systems or 3D scanners which work in real time, while

















a patient is being operated on by computer controlled lasers. Hart has worked on all of these systems, and his experience and expertise also lives in the engine compartment of our 911 SC and two hundred other 911s now running a Classic Retrofit CDI+ unit.

"Real-time computing is something even modern 911s don't have, but our CDI+ unit brings it in spades. CDI+ may look like an old CDI box, but there are no similarities in electronic terms. Our CDI+ processor runs 3,000 lines of code per second, every second. The calculations are then carried out in real-time, with changes being actioned in one millisecond: that's a thousandth of a thousandth of a second. The board was inspired by a design we did for a certain jet aircraft, which I am not allowed to name!

"On a 911 engine with fuel and ignition systems all in good shape, this means real smoothness and flexibility. Owners speak of the "Classic Retrofit idle" being super smooth and confidence inspiring. One 1969 911S race car went from being undriveable in the paddock to being used to go shopping after the CDI+ box was fitted. It now pulls cleanly from 30mph in top gear, benefitting from the dyno-proven power and torque increases that come with our ignition unit."

The miles roll on and the SC eats them up. All is quiet with Jonny's super-duper sound deadening and fat-cat Merc carpet. As we roll off the autobahn somewhere south of Stuttgart, the German countryside reminds us of this country's beauty and we enjoy a scenic drive along winding roads to the Landhotel Hirsch Bebenhausen.

I have booked the hotels for this trip and this lovely old building in the shadow of Bebenhausen Abbey (p49) is perfect – yay me. Founded in 1183 by Count Palatine Rudolph of Tübingen, the abbey became a hunting lodge for the Württemberg kings after the Reformation. These days it remains fully occupied, beautifully maintained and a highlight of German history.

We enjoy a wonderful dinner and a peaceful night here, and we rise early the next morning to explore the old abbey. After breakfast, it's time to get going on the two-hour drive to our next destination: the famous RUF garage in Pfaffenhausen.

Arriving at RUF, we are greeted by the sight of a Yellowbird parked right outside the front door. I've been around genuine RUF CTRs many times in the past, but this is the first time I have been to the mothership. It is a giddy, giggly sort of feeling – all a bit schoolgirl. As I take some deep breaths to calm down, Jonny goes in to introduce himself and within minutes we have a group of people around the car, including Alois himself (see below). He is just as he appears in all of the











photos in so many magazines: smiling, happy, delighted to see us and fascinated by what Jonny has brought for today's show and tell.

We start with the reason we're here: air conditioning. Everything in Jonny's system lies under the bonnet, so we lift the shorthood and show the RUF team all there is to see. The tiny compressor and lightweight hoses bring plenty of questions, but it's the bespoke ECU managing compressor activity based on parameters including available alternator voltage that really excites things.

With the parts demos complete, we move into the showroom, where the new CTR sits, poised and purposeful. I am well out of touch with new cars, so I know nothing about the new CTR, though I do know that it was recently launched at Geneva. I assume it has sold out and this proves to be so: all thirty cars announced were reserved within days. No need to ask the price.

The new RUF is a beautiful shape: much wider overall but with wonderfully slender arch lines. I ask the obvious first question from my zero research: what is this based on? 964, 993? The secret is revealed: it's an entirely new full carbon body on an entirely new chassis. It has taken five years and several million Euros of development money, but the chassis is now RUF's to build on: stiff as a board and no need to find old Porsche donors. Serious people making serious investments.

Given the chance to do something different, RUF has stayed with the rear-engine layout, using a 3.6-litre, twin-turbo flat-six making more than 700 horsepower, which will push the 1200-kilo (dry) CTR through

RUF's own transmission to 225mph. Kudos, Pfaffenhausen. Engine, gearbox, brakes, dampers are all taken care of, but heating, ventilation and air con (HVAC) is where Jonny comes in.

The rest of the day is an entertaining blur. We start with a detailed examination under the skin of the CTR, then a technical meeting where many wonderful (and entirely secret) things are discovered, including the fact that sugar here comes in RUF-branded sachets. RUF has a strict policy of customer confidentiality, so cameras are off for the day. Playing the game, we get to see everything. It's a memorable experience.

Spending time with Alois, son Marcel - a talented engineer who has completed a sixyear mechanical degree course including transmission design - and the mechanics that work on the CTR (the same guys who worked on the original Yellowbird) is fascinating. There is no competition, no one-upmanship and no egomania. Alois calmly allows his team to consider their thoughts before they decide on next steps. It is all very gentlemanly and all very RUF.

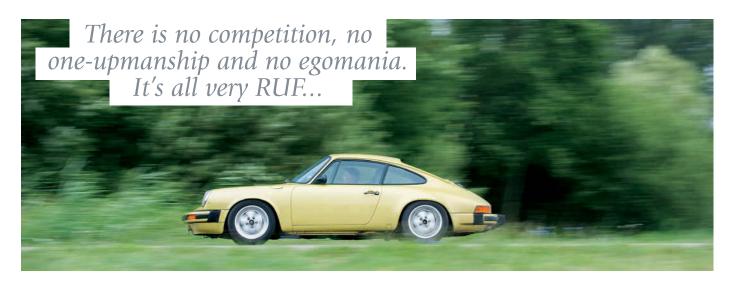
Lunch is similarly relaxed. I passenger Marcel in RUF's fully electric 997 and Alois rides with Jonny to try the SC's air con in motion. There are plenty of fancy places nearby, but I like the local food, so that's where we go. The simple farmer's restaurant serves delicious local dishes while we hear stories about the original Yellowbird, and learn of the family's background.

RUF's Porsche fascination began when Alois' dad (local garage owner and part-time bus driver) was passed by a Porsche 356 while driving along. The 356 promptly crashed up the road and the bus driver was first on the scene. When RUF's little garage in the centre of Pfaffenhausen stripped the Porsche for repairs, they admired how well the car was assembled, and so started looking for more to work on. Many years later, the name is world famous and RUF is an official Porsche service partner for this region.

As we leave our lunch stop and return to the cars, I ask Herr Ruf what his dad would make of how the small village garage has evolved. "He would love it," says Alois. "This was exactly what he wanted to do."

The rest of the day involves a workshop tour, storage tour, and a look at some special projects, a quick demo of Jonny's CDI+ units and the technology behind them, and of course a look at the famous Classic Retrofit replacement fuse panels, which made Jonny's name and are now found on more than 500 classic 911s all over the world. After a brief discussion covering any other business and an agreement to promote our working relationship, we leave Alois and the team with some products to try and eventually say our goodbyes. It has been an incredible day.

Our destination is Stuttgart and an overnight stay, close to the Porsche Museum. Dinner is quiet, and the next day's museum visit is fun (see p51) - we even find a new Cayenne in almost-Delphi Green - but we both know the highlight has already occurred. If the first three years of Classic Retrofit leads to a RUF collaboration, then I can't wait to see what the next three years has in store O















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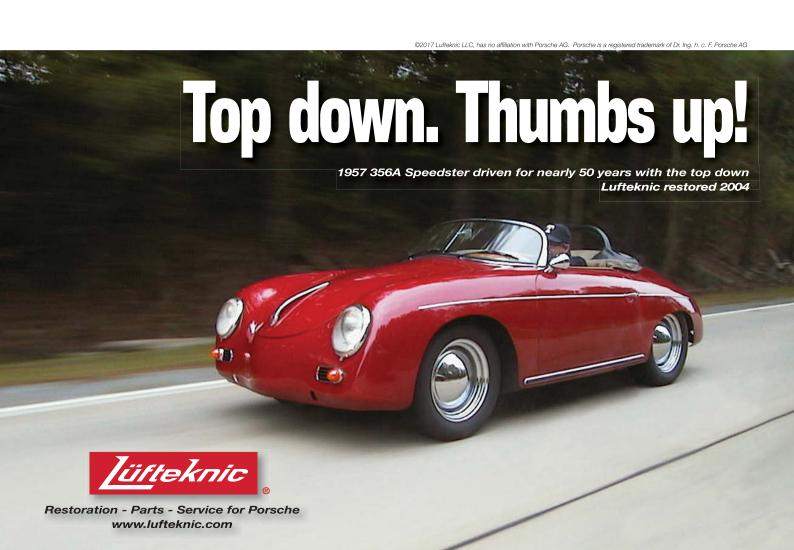
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GREATEST PORSCHES

of 2017

It has been a year of stand-out new Porsche models. Time then to catch our breath and recap the best of 2017, before seeing what to expect in 2018... Story: Simon Jackson Photography: Various

wenty-seventeen has been another bumper year for Porsche, not only through the expansion of its existing range of models, but via the addition of entirely new ones too. With the arrival of the second-generation 991 in 2016, it's a fact that we are now closer to the end of the latest 911's life cycle than we are to its beginning. However, before a new eighthgeneration 911 arrives, Porsche has been busy both finessing the range of 911 derivatives with which we are now familiar, and adding new ones we'd never even thought of, too.

Typical of 911 evolution, the best of any generation often arrives later in its lifespan. With that in mind Porsche unleashed upon us in 2017 the GT2 RS – the fastest 911 of all time. In this new Rennsport car we have undoubtedly been treated to one of the best Porsches of all time, one for the history books. But the 700hp Nürburgring monster was by no means the only important Porsche of the past 12 months, as we recall here over the following pages.

In fact it isn't until you sit down and document the past year's worth of Porsche

news, as we have, that you fully understand how much has happened, and the sheer depth and breath of the brand in contemporary times. When once we might have been discussing a handful of 911s, and perhaps a new entry-level model or two that might have been released, today we have a plethora of road and track bias 911s to mention, and more sibling vehicles with which they must share showroom floor space than ever before.

It has without doubt been a good year for our old favourites, GT 911s in particular. But with the arrival of Porsche cars such as the allnew Cayenne and Panamera Sport Turismo, the world outside of the 911 has never looked more interesting and diverse. We've driven practically every car mentioned over the coming pages during the course of the year, but for the rare couple that we haven't, well, early 2018 should deliver a few interesting voyages of discovery.

Undoubtedly there will be a few cars we've missed out in this review of 2017, but with a bit of luck your favourites are all here, for they are most likely ours too...

911 GTS

In many respects 2017 was always going to the year of the GTS. Why? Because we knew the big question on everyone's lips was to be answered explicitly; would the second-generation 911 GTS be turbocharged or normally aspirated? That it was force induced was, rather sadly, to be expected in this day and age. Worthy of further investigation though, was whether the performance upgrades Porsche had made to the Carrera's 3.0-litre turbo engine served to make it a vastly more appealing prospect for true Porsche enthusiasts. We didn't have long to wait, in our March issue Andrew Frankel got behind the wheel.

On paper the new GTS was not a million miles away from its Carrera S counterpart. Power was up 30hp to 450hp through the use of two new (larger) turbochargers, they provided an additional hit of 37lb ft or torque – in isolation perhaps not to much to jump up and down about. Things looked even less exciting in comparison with the first-generation 991, here the power hike was just 20hp, yet thanks to the switch from that car's normally aspirated engine to this one's blown affair, torque was raised a considerable 80lb ft

and delivered at more than 3,000rpm lower. This had little affect on the new car's zero-to-62mph time, a mere one tenth quicker than its forebear. But, as with any GTS Porsche, the engine specifications were just half the story here.

Gaining for the first time the wider bodyshell from the Carrera 4, this GTS also benefited from rear suspension borrowed from a four-wheel drive 991, regardless of whether it had two or four driven wheels. Four-wheel steering was optional too. Lower than a Carrera S by 10mm via Sport suspension with PASM (Targa and Cabriolet models get the same ride height and softer springs of the standard Carrera S), Porsche made no other changes to the suspension setup of this GTS, such was the quality of the Carrera S setup. The exterior and interior additions were usual GTS fare; spoilers, black details, and Alcantara.

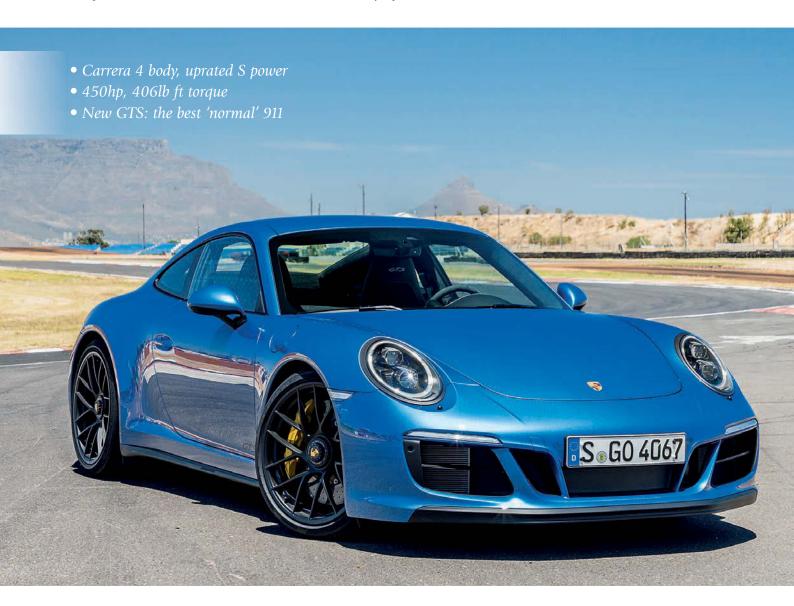
Aside from its specification, what we all really wanted to know was how this latest GTS drove. Andrew got to experience the car first on the excellent sweeping roads of South Africa, he said: 'For all its extra torque, it feels more like a normally aspirated 911 than a

Carrera or Carrera S and that's because its performance is less linear. The higher the revs, the harder it pulls, just like in the old days.'

And then there was the noise. Andrew confidently stated that the car was the best sounding second-generation 911 yet, and he was right. Its silky smooth six-cylinder was gifted extra bass via a sports exhaust and just the right amount of turbo whistle. Andrew loved it: 'It's like Porsche knew about this car all along, but chose to whet our appetite with other models both more expensive and cheaper, before hitting us with the one it always knew was the best of the lot.'

His conclusion left little to the imagination: 'It may not say so on the specification sheet, but it's as fast as a Turbo, as easy as a Carrera and more fun than both. This GTS is not just the best 'normal' 911 of the current generation, but it is so by a margin I'd have not imagined before I drove it'.

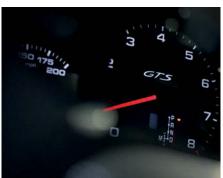
And so as many believe to be the case with the 997, and first-generation 991, it seemed that in coupe guise, the second-generation 911 GTS was 'the' new 911 model to have, outside of a GT3, of course.















718 GTS

As recently as October Porsche revealed GTS versions of both the 718 Boxster and 718 Cayman. Although at the time of writing we have yet to drive them, it is possible to take an initial impression from what we do already know.

Following in the footsteps of the 911 GTS, the 718s get turbo power and use the same 2.5-litre four-cylinder 'boxer' engine from the S models. Just like the 911 GTS power output has been uprated; up 15hp to 365hp, torque has also been increased, albeit only by 7lb ft, to 317lb ft. A healthy enough if not earth shattering increase delivered from as low down the rev range as 1,900rpm, right up to 5,000rpm. A six-speed manual or seven-speed PDK gearbox, and all the usual GTS specification you'd expect is present; Sport Chrono, Porsche Torque Vectoring, and PASM (lowering the GTS by 10mm).

Visually the 718 GTS looks correct with a sports exhaust system (with black tailpipes, naturally), satin black 20-inch wheels, and a smattering of styling tweaks such as a new Sport Design front apron.

Capable of hitting 62mph in 4.1 seconds, and with identical top speeds of 180mph, these two 718s look promising and some would say they need to be. The 718 has received a mixed reaction up until now, Porsche will be hoping that the sporting nature of these GTS variants will silence anyone as yet unsure on the merits of its latest Boxster and Cayman. Naturally we look forward to driving them very soon...













Above: The GT3 'with Touring Package' revived a name from the Carrera RS of 1973



911 GT3

Revealed at the Geneva Motor Show early into the year, the second-generation 911 GT3 on paper ticked all the right boxes. Its 500hp came via a normally aspirated 3,996cc sixcylinder engine, it boasted a 20 percent increase in downforce, rear-wheel steer, and perhaps most importantly, a six-speed manual gearbox (though PDK auto was an available option). With the development of this car Porsche had put the purist to the forefront of its mind, and listened to those who rued the abolition of the manual gearbox GT3. At the time we said: 'Much criticism was heaped on Porsche for not offering a manual gearbox option in the firstgeneration 991 GT3, and so this new car, comes with both a seven-speed PDK gearbox (as standard), and a six-speed manual option too.'

Of all the GT3's party tricks though it was the engine that served to impress the most. Importantly not the same four-litre unit we'd already seen in the 911 R nor GT3 RS, but rather a relation typically found in the 911 Carrera Cup race car, this was a stonking piece of Porsche engineering. An engine capable of revving to 9,000rpm at that. This mega power unit largely dominated the driving experience, so said Andrew Frankel when he first tested the car for our June issue, but more on that shortly.

Though the new car weighed the same as its forebear (1430kg), in order to achieve this Porsche had fitted lightweight bumpers front and rear, counterbalancing additions to the aerodynamics. Traditional front and rear spoilers were tweaked for better airflow, and a new ground effects-style underbody

diffuser, similar to that seen on the 911 R, appeared. Despite lacking some of its more obvious aerodynamic appendages, at top speed (200mph) this GT3 produces the same levels of downforce as a 997 GT3 RS. And as a driving experience it served to deliver greater things than those GT cars that had come before it.

Inside came a 918 Spyder-style 360mm GT steering wheel, and Comfort or Clubsport specifications which delivered certain options. A range of seating; adaptive Sports seats Plus, Sports bucket seats, or lightweight carbon fibre buckets were on offer. The latest PCM system and the Connect Plus module appeared in the new GT3 too, the Porsche Track Precision app also featured as standard, allowing drivers to see, record and analyse driving data.

Hitting 0-62mph in 3.4 seconds was not the whole story, as Andrew Frankel as quick to highlight: 'With a band of proper power at least 5000rpm wide, its sheer relentlessness takes some acclimatisation.

'For the truth is that most of the time the GT3 just steers: you point, it goes. With its low kerb weight, trick suspension, its aerodynamic downforce and those Michelins (Dunlops are available too), adhesion levels are on a different plane even to those experienced by drivers of regular 911s.'

What really grabbed Andrew's attention was the way this new car cornered, its ratio of power to balance and overall poise making it feel somewhat foolproof in relation to those GT 911s that came before. However its usability was, oddly, a bit of a divisive subject. Though

this new GT3 was in many ways useable on a everyday level, thanks to its supple ride and mod cons (such as satellite navigation), in some eyes that might also serve to make it too soft for a true GT Porsche. Andrew certainly didn't subscribe to that theory though, seeing this usability as the GT3 proposition's USP:

'If I had to define the new GT3, I'd say its character is halfway between the last GT3 and the super-hardcore GT3 RS,' Andrew said.

Rumours that this new GT3's engine might also appear in a forthcoming 718 Cayman GT4 RS (albeit detuned), is nothing short of an utterly mouthwatering prospect...

In September came a further option for GT3 customers; the GT3 with Touring Package. A pared-back GT3 similar in spec to the 911 R, with no fixed rear wing and a manual gearbox only, this was 911 R for those who could not buy a 911 R. It shared many of its siblings facts and figures, though it was ever so slightly slower thanks to Porsche choosing its Carrerastyle active rear wing over the traditional GT3 fixed affair. That the 'Touring Package' name could be traced back to the Carrera RS of 1973 was not lost on anyone, though in this instance it did not necessarily denote a car of a more 'comfy' nature. This new car was lacking a rear bench so it seated just two, so too did it lack many offerings from the regular GT3, though these could all be reinstated; PCCB ceramic brakes, nose lift, the Chrono Package and audio systems. Priced at £111,802, the same price as a 'normal' GT3, this was, thankfully, not a limited edition Porsche GT car.



One Millionth 911

Though you can't expressly walk into a Porsche dealership and buy one, the one millionth 911 ever built was, from a PR perspective, a key Porsche of 2017. Outwardly a 991 Carrera S in the special order colour of Irish Green, and with numerous exclusive options added, the milestone one millionth car to have rolled off the production line in Zuffenhausen communicated something far more sentimental than just its specification sheet suggested. One such message was without doubt the enduring nature of the 911, more than 70 percent of all those built are still in driving condition today. In addition, the car's hat tip to the original 911 of 1963 (hence the period hue of Irish Green), highlighted the story of the 911's development and evolution over the decades. Andrew Frankel joined the historical dots neatly when he drove the car for us:

'It has lots of nice touches from its plaques and gold lettering, to its hounds-tooth upholstery. But beneath these baubles, this really is 'just' a normal 911: a Carrera S as you're asking. Porsche has not even gone nuts on the options; there's no power upgrade, no carbon ceramic brakes. In homage to the original, it is mechanically as simple as a Carrera S can be. Not one in a million but almost the reverse: one of a million.'

Chiefly destined to be used as a rolling PR tool for Porsche AG, the one millionth

911 began a world tour taking in road trips in the Scottish Highlands, the Nürburgring, together with the USA and China. Its eventual goal being to become part of the evolving car collection at the Porsche Museum. It was during its trip to Scotland that we got to spend some personal time with it, which led to the car gracing our August cover. Porsche GB rolled out the red carpet for the one millionth 911, driving it through the gates of Edinburgh Castle to a bag pipe fanfare amongst some of the Porsche Museum's most fabled cars, themselves shipped over from Stuttgart. Though it was almost slightly upstaged by being the presence of greatness such as the GT1 and 918, the one millionth 911 garnered its fair share of attention. Driving it was an occasion not lost on Mr Frankel, who neatly summarised:

'The offer of the millionth 911 is essentially that of the first: which is that it will indulge your every desire as a driver while, at the same time, providing a package sufficiently compact yet practical to satisfy your every need as a car owner too. Fifty four years ago that proposition was strong enough to create the world's greatest automotive icon. One million cars later, its appeal has been diluted not one discernible bit'

I guess the ultimate point is this: plenty of cars have been built in greater numbers than one million, but few can claim to being quite as special as the Porsche 911...









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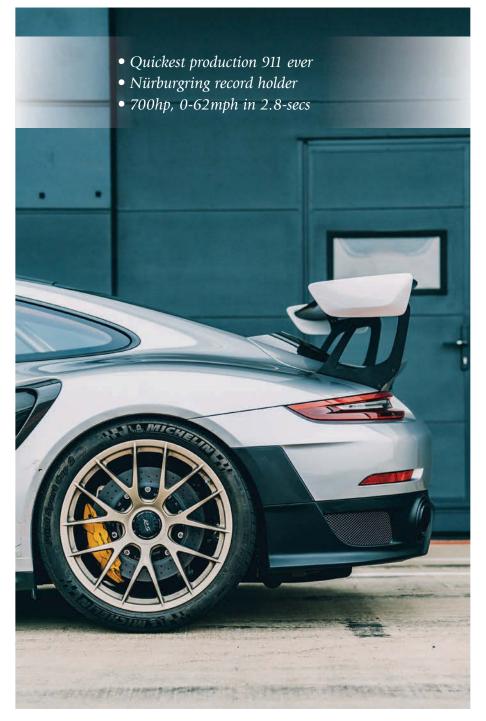
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911 GT2 RS

That a 991 GT2 would be welcomed into our world had for some time seemed certain. That it might feature the letters R and S at the end of its name was perhaps rather less obvious. However as time progressed and the usual spy shots of disguised 911s in testing started doing the rounds online, it became clear that Porsche's Motorsport department was up to its old tricks once more. And so that was that the GT2 RS, the most powerful production 911 vet built, began to take shape. Though it was revealed in a semi unofficial (and rather left field) capacity at a gaming convention just prior, Porsche gave it a proper public unveiling at the Goodwood Festival of Speed in July with Walter Rohrl first driving it into public view.

The car's vital statics were nothing short of spectacular; its twin-turbocharged 3.8-litre flat-six engine developing 700hp through the rear wheels, a vast 120hp more than the already blistering fast Turbo S upon which it was based (it shunned the 9A-1 4.0-litre engine from the GT3 RS and 911 R). Significantly that was also 80hp more than its predecessor, the much revered 3.6-litre 997 GT2 RS. Weighing just 1,470kg, the GT2 RS came in at a full 100kgs heavier than the 997 GT2 RS, but that deficit could be reduced with the optional 'Weissach' package, affording weight savings of around 30 kilograms through the use of carbon fibre and titanium (a £21,042 option, mind!).

The race from a standstill to 62mph could be dispatched in just 2.8-seconds (it comes only in PDK form eliminating human delay during up-change), a full half second faster than the 991 GT3 RS, before travelling on to a maximum speed of 211mph. Torque was in the order of 553lb ft, achieved not exclusively through the use of new larger turbos and water-injection technology – a system that sprays the charge-air cooler with water lowering its temperature by as much as 15 degrees). But yet a more staggering set of numbers would soon surround this car...

Much of the RS's suspension hailed from the 911 Cup car, rose-jointed in places and featuring racing specification dampers and springs stiffer than those found on the 991.1 GT3 RS. Rubber partner Michelin went as far as developing a new tyre for the car, the Pilot Sport Cup 2 'Ultra High Performance' coming in 265/35 ZR20 at the front, 325/30 ZR21 at the rear. Porsche Ceramic Composite Brakes (PCCB) were offered as standard, so too its dramatic aerodynamic appendages. Tough to ignore, its massive rear wing was crafted from carbon, so too its front splitter, front wings and wing vents, bonnet, side air intakes, and Sport Design mirror casings, amongst other parts. That the rear diffuser, also constructed from carbon, would play a part in its prowess on track was a given. The roof was created from magnesium, but for added lightness Weissach Package cars got a carbon fibre version.

In combination the ingredients gave us a nuclear option 911, one it transpired that

was capable of lapping the Nürburgring Nordschleife in just 6:47.3 – a record for a road-approved sports car. Porsche might have shunned lap times with its 911 R of 2016, but with this new machine it was shouting the time achieved in September from the rooftops, and rightly so. Averaging 114mph around the challenging 12.9-mile circuit, the time set by the GT2 RS was an almost comical 10 seconds faster than that managed by the 918 Spyder, it blasted into the weeds the time set by the 997 GT2 RS too – 7:18. Without doubt this was an Rennsport 911 of the highest calibre.

Despite deservedly having a plethora of superlatives heaped upon it, the question remained as to what kind of car this might be as an all-round package. Incredibly competent on the track perhaps, but what compromises did that demand on the road? Andrew Frankel got behind the new car's wheel for us just last month, and as he slid into its rather intimidating cabin, he was fully prepared for any disappointment, why? Well, as he noted, Porsche's latest homologated street car had a power output that exceeded the Group C 956 with which Porsche won Le Mans. A machine surrounded, as this one was very much so, by

hype and expectation can easily let you down. But Andrew need not have worried, he said:

'Fully lit, this car is a new level for Porsche. It's not just the rate of acceleration that makes you involuntarily clench your buttocks, but its relentlessness. Anyone could get this much power from this engine by concentrating it all into a tiny power band, but the GT2 RS is fully on song at 2,500rpm and it won't pause for breath for another 5,000rpm after that. If you know Silverstone, be advised it will blast past 170mph on the Hangar Straight with contemptuous ease and have you closing on 160mph before braking for Copse.'

The GT2 RS's tractable nature and drivability even on the road is what stood out for Andrew, that it is friend rather than foe on track also served to surprise. However, though it might be possible to get a taste of its capability on the road, Andrew felt that only while on track did its full potential begin to shine through to be realised by the driver. He said:

'It's not a doddle to drive, but I can tell you I drove it harder, further and faster than I ever did the previous GT2 RS and while it captivated and enthralled me, it did not scare me once.'







All-new Cayenne

Porsche revealed the third-generation of its popular SUV, the all-new Cayenne, in August. It was very keen to point out how it moved the Porsche SUV story along. The new vehicle followed partly in the footsteps of the latest Panamera, it shared its VW Group MLB platform with sibling SUVs from Bentley, Audi, Lamborghini and Volkswagen. This was, however, a genuine Porsche boasting Stuttgart's usual brand of excellence in engineering, so said Porsche. Indeed though it largely inherited its chassis architecture, Porsche engineered its own systems and specifications to work in conjunction. In addition it incorporated a wealth of new technology pioneered on the latest Panamera. Built from a combination of weight saving alloy and steel, the exterior is manufactured of aluminium, the floorpan assembly, front section and chassis components, from steel.

Porsche initially made two models available at launch, Cayenne and Cayenne S, both with V6 petrol engines. The Cayenne gets a three-litre six-cylinder engine with a single turbocharger, producing 340hp and 332lb ft of torque. It records the 0-62mph dash in 6.2 seconds (5.9-secs with Sport Chrono). The Cayenne S benefits from a smaller twin turbo 2.9-litre V6 engine providing 440hp with 405lb ft of torque, accelerating from rest to 62mph in 5.2 seconds (4.9-secs with Sport Chrono). Impressive stuff given its bulk.

Interestingly the all-new Cayenne also debuted a new eight-speed Tiptronic S automatic gearbox, its closer ratios and taller final drive being designed to aid economy. The 'box is from ZF, and allows the car to tow 3500kg, a number Porsche's PDK system could not cope with, so we're informed.

From the 911 came rear-axle steering, the first time we'd seen it on a Cayenne, and while we're talking chassis components, a double-wishbone front axle was partnered with a multi-link setup out back. Its 4D Chassis Control was an advent we had seen on the Panamera before it, which includes in its arsenal adaptive air suspension with a three-chamber setup, Porsche Dynamic Chassis Control, and electronic roll stabilisation system over the old version's hydraulic setup. It's worth noting that this system was developed entirely by Porsche, sharing nothing with those other VW Group offerings based on this very same platform. New too were Porsche Surface Coated Brakes (PSCB) debuted for the time. A new ceramic brake system employing a mirror finish castiron disc with a tungsten-carbide coating, said to reduce wear and brake dust, we'll see these rolled-out across the rest of the Porsche range

As you would expect different driving modes – Mud, Gravel, Sand or Rocks – had been designed to ensure the all-new Cayenne's ability on and off-road, a refreshed Sport Chrono Package, including a separate PSM Sport mode, doing its best to ensure Porsche levels of driving dynamics during street use. Porsche forewent the fitting of a Torsen centre differential (the solution used in non-Haldex Audi models with the ZF transmission) as used on the other MLB platform SUVs, stating that its own multiplate clutch was quicker and better.

All these changes may well have added weight, but largely thanks to the increased use of lightweight materials, the all-new SUV weighed in at 1985kg, 65kg less than the outgoing model. That's rather impressive stuff given that it is both marginally longer and wider than the old vehicle, although its wheelbase does match that of its forebear. Its 770-litres of luggage space, an increase of 100-litres, was also not to be sniffed at.

Following the inners of the new Panamera closely, the Porsche Advanced Cockpit brought a 12.3-inch HD touchscreen using the latest evolution of the PCM system. Gloss black panels with touch sensitive controls, dominated the interior changes in a vehicle typically home to a sea of buttons on its centre console.

Unusually Porsche allowed our man in the field, Andrew Frankel, behind the wheel of a development prototype version of the new SUV, during which he had this to say: 'Overall I'd say the best car in the class for those who appreciate driving just got a whole lot better. Correctly specified the new Cayenne is at least as much fun as the old, but with a transformed interior and notably better ride and refinement. It is a car still to appeal to the head than the heart, but you can say as much about every conventional SUV on sale.'

In just our last issue Andrew was able to experience the finished article, this time in range-topping Turbo guise. Its four-litre V8, downsized from the 4.8-litre affair in the old car, capable of producing 542hp, propelling it to 62mph in just 3.9-seconds with the Sport Chrono package optioned – good when you consider it weighs 2175kg.

Andrew threw the new vehicle around in a bid to decide if it really was created in the true spirit of Porsche, and if you'll forgive us for repeating ourselves here, his conclusion tells all you need to know about this Porsche SUV:

'Look at it in terms of three basic criteria: the need to be a good sports car, the need to be a good luxury car and the need to be a good SUV. Most Porsches need only to focus on one, while the Panamera and Macan have a couple on their plate. Only the Cayenne tries to tackle all three, and the truth is that while it's probably not as good at any one of them as it would be if allowed to focus on that alone, as a compromise between them all, it is better by far than anyone could reasonably expect it to be. It's a different kind of Porsche then, but a Porsche all the same.'

A Porsche SUV then that does move the story forward. Where, though, are the diesels?











Turbo S Exclusive Series

In June Porsche revealed a car which marked the rebirth of its bespoke arm, Porsche Exclusive. With the 911 Turbo S Exclusive Series came a new era, and a new name: Porsche Exclusive Manufaktur. Limited to 500 units worldwide, the 911 Turbo S Exclusive Series was the latest in a long line of short run production Porsches that were designed to stand out. And you too, so said Porsche Exclusive Manufaktur, have a unique car designed and built at factory level with more personalisation possibilities than ever before, in a better integrated process.

To make its point the 911 Turbo S Exclusive Series took as its basis the blisteringly fast 911 Turbo S and added yet more power and unique extras. From its 3.8-litre six-cylinder twin-turbo engine came 607hp (27hp more than a Turbo S) with 553lb ft of torque. In deleting the overboost function, peak torque

was now available at all times rather than on a temporary basis as usual. Despite this its 0-62mph time remained the same as the car upon which it was based at 2.9 seconds, 0-124mph being hit three tenths of a second faster at 9.6 seconds.

Its performance was not perhaps its most impressive aspect though. From its Golden Yellow Metallic paintwork, to the liberal use of carbon fibre on the bonnet, roof and side skirts, this 911 was categorically not a parts bin exercise. Even the 20-inch centre locking Turbo S Exclusive Design wheels were put through a process of multiple stages, including being precision laser burned to achieve their pinstripe finish. Behind them came PCCB callipers finished for the first time in high gloss black, inside copper thread ran through the carbon fibre trim, another Porsche first.

Should you so wish a matching luggage set and the Porsche Design Chronograph 911 Turbo S Exclusive Series watch could be purchased, it too limited to 500 pieces.

When we drove it, we said: 'Never has a person considered the 991 Turbo S to be lacking in grunt, that extra 27hp in the Turbo S Exclusive Series serves to merely highlight the fact that a modern 911 Turbo S is an astonishingly fast car – a supercar in fact.'

At £186,916 there was no way to ignore the fact that this is an extremely expensive 911, but its uniqueness and innovative nature made it a special, if a touch OTT, one. With 600 different parts available for Porsche cars, not all of Porsche Exclusive Manufaktur work might be quite as attention seeking as this car, but few are likely to present such a memorable talking point for Porsche enthusiasts.

















Panamera Sport Turismo

Porsche expanded the Panamera family in 2017 with the Sport Turismo. It had teased us with the concept of a Porsche shooting break, or an estate in less flowery language, years previously, in a most serious fashion with the Sport Turismo concept of 2012's Paris Motor Show. Though not production ready, that car ran a plug-in hybrid 3.0-litre V6 engine producing a claimed 416hp, and boasted a 19-mile range on electric power. And so it came as little surprise that the luxury load-lugging segment

was of interest to the car maker.

Put your historical hat on and you can actually trace Porsche's interest in building an estate car way back to the 1980s, most publicly when a bespoke stretched 928 was gifted to Ferry Porsche. Finally revealing a production ready version of a Porsche estate car at the Geneva Motor Show in March 2017, Porsche said it that what it had created was the 'perfect combination of everyday usability and maximum flexibility'.

Porsche made a choice of five models available at launch, all with PTM four-wheel drive; the Panamera 4 Sport Turismo (330hp), 4S (440hp), 4S Diesel (422hp), Turbo (550hp) and finally a 4 E-Hybrid (462hp). Though try buying anything from Porsche with a diesel engine at present and you'll likely be disappointed – it has taken all vehicles so powered off its website and those with orders placed are struggling to receive a straight answer on delivery times...





Prices starting from £74,652 rising to £118,828 for the Turbo model. All run the eight-speed double-clutch PDK gearbox, the V6 engines get variable valve timing technology, the V8 cylinder deactivation technology to promote fuel efficiency.

Without doubt the new car's silhouette is a striking and confident one, its styling was well received by even those who had made no bones about their dislike for the Panamera saloon. Featuring short and neat overhangs, the 5049mm long, 1428mm high and 1937mm wide machine runs a wheelbase spanning 2950mm, meaning it was not a small vehicle by any measure. Though your eyes might dispute it, the Sport Turismo is the same length and wheelbase as the Panamera saloon.

As you can probably tell it shares nothing with its saloon counterpart from the B-pillar back, and it's only marginally heavier – the tailgate is crafted from aluminium incidentally. For example at 2035kg the Turbo gains just 30kg of weight over the saloon variant.

Using all that additional space to offer an increased level of luggage space in comparison with its saloon counterpart (20 additional litres with the seats up) was an obvious benefit, but with its rear seats folded down (in a 40:20:40

split), a level floor provides a vast 1390-litres (4 E-Hybrid 1295-litres) of space. Not only was the Panamera Sport Turismo a pretty car then, it was a practical prospect with it. Interestingly the new vehicle also debuted a new seating arrangement for a Panamera, '4+1', making it possible to carry more than four passengers in a Panamera for the first time via a third rear seat, this can however be deleted in favour of an optional two seat rear bench.

While much about the new car was a first for Porsche, it also delivered some firsts in its segment too. Its extendible roof spoiler was one such advent, it extends in stages above 106mph rising by up to eight degrees. The spoiler is capable of generating an additional 50kg of downforce on the car's rear axle at top speed. It serves a second purpose too when the optional panoramic roof is fitted, here at speeds above 56mph it deploys to reduce wind noise inside the vehicle.

The interior took luxury to the next level, it boasted the all-new Panamera's latest technological advents including the digital Porsche Advanced Cockpit, the new smart phone-style touch screen controls, an air of quality could be found throughout. InnoDrive adaptive cruise control, PTM, optical rear

wheel steer, optional Porsche Dynamic Chassis Control is offered across the range. The entry-level car, the Sport Turismo 4, gets steel springs with PASM active dampers, the 4S and Turbo models run air suspension with PASM damping. Six- (front) and four-piston (rear) callipers with 390mm (front) and 365mm (rear) discs feature on all but the Turbo model, it gets 410mm (front) and 380mm (rear) discs, though eight-piston PCCB ceramic brakes are optional on all Sport Turismo models.

Performance is important in any Porsche, the 3.0-litre V6 in the Panamera Sport Turismo 4 has a single turbocharger, it develops 330hp and 434lb ft of torque and gets to 62mph in 5.3-seconds (with launch control). The 4S runs a 2.9-litre twin-turbocharged V6 producing 440hp and 406lb ft of torque, and in Sport Plus it can hit 62mph in 4.3-seconds. The range-topping Turbo has 550hp and 568lb ft of torque, it reaches 62mph in just 3.6-seconds. The Panamera Turbo S E-Hybrid Sport Turismo has a 2.9-litre, twin-turbo V6 engine producing 550hp (combined), its petrol motor produces 332lb ft, its electric motor 295lb ft of torque – 3.4-seconds to 62mph.

You can read our road test on the Panamera Sport Turismo on page 40 of this issue.

911 Carrera 4 GTS British Legends Edition

At the beginning of October Porsche GB gathered together three of its Le Mans-winning drivers at Silverstone; Richard Attwood, Derek Bell and Nick Tandy. The British trio each took historic victories at the famous French 24-hour race; Attwood in 1970 with the 917, Bell in 1982 at the wheel of a 956, and Tandy in the 919 Hybrid in 2015. Their significant contribution to Porsche's total of 19 24-Hours of Le Mans wins was to be celebrated through a new edition of 911 – the Carrera 4 GTS British Legends Edition.

Developed in collaboration with the three drivers and Porsche Exclusive Manufaktur, Porsche GB created three distinct 911s, each carrying separate colour schemes and attributes. Attwood's Guards Red car conjured images of his Salzburg Red 917, and wore the same number '23'. Likewise Bell's Sapphire Blue Metallic 991 was created in the same scheme as his Rothmans-backed 956, the car which took him to victory in 1982, it carries the number 'one' as a result. Tandy's Carrera White car, with its 'number 19' decal, of course was reminiscent of his own Le Mans-winning Porsche, the 919 Hybrid of 2015. Beyond their unique colours and graphics though, there were further sporting additions agreed upon by the three Porsche racing legends.

It's true that the three cars largely use the standard specification of Carrera 4 GTS as their basis, providing the second-generation 991's 3.0-litre flat-six in its typical GTS state of tune: 450hp and 550lb ft torque. Sport Chrono,

PASM Sport with PDCC, Adaptive Sport seats (not buckets) and a choice of either manual or automatic PDK gearboxes also appear. There were also a bunch of other choice parts added to the cars ensuring each presented a good prospect as a well-specified 911 GTS. Admittedly though there was nothing ground breaking to write home about.

Driving the Carrera GTS British Legends Edition was no different from steering a 'normal' 991 GTS, but such is the model's competency on both road and track that was certainly not a negative aspect. Priced at £22,000 more than a base specification Carrera 4 GTS yet offering more than £22,000 worth of extras as a package, the Carrera GTS British Legends Edition might just hold an appeal beyond just hardcore motorsport fans – but the jury is out on that one.

If nothing else these special 911s served to pay an admirable tribute to three of British racing's finest drivers, certainly three of Porsche's greatest Le Mans pilots at that.











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911 Carrera T

The 'T' badge had not been seen on a 911 since the 1970s, yet it reappeared on a new 991 towards the end of 2017. Reminiscent of the contemporary 911 R, itself named after a classic variant of Porsche, the new Carrera T (T for Touring) is aimed at purists thanks to its back-to-basics specification. With a firm focus on driving pleasure, its 3.0-litre turbocharged flat-six engine might produce 370hp and 332 lb ft, identical to a normal Carrera, yet it saves weight in several areas over its 'run of the mill' relation. It also benefits from Porsche's close-ratio seven-speed manual gearbox, though a PDK automatic is optional, so too a mechanical limited slip differential.

The Carrera T saves 20kgs over a 'normal' Carrera, it achieves this through the use of lightweight glass (on the rear and rear quarter windows), a reduction in sound absorbing materials, fabric door pulls and the removal of the rear bench. The option even to delete the Porsche Communication System (PCM) is offered. The T goes further in its dedication to driving pleasure; PASM, not usually available on the 991 Carrera coupe, lowers the car by 10mm, the Sport Chrono Package appears, so too the option of rear axle steering, typically unavailable on Carreras.

Several striking colours are available on the Carrera T; Black, Lava Orange, Guards Red, Racing Yellow, White and Miami Blue, with Carrera White, Jet Black and GT Silver metallics are also offered. Subtle exterior differences serve to set the T apart too; Turbo-style front lip spoiler, Sport Design mirrors, 20-inch Carrera S wheels, and a Sports exhaust. To match its exterior comes an interior with equally sporting nature. The 'T interior package' can be employed to further individualise things with coloured seat belts, headrest logos, fabric door pulls and seat centres (in either yellow, red or silver).

We have yet to drive the Carrera T at the time of writing, that will be something we can look forward to in 2018. However as a prospect on paper it is intriguing – will it prove popular with enthusiasts though? Its concept, in part, originates from the 911 R with which it shares a certain purity. Moreover it is designed to placate those who missed out on the chance to purchase an R model. Whether it goes far enough remains to be seen, but that there is room for a simplistic 911 at the bottom of the range seems certain.









911 RSR

Yes, okay, we're cheating here a little because the latest 911 RSR was, in fact, revealed at the L.A. Auto Show towards the end of 2016. Of course though the firm's full-fat endurance racing 911, designed to compete in the GTE class of the World Endurance Championship and the IMSA SportsCar Championship, did not turn a wheel in anger until 2017. It's important because it is the first true midengined 911 in the model's 50-year history. But just why did Porsche abandon its traditional engine layout philosophy?

The old RSR had enjoyed numerous successes during its tenure, but in more recent times things had been tougher. Back in June 2016 the Head of Porsche Motorsport, Dr Frank Walliser, broke down in tears at a press conference ahead of the 24-hours of Le Mans, not purely because his RSRs were not fast enough, but rather as they were competing in what he saw as an unfair environment. One

cause for the performance deficit between Porsche and its rivals in 2016 was that it had been penalised by 'Balance of Performance' (BoP) regulations. Those are a set of rules created to promote close racing using ballast.

In the works already though was a new 911 RSR. We know this because Porsche had to telegraph its intentions to move the RSR's engine forward to the motorsport governing body, the FIA. This was because the new layout would require technical homologation waivers given that it differed from the layout of the 911 road car. And so it was that the all-new RSR had its engine placed in front of the rear axle, the first 911 (aside from the GT1 which won Le Mans in 1998, itself loosely based on a 911) ever to sport such a layout.

In addition out went the faithful (yet now underpowered) old 'Mezger' engine, its replacement a normally aspirated 510hp 4.0-litre DFI flat-six engine, the placement of which offered improvements to weight distribution, handling balance and available grip. The engine was mated to a six-speed sequential gearbox with paddle shift, a multidisc locking differential and a carbon race clutch. The new power unit also afforded the team more options if it were required to run ballast, and the new layout allowed for a larger rear diffuser to be fitted to the car, mounted the same way as found on the 919 Hybrid prototype, affording the 911 improved aerodynamics and increased downforce.

Campaigned in the WEC and IMSA series, the new 911 RSR had a mixed season of highs and lows. In the IMSA series things started well enough at Daytona for the Rolex 24 Hours, the two new RSRs qualified fifth and eighth in the GTLM class on their debut. The race was a tricky affair, hampered by wet weather and a multitude full course yellow flag phases – the longest of which lasted for





over two hours. Front suspension failure put the No912 car, driven by Kévin Estre, Laurens Vanthoor and Richard Lietz, out of contention. The sister car, No911, driven by Patrick Pilet, Dirk Werner, and Frédéric Makowiecki came through in second place, after 600 laps trailing the leading Ford by just 2.988 seconds.

The 65th 12 Hours of Sebring, the second long-distance classic of the IMSA SportsCar Championship, was a closely run affair. Porsche qualified fourth and seventh. In the race cooler conditions better suited the 911, a tyre defect cost the car of Pilet and Dirk Werner and Makowiecki a genuine shot at a podium finish. A leaking damper saw Estre, Vanthoor and Lietz take the flag in eighth place. At the Grand Prix of Long Beach the new 911 RSR claimed its second podium out of three IMSA races, Vanthoor and Estre coming home in second, the Pilet and Werner car came home in sixth.

In April came the first round on the WEC series, where the RSR scored a podium result in the GTE-Pro class with third for Lietz and Makowiecki. Kévin Estre and Michael Christensen retired with technical issues at the halfway point. But it was at Spa in Belgium for

the next round where cracks began to show. The RSRs simply couldn't match the pace of Ferraris and Fords, finishing the WEC race in fifth and sixth spots. The following month in the IMSA series the No912 car spent more time in the pits than racing on the track, meaning it was classified in eighth place, with the sister car seeing the flag in fourth spot having incurred a 60-second penalty. It was this is the kind of luck that seemed to follow the RSR for the rest of the season.

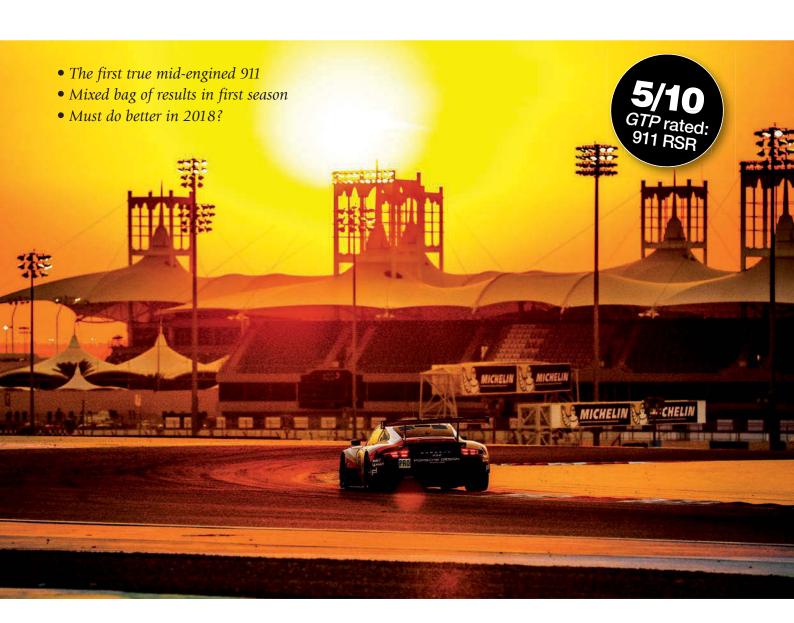
At the big one, the 24-Hours of Le Mans, the Porsche GT Team fielded two new 911 RSRs in the GTE-Pro class, and four 2015-spec 911 RSRs in the GTE-Am class. Of the two new cars the Michael Christensen, Kévin Estre and Dirk Werner entry crashed out of the race, Patrick Pilet, Richard Lietz and Frédéric Makowiecki crossed the line in fourth place after incurring a costly puncture.

The championship visited Bowmanville in Canada for round six, where the RSR showed strong pace, taking its first pole position, but there was little else positive. Porsche finally won a race at Lime Rock, round seven of the series, Bruni and Vanthoor coming home first, with the sister car right behind – a one-two

result for the team. Richard Lietz and Frédéric Makowiecki scored a podium in the Mexican WEC race, Christensen and Estre climbed their way from the last grid spot to finish second at the Circuit of The Americas. Pilet and Werner scored another third place in the IMSA race at Laguna Seca.

Come the final race of the season, Porsche had done enough to clinch the North American Endurance Cup (NAEC) driver's title (Pilet / Werner), and for the Porsche GT Team to win the NAEC cup for teams. Second in the manufacturers' classification, Porsche was one point off taking the NAEC cup for manufacturers too, however it was comprehensively beaten in the overall 2017 IMSA GTLM standings. Fourth in the overall Manufacturer standings, fifth in the championship for Teams. The highest placed Porsche entry in the Driver standings was the duo of Pilet and Werner – a distant fifth.

A podium in Japan's WEC race, another in China and fourth in the final race in Bahrain closed the RSR's season, Lietz and Makowiecki netting second in the GT Drivers World Championship. All told 2017 was a bit of a mixed bag for the new 911 RSR...



Farewell 2017. Hello 2018...

So, it has been a busy year for Porsche. Without doubt you'll have your own favourites amongst this year's batch of new Porsches, and likely the GT2 RS will feature near the top of that list. By its very nature the latest Rennsport creation moves the performance Porsche game on enough for it, surely, must register as the standout car of 2017? However, as we said right at the start of this recap of the past 12 months, it was not the only exciting Porsche unleashed upon us this year.

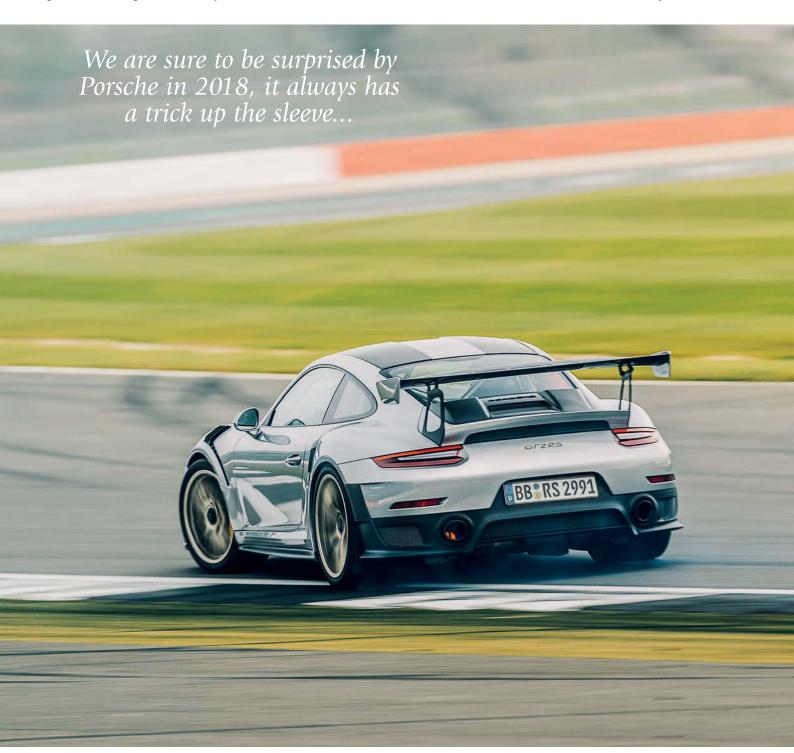
Sticking with the 911, for example, we also received in the 911 GTS, a car which many regard to be the pick of the current second-generation 991 range – outside of any GT car

that is. And that really is quite an accolade when you think about it. The GTS badge has come to signify an excellent halfway house between a track or road bias performance Porsche, both on the 911 and its GTS stablemates, proving more than a little popular with true Porsche enthusiasts. It remains to be seen whether the new Carrera T, a model more squarely aimed at those enthusiasts, can topple it, in 911 terms anyway. Watch this space.

Dialling things up one stage further in favour of track work though came this year the 911 GT3, and its new variation, the GT3 with Touring Package, what a machine it is. Falling under the shadow of the GT2 RS a little, it is

without doubt one of the best GT cars to ever emerge from Porsche, and it neatly highlights a growing crossover of Porsche models. Choice is a good thing, but consider if you will the jobs the GT2 RS, GT3 and Carrera T all claim to perform and you'll spot a certain overlap between them all. Throw any variant of 911 Turbo into that mix as well and you'll understand that choosing a performance 911 has never been tougher. It's a nice problem to have though, right?

And that premise could be widened further still, in that there is now such a diverse mix of Porsche cars on offer that there is barely a niche not covered; two-seater sports car, tourer,



SUV, even an estate. Today Porsche has a car for almost every job, and there will be those of you who think that's a good thing, and others who firmly believe it is not. Those same people might be the ones who see the diversification of 911 models as weakening, rather than strengthening, Porsche's halo car. Regardless the march onwards is set to continue for Porsche in the coming years.

As we were in 2017, and in previous years, we are sure to be surprised by Porsche in 2018, it always has a trick or two up the sleeve. Though far from an exact science, we can take an educated guess at some of the more obvious Porsche products likely to emerge next year...

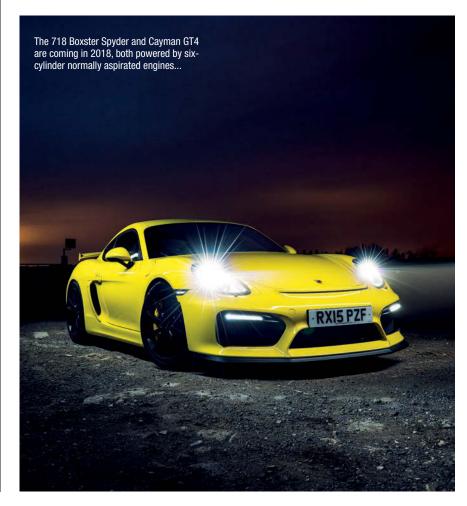




718

What follows the 718 GTS models? A Cayman GT4 and Boxster Spyder, of course. Prototypes are already in testing, Andreas Preuninger has confirmed that both will be powered not by force induced four-cylinder engines as previous 718s have been, but by naturally aspirated six-cylinder units just like their 'GT' and 'Spyder' forebears. A four-litre engine, potentially the unit found in the 911 GT3 (albeit detuned), is expected to appear. Power is sure to improve upon the 375hp the old car's ran, somewhere above 400hp is likely and a subsequent sub-four-second

0-62mph time is not out of the question. A new gearbox, likely a six-speed manual, will aim to silence those who questioned the ratios found in the old 981 cars. Whether a PDK automatic transmission will appear is uncertain, but seems unlikely. Styling will follow the conventions set out by previous GTS cars, in particular the 981 versions of the pairing, with the Spyder to feature its trademark lightweight canvass convertible roof and dual hump rear deck. The GT4 will be equipped with an aggressive motorsportinspired rear wing.





MACAN

An all-new Macan isn't expected until 2020 or 2021, but the second-generation version is anticipated in 2018. The styling refresh is likely to be subtle, with updated lighting front and rear bringing it into line with the latest models in the Porsche family. In addition slightly redesigned bumpers with larger air intakes are expected. Inside it will almost certainly mimic the direction which the Panamera and all-new Cayenne have taken, with touch screen controls replacing traditional buttons on the centre console. The refresh will also incorporate new digital displays in the instrument binnacle and the latest 12.3-inch touch-screen PCM system. Engine size revisions will fall into line with the Panamera, so expect 2.9- and 3.0-litre units. In addition a hybrid version is rumoured to be coming, using as its basis the all-new Panamera 4 E-Hybrid's drivetrain. Expect this new Macan to feature the PSCB tungsten carbide-coated brake discs we've already seen on the new Cayenne.

A facelifted Macan is expected in 2018, with a hybrid version rumoured...



91

Joining the GT2 RS, it is expected, will come a second-generation 991 GT3 RS. Taking onboard the styling revisions we've seen on the GT3, its more hardcore relation will sport revised lighting and bumpers. Power will likely rise by at least 20hp, bringing its total output to somewhere around 520hp. It is expected to follow in the footsteps of the GT3 by providing a manual gearbox as a no cost option. We expect this to appear at the Geneva Motor Show in March.

Porsche breathed new life into its Exclusive arm in 2017 (now called Porsche Exclusive Manufaktur), in 2018 we expect to see more from it. That's exciting because there have been rumours of a new version of the 997 Sport Classic and 997 Speedster, both of which were the work of the Exclusive department in the past. A second-generation 991 Sport Classic and / or Speedster would fit neatly with Porsche's usual procedure of adding special edition run-out models to the 911 in any of its second-generation guises.

Opinion is divided on whether or not the eighth-generation 911 will appear at the end of 2018 (the Frankfurt Motor Show would be likely) or the beginning of 2019. Advanced test mules have now been spotted so a new 911 is imminent in any regard. The new design will not to stray too far from the 991 in terms of its looks, as has historically been true the 911 is about evolution, not revolution. One exception to that rule will come with its drivetrains, we do expect a hybrid version. Porsche has been working on how best to package the hybrid system in a 911 for years, likely it would use a 2.9- or 3.0-litre affair, a derivative of the unit we've seen in the all-new Panamera. But Porsche's engineers have also long stated that any hybrid 911 would have to offer the impressive levels of performance expected by its loyal customers.

What we can more confidently state is that any new 911 will fall into line with the rest of the Porsche range when it comes to its interior. The Advanced Cockpit we've seen in the latest variants of Panamera and Cayenne will appear, which means the days of the traditional five-pod instrument layout could be numbered. Even the rev counter could be digital. The option to customise its layout is certain to be included \circ





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PORSCHE 911 (997) "4S" 3 8 "GEN 2" (09 - 2009), Basalt black with tn leather £46,000



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PORSCHE 911 (997) "4S" 3.8 "GEN 2" PDK (09 - 2009), Basalt black with black leather £45,000



PORSCHE 911 (997) "2S" 3.8 "GEN 2" PDK CAB (09 - 2009), Basalt black with black leather £47,000



PORSCHE 911 (997) "2S" 3.8 "GEN 2" PDK (59 - 2009), Basalt black with black leather £43,000



PORSCHE 911 (997) "4S" 3.8 (07 - 2007), Atlas grey with grey leather£35,000



PORSCHE 911 (997) "2S" 3.8 "GEN 2" PDK (09 - 2009) , Basalt black with black leather £44,000



PORSCHE 911 (997) "2S" 3.8 "GEN 2" PDK (09 - 2009), Silver with black leather £44,000



PORSCHE 911 (997) "4S" 3.8 TIP (56 - 2006), Basalt black with black leather £35,000



PORSCHE 911 (997) "4S" 3.8 (06 - 2006), Basalt black with black leather £34,000



PORSCHE 911 (997) 3.6 TURBO TIP (08 - 2008), Basalt black with black leather...... £57,000



PORSCHE 911 (997) "2S" 3.8 (56 - 2006), Atlas grey with black leather £35,000



PORSCHE 911 (997) "4S" 3.8 TIP (56 - 2006), Silver with ocean blue leather £34,000



PORSCHE 911 (997) "4S" CAB 3.8 (07 - 2007), Silver with black leather £34,000



PORSCHE 911 (997) "2S" 3.8 TIP CAB (07 - 2007) , Basalt black with black leather £34,000



PORSCHE 911 (997) "4S" 3.8 (06 - 2006), GT Silver with grey leather £34,000



PORSCHE 911 (997) "2S" 3.8 (07 - 2007), Basalt black with black leather £34,000



(05 - 2005), Silver with black leather£32,000



PORSCHE 911 (997) "2S" 3.8 TIP CAB£31,000



(06 - 2006), GT Silver with black leather £30,000



PORSCHE CAYMAN "S" 3.4 PDK (63 - 2013), Basalt black with black leather £43,000



PORSCHE 911 (997) "2S" 3.8 TIP (55 - 2005), Silver with black leather £28,000



PORSCHE CAYENNE "GTS" 4.8 TIP (59 - 2009), Lava grey with black leather £27,000



PORSCHE CAYENNE "GTS" 4.8 TIP (09 - 2009), Carmen red with grey leather £26,000



PORSCHE CAYENNE "GTS" 4.8 TIP (59 -2009), Basalt black with black leather £24,000



PORSCHE CAYENNE "GTS" 4.8 TIP (58 - 2008), Basalt black with black leather £24,000



PORSCHE CAYMAN "S" 3.4 PDK (63 - 2013), Basalt black with black leather £43,000



PORSCHE PANAMERA 3.0 DIESEL TIP (12-2012), Basalt black with black leather £31,000

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PORSCHES WANTED (2003 TO 2014)









n the 1960s America began to wake-up to a serious problem. There had been a vast increase in fatalities on the nation's roads over the preceding 30-year period, mainly brought about by two factors; the proliferation of affordable, and increasingly faster, motor vehicles on its streets; and the relative inadequacies of those vehicles when it came to offering satisfactory levels of occupant crash protection. Between the mid-1920s and 1960s cars had evolved rather rapidly, as automobile performance rose accidents were typically happening at greater speeds, and therefore were far more spectacular in nature. More often than most would like, these were resulting not in injury, but death. There was little in the way of legislation governing vehicle safety standards in the USA, but a newly-established body looked to correct that. The National Highway Traffic Safety Administration (NHTSA) was formed in 1966, shortly afterwards it established a

set of rules designed to address what was a growing issue – road and vehicle safety. Part of the National Traffic and Motor Vehicle Safety Act also of 1966, Federal Motor Vehicle Safety Standards (FMVSS) regulations governed three areas; crash avoidance, crashworthiness, and post-crash survivability. Ultimately the design, construction, and performance of vehicles driven in America were now under the microscope, but the new regulations would have an impact on global scale.

It wasn't until the back end of the 1960s that the FMVSS regulations would come into effect, and though they had the best of intentions, the fact that they threatened certain established automotive practices meant there were many who disliked their existence. FMVSS rules covered, or would eventually cover, a multitude of things we now take for granted in terms of automotive safety and common sense, such as the wearing of seat belts, the fitment to cars of windscreen



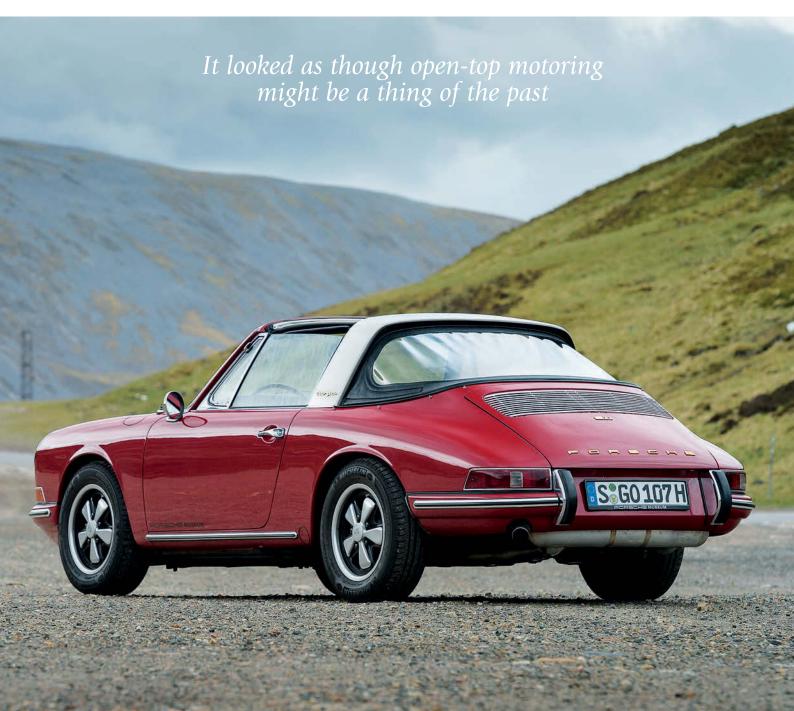
defogging systems, and even the order of transmission lever sequences. Overseeing, or rather forcing an increase in braking technology ensured that, as cars of the 1960s and 1970s increased in weight, their stopping distances didn't grow inline with them. In the area of crash protection came a raft of regulations from head restraints to reduce neck injuries, to impact absorbing collapsible steering columns. Belt improvements, including seat belt pre-tensioning devices, would also become a diktat of the FMVSS. But as these often sensible rules became law, they had a negative trade-off that almost changed the face of global motoring forever.

In the 1970s a new set of crash tests were proposed, tests which every vehicle should pass in order to be sold to the American public. These included a frontal impact test performed at 50mph, a side impact at 25mph

and, lastly, a rollover simulation at 30mph - it was this one that was particularly troublesome. In short it required the occupants of a car to remain in the vehicle in the event of a roll, a test that convertibles of the period had little hope of successfully passing. It looked as though open-top motoring might be a thing of the past for Americans, and as a consequence, potentially for other nations too. Around this time came the rise in popularity of airconditioning systems, further nailing the convertible coffin shut, and for the American car manufacturers so too the iconic 'T-top'. Some years before the advent of modern safety solutions such as reinforced A-pillars (strong enough to hold a car up during or after a rollover), and roll bars hidden in the rear of the vehicle that would deploy automatically in an accident, there seemed little that could be done to save the convertible. The only

exception seemed to be somehow fitting airbags to keep passengers retained inside a cabin during an accident - but to the engineers of the period that seemed an impossible task. By the mid-1970s things looked yet more serious, on the horizon was the requirement for crash tests to employ 'crash test dummies' to more accurately determine potential occupant injury during a collision. So convinced were those at Cadillac of the fate of the convertible car, that the firm presented its Eldorado of 1976 as 'the last of the American Convertibles'. Porsche by contrast had no plans to surrender a staple of its model range quite so easily. The US was a vital sales market for Porsche, one it could ill afford to loose.

As it happened Chrysler took wide-ranging and hard-hitting legal action against the NHTSA. In doing so it delayed the forced introduction of airbags, but more importantly





it challenged the right of the new regulations to erase the concept of the convertible car altogether. The conclusion reached was that drivers and passengers of convertible cars entered into an unwritten acceptance that they were travelling in a vehicle holding inherently higher risks during a collision. Car manufacturers would still be required to make their convertible cars as safe as humanly possible, with increased A-pillar strength and the use of mandatory seat belts, but long term they could at least still produce cars of this type. It wasn't just a victory for Chrysler but for the whole automotive industry.

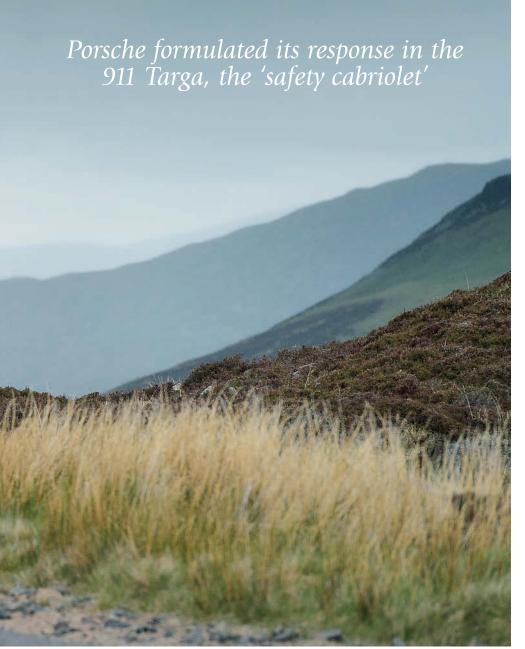
Without knowledge of what was to come in the American courts though, as early as the mid-1960s Porsche had seen the writing on the wall in US for convertibles, but it also had a second agenda in wishing to race its open-top cars Stateside. This meant that it had to meet US competition regulations, moreover it believed there was a solution to the ramping-up of American safety standards and a way to go racing too (though ironically,

it never did test those competition regs). As the NHTSA was being created, Porsche formulated its response in the 911 Targa of 1967, the 'safety cabriolet' as it would colloquially become known. Its permanently mounted rollover bar and removable soft top ensured that occupants would be protected from harm in the event of a roll, and yet they would retain all the charms of open-top motoring. That the American authorities would eventually water down some of the more troublesome regulations in the face of opposition, such as that from Chrysler, mattered not. Here was a Porsche model that was, in its various guises, destined to remain in the German brand's armoury forever.

Porsche had been offering convertibles since the Gmünd days, and so there was little doubt that it would develop an open-top version of the 911 when 356 production was eventually phased-out. America was an important market, if not *the* most important market for any such car, and Porsche had history with selling convertibles there. Porsche had even extended

the sale of the 356 convertible in the US to bridge the gap to the arrival of an open-top 912 and 911. As early as 1954 the US export market was absorbing 30 percent of total Porsche production, that the first ever cars had landed on American soil just four years earlier paints a rather staggering picture.

The 911 Targa design upon which Porsche settled offered the benefit of enhanced structural rigidity, a godsend in any convertible car. And, though he was initially not in favour of its prospect, Butzi Porsche was confident that (in theory) it would be more aerodynamically friendly, too. The first roof solution that Porsche had showcased during the model's unveiling at the Frankfurt Motor Show in 1965, provided both a hardtop and fabric tent-like option to owners, the latter being good only as an emergency stop-gap in a rain shower. However the early prototype cars gifted with that design proved that it was in no way useful to airflow. Early cars were close to what would be fondly referred to as the 'soft window' Targa, these cars famously











feature a plastic rear window that attached to the car via a zip mechanism. The window was not the aerodynamic issue though. Despite its very nature meaning it could prove tricky to reattach, rather it was the fabric roof section above the occupant's heads that was proving problematic during testing. It was ballooning at speed and acting more like a parachute than any kind of aero asset. At this stage Porsche could not envisage a solution that covered the two sections either side of the roll hoop in a uniform material, but with a harder rubberlike option used for the front section, which employed cross braces for added strength, it soon solved the ballooning issue. This rubber section and plastic ('soft') rear window combination was the solution that made production, as showcased by the 2.0-litre Targa you see here from the Porsche Museum collection no less.

It was Butzi himself who set in stone what has since been revived in modern times as a distinctive Targa feature – the roll bar being finished not in body colour, but in a brushed stainless steel look. His reasoning was two fold. Firstly, he genuinely believed it to be more aesthetically pleasing than the alternative options which Porsche had explored extensively during this car's somewhat long design and development period. Perhaps

more importantly, though, Butzi believed that the visual contrast between the stainless steel roll bar and bodywork served to highlight its primary practical purpose - occupant safety. In these times of growing safety-consciousness, if he was correct about that then it was no bad thing to promote such functionality. Not everyone in the business shared Butzi's view, it's fair to say that the Targa's styling was a touch divisive behind closed doors at Porsche. Anyone with concerns over how the new variant of 911 would sell need not have worried though, for demand soon outstripped the rather limited supply available in the early days, so much so that Porsche was forced to increase production. Half of all Targas built in 1966, 911 and 912, went to the United States, which was approximately 6,000 units all told - of those the majority were actually fourcylinder 912s.

It might be a bit of a stretch to say that had the American market become a closed shop for convertibles, that Porsche would've ceased to produce such models. However, to say that this important market would've had no influence at all on the subsequent type of offerings coming out of Zuffenhausen for global markets, seems somewhat shortsighted. Undoubtedly what happened in the 1960s and 1970s in the States had a positive impact

(no pun intended) on vehicle safety, but it also came mighty close to changing the automotive landscape at Porsche, and beyond, too. That the Targa's design might not have been a necessary advent after all today seems unimportant, for the Targa has become such a part of Porsche culture that it is now near impossible to imagine life without it. Early soft window cars, like certain other 911 variants over the years, have arguably traveled through a cycle meaning they have experienced varying levels of desirability. But, while they might once have been only the preserve of the most hardcore of Porsche enthusiast, today as a classic Porsche they certainly hold a far wider appeal. As we have seen, less 911 Targas were built than 912s, which makes the surviving early soft window 911s like this one somewhat rarer than their 912 counterparts. That scarcity and the quirkiness of their design over later glass window cars, means that today these 911s are very special indeed. To drive one is to experience and enjoy everything that is so exceptional about early open-top Porsches, accentuating the connection between driver, car and surroundings in a more cocooned environment than that offered by any other type of Porsche convertible. For that, in a way, we should be grateful to those safety-conscious Americans of the 1960s... O







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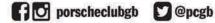
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ot porsche retrospective

ONE YEAR AGO JAN 2017



Porsche cars together for a photo, which formed the basis of our cover. In the issue we took the 991 R on a tunnel run saying 'It's as analogue a 911 as we're likely to get in our digital world.'

We also drove the 718 Cayman and Boxster, stating 'The beautifully balanced unison of exciting handling and accomplished, refined pliancy remains.'

Furthermore we took to the track in the Cayman GT4 Clubsport. Of the accessible racer we said: 'If you're to understand the car properly you must treat it like the racing car it is.'

To bookend all this we had our say of the entire crop of cars from 2016, including the new Panamera. Lastly we drove RUF's 'Warrior' 964, a 2.7 RS and met a pair of 356s - one restored, one 'Outlaw' specification.

FIVE YEARS AGO JAN 2013



n some ways it's hard to believe that the 981 Cayman is five years old, but as evidence we submit our January 2013 issue which hit the newsstands just after the new car had been revealed. We liked what we saw, but we had yet to drive the new Porsche. Off the back of that we bid farewell to the 987 Cayman, our salute saw us drive a 2.9-litre example, we said: 'As sports cars go the original Cayman is hard to beat, the new 981 Cayman has much to live up to.'

Further into this issue we drove the 996 GT3 alongside the 997 GT3, we said: 'No other car feels as instantly and innately right as a modern GT3.'

We also tested Autofarm's 3.9-litre conversion for M96 engined 911s, and attempted to learn the Nürburgring in a 991 Carrera.





/ e looked at how to purchase a 996 Turbo a decade ago, you could bag one for less than £40,000 at the time. We said of the Turbo 911: 'When the traffic thins and the road opens up, you can almost feel the car tense as it prepares to unleash its full potential.'

We also drove one of the earliest running examples of a pre-A 356 in the UK, and sticking with the classic Porsche theme we drove a stunning pre-73 911S. In a more modern vein we got our first taste of the 987 Boxster S Sport Edition, Cayenne GTS and 997 Turbo Cabriolet – all stars of the moment 10-years ago.

Colin Goodwin visited the third ever Rennsport Reunion, then held at the Daytona International Speedway. And maintaining a motorsport tip we looked back at the 2007 American Le Mans Series, where Porsche cleaned up in LMP2.















GAMERS GET REAL AT LEIPZIG

Forza Motorsport 7 offers gamers the chance to drive a multitude of virtual Porsches. A group of gaming experts were recently given a taste of the real thing...



Gaming has become a force to be reckoned with in the entertainment industry, and racing titles are amongst the most popular and immersive.

Porsche most recently collaborated with Microsoft on Forza Motorsport 7, a game that offers players the chance to take control of twentynine Porsche models. The Forza Motorsport 7 team spent days on end at the Porsche Development Centre in Weissach, ensuing they captured the essence of those models being digitally replicated in living rooms across the world.

In a bid to combine the virtual

gaming world with the real Porsche world, Microsoft and Porsche recently invited seven gaming experts from Germany to Leipzig, in order for them to put their simulated skills to the test in real life. Porsche's Leipzig factory is where the Panamera, Cayenne and Macan are built. Finding out just how close to reality the gaming experience really is, were gamers from the 'Let's Play' channels on YouTube, where content usually comprises introducing their community to new games and their features, together with providing tips and tricks.

In honour of the world premiere of

the new Xbox One X games console, the pro gamers raced against each other on tracks in a virtual world through a tournament mode, then they swapped their controllers with real steering wheels – getting on track in 911 and 718 models.

Under the guidance of an instructor, each gamer had the opportunity to master various manoeuvres on Porsche's own circuit at the Leipzig factory. Braking, accelerating and drifting exercises recreated that Forza 7 feeling. The highlight for most was a passenger ride in a 911 GT3 RS, where an

instructor showed the YouTubers the limits of real life motorsport.

In a subsequent tour of the factory, there was an opportunity to bring their pulse rates back down to earth, before they returned to the simulated world which those gathered were more familiar with.

Sebastian Schmalz, Project Manager Games Partnerships and Licensing at Porsche, said: "The racing simulations are more than just a game. Many people experience our vehicles for the first time in digital form – and these are precise reproductions. This is how we reach















the customers of tomorrow, or perhaps even those of today. The games are also an exciting way to drive exclusive Porsche models, which very few people will be able to do in reality."

Forza Motorsport 7 offers seven hundred vehicles in total, including specific Porsche content, for example gamers can take part in a duel between the 918 Spyder and Carrera GT, a historic hillclimb race between a 550 A Spyder and a 356 A Speedster; or, for the truly dedicated gamer, a twenty-four-hour race in the 919 Hybrid.





ELECTRIC CHARGING NETWORK LAUNCHED

IONITY is a joint venture of automotive manufacturers, including Porsche, designed to facilitate long distance travel in electric vehicles.

Making electric vehicles wholly viable in the real world will require a fast and vast improvement to infrastructure, this is something automotive manufacturers will have to work together to achieve.

IONITY is one such a collaborative effort, designed to make a long distance journey in an electric vehicle easier. Said to be an important step for electric vehicle mobility, IONITY is a pan-European venture that plans to launch approximately 400 HPC (High Power Charging) stations by 2020.

Based in Munich, the joint venture is led by Chief Executive Officer Michael Hajesch, and Chief Operating Officer Marcus Groll, its growing team is set to number 50 by the start of 2018. The IONITY network will use the European

charging standard Combined Charging System.

Some 20 stations will be initially opened in partnership with Tank & Rast, Circle K and OMV, located on major roads in Germany, Norway and Austria, they will be set 75 miles (120 kms) apart. The network will expand to more than 100 stations through 2018, each enabling multiple customers, driving cars of different marques, to charge their vehicles simultaneously.

With a capacity of up to 350 kW per charging point, by using the aforementioned European charging standard Combined Charging System, the network will look to reduce charging times compared to existing systems. The founding partners have equal shares in the joint venture,

they include the BMW Group, Daimler AG, Ford Motor Company and the Volkswagen Group, of which Porsche is a part.

Chairman of the Executive Board of Porsche AG, Oliver Blume, said. "These high-charging stations are capable of charging our Mission E to 80 per cent in just 15 minutes – equivalent to a range of 400 kilometres [250 miles]. The Mission E is Porsche's first purely electric sports car. It will arrive on the market in 2019, bringing e-mobility into everyday use."

Porsche's Mission E has already been spotted testing on the Nürburgring, while works on the dedicated factory in which it will be built are well underway. For more information visit: www.ionity.eu





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Dan Bevis

the market place

Dan Bevis takes a unique look at the current Porsche market...



There's something about auctions at major car shows that gets bidders all riled up, isn't there? Perhaps it's the intense competition exacerbated by sheer weight of punters, along with the knowledge that loads of people are watching — is the act of peacocking alone enough to tease people into paying over the odds? Perhaps it's just the overwhelming rush of endorphins that comes from having a nice day out and wanting to take home a shiny souvenir. Whatever the rationale, Silverstone Auctions' results at the NEC Classic Motor Show made for typically staggering viewing.

Bathing under the NEC's newly-installed white lights (hopefully banishing forever those weird orange lights they've had for years that make everything impossible to photograph) were a broad variety of cars bringing in silly numbers: a Mk2 Escort RS2000 sold for £97,875, an ex-Only Fools and Horses Reliant crossed the block for a remarkable £41,625, and someone dropped £112,500 on a Sierra RS500 Cosworth. The auction raked in £3.6m all-in.

And the Porsches? Oh, the Porsches! There were loads, but our particular highlights included the 1973 911 2.7 R-Gruppe — a hot-rod 911 conceived long before the Magnus Walker era, featuring Tangerine paint and an eyewatering spec list; it sold for a fully justified £100,050.

Flying in the face of the big-spender hysteria, the 1990 944 S2 Coupé actually looked like really rather good value at £21,938. This Turquoise Metallic example is a last-of-the-line RHD UK car which has won concours trophies and been jolly well looked after. How many other Porsche concours-winners could you find for that money?

Fulfilling someone's soft-top dreams for 2018 is the sparkling '73 911 S 2.4 Targa – a matching-numbers UK car that enjoyed a ground-up resto in 2006. These early Targas do look elegant and sylph-like today, don't they? Strong money at £118,125, but probably worth it investment-wise.

The '89 930 Turbo LE looked staggeringly 1980s-ish, resplendent in Grand Prix White paint and square-jawed chin spoiler. It's done less than 50,000 miles (which doesn't sound enough, frankly, but each to their own), and its original owner ticked a lot of option boxes – LSD, heated seats, front oil cooler, rear air ducts, the works. The final 53 LE 930s are arguably the most collectible, so £82,125 represents a classic well bought.

And finally, cheap-as-chips (well, depending where you buy your chips) was a little sub-£10k stunner: a 1978 924 with a curious story behind it. Used from new by AFN Ltd to compete in the 1978 Porsche 924 Championship, this car then went on to contest British speed and endurance records at Snetterton, ultimately covering over 1,200-miles in 24-hours at an average speed of 77.31mph. It became a race car again through the 1990s, and has appeared in numerous books. A lot of history for just £9,900.

Silverstone Auctions' results made for typically staggering viewing...



the market

RM Sotheby's London Sale at Battersea Evolution was so star-studded it's a wonder the place didn't spontaneously combust. Among the treats on offer was this spectacular '96 911 GT2, a oneowner car which was once spanged at both ends at the Nürburgring, rebuilt to as-new condition by Porsche in Stuttgart, and now has a few stories to tell. Hammer price? £775,625.

Elsewhere on the menu, we enjoyed seeing an early D-Series 911 E, finished in rare Conda Green; first delivered to British racing driver John Fitzpatrick, he kept it for a couple of years before selling it to its second owner who's held onto it ever since. All original and unrestored, it made a juicy £126,500.

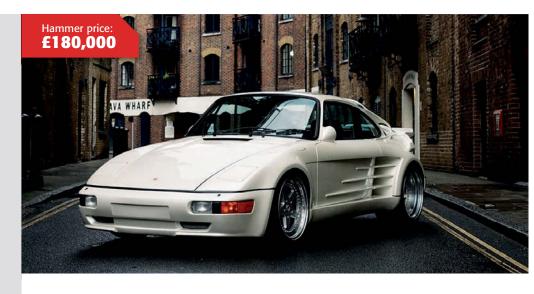
The '57 356 A Carrera 1500 GS Coupé by Reutter ticked all kinds of retro boxes, rocking a tip-top spec and having spent a portion of its life in a private collection in Monaco. (Where else?!) The £490-550k estimate was robust, but not unrealistic.

Keenly demonstrating that enthusiasm for the 964 Carrera RS is only going one way, this Guards Red example was set at £220-250,000. First registered in Switzerland and showing just 25,345km on the clock, this is a real driver's car that deserves to have its neck wrung on a regular basis. But almost certainly won't.

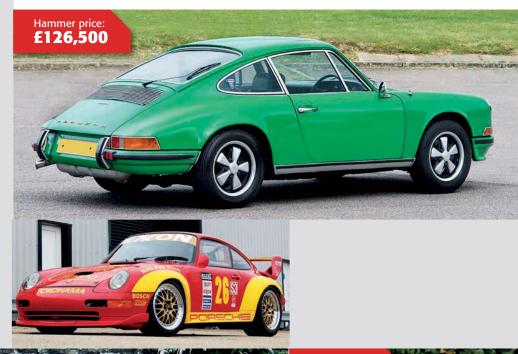
The Carrera RS 2.7 Lightweight is the dream 911 for many, hence the estimate for this one being a nice round million quid. One of just 17 examples distributed to Great Britain, it's got an extensive race and rally history as well as being as clean as a whistle.

Fancy something a little more overtly racy? How does a '97 RSR sound? £800-900,000 buys a bona fide racer with history at Sebring and Daytona, an undamaged original tub, and aggression in spades.

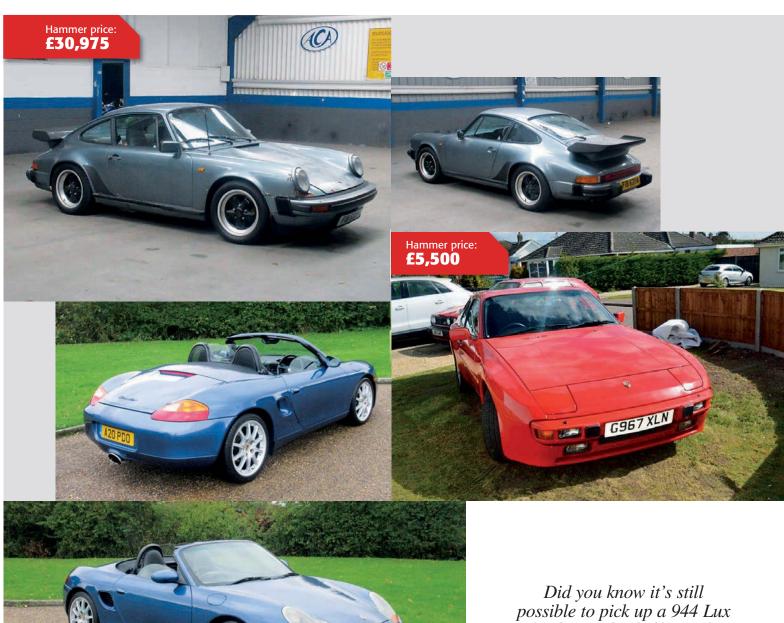
And one to irritate the purists, a Gemballa Avalanche. A period-perfect example of extreme aftermarket modification, this is a 930 Turbo under the skin, with a RUF-tuned motor producing 375hp. Vanilla Ice had one of these. For £180,000 you could be exactly as cool as him. Interpret that as you will.

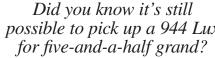


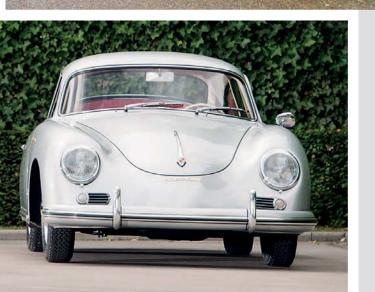
A period-perfect example of extreme aftermarket modification...











Hammer price: **£4,620**

Descending from the stratosphere of giddy big-spenders, let's now dip a toe into the cool shallows of Anglia Car Auctions' November sale. Did you know it's still possible to pick up a 944 Lux for five-and-a-half grand? Sure, there may well be niggles to deal with and troubling noises here and there, but it's a pukka Porsche for not a lot of cash. This one's been magazine-featured and attended official Porsche displays too.

And how about the 911 SC - they just look excellent, don't they? Perfect spec, perfect stance... this '83 model has seen better days, however. A runner, but one that hasn't been used in a decade, it comes complete with a whole world of rust and a lot of work to be done. A lot of potential though, particularly for £30,975 (which, incidentally, totally smashed its £10k estimate).

And how's this for a slice of fried gold – a Boxster for under £5k? OK, it's an auto and it's a 2.5, but still. Any Boxster is a good Boxster, right? Low miles, split-rims, a new roof - £4,620 sounds like an absolute bargain.

the market

EBAY WATCH:

911 Turbo (930)

If you're interested in Filofaxes, red braces, and pastel-hued suits with the sleeves rolled up to the elbows, then well done – you've successfully completed the Big Bumper Course of Porsche 930 Clichés! The 930 is an iconic thing, and rightly so – back in the go-go Eighties, it was one of the holy trinity of bedroom wall poster cars, alongside the Ferrari F40 and the Lamborghini Countach. The Porsche's unique hook was that, in this company at least, it was punching above its weight: a tweaked sports car alongside a pair of supercars.

The '930' moniker refers specifically to the 911 Turbo built between 1975-89; 3.0-litre motors for the first couple of years, then 3.3 thereafter. Porsche had been turbocharging race cars since the 1960s and were well-versed in forced induction, but that wasn't to say buyers were in for an easy ride — initial road tests highlighted the car's demanding style, thanks to its short wheelbase and marked turbo lag, and this was all exactly as it should be. Phenomenal performance shouldn't be too easily accessible, you have to work for the

Myriad boxes were available to tick on the options list, from 330hp power upgrades to the fabled 'Flachbau' (slant-nose), but let's be honest — any 930 is cool and desirable. From the whaletail to the signature acceleration squat, it's all very good indeed. The one we've found on that popular auction site this month is a 1983 model in Guards Red [item no. 332450945730] — the colour most often found on Athena posters - and it's a matching-numbers car with a decent history and all the original books, tools and manuals. Its price is unsurprising for a decent, honest 930, at £79,995 — you do see chancers offering such cars for six figures and outstanding cars will sell for that, but the market isn't quite there yet for this sort of solid but properly used example. A decent buy here, we reckon.

QUICK BUYING GUIDE

- Provenance is key, so the first thing to do is check that all the documentation checks out. Naturally originality is down to personal preference, but it's important to know where you stand.
- Inspect the bodywork thoroughly, particularly the wide rear hips these were always prone to scrapes, with the tail being so much wider than the nose, and were often replaced with inferior fibreglass items.
- The 930's engine is very solid if it's been properly looked after, and you ought to be highly suspicious of a motor that produces a lot of smoke and/or doesn't idle evenly. Don't be surprised to learn that parts are eye-wateringly pricey too exhaust heat-exchangers are £500 a pop, while a gearbox that's crunching in second or third could set you back £3,000 for a rebuild.
- As with any car, super-low mileage while good for investment purposes doesn't always mean you're looking at a great car. These things need to be used or they seize up and corrode in unexpected places if your brake or fuel lines have dried up and split, for example, it could be almost a grand to replace it all.
- Suspension is hardy, with the shock absorbers and anti-roll bar bushes being the most obvious causes of funny noises and wonky handling listen out for clonks and rattles on your test drive.









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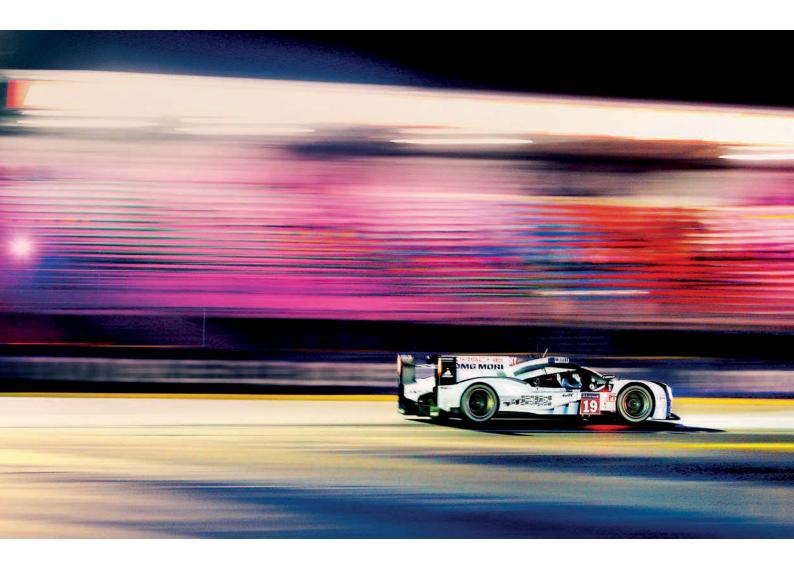
The electrification of vehicles presents engineers and scientists with new challenges. Porsche has developed rich expertise in the field...

Story: Dr Stefanie Ostermeyer, Tim Schmidt

battery system is generally comprised of multiple modules, which in turn are made up of individual battery cells. The main components of a battery cell are the anode and cathode, the separator, the electrolyte and the cell case. The electrodes consist of a thin metal foil (current collector) coated with an electrode film. In the case of lithium-ion cells, the aluminium foil of the cathode is frequently coated with an electrode film based on transition metal oxides such as lithium nickel manganese cobalt oxides. The anode typically consists of a copper foil coated with a graphitecontaining electrode film. The porous electrode films consist primarily of the active material

and to a lesser extent of conductive carbon additives and polymeric binders. The two electrodes are electrically isolated from each other by the separator — a semipermeable membrane — in order to prevent a short circuit. Separators are frequently made of microporous plastics like polyethylene. They can also be stabilised by ceramic particles. The pores in the electrodes and the separator are saturated with an electrolyte that serves as a lithium-ion conductor. Solutions of organic carbonates — for instance ethylene carbonate — and a conductive salt such as lithium hexafluorophosphate are commonly used as electrolytes.

Immediately after assembly, a lithium-ion



cell is in the uncharged state, i.e. all available lattice sites in the cathode active material, are completely occupied by lithium ions. If the cell is charged, lithium ions move from the cathode through the electrolyte to the anode. There, the lithium ions are inserted into the anode structure. This process is also known as intercalation. To balance the charge, electrons flow from the cathode to the anode by means of the connected energy source. When discharging, the exact opposite process takes place, and the electrons and lithium ions move back in the direction of the cathode. This back and forth of the lithium ions between the two electrodes is also known as the 'rocking chair principle.'

The first time a lithium-ion cell is charged, a

surface layer forms on the anode. The formation of this so-called SEI (solid electrolyte interface) layer is an inevitable and irreversible process, which results in the loss of lithium ions. However, a stable SEI protects the anode structure against its destruction.

Fundamentally, five criteria are in the focus of the further development of lithium-ion cells: safety, lifetime, power, cost and energy. Increasing the cell energy is crucial here in order to fulfil the significant demands with respect to the driving range of electric cars at the lowest possible mass volume of the battery. The energy is the product of the average cell voltage U and the cell capacity Q (E = U x Q). In relation to the cell mass or cell volume, one speaks of the specific energy (Wh

/ kg) or the energy density (Wh / l). To increase these two values, specific core materials are further developed and optimised.

The list of cathode active materials is extensive. One important substance class is the transition metal layer oxides, with lithium nickel manganese cobalt oxides (NMC) prominent among them. NMC-111, for example, has already proven effective in commercial lithium-ion cells in the automotive sector. However, building electric cars with high driving ranges requires cathode active materials that enable higher specific cell energies, which is fueling a spike in the prevalence of nickel-rich NMC materials with high reversible capacities on the market. NMC-622 has recently become available for automotive lithium-ion cells.

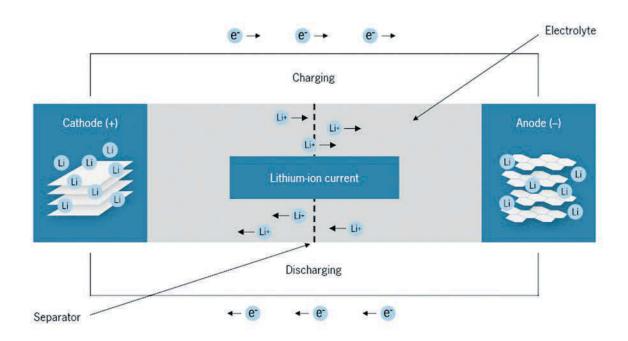


LITHIUM-ION CELLS

Generally, the higher the nickel content, the higher the cell energy, but the cyclic stability of the respective lithium-ion cells declines. Nevertheless, nickel-rich NMC materials have great potential and will presumably be used in cells for automotive battery systems in the near future. Lithium nickel cobalt aluminium oxide (NCA) has been commercially available for quite some time and already powers electric vehicles on the road today. At temperatures over 40°C, however, cells with NCA demonstrate a shorter cycle life and a lower current rate capability compared to nickel-rich NMC materials.

Recently, two new cathode active materials promise a significant increase of the specific cell energy: on the one hand, lithium rich NMC materials and on the other hand high voltage spinels. However, both materials are still in the research phase and will require significant optimisation. Furthermore, sulfur is being investigated as a cathode active material, due to its low costs and high specific capacity (energy per gram sulfur). Nevertheless, compared to conventional lithium-ion cells, lithium-sulfur cells have a significantly lower energy density (energy per cell volume).





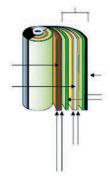
ANODE ACTIVE MATERIALS

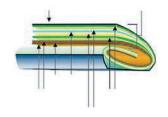
At present, primarily graphites (figure at bottom right) are used as anode active materials. Generally, three graphite types are applied in lithium-ion cells. MCMBs (mesocarbon microbeads), synthetic or natural graphites. All three graphitic carbons have comparable specific capacities and thus enable similar specific cell energies. MCMBs are spherical particles. They provide very good cycling characteristics, but are relatively expensive. Hence, mainly natural and synthetic graphites are used in lithium-ion cells. In the context of further improving the specific energy of cells, silicon is increasingly moving in the focus of research as an anode active material as it has a specific capacity roughly nine times higher than that of graphite. However, during the insertion and extraction of lithium ions, massive volume changes of the silicon particles take place which adversely impact the cycle life. For this reason, electrodes that exclusively use pure silicon as the active material have not, to date, been applied in commercial cells.

One possible way to increase the cell energy while minimising volume changes is the use of silicon carbon composites with pure silicon contents of just 5 % to 20 %. They are promising candidates to significantly increase the specific energy of lithium-ion cells, but still have to be sufficiently optimised. From an energetic point of view, metallic lithium, as the lightest solid element in the periodic table, represents the ideal anode active material since it provides the highest specific

capacity. This characteristic is advantageous in non-rechargeable, commercial lithium cells. In the case of rechargeable lithium-ion cells, however, severe problems occur in combination with liquid, organic carbonates. The SEI that forms on the lithium metal surface is not stable. This leads to a constant consumption of electrolyte and lithium. Moreover, when the lithium is redeposited on the metallic anode surface, needle-like structures can form. These lithium 'dendrites' represent a major safety problem because they can grow through the separator and cause an internal short circuit in the cell. Currently, research is being done to replace liquid electrolytes by solid electrolytes to enable lithium metal to be used as the anode active material in an all-solid-state cell.

Here: Electrode-separators in lithium-ion cells have different variants: cylindrical jelly rolls, prismatic jelly rolls or stacks







HIGHER ENERGY DENSITIES

As already mentioned, currently mainly separators made of polyolefins, which are in some cases stabilised by ceramic particles, are used in commercial lithium-ion cells. The trend here is towards thinner separators (< 20m) for the development of high energy cells. Structure of transition metal oxides (blue: MO6 octahedron; grey spheres: lithium ions). In all-solid-state cells, the classic separator should be completely replaced by a very thin layer of solid electrolytes. By this method, higher energy densities could be gained.

Nowadays, lithium-ion cells for the automotive sector use solvents such as organic carbonates in which a conductive salt is dissolved. These components determine the main properties of the electrolyte, such as the ionic conductivity. Low amounts of additives can further improve the adaptation to the cell chemistry of the lithiumion cell. Currently, work is underway on new electrolyte formulations for high-energy active materials, although major challenges, including electrochemical stability over 4.2 volts, still have to be overcome. At the same time, massive research efforts are being undertaken in the field of solid electrolytes for an all-solid-state cell with high cell energy. The big problem with pure solid electrolytes is their low conductivity compared to

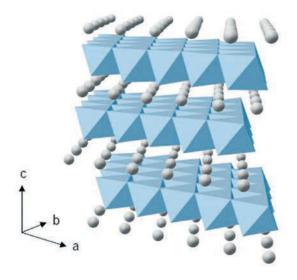
liquid electrolytes. For this reason, initial efforts are focusing on partially liquid concepts with ionic liquids, for example. While they do not yet meet automotive requirements, solid-state cells have a great deal of promise in principle.

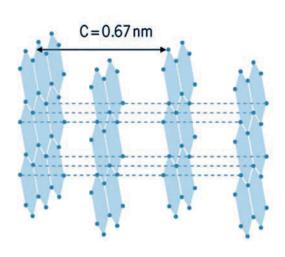
For the electrode-separator arrangement in lithium-ion cells, there are three different variants: cylindrical jelly rolls, prismatic jelly rolls or stacks (see diagrams above). These are generally inserted into round or prismatic hard cases and laminated compound foil housings. In the case of cylindrical jelly rolls, a homogeneous contact between the electrodes and the separator is ensured. Their big disadvantage lies in the fact that the roundings cause a high mechanical stress on the electrodes. Moreover, the round electrodeseparator arrangement manifests an unfavourable heat distribution from the inside to the outside. Yet, the good cell interior density of this design enables high energy densities. Cylindrical cells are frequently manufactured in the 18650 format.

In contrast to round jelly rolls, prismatic jelly rolls exert less total mechanical stress on the electrodes. In addition, they have a better temperature distribution. The cell interior density, however, is lower compared to cylindrical cells due to the housing edges. A frequently used variant in the automotive sector is the PHEV2 hard case cell. The

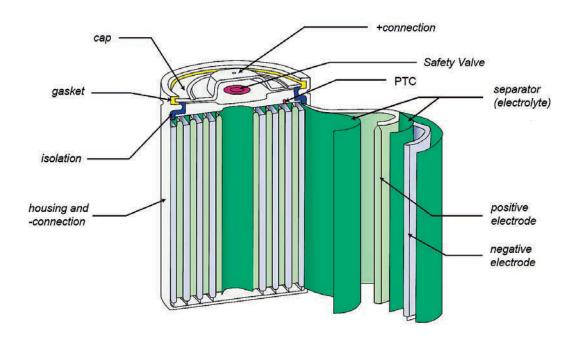
stacked electrode-separator arrangement exerts the lowest mechanical stress on the electrodes. The heat distribution is also uniform and the contact between the electrodes and the separator is homogeneous. Due to the separator overhang, the interior density of this cell type is a little lower than with cylindrical jelly rolls. Moreover, the production speed is slower compared to the winding technique. The right-hand figure on the opposite page shows a pouch cell with a stacked electrode-separator arrangement for electric vehicle use.

Regarding the cell housings for the aforementioned electrode-separator arrangements, hard cases have the advantage over compound foils that the side walls are highly resistant to deformation. Moreover, a CID (current interruption device) can be integrated as a passive safety element. The CID is activated when high pressure forms within the cell and cuts the connection between the electrode and the external pole of the cell. Consequently, the lithium-ion cell is deactivated before a critical state emerges. However, the production of hard cases is complex and expensive from a technical standpoint due to the number of components. In addition, these stable cell cases also have a high intrinsic weight, which has a negative impact on the specific energy of such cells.









LITHIUM-ION CELL DESIGNS

Compound foil-cell housings, by contrast, have a very low intrinsic weight and consist of substantially fewer components. This makes it possible to achieve high specific energies. Due to the flexible shape of pouch cells, however, the side walls are easily deformable and penetrable. Mechanical stability is only achieved through additional side walls in a module. Moreover, laminated compound foil-cell housings cannot accommodate passive safety elements.

Lithium-ion cells are complex and very multifaceted systems. The wide range of materials available for the various cell components and the cell design are correlated with individual characteristics leading to different advantages and disadvantages in terms of safety, service life, output, costs and energy. A precise understanding of the lithiumion cell including all chemical and physical processes is, however, the prerequisite for the selection of the most suitable cell for the respective vehicle, whether it is a sports car or another vehicle in which Porsche Engineering is involved in the development process.





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long term

Our Long Term team explain the trials and tribulations of running a Porsche in the real world ...



















long term



2008 997 CARRERA 2 S

he temptation had grown so intense I could no longer resist; I needed another Porsche in my life! However previous fraternising with this legendary marque hadn't proved popular with either my wife or bank account. Third time lucky I thought!

A classic car chap at heart, I had previously delved deep into the marque's back catalogue. My first Porsche was a Californian 1969 912 Targa, whilst possessing classic Porsche good looks and a peppy 356 motor, it transpired that this particular example had lived most of its life in the sea rather than beside it and required costly body restoration!

Next was a beautiful Velvet Red 964 Carrera 4, which back in the late noughties was a lovely thing to own but was complex to maintain and cost its value in annual maintenance. That said, with subsequent rocketing prices, hindsight is a bitch...

Feeling older and wiser, I now wanted a Porsche with future classic potential but without the restoration or upkeep headaches of my previous purchases. My dream was to get back into a good 964 or 993. Looking for purity I was focused on manual Carrera 2 and S models, but soon realised the market had far out accelerated my budget! I did find a low mileage late 993 C2S, with a specialist but at £125,000, the reality struck that I was going to have to look at a different generation of 911.

I'd driven many 996 models as a journalist when they were new and had particularly good memories of a road trip in a C4S, but even those deep Turbo bumpers couldn't get me past the fried-egg headlights that were panned in period and remain an acquired taste today.

So, my search moved up a gear and along a generation; 997 Gen 1 cars seemed plentiful on the market and whilst prices seemed to be on the rise, there were still good low mileage, low ownership examples out there within my target budget.

I toyed with a stealthy looking black-on-black Carrera 2 with one owner and sub 30,000 miles, but these turned out to be hard miles and I was in danger of repeating history and the expensive lessons learnt with the 964. A glimpse at the other end of the market by test driving a Porsche Approved Gen 2 C4S with a sticker price of £55,000 also brought me back to reality, helping me realise that Gen 1 was for me and four-wheel-drive wasn't.

Extensive online searching led to a specialist in North Yorkshire called Motorhouse of Shipley, a long-established family run company that seemed to have some pretty impressive supercar stock including a good selection of Porsche 911s to choose from.

Sitting on rare 19-inch Carrera
Sport Wheels, a 2008 Carrera 2
S stood out from the crowd, low
mileage, long previous ownership,
extensive service history and
seemingly loaded with options. It
was, of course, above my budget, but
I convinced myself that the extra cash
was worth the extra car I was getting
for my money.

Further research via *GT Porsche* and the Porsche Club GB boosted

confidence with knowledge that bore scoring issues and IMS bearing nightmares that had plagued both 996 and early 997 models had been eradicated for this final year of engine production, before Porsche moved to the new engine for the Gen 2 997.

Deposit placed, I embarked on the long train journey north, using the time to read again the specification list for the car, that included Atlas Grey metallic paint, those upgrade wheels, sports seats with the centre console and seat shells painted body colour, heated seats, parking assist, Bose sound package, sports exhaust, Sport Chrono Plus package, sunroof, as well as a long list of other finer optional details.

On arrival I was relieved to find that reality lived up to the pictures I had been sent. Immaculately presented, and obviously cherished by the previous owner, it shone with a blue hue under the showroom lights. A 117-point check by Leeds- based Porsche specialist, Strasse, highlighted the need for a new vacuum pump, ignition coil packs, coolant pipes and





exhaust flange bolts, all of which were fixed prior to purchase.

I could hardly believe I could make such a pricy purchase via chip and pin from my debit card, but it was as easy as pressing four keys on a pad. The long drive south was a great way to get used to my new toy, mostly motorway, but offered plenty of miles to press all the buttons in the cabin and ensure all was working as it should.

Feeling like a new car, the sound, steering and performance felt crisp and visceral, it really is difficult to beat the attributes of a Porsche 911.

Mark Whitchurch





long term

2004 996 40 JAHRE

I know what you're all thinking, The Ashes is on and Matt's bought another car without DAB installed. what a tool. Worry not, I am way ahead of you. Part of the time spent between buying and collecting the car was pouring over the options for adding DAB to the 996. The solution had to be something that I could use to add DAB without making a mess of the interior with stick-on bits; I am a stickler for keeping cars as OEM as possible. But given that the 40 Jahre is a limited edition I am somewhat hellbent on keeping it as original as possible, and that extends to upgrades that would enhance the ownership experience.

I had the Alpine EZi-DAB in the Boxster, and was very impressed with it, but I didn't want the module stuck on the dashboard. It was suggested to me that I should swap out the outdated double DIN navigation unit, that would have given me most of what I wanted, but they look too aftermarket and I have also been told that the Bose / MOST optical system can be a fiddle to get right. I looked at mObridge as I had heard good things, I found the pricing on the high side, possibly relative to the quality, but the cost goes up when adding the Bluetooth module to DAB. The familiar option was the Dension, in the 500S BT plus the DAB module, this came in cheaper than one of the mObridge modules. Having used Dension in one of my previous cars I decided that was the way to go. My parcel



arrived the same day that I collected the car.

Fitting is relatively simple, in theory. Trim removal tools to pry off the plastic surround, a hex key to unlock the headunit to slide that out, connect everything up and away you go. Except of course, it doesn't work when tested. If I reconnected the main Dension box it worked until I restarted the car. I updated the software on the unit, which was actually a simple process, but didn't fix it. The first time I called support they suggested that I had not used a permanent power supply. On the next call I was told I needed to loop out the phone unit under the driver's seat. A £25 fibre cable later and I still had problems. Next, I was told to loop out the CD changer. Instead of buying another cable I modified the exiting loop, sending the amp back to the headunit. This did work,

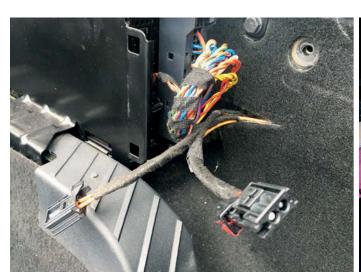
but I now have an error every time I switch on the radio. Once I managed to find out how to remove the A-pillar trim I fitted the aerial for the DAB unit. All of the cables have been neatly hidden and both the main and DAB modules fitted under the pay unit

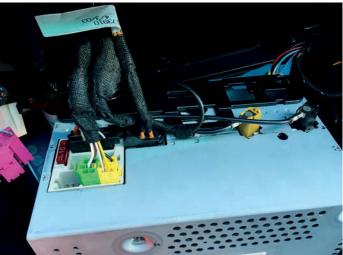
CD changer error message and windscreen aerial side I now have a discrete Bluetooth and DAB solution that runs through the factory menus, and it sounds okay too. The downside is the way the Dension works with the interface. The version I had in my Z4 I selected the input source using the CD number, but with this version you have to go to the menu, to CD sixn to select the source, and then track to select what you want. DAB tends to stay set between uses, but BT Audio can drop and if it does, and it's still technically listed as the source, there

is a cumbersome process of going to another menu and back to be able to select it. Overall, I'm happy, if I was doing this again I would definitely investigate other options. I need to check the power supply to the DAB aerial and will have to pay someone to program the error out of the headunit. Oh, and I'm going to try and modify the existing microphone to accept the Dension one, for the OEM look.

Matt Biggs

















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long term



2014 PANAMERA S E-HYBRID

de've had reason to put the Porsche Approved Warranty to the test this month. I'd been musing over how effective said warranty would prove to be when the time came (my experience of used car warranties is a little patchy, and this is my first Porsche remember), when shortly afterwards, EA14 decided to throw a hissy fit one evening as we were leaving the office.

Key turned in the ignition, everything seemed good. Dashboard lit-up, all systems online. As is normal for the evening commute (we do not, as yet, have the facility to charge hybrids at the office), the battery was almost dead, hence the engine fired-up nigh on immediately, followed shortly afterwards by a yellow dashboard warning relating to a power steering plus system failure (an option fitted to my car). Since the message also confirmed that we could continue to drive the car (and I'd heard that the occasional gremlin can permeate the Panamera's electronics prior to banishment via the time honoured switch off /

on resolution) we continued on our way, and exited the office car park, noting the slightly heavier than normal steering response.

Accelerating through 50mph down the local dual carriageway (but note, not exceeding 60mph) I was aware of a higher-than-normal background noise level. Pulling over and climbing out, it became clear that the source of the noise was the engine cooling fan, blasting away in the nose as if the car was sat stationery on the M25 on a roasting Bank Holiday Monday. Except this was cold, dark Oxfordshire at a little after 5pm in early November, with the engine still stone cold. So something was clearly amiss. Even with the engine off and the doors locked, the fan continued unabated so, figuring that the car clearly wasn't happy, and that standing around here would result in us freezing to death whilst the car slowly died, we restarted and carefully continued, aiming for home.

Another half-mile down the road though, the situation deteriorated and several things happened in quick succession. A rapid-fire list of warning messages appeared in the instrument binnacle, before 'Fault Generator Park Vehicle Safely' blazoned away from the depths of the display, declaring the need to pull over on pain of death. Then the suspension went rock hard and in an instant, the big Panamera switched from a compliant and responsive sports saloon to a two-and-a-bittonne lump of granite grumpily looking for a place to rest. Not good.

So we pulled over. And everything died. And I mean, everything. No lights, no ignition. No interior lights either when opening the door. I climbed out and observed three things. One, it's still ruddy chilly out here. Two, the wheels are nestling in their arches rather more than normal and three (and remembering we hadn't exceeded 60mph as yet, which is the speed at which it deploys), the rear spoiler appeared to be half raised, half lowered, which looked plain odd.

So long story short, onto the phone to the Porsche Assist people. And once the helpful but, nevertheless rather confused lady at the other end had pinpointed

our position, it was approximately another 30 minutes when Darren from the AA arrived in order to take my wife home, and then a further two hours before the relay chap arrived from the excellent www.cotswoldvehiclerecovery.co.uk (01993 845930) in order to recover the stricken Porsche back to our place (before then reloading it the following morning to then deliver it to Swindon OPC. And all under the warranty coverage, of course).

"Fire it up and just load it onto the truck will you please, Sir?" asked Tim the recovery chap upon arrival. Er, sorry Tim it's as dead as disco mate, that isn't happening. "Trust me", he said... "Seen this before... try it". So I did. Opened the door, no interior lights, no sign of life. Turn the key though and everything came on - exterior lights, all the interior lights, radio - the lot. But not that cooling fan, which was notably silent, having spent the last two hours slowly whirring its way to sleep. But in an instant it was akin to sitting in the middle of Blackpool Pleasure Beach at the height of rush hour. I may have sworn a little at this point,









long term

having just spent the last two hours in the enveloping cold, wondering why I hadn't accepted Darren's nice offer of just leaving the car here and allowing him to come back and sit with it (I wanted to sit with the car myself, daft I know). But whatever, here we were with a car which to all intents and purposes was fit and well again, engine running, heater going full blast, battery charging... Bloody cars.

A little jigging about had the car loaded up before next morning it disappeared off to Swindon, and I was left with a Mercedes C-Class for a few days. Hideous thing, with an engine evidently sourced from the Massey Ferguson factory, circa 1952. And quite the most appalling

interior electronics design I've ever encountered. But it was free of charge and it moved, so it wasn't ultimately very important.

"We cannot find anything wrong, Mark." said Swindon a few days later. They'd looked at the pictures I'd emailed, matched those to the messages in the car's computer, cleared those and left the car to its own devices for a while, attempting to replicate the scenario of the electronics throwing a paddy, whilst switching between a zero-percent battery and the engine. Nothing doing. Despite the recent service at OPC Leeds, they once again changed the electric motor / gearbox fluid as a precaution and, in essence, a week after the breakdown I was

back to collect the car, which of course had behaved impeccably during its visit.

Swindon's view, quite reasonably, is that all we can do now is wait and see what happens, so I was sent on my way after being handed back the keys, but not before having a quick shufty around the showroom (a sit in the latest Panamera had me appreciating its bang up-to-date design more than previously). And there was no charge for the work done to the car, at all. So that Porsche Warranty is indeed pretty bullet-proof it would seem. Which is excellent piece of mind.

Everything has been fine since, so I'm hoping that next month, normal service can be resumed and I can relay what it is like to live with a Panamera Hybrid and how the various systems work. We've also had a day at the Porsche Experience Centre at Silverstone this month, which was both educational and very enjoyable. So more on that next time also.

Mark Williams







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long term

2005 987 BOXSTER

s I mentioned from the outset there were a few jobs to sort on the Boxster as a matter of urgency. Last month we replaced the blown exhaust system with a fantastic Dansk offering, and on that note I must quickly point out that we printed slightly incorrect part numbers — to clarify the correct digits are 98.300S (for the cat version) and 98.301S (for the decat). They'll be more on the two different Dansk systems in a forthcoming issue.

Anyway, when Regal Autosport took the wheels off the car there was a collective intake of breath in the garage due to the state of its rusted and worn brakes. As if to confirm, a matter of days later the pad wear indicator illuminated on the dashboard – so the stoppers became our next priority job.

The 2.7-litre 987s come with pretty decent grooved and vented brakes as standard, with good pedal feel and bite, so I opted to replace like-for-like discs and pads through GSF Car Parts (www. gsfcarparts.com). Though GSF offers a range of braking options for the car, from budget to premium in terms of price point, I opted for its range-topping Brembo setup. This comprises two 298mm diameter vented front discs (£70.67 each), two 299mm diameter vented rear discs (£156.80 each) together with a front (£107.00) and rear (£108.40) pad set. In conjunction I needed brake pad wear sensors all round, these fit to the pads and indicate when they are worn and therefore need replacing. They should be replaced each time you renew the pads. The shorter front items (360mm) are easy enough, priced through GSF at around £14.00 each, the longer (500mm plus) rears though were more tricky (£22.00), and this is where you need to pay attention because I made a mistake and I don't want you to do the same.

Depending on the date of its manufacturer, an early 987 can take one of two kinds of rear brake pad and matching wear sensors, with either a pin-style connector (like you'll find on the fronts) or



a horseshoe-style. I ordered the pin-style pad but it transpired that I needed the horseshoe-style, which was a bit of a road block. Luckily the team at GSF were just a phone call away and exceptionally helpful in correcting the error. I would advise that you check with GSF which parts your car needs before ordering! That hiccup aside, changing the car's discs and pads all round went smoothly, and it's a process that will be applicable to a range of Porsche vehicles, notably in this case the 987s and 997 Carrera.

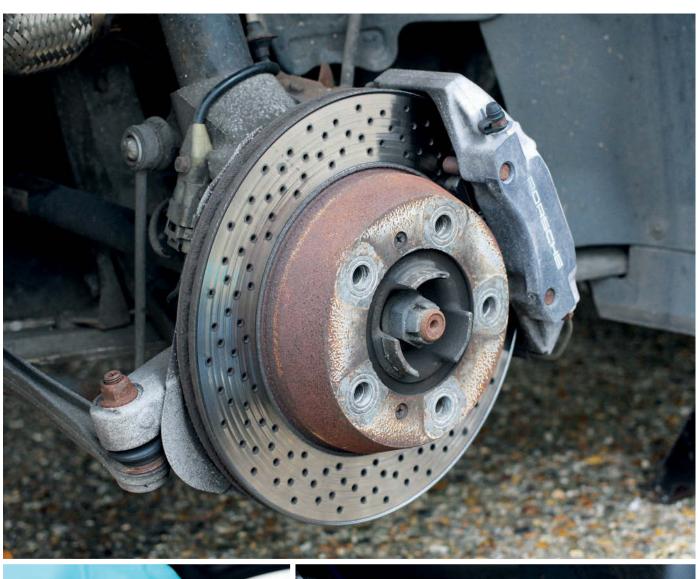
With the handbrake off, the car jacked-up (we used a trolley jack

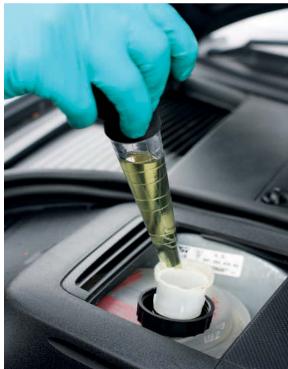
and axle stands for safety) and wheels removed, by hand remove the electrical connector for the brake pad sensor, then with pliers remove the retaining clip. With a punch and hammer the long retaining pin will push out the back of the calliper, freeing the spring. Using a turkey baster or similar, suck a good amount of brake fluid from the master cylinder reservoir located in the front scuttle panel, then with a spreading tool you can push the pads apart to retract the pistons in the calliper, releasing the pad and sensor. The vibration damper can come out now too and either be

replaced or reused, we reused ours.

To remove the calliper there is a 10mm bolt at the back of it and two further bolts on the rear facing the front of the car. Lastly there is a bracket to release the whole affair. Use cable ties to secure the calliper to the suspension strut prior to releasing it and gently tuck it out of the way. Two small screws on the disc face need to come off next, then the disc can be removed (it might require some persuasion).

Before you fit the new discs (which are directional by the way) clean them with brake cleaner, and retrace your steps to refit. Any







long term









bolts you reuse rather than replace will require some anti-seize grease to ensure they don't get stuck in future. The new pads will want some copper grease on the back of them, so too the anti-vibration dampers that sit behind them, the pads can be lubricated down their sides too where contact will be made – ensure you don't get any on the face of the pad though. With everything back together, including the fitment of fresh wear sensors, top up your brake fluid reservoir with

fresh fluid and pump the pedal until it offers tough resistance.

The benefit of replacing bolts and lubricating thoroughly was hammered home when we encountered the two used to secure the rear calliper brackets to the car, both were seized and needed drilling out. Otherwise, thanks to the help of GSF, the car was quickly returned to full health, in the braking department at least. Having run the new braking setup in over a few hundred miles I can confirm that the

new Brembos offer a great deal of confidence on the pedal, reducing by far the distance required to stop.

I'm glad I opted to retain the factory braking setup for there was little wrong with it other than some worn parts, and with everything refreshed its capability and feel has confirmed that. I might in future be minded to paint the callipers, as they do look a touch tired, but I won't be splashing them in a red hue and trying to emulate the look of a 987 S, rather something far

more subtle would be in order I feel – read black!

Simon Jackson







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EXCLUSIVE SERIES JACKET

How much? £230.00

Where from? www.porsche.com

This 911 Turbo S Exclusive Series jacket for men is new from the Porsche Driver's Selection. It boasts a couple of clever features, such as an ear phone slot on the inside, and zips on its cuffs for fast access to your watch. With a '911 Turbo S Exclusive Series' woven label on the inside pocket and hood, partial gold piping and several other handy pockets, it refelcts the car after which it is named. This would be ideal for winter.







DYNAMIC SPEED DS5.5 R-EVOLUTION

How much? From €1,441

Where from? www.dynamic-speed.de
These DS5.5 R-Evolution wheels from Dynamic
Speed in Germany caught our eye as they're
rather unique, wouldn't you agree? This modern
take on a Fuchs-style wheel is a three-piece
concave forged split rim alloy wheel, made in
Germany and featuring hidden hardware. This
means that any bolts between their individual
sections are not visible on the face of the wheel,
delivering a very clean aesthetic.

Available in a range of sizes, including 17- to 21-inch diameters and 7- to 15-inch widths, they come in 5x130 PCD to suit Porsche vehicles and, importantly, they can be ordered in variable offsets to ensure they sit under your car's arches perfectly. They are also compatible with Porsche tyre pressure monitor systems. Dynamic Speed's standard finish offers a matt-black centre section (as pictured here on a 993) and inner barrel, with a mirror polished outer barrel. For an extra charge the centres can be treated to a special finish, but we'd hazard a guess that any further bespoke requests could be catered for too.

Dynamic Speed's founder, Frank Scheurer, has more than 30 years experience in the automotive sector, including the design and manufacture of lightweight alloy wheels. In 2016 the company, which is based in Burgalben north-west of Stuttgart, received the all-important German TÜV verification assuring the quality of its products. It currently offers eight different wheel designs, with no less than 22 different finishes available, depending on which wheel you are purchasing. At present Dynamic Speed does not have a UK distributor, but customers can order directly from the firm. Prices (per wheel) start at €1,441 for a 7x17-inch rim, rising incrementally to €4,358 for a whopping 15x22-inch wheel. All prices are inclusive of German VAT (19%). When an order is placed a 50% deposit of the total amount is required, the balance payable prior to delivery. Visit the Dynamic Speed website and social media channels for more.

















SPARK 1:43 997 GT3 R

How much? £47.95

Where from? www.racingmodels.com

The 997 GT3 R, replicated here in 1:43 scale, was driven to victory in race one of the 2012 French FFSA GT Race at Dijon, and to third spot in race two by Anthony Beltoise and Henry Hassid. This limited edition (numbered) model is one of just 500 and, as a bonus, it comes with a victory trophy mounted on its plinth. Add code GTPOR010 to your shopping cart to receive a 10 percent discount exclusive to *GT Porsche* readers.



G SERIES 911 PARTS

How much? £POA

Where from? www.jpgroup.dk

A complete aftermarket rear engine panel fitting both F and G Series 911s is now available from JP Group. The high quality panel, as seen here, has been designed to mimic the rear outer skin of the original item, found on the G Series 911. A precise replication of the F model version, with its unique curve, is now under development. This item replaces OE part number 591066, the JP Group part number you need is: 1680601400.

Also fitting F and G Series models are these 'banana-style' SSI sports exhausts. They promise to sound great and compliment SSI heat exchangers and heater control boxes. Replacing OE part number 92.210SSI comes JP part number 1620611200, OE part number 92.211SSI is replaced by JP part number 1620611300, and lastly OE part 92.201SSI is replaced by JP part number 1620611806.







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Porsche 930 Turbo Carrera 3.0 1977, Manual Gearbox. LHD, Sahara Desert with Cork interior

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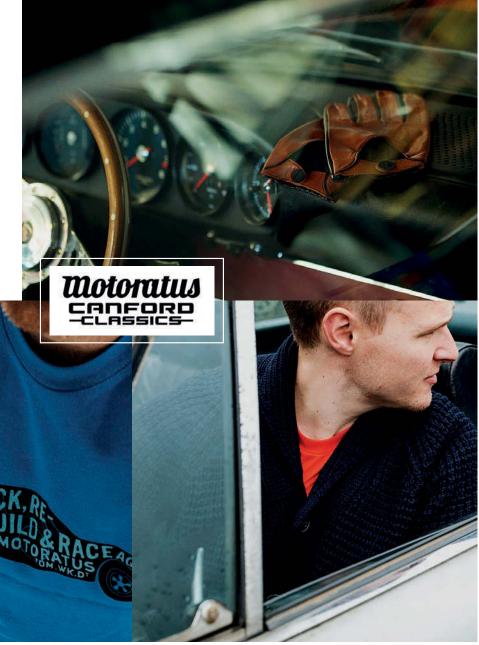


MOTORATUS CLOTHING

How much? From £45.00

Where from? www.motoratus.com
New clothing brand, Motoratus, has been
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With experience of creating clothing for Levi's,
Barbour (including the Barbour Steve McQueen
collection), Indian & Brough Superior Motorcycles,
Tommy Hilfiger, Lee, and Wrangler, the team
behind Motoratus certainly has the credentials.

The debut Motoratus Autumn / Winter collection includes wardrobe classics such as t-shirts, polo shirts, jumpers, cardigans and driving gloves that use premium leather, merino wools and quality cottons. All of its products draw on automotive culture, with more to come soon.





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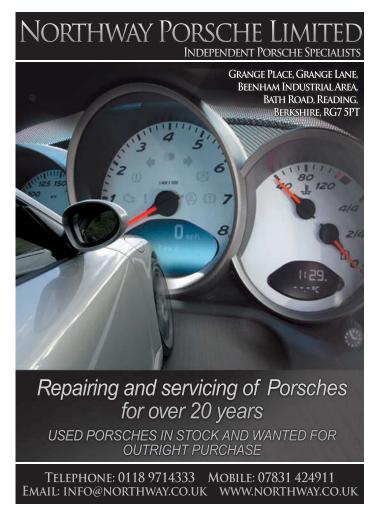
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LIGHTWEIGHT 911 DOOR SKINS

How much? £POA

Where from? www.jpgroup.dk

Fitting the 911 2.0- and 3.3-litre (01/63 - 07/89), 964 3.3- and 3.6-litre (12/88 - 06/94) and 993 (3.6-litre, 10/93 - 09/97), come these lightweight aluminium door skins from Dansk. Crafted from 1mm aluminum braid, they weight just 1.85kgs and are designed for racing use only. Replacing OE part number 591041-1ALU comes Dansk part number 1680900570 (left door), replacing OE part number 591042-1ALU is Dansk part 1689900580 (right door).







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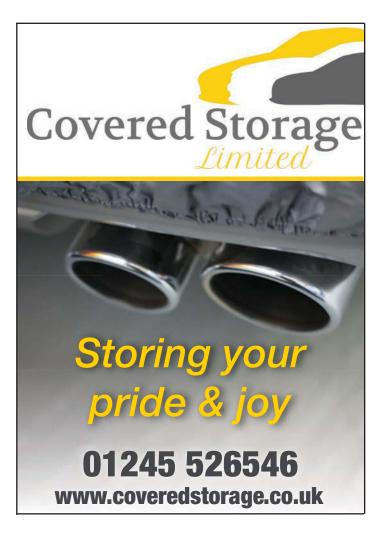
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How much? £TBC

Where from? www.porsche.com

Porsche is launching an innovative theft protection system for classic vehicles from the 356 to Carrera GT, a similar system is already available for new vehicles. The Porsche Classic Vehicle Tracking System is a tailored GPS-assisted system enabling car owners to monitor their vehicle via a smartphone app, it uses sensors concealed around the vehicle. The device communicates with a security network covering the whole of Europe, it will be available for fitting from spring 2018 onwards at Porsche Classic Partners and Porsche Centres.

Should a vehicle's battery be disconnected, or if a vehicle is stolen, the app sends an alarm alert to the international security centre and to the customer. If the owner confirms unauthorised access when prompted, the relevant authorities are informed. The security centre uses the integrated GPS sensor to identify the current location or driving route of the vehicle, providing live support to responders in the search for the vehicle. The centre for the country in which the system was purchased maintains contact with the customer throughout the investigation to avoid any language difficulties during a stay abroad.

There is also an option to use a wireless command to prevent the engine from being restarted. Furthermore if a customer lends the vehicle to a stranger a 'geofence' function can define boundaries that it is not allowed to cross. If they are crossed, the app raises the alarm. A similar function is available for controlling the speed of the vehicle, and a 'Workshop' mode allows for the deactivation of the alarm when the battery is removed within a specified time period. The 'Transport' mode can be used if the vehicle needs to be transported on a trailer to avoid an alarm alert.

A range of model specific options are currently being finalised, such as an optional voltage converter for models featuring a six-volt vehicle electrical system, such as the 356.





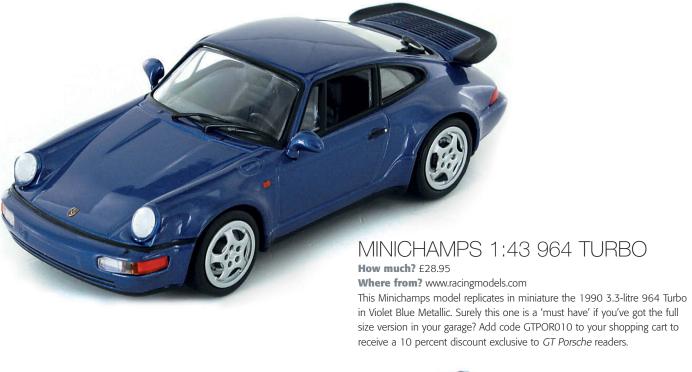




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Where from? www.sacredcafe.co.uk
Last month we brought you news that gourmet
coffee specialist, Sacred, was offering *GT Porsche*readers a 10% discount off its range, and the
chance to win tickets to the Carrera Cup GB in
2018. Well, the offer has been extended. Using
the code 'PCCGB10' at checkout on sacredpod.
com, will enter customers into the competition
to win tickets to the Snetterton or Silverstone
rounds of Carrera Cup GB 2018. The winner will
also receive its exclusive 'Grand Tourismo Edition'
Sacred coffee beans to complete the experience.







MARTINI RACING QUILTED JACKET

How much? £160.00

Where from? www.porsche.com

This khaki quilted Martini Racing jacket features an eye-catching yellow coloured lining. New from the Porsche Driver's Selection, it is 100% polyester, warm and easy to look after. With high-quality Martini Racing badges, its details have been inspired by the 917 that started Le Mans in period with the number 21.





911 CHROME WIPER ARMS

How much? £POA

Where from? www.jpgroup.dk

New from Dansk are these chrome wiper arms suitable for LWB 911s, F and G Series cars, and 964s. They are available individually as left or right wiper arms, should you require just one as a replacement item. Replacing OE part number 91162831300 and 91162831400, comes 1698300670 (left) and 1698300680 (right).



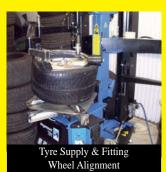












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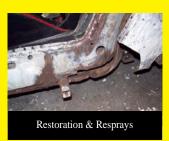
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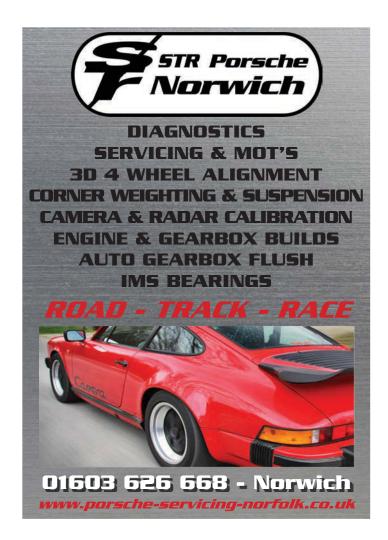














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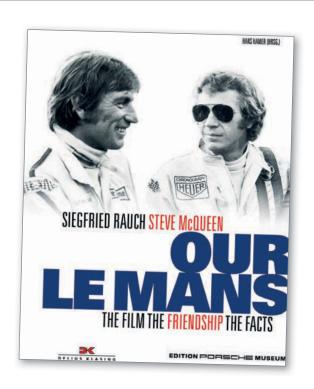


OUR LE MANS BOOK

How much? £25.00

Where from? www.accpublishinggroup.com

An absolute ton of books have been written about Steve McQueen and the movie Le Mans, but Our Le Mans is a little different. This book has been written by none other than Siegfried Rauch, who plays Steve's opponent in the epic movie. In the 216 page book, Siegfried shares intimate details of his friendship with McQueen, the relationship between their families and the atmosphere on the set of the film. Both men stayed friends until Steve's death, and Siegfried provides a view of the iconic movie star that no one else can. Part of this title's charm is also the artefacts from the period that Siegfried still owns, which he is able to share in the book. ISBN 9783667111128.





MINICHAMPS 1:43 924

How much? £28.95

Where from? www.racingmodels.com
Launched in 1976 as an entry-level Porsche,
the full size 924 was produced until 1985. This
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somewhat specifically, is of the 1984 924. Add code
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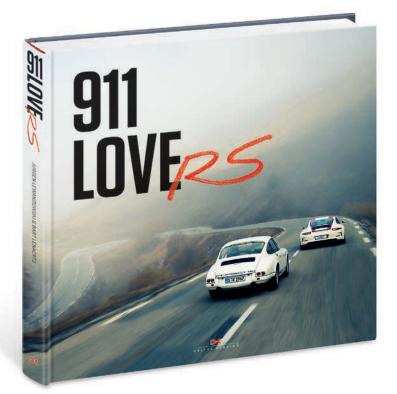
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911 LOVERS BOOK

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Where from? www.accpublishinggroup.com
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the official Porsche archives, and wider period shots even we
hadn't seen before mixed with and bespoke modern shoots,
it looks lovely. ISBN 9783667111135.



	Accessories & Parts	Bodyshops	Brakes	Car Care	Car Clubs	Engine	Exhausts	Inspection	Insurance	Interiors	Manufacturers & Tuners	Memorabilia	Sales & Servicing	Suspension	Storage	Track days	Wheels & Tyres
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Bodytechnics Tel: 01753 505911 www.bodytechnics.co.uk																	
The bodyshop for prestige vehicles. Porsche Centre approved body repairer		1															
Braunton Engineering		V	V			V	V	V			V		V	V		V	V
Britemax www.britemax-direct.co.uk				V													
Cameron Sportscars Tel: 01220 892244			/			./	./	/					V	1			
Carrera Engineering www.carreraengineering.co.uk Cargraphic www.cargraphic.com	1		/			/	1			/	/			/			1
Charles Ivey Specialist Cars www.charlesivey.com	/	/	/	/		/	1	/		/	/		1	/			/
Chesterfield Diagnostics/Repairs www.chesterfielddiagnostics.com	1		1	/		/	/	/		/	/		/	1			1
Classic Additions www.classicadditions.com	1																
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CMSPorsche Tel: 01952 608911	/	1	/	/		/	/	/		/	/		1	/			/
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DMS Automotive www.dmsautomotive.com											/						
Dodo Juice www.dodojuice.com		,		/		,							,				
DS Motorwerks www.dsdmotorwerks.co.uk		/				/							/				
EBC Brakes www.ebcbrakes.com			1	,		,	,				,			,			
EBS Racing www.ebsracing.com	V		V	√		V	V			V	√			1			
Eibach Suspension Tech Tel: 01455 286524														1			
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Elite Direct www.elitedirect.com	./		./	./		./	./			/	./			/			V
Engine Builders Supply Co. Tel: +1 775 6731300	V		V	V	./	V	V		./	V	/	./		V			
Export 56 Tel: 01908 216661 Gantspeed Engineering www.gantspeed.co.uk	1	1	1	/		1	/	/		/	/		/	1		/	1
GT One www.gt-one.co.uk													1				
Hartech Tel: 01204 302809 www.hartech.org						-					-		-				
Firewood Works, Firwood Ind. Est, Thicket Ford Road, Bolton, BL2 3TR						√					√		1				
Historika Classica Porsche www.historika.com	V							V					1				
HP Motorsports www.hpmotorsports.co.uk		,	,			,						,	V	,			
Jasmine Porschalink UK www.jasmine-motorsport.co.uk	1	V	1			1	1	-		V	1	V	1	1		-	1
Jaz www.jazweb.co.uk	V	1	1			1	1	1			V		V	1		1	1
JZM www.jzmporsche.com Karmann Konnection www.karmannkonnection.com	1	V	1			1	1	1			V	1	V	1		1	V
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Meguiar's www.meguiars.co.uk				V			/										
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Porsche Cars GB www.porsche.co.uk Porsche Club GB www.porscheclubgb.com					_/						V	./					
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PortiaCraft Tel: 020 8959 1604													./				
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MARCH 2017

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APRIL 201

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JULY 2017

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AUGUST 2017

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SEPTEMBER 2017

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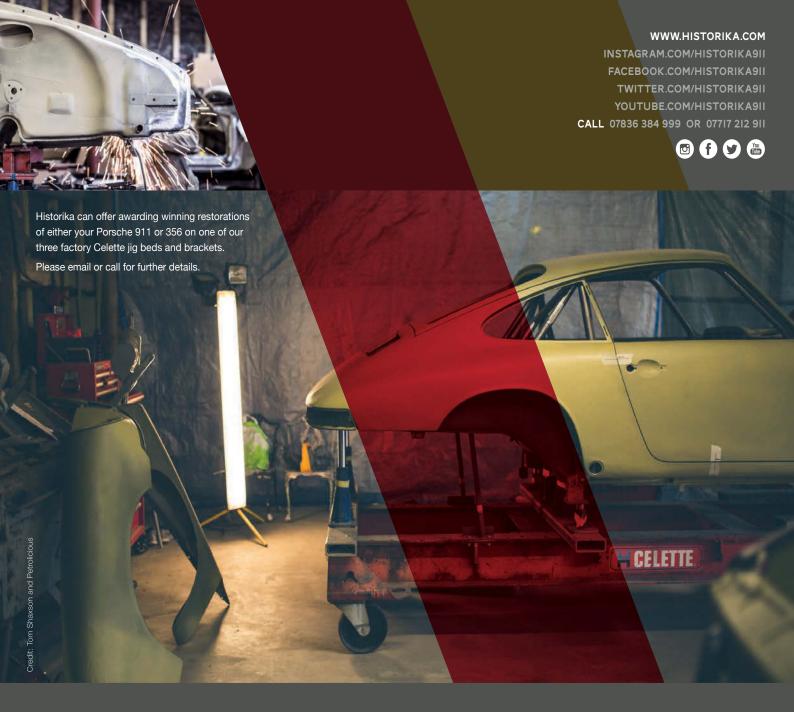
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Cover Story: 991 GT2 RS driven Inside: 996 versus 997: 996 Turbo takes on 996 Turbo, 996 GT3 battles 997 GT3, 993 Targa explored, reborn 944 Turbo Cup, all-new Cayenne first drive, 996 celebrates its 20th birthday, Tech Guide: V8 engines

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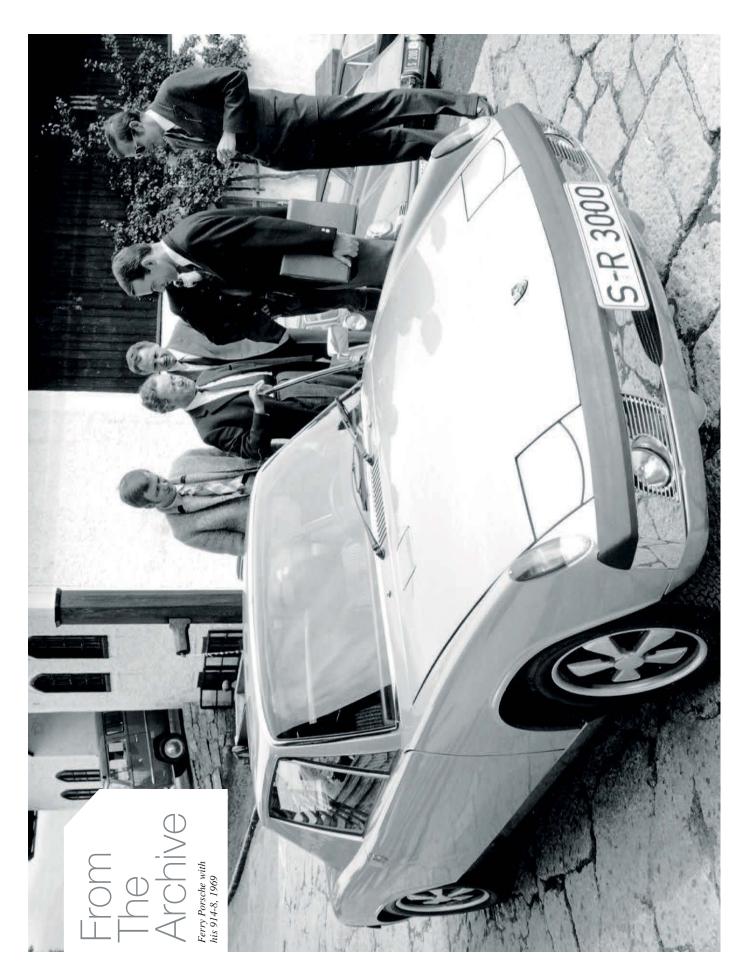


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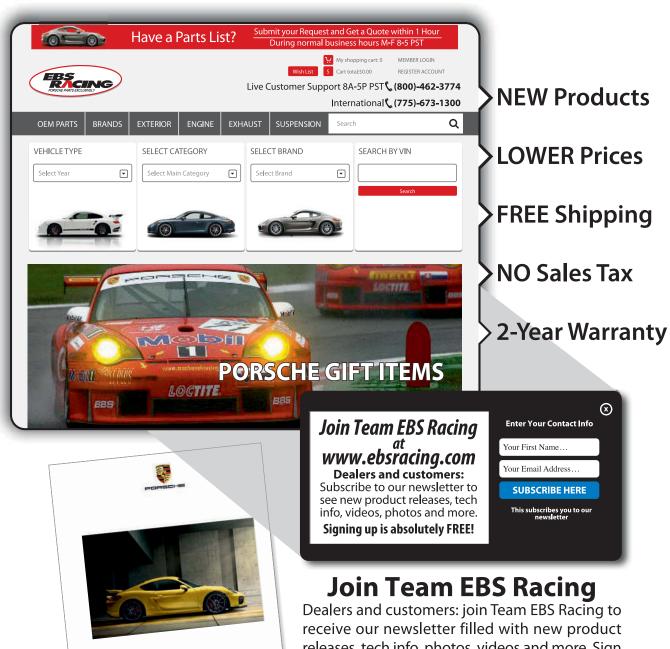








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