

911 & Porsche

November 2013 www.g11porscheworld.com

World

THE BESPOKE

911

DRIVING AND SOAKING IN THE DETAILS OF THE LATEST MASTERPIECE FROM SINGER'S LA WORKSHOP
PREPARE TO WANT ONE!



November 2013 No. 236 £4.60



US\$9.99 CANADA \$12.99
www.g11porscheworld.com

FIRST DRIVE

911 TURBO

THE SUPERCAR FOR ALL SEASONS IS BACK AND IT'S EVEN MORE DEVASTATINGLY FAST AND CAPABLE THAN EVER



PLUS: OUR CARS, YOU AND YOURS, TRIED & TESTED, Q&A, HOW TO AND LOADS OF PORSCHEs AND PARTS FOR SALE



*Made in Germany | www.fvd.net
Porsche® Tuning | Parts | Service*

since 1984

Tuning | Parts | Service



Boil on power kits from 530HP up to 700HP including software, larger turbo chargers, sport headers and sport exhaust. Call us today to learn more or visit our website at www.fvd.net.



Like us on Facebook
facebook.com/fvdbrombacher



Watch our YouTube™ Channel
youtube.com/fvdbrombacher

No matter if you need parts for your aircooled or watercooled, we have everything you need. Simply visit us at www.fvd.net and discover why more enthusiasts choose to put our passion into their Porsche®

fvd Germany

phone: +49-7665-98990

fax: +49-7665-989920

www.fvd.net

fvd North America

phone: +1-954-571-2050

fax: +1-954-571-2060

www.fvd.net

911&Porsche
World

Editor Steve Bennett
01379 668748; porscheworld@chpltd.com

Deputy Editor Brett Fraser
brett@brettfraser.co.uk

Features Editor Keith Seume
01208 871490; keith@fastbrit.com

Consultant Editor Chris Horton
porscheman1956@yahoo.co.uk

Contributors Les Bidrawn, Antony Fraser, Ray Northway, Ollie Preston, Per Schroeder, Matt Stone, David Sutherland, Johnny Tipler, Peter Tognola, Adam Towler, Neill Watson

Studio manager Peter Simpson

Art Editor Joel Mitchell

Colour origination Paul Nilsson

Group advertisement manager James Stainer
james.stainer@chpltd.com

Production Ant Menhennet
ant.menhennet@chpltd.com
Tel: 020 8655 6417; fax: 020 8763 1001

CHPublications Ltd Nimax House, 20 Ullswater Crescent, Ullswater Business Park, Coulsdon, Surrey CR5 2HR
Tel: 020 8655 6400; fax: 020 8763 1001;
e-mail: chp@chpltd.com

Administration Allie Burns, Sandra Househam
Accounts Bev Brown
Subscriptions Debi Stuart debi.stuart@chpltd.com
Website www.911porscheworld.com

Managing director Clive Househam

Worldwide retail distribution
For worldwide newsstand availability queries contact Phil Sait, CHP Distribution Manager, Seymour Distribution Ltd.
Tel: 020 7429 4000
e-mail: phil.sait@seymour.co.uk

Printed in England
Garnett Dickinson Print Ltd; tel: 01709 768000



911 & PORSCHE WORLD IS ENTIRELY INDEPENDENT OF DR ING H C F PORSCHE AG, PORSCHE CARS GB LTD AND ITS DEALERS, AND OF ANY CLUB OR ASSOCIATION
© CHPUBLICATIONS LTD, 2013; ISSN 0959-8782
WHILE ALL DUE CARE IS TAKEN IN COMPILING 911 & PORSCHE WORLD, THE PUBLISHERS, STAFF AND CONTRIBUTORS CANNOT BE HELD RESPONSIBLE FOR ANY EFFECTS ARISING THEREFROM

After six issues celebrating the 911 at 50, closely followed by our annual buyers' guide edition, this issue of *911&PW* marks a return to our standard set-up. Which is to say that we're back into the groove of producing a magazine that really does cover all things Porsche, produced by a bunch of people who live and breathe the marque.



And it's been a busy month. Stealing the headlines is the new 918 plug in hybrid supercar, now officially launched at the Frankfurt show, and with a 'Ring busting lap time of 6m 57s. On the flipside it will travel 20-miles on electro power only and in the UK you won't even have to pay road tax. Impressive and we

“The verdict on the 911 Turbo? So fast and so capable it almost defies belief”

can't wait to have a go. Can't wait to have a go in the new 911 Turbo either, although that privilege went to Dep Ed, Brett Fraser, for this issue. The verdict? So fast and so capable it almost defies belief, but it's perhaps a tiny bit remote on first acquaintance. I suspect that you would come to respect its aloofness over time. The

911 Turbo has always been a beguiling mix of supercar combined with practicality that you can't help but marvel at.

And on the cover? It's the latest handbuilt, bespoke creation from the folk at Singer. If that's not a cover star, then I don't know what is. It truly is a wonderful mix of retro and modern 911.



Steve Bennett

FEATURES

YOU AND YOURS

Meet Ben Williams and his early 944 Lux

34

NEW 991 TURBO FIRST DRIVE

The new 991 Turbo is here and living up to its supercar for all seasons reputation

40

PS AUTOART SPEEDSTER

Latest 911 from PS Autoart mixes modern with retro to create a unique Speedster

50

POWER STEERING FOR CLASSIC 911S

What? Surely not? Well yes actually, and this electric system works really rather well

58

ULTIMATE PORSCHE FROM SINGER

Singer has created an international stir with its 'reimagined' 911s. We drive the very latest

66

FROM THE ARCHIVES: ORIGINS OF PDK

First of a new series examines the origins of PDK. It's a surprising story

78

SPECIALISTS: JASMINE PORSCHALINK

If it's parts you're after, whether new or secondhand, try Jasmine PorschaLink

86

HOW TO: BOXSTER GEARBOX WOES

Revitalising an ailing Boxster gearbox with Cotswold Porsche Specialists

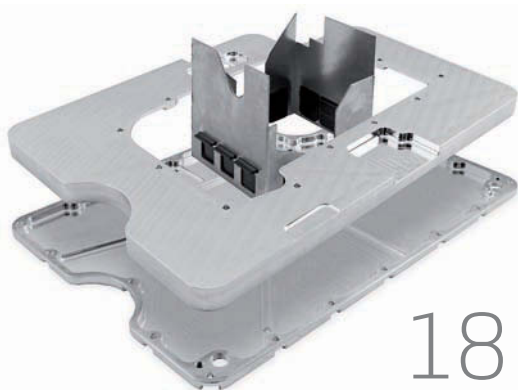
92



CONTENTS 11.13



66



18



98

REGULARS

PORSCHE NEWS **08**

All the latest Porsche news...

PORSCHE PRODUCTS **18**

...and all the latest must-have Porsche bits and bobs

USUAL SUSPECTS **26**

Bennett gets his two pages' worth and ponders the 918, MPG and a 720bhp GT2

PORSCHE LETTERS **30**

A packed sack of opinion!

PORSCHE PROJECTS **98**

Catching up with the 911&PW staff cars. This month it's Keith Seume's hot rod 911

CLASSIFIEDS/TRIED & TESTED **112**

Porsches, parts and plenty more for sale

SUBSCRIBE OR GO DIGITAL

Don't miss a single issue of the only magazine that covers every model of Porsche. Why not subscribe today? You'll save money, too!

Just turn to page...

97



A specialist service, however old your Porsche.

At Porsche Centre Portsmouth we have a passion for earlier Porsche models and we offer competitive menu pricing for 911 (Type 993), 911 (Type 964), 911 (1978-1989), 968, 944, 928 and 924 models.

Please see below for an example of our service pricing for a 911 (Type 993):

911 (Type 993)	12,000 mile service	£390.00 incl. VAT
-----------------------	---------------------	-------------------


To find out more, book your car in for a service or receive a free quotation, please contact our Service department on **0800 140 4956**.



PORSCHE


Porsche Centre Portsmouth



Lakeside Business Park,
Western Road, Portsmouth,
Hampshire PO6 3PQ
info@porscheportsmouth.co.uk



Get Equipped...www.bkauto.com


Don't forget to check out our NEW precision Hub-Centric Wheel Spacers







Seat Mounting - Fire Extinguisher Mounting - Harness Mounting - Engine Performance - and much more


Brey-Krause has always worked towards making the very best products with the same passion that we have for our cars. Our goal from the beginning was to make products that are expertly engineered and subsequently tested in both real world and laboratory conditions. To this day every product that leaves Brey-Krause's doors has been properly engineered and tested to ensure that you get a product that is as good as the car in which you will install it.




Don't lose your 996/986/997/987/Cayman engine to common scavenging and aeration in your oil pan; get equipped with the original Deep Oil Sump Kit



Need more flexibility with your 996/997/986/987/Cayman floor-mounted seat? The R-9044 places your seat in the lowest possible position and can easily be removed for quick adjustments or driver changes at your next event



Provide clean unrestricted oil to your 944/968 oil accumulator setups



Put a passenger in your (04-12) GT3 Cup Car

www.BKauto.com



Porsche Fixed Price Maintenance. The quality you'd expect, a price you wouldn't.

Whether it's a new set of brake pads or a replacement clutch, rest assured that with our new fixed price tariffs for a range of maintenance jobs on selected Boxster and 911 models* it doesn't have to be a balancing act between quality and cost. Our Porsche accredited technicians are trained to the very highest standards and only use the precise tools and genuine parts required to do the job to the standard your car deserves.

Get the best of both worlds with fixed price maintenance from Porsche.

For more information visit www.porscheownerservices.co.uk



PORSCHE

Porsche Centre Aberdeen
0845 5202165
/aberdeen

Porsche Centre Belfast
0845 5202166
/belfast

Porsche Centre Bolton
0845 5202167
/bolton

Porsche Centre Bournemouth
0845 5202168
/bournemouth

Porsche Centre Bristol
0845 5202169
/bristol

Porsche Service Centre Byfleet
0845 5202198
/byfleet

Porsche Centre Cambridge
0845 5202170
/cambridge

Porsche Centre Cardiff
0845 5202171
/cardiff

Porsche Centre Chester
0845 5202172
/chester

Porsche Centre Colchester
0845 5202173
/colchester

Porsche Centre Dublin
00 353 1235 3375
www.porschedublin.ie

Porsche Centre East London
0845 5202174
/eastlondon

Porsche Centre Edinburgh
0845 5202176
/edinburgh

Porsche Centre Exeter
0845 5202177
/exeter

Porsche Centre Glasgow
0845 5202178
/glasgow

Porsche Centre Guildford
0845 5202179
/guildford

Porsche Centre Hatfield
0845 5202180
/hatfield

Porsche Centre Jersey
0845 5202175
/jersey

Porsche Centre Kendal
0845 5202181
/kendal

Porsche Centre Leeds
0845 5202182
/leeds

Porsche Centre Leicester
0845 5202183
/leicester

Porsche Centre Mid-Sussex
0845 5202185
/midsussex

Porsche Centre Newcastle
0845 5202186
/newcastle

Porsche Centre Nottingham
0845 5202187
/nottingham

Porsche Centre Portsmouth
0845 5202188
/portsmouth

Porsche Centre Reading
0845 5202189
/reading

Porsche Centre Sheffield
0845 5202190
/sheffield

Porsche Centre Silverstone
0845 5202191
/silverstone

Porsche Centre Solihull
0845 5202192
/solihull

Porsche Centre Sutton Coldfield
0845 5202193
/suttoncoldfield

Porsche Centre Swindon
0845 5202194
/swindon

Porsche Centre Tonbridge
0845 5202195
/tonbridge

Porsche Centre West London
0845 5202196
/westlondon

Porsche Centre Wilmslow
0845 5202197
/wilmslow

*Participating centres only. Fixed price maintenance tariffs apply to Boxster Type 986 (1996-2004) and selected 911 Type 996 (1998-2005) models only. Fixed price maintenance tariffs may be withdrawn or varied at any time. Contact participating centres for full details, terms and conditions.



PORSCHE NEWS



918 SPYDER IS 'RING KING



The Porsche 918 Spyder – one of the most expensive cars in the world, but which costs nothing in UK road tax and side steps London's congestion charge – has finally been presented to the public in its full production form, after a series of previews stretching back three and a half years. The first deliveries to customers will commence in November, the price €645,000 plus local taxes, which in the UK will be £648,600.

The Weissach package adds €72,000 (about £60,500) to the price. It comprises carbon body panels including the roof, front screen frame, rear wing, rear view mirrors, as well as carbon interior trim in place of aluminium, while the wheels are made of lightweight magnesium alloy and the amount of soundproofing has been reduced. Weight is down 35kg.

After some late tweaking, perhaps encouraged by the appearance of the LaFerrari and the McLaren P1 with their greater outputs, power is quoted at a combined 875bhp for the 4.6-litre V8 engine and twin electric motors, while torque is 801lb ft.

Almost inevitably, to coincide with the car's Frankfurt presentation, Porsche announced that it

had set a new record around the Nürburgring Nordschleife – the 13-mile former Grand Prix circuit in Germany's Eifel Mountains now a recognised virility test among the makers of performance cars. In Weissach trim, a 918 Spyder driven by Porsche factory race driver Marc Lieb posted a hot lap of 6min 57sec – the quickest time ever for a homologated road car. During the same session, on 4th September, another two drivers, rally ace Walter Röhrl and Porsche test driver Timo Kluck also exceeded the previous, four-year-old record.

Perhaps haunted by the memory of unsold stocks of its last supercar, the 2004-06 Carrera GT, whose production ended over 200 units short of the planned 1,500, Porsche claims a healthy demand for the 918 Spyder, 918 of which are due to be built over a two-year period. 'About a half to two thirds of production has already been sold,' a spokesman said. 'We're in a better position now than at the same point for the Carrera GT.'

He added that placing an order now would see delivery in 10 to 12 months, with the UK expected to take about 50 cars. The biggest market, predictably, will be North America, with Germany in second place.





NEW TYRE FOR CARRERA GT

The Carrera GT was last built seven years ago – but despite its disappointing sales, Porsche still clearly has a soft spot for it, having developed a new tyre specifically for the carbon bodied, mid-engined supercar, in partnership with Michelin. The Michelin Pilot Super Sport tyre replaces the Pilot Sport PS2 that was fitted as original equipment, and drawing on the decade of tyre industry progress since the Carrera GT appeared, the new tyre is said to give noticeably improved handling, plus greater stability up around its

206mph maximum speed.

The Pilot Super Sport, which has the Porsche specification “No” on its sidewall, is manufactured on the same line as Michelin’s racing tyres. It uses “dual-compound” technology, meaning that different rubber compounds are used for the inside and outside of the tread, while the belt is made from a super durable mix of aramid fibres. The contact area distributes the pressure evenly across the tyre, so that as much of the tyre as possible is in contact with the road surface.

Porsche says there is a practical gain too, with

life expectancy increased by 10 per cent for road use, and by 20 per cent on track. The tyre comes in two sizes: 265/35 ZR

19 (front), and 335/30 ZR20 (rear), priced at around £400 and £500, which is much the same as the PS2.



German tuners fail

One of the best known names in the Porsche tuning business in Germany has gone bankrupt. Not present at the Frankfurt motor show in early September, SpeedArt, based on the outskirts of Stuttgart is now in administration, while a similar fate has reportedly befallen gff, in Dortmund, although as we went press it was not possible to contact the company by phone to establish the exact situation.

The administrators are currently at SpeedArt, assessing what if anything can be salvaged from the company, which had split its business between performance tuning and styling, and classic car restoration. Under German solvency law SpeedArt remains open, but cannot sell or deliver products. ‘We still have some orders to complete, but it is difficult to see how we can continue,’ said one employee.

SpeedArt’s problems can probably be partly attributed to the lengthy economic downturn that must have capped spending on expensive tuning packages, and also to the increasing difficulty in tuning sophisticated modern engines, leaving styling, suspension and wheels as the main focus. But it is also well known that Porsche has taken an increasingly firm line on copyright, particularly on its newer models. In May, for example SpeedArt proprietor Björn Striening (pictured) told *g11 & Porsche World* that he had been obliged to drop an RS style ducktail spoiler for a 997, or pay Porsche a substantial royalty.

Since being founded in 1999, SpeedArt’s cars have featured regularly on our pages, with some of the cars amply endowed with horsepower. The latest to be unveiled was the SP81-CR (main picture), a styling and suspension package shown earlier this year for the latest Cayman. Striening had been working on an affordable turbo kit for the Cayman, but with that requiring a substantial investment for a small company, the chances of it now seeing the light of day look small, whatever becomes of SpeedArt.



OUR TAKE

CALLING THE TUNE

The German tuning industry has thrived for four decades, but these are challenging times, and some famous names may bow out, says David Sutherland

Is this just a blip or are we seeing the start of something bigger? We refer to the Germany tuning industry: this month two of that country’s well known modifiers, SpeedArt and gff, are in financial difficulty, and we wonder if more will suffer the same fate. Remember, back in 2008 we thought at first it was just one bank that was in trouble, not the lot.

The Porsche tuning business took off in the 1970s, with, for example Ruf building a more powerful turbocharged 911 than Porsche did, and by the 1990s it was a significantly sized industry, with many new names entering the fray. But extracting more power from the latest Porsche engines is quite tricky, and the “open heart surgery” that was once common is now rare, with modifications usually limited to an ECU remap, or sometimes different turbos.

Porsche does not feel inclined to do the tuners any favours. Its cars are arguably the best engineered in the world, so it might ask, understandably, who are these chancers who assume that they can change some bits and end up with something better?

‘It’s a very difficult situation and it won’t get any easier,’ said one source close to SpeedArt, who added that it was ‘a David and Goliath situation’ when it came to a difference of opinion with Porsche over what modifications might or might not be acceptable. The writing was perhaps seen on the wall for the first time when a few years ago Porsche issued legal proceedings against a prominent German tuner.

Porsche, with its virtually unlimited resources will win any confrontation with a small company, victories it will see as a way of protecting its image and integrity. But it may kill the Porsche tuning business or at least send it into serious decline, and we wonder if, given the support that this sector helps generate for the marque, it would really want to see that?



Choose by Model >

Classic | 911 | 964 | 993 | 996 | 997 | 991 | 924 | 944 | 968 | 928 | Boxster | Cayman | Cayenne | Panamera

WORLD LEADERS IN PARTS DIRECT

SPECIALIST

Web/Mail Order

- Accessories & Gifts
- Body & Trim Parts
- Body Styling
- Books & DVDs
- Car Care & Touring
- Clothing & Shoes
- Interior Trim
- Mechanical Parts
- Motorsport Related
- Performance Parts
- Pre 74 Classics Parts
- Seats & Belts
- Sports Exhausts
- Steering Wheels
- Wheels & Accessories
- Zymol Products

Onsite Services

- Porsche Car Sales
- Retail Shop
- Workshop Services

Map



Address

Unit 4 Block 2,
Shenstone Trading Est,
Halesowen, West Mids,
B63 3XB, UK

Phone Number

0121 585 6088
+44 (0) 121 585 6088

Opening Hours

Mon-Fri: 9-5:30pm
Sat: 10-2pm

INDEPENDENT SPECIALIST RETAIL CENTRE



EuroCupGT "Best 911 of 2010"



2011 German Carrera Cup Champions



WORKSHOP SERVICES

- Porsche trained
- Free vehicle diagnostics
- Specialist independent servicing does not affect your manufacturer warranty
- Full menu pricing for all Porsche models (e.g. Boxster/911 10,000 Service £199+VAT)



INTERIOR & BODY STYLING

- Carbon fibre trim
- Mesh grills
- 997 Aero & Gen2
- Aero/GT3 kits
- LED & DRL updates
- Alloy wheels & tyres
- Full fitting service
- Exhausts & tailpipes
- Competitive pricing
- Spoilers & skirts



PERFORMANCE & TUNING

- Free fitting on complete exhaust systems
- EuroCup GT Tuning & Remapping
- Track day & Fast road Preparation
- Suspension, geometry & wheel alignments
- Carbon intake kits & Cold air Intakes



WEBSITE & MAIL ORDER

- All parts for all models, 1965 to Present Day
- **15,000 lines** including Famous Name Brands
- Secure Online Payment Systems
- All UK Deliveries now **£9.99 Inclusive!**
- Worldwide Shipping with favourable rates



TECHART'S NEW TWEAKS

The Frankfurt show was notable for the depleted number of German Porsche tuners present. But Stuttgart-based TechArt claimed to be in buoyant mood, announcing new products for the 911 and also the Cayenne Diesel.

The two-piece Front Spoiler I with integrated splitter is said to reduce front axle lift on the 991-

series Carrera 4 by 5kg, rising to 17.5kg when the matching rear diffuser is fitted. These items can be complemented by TechArt's new Formula IV wheels, a twin spoke design available in 20- and 21-inch diameter, and also by modified suspension springs, and brakes. The TechArt Exhaust System Racing is a valve controlled system for the

same model, delivering a fruitier sound, while the Noslift system raises the front of the car by 60mm to protect vulnerable spoilers.

As Porsche gave details of a new V6 engine for the Cayenne Diesel, TechArt announced a power hike for the flagship oil burner, the 4.2-litre S model. The Power Kit TA 058/SD1 is an engine management

package that, at the touch of a "Sport" button on the fascia, increases power by 38bhp to 414bhp, while the already generous torque rises by 74lb ft to 700lb ft. This pares 0-62mph acceleration by half a second to 5.2sec, TechArt says, and increases the 2.2-tonne SUV's maximum speed very slightly to 158mph.



CLASSIC PORSCHE PRICES ROCKET

Just two Porsches were entered in the UK's highest profile classic car auction of 2013, the RM Auctions sale in the Battersea Evolution in London, in mid September. But between them they proved that prices of the best Zuffenhausen collectables are in rude health, between then raising over £1.5m.

A 1965 Porsche 904/6 - officially badged Carrera GTS, as Peugeot had a claim on titles with a zero in them - went under the hammer at £1,232,000, including the 12 per cent buyer's premium. The 904, designed by the then 28-year-

old Ferdinand Alexander 'Butzi' Porsche in 1964 (a year after the original 911, for which he was also responsible for, was launched), and was Porsche's last factory race car that could feasibly be driven on the road. The four-cylinder engine was mid-mounted in the steel chassis, the body fibre-glass.

The following year half a dozen, including this one, were built with 2.0-litre, six-cylinder engines, these cars recognisable by the central fuel filler cap on the front bonnet, and by the vertically lifting windows. Numbered 906-012, the car was raced by

Porsche in 1965, including at Le Mans, before being sold off minus its engine in 1966. It found its way to Arizona in the early 1970s, where it was modified to include a Targa roof, but this was later reversed, and in 2003 it was acquired by a collector, Lord Laidlaw, who brought it up to historic racing specification.

The 1973 911 Carrera 2.7 RS that fetched £319,200 is a unique specification. While production of the 2.7RS - the most iconic of all 911 road cars, many feel - totalled 1580, just 117 were built in right-hand drive, and of those, only three

were delivered in black, and one of those three with a sunroof, this car's sole factory option.

The price reflects the car's meticulous restoration, including a blueprinted engine, and the price achieved is notable because this is the high equipment Comfort version rather than the more sought after Sport, pared of many fittings to reduce weight.

'I'd say those two results were very strong, and I believe that the 904/6 result was an auction record for that model,' said an RM Auctions spokesman. 'The 2.7 RS exceeded its pre-sale estimate.'



NEWS IN BRIEF

Porsche has established a wholly owned subsidiary in South Korea, where last year 1357 Porsches were sold. Opening for business on 1st January 2014, it will be the carmaker's 17th subsidiary globally, and the fourth in Asia, the others being China, Japan and Singapore. Redtek, a Northampton company specialising in air-cooled 911 engines, and which has 25 years of competition engine experience, has launched a new website. Go to www.redtek.co.uk

We are delighted to report that next month's issue of *911 & Porsche World* will contain a bound in catalogue for German tuning and parts specialists FVD. The December 2013 issue will be published on November 7th.

Porsche's worldwide sales rose 15 per cent from January to August, allowing the carmaker to crack the 100,000 barrier with still four months of 2013 to go. The total was 106,777, compared to 92,474 in the same period last year, with North America the largest market, at 27 per cent of sales.

Readers of the German magazine *Auto Motor und Sport* have named the new Porsche 911 Turbo as the best design innovation in the Sport category, nearly 18,000 people voting in the survey. In the US, *Motor Trend* has named the Porsche 911 Carrera 4S as its Best Driver's Car for 2013.

CATCHING UP WITH

MIKEY WASTIE



We hear about one employee's absorbing role at one of the UK's oldest Porsche specialists, Autofarm, founded by Josh Sadler 40 years ago

How old are you and where do you live, and work?

I'm 31 and live in Bicester in Oxfordshire, a few miles from Autofarm's workshop in Weston on the Green.

What was your big break into the motor industry?

One of my lecturers had contacts at Autofarm, and suggested I apply for the job there. I am still here 13 years later!

Summarise your career

I started doing my apprenticeship at a large main dealer, before moving to Autofarm. I have worked in most areas of the business, but the Projects division is where my passion lies. I am increasingly supporting Josh Sadler with the overall running of the business.

Are you a petrolhead?

Yes, it used to be all about fast Fords, but now my enthusiasm is for German cars, obviously Porsches a big part of that.

What was your first car?

A VW Polo S Coupe.

What was the first Porsche you ever drove?

A 1969 Powder Blue 911.

Which Porsche past or present do you like best?

Definitely from the past, but choosing is hard. It would be either a 911 2.8 RSR or a 911R.

What car do you drive?

An Audi RS4.

What gets you out of bed in the morning?

Doing the right thing for our customers and seeing them enjoy the cars. Some have been coming here for 40 years, and it is a real privilege to work on their cars.

What has been the biggest challenge of your working career?

We always want to do what is best for the car's integrity. Occasionally we have to gently steer the customer into not doing something too extreme, or that won't work.

Quality. Performance.



H&R COILOVERS THE ORIGINAL AND STILL THE BEST



- **Special powder coating treatment** for superior protection and long service life
- **Highest quality spring steel** for lightweight durable long-term performance
- **Durable spring seat & locking ring** High quality aluminium alloy with robust Tr52x1.5 trapezoidal threads
- **Heavy duty mounting brackets** engineered for extreme use and precise fit
- **Upside down mono-tube shock** for reduced side loading and precise alignment

ANTI-ROLL
BARS



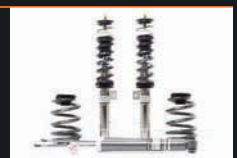
CUP KIT
SUSPENSION
SYSTEMS



SPORT
SPRINGS



MONO-TUBE
& TWIN-TUBE
COILOVERS



RACE
SPRINGS



TRAK +
WHEEL
SPACERS



ISO
9001
QUALITY
ASSURANCE

100%
MADE IN GERMANY

t 020 8782 2485 e uksales@h-r.com



ECONOMY DRIVE

The Porsche factory racer that Porsche will compete in at Le Mans next year with Mark Webber at the wheel has been

undertaking full testing following its first outing in June at Porsche's test track in Weissach – to ensure it gets sufficient miles per gallon. A new set of rules will apply to the World Endurance Championship (WEC) in which it will run, including a requirement to use hybrid drive technology, and Porsche engineers are working hard to

ensure the LMP1 car hits fuel efficiency standards.

'In order to develop the highly complex LMP1 racing car so that it is fit to compete by the start of next year's season, many more kilometres of testing are required,' said Fritz Enzinger (pictured), in charge of developing the car, which will participate in the top,

"prototype" class. The testing has been shared between three of next year's drivers, Neel Jani of Switzerland, Timo Bernhard (Germany) and Romain Dumas (France) – but Webber, in his last months driving in F1 for Red Bull Racing F1, cannot participate.

However Porsche's motorsport managers are hoping to see him in



LEADER LIKES PORSCHE

German Chancellor Angela Merkel may not be regarded as the most charismatic of politicians, and her known personal frugality suggest a Porsche does not grace her garage

– but it seems she recognises a decent car when she sees it. She spent time on the Porsche stand at September's Frankfurt motor show, listening to the carmaker's

chairman Matthias Mueller explaining the virtues of the world's only luxury plug-in electric car, the Panamera S E-hybrid.

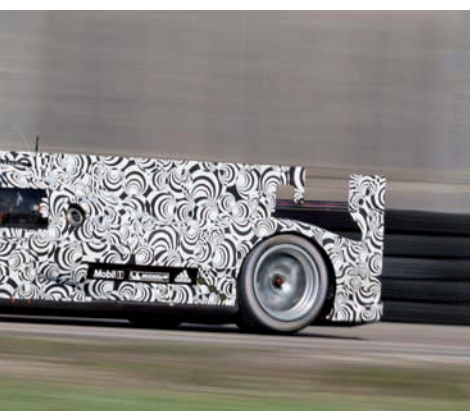
Clearly impressed by his script, the low key but

steely leader of the German government said that 'electric mobility is set to play an ever greater role', and that 'vehicles of all classes play a part in growth and innovation'.





a car when the F1 season ends in late November. 'He joins in January 2014 when his contract begins, but there are lots of discussions at the moment,' a spokesman said. The WEC season, which begins in the spring, sees Porsche return to the LMP1 class in Le Mans for the first time since 1998, when it took victory in the GT1.



MORE POWER FOR PANAMERA DIESEL

Porsche has always been coy about its diesels, as if fearing that, despite their considerable success in the market, their very existence undermines its long nurtured sporting image. It is in keeping, therefore, that a revised Panamera Diesel with 20 per cent more power and 15 per cent extra torque has been slipped into the model range under cover of the 918 Spyder launch at the

Frankfurt show.

When the first diesel Porsche, the Cayenne, was announced in late 2009 it imported the Audi 3.0-litre V6 more or less unchanged, but while the new engine retains the same configuration and cubic capacity, the carmaker says everything else has been re-engineered. For example the turbo has a new turbine, raising boost from 2.5

to 3.0bar, as well as water cooling.

Power is now 300bhp compared to 250bhp previously, and torque rises 73lb ft to 479lb ft and, this, allied to shorter ratios for the first four gears, trims 0-62mph acceleration from 6.8 to six seconds dead. Top speed rises from an already heady 150mph to 162mph.

At the same time, the Panamera Diesel on

standard wheels and tyres is fractionally more economical than its predecessor, this lowering CO₂ output slightly to 169g/km; first year road tax is £285, significantly less than on petrol models. The Diesel now also has the rear axle lock with Porsche Torque Vectoring Plus that was previously reserved for some petrol Panameras. The UK price has still to be announced.

UNDER AFRICAN SKIES

A container ship that left the port at Felixstowe in Suffolk in late August marked the end of a very busy summer for Oxfordshire based Tuthill Porsche, carrying the final batch of classic Porsche 911s it had been preparing for the East African Safari Classic, a 10-day, 5000km rally starting in Kenya on 21st November. Seven containers were dispatched, carrying not only the 911s that will compete, but various support vehicles and a considerable supply of spare parts.

Björn Waldegård won the event in 2011 driving a Tuthill prepared 1973 911, the 69-year-old Swede, who won the 1979 World Rally Championship, returning this year in the hope of

marking the 911's 50th anniversary with a repeat win. Also participating is another former rally champion, his countryman Stig Blomqvist.

Tuthill specialises in preparing historic 911 competition cars, having long experience in the field. Its founder, Francis Tuthill knows at first hand how tough marathon rallying is, having voluntarily driven a VW Beetle in the 1977 London-Sydney Rally.

The voyage to Africa - across the Mediterranean, down the Suez Canal, and round the horn of Africa, before arriving at Mombasa in Kenya - will take around six weeks. A team of over 100 people including drivers will look after the Tuthill Porsches.

Tuthill is also supplying Porsches for an event in very different climatic conditions - in frozen northern Sweden, in the early months of 2014. This is ice driving, but with a difference, participants using full specification, rally ready classic 911s. With rear-drive always best for enjoying snow, older, tail heavy 911s ought to be useful tools.

Based in Åre, a popular winter resort, the courses, which include tuition from rally professionals, are run by Below Zero and take place from January to March, and include luxury accommodation. An associated company, the Icebar hotel in London, is offering its guests a chance to win two places on a course - more details at www.icebarlondon.com





FEATURED

997 Targa 4 – Aqua Blue Metallic with stone grey leather interior. We are delighted to offer this particularly well specified Generation II Targa 4 that benefits from a transferable Porsche Warranty until 19 Oct 2014.

JZM PORSCHEs ARE SPECIAL

We're having a record-breaking summer and need more cars! If your car's in JZM condition, sell it to us or through us!

Call Russ today to talk about your Porsche and how we can sell it, fast! Or visit www.jzmporsche.com/sell-your-porsche



PORSCHE SALES, SERVICING & TUNING
01923 269 788 www.jzmporsche.com



Panamera Turbo – We are delighted to offer this one owner Panamera Turbo listed at over £123,000 in 2010. If you are in the market for a Panamera Turbo with the right spec at sensible money please call today.



991 C2 – We are delighted to offer this 991 that is supplied with the balance of manufacturers warranty. This Carrera looks stunning in Agate Grey with contrasting black full leather and the overall condition is nothing short of exemplary.



996 C4S Tip – This 996 C4S looks stunning in Guards Red with black leather offering great value for money given the age, mileage and well chosen factory options. It is clear that this C4S has been treated with care and attention over the years.



Carrera GTS Cabriolet – This GTS Cabriolet is bound to make someone very happy indeed. 7835 miles and just one registered keeper from new. Supplied with a fantastic factory options list which will make the decision that little bit easier.

Parts | Components | Assemblies | Accessories
 Restoration Services | Special Cars

BIG DEAL

- | AXLES/STEERING
- | BADGES/CRESTS
- | BODY/INTERIOR
- | BRAKES/WHEELS
- | EMBLEMS/DECALS
- | ELECTRICAL
- | ENGINE/TRANSMISSION
- | FUEL/EXHAUST
- | LIGHTS/LENSES/TRIM
- | PEDAL SYSTEM/LEVERS
- | RUBBER/SEALS
- | TOOLS/MANUALS/BOOKS



OVER 17,000 NOS/ORIGINAL 356 & 911 PARTS!



...new owner...same enthusiasm!

Columbus, Ohio / 8am - 8pm EST 740-503-3651 aasesales.com sales@aasesales.com

NEW genuine Porsche turn signal and tail light lenses with silver trim now in stock



The lenses with silver trim fit 911 1969 - 72
\$155 front \$180 rear
 lenses with black trim (1973 and up) are also available



NOS Early 911 door seals **\$135.00** pair
 Doors not shutting properly, bouncing open? Do your 911 a favor and put the correct seal back in your car.
 Coupe:
 901.531.093.23 (65-73)
 Targa:
 902.531.093.40



NOS 911 Chassis ID Plates (67-74) - many years in stock



911 red border timing decal - fits 1967-68 911's **\$45.00**
 912 red border timing decal - fits 1965-69 912's **\$45.00**

Shell Air Cleaner Decal **\$12.00**
 911.701.001.55 (69-73) 911



911 Crest Decal **\$15.00**

911 engine grille - Black* **\$950.00**
 (1972 and up) 911.559.041.02 (*69-71 Silver version in stock)





HEXAGON

MODERN CLASSICS



2013 Porsche Carrera 'S' Cabriolet PDK
White. Only 1,950 miles & 4 months old! Huge saving off list price!



1995 Porsche 993 C4 Convertible
Silver. 36,000 miles



1997 Porsche 993 C4
Black. 23,465 miles FSH



1989 Porsche 911 Turbo 930 LE
Guards Red. 19,500 miles



1989 Porsche Supersport Targa
Blue. Only 14,000 miles



1986 Porsche Carrera Cabriolet
Ivory. 44,000 miles, FSH



1989 Porsche 911 Supersport Cab
Black. 55,000 miles. FSH



1986 Porsche 993 C4S Coupe
Blue. 55,000 miles. FSH



1995 Porsche 993 Turbo.
Amethyst. 44,000 miles. Special paintwork and factory power upgrade – to 424 BHP



1993 Porsche 928 S4 Automatic
Blue. 74,750 miles FSH



1989 Porsche 911 Speedster Silver
Silver. 16,250 miles



1989 Porsche 911 Carrera Cabriolet
Red. 55,000 miles



1989 Porsche 930 Turbo
White. 9,500 miles.

WE ARE ALWAYS LOOKING TO BUY
CARS OF EXCEPTIONAL QUALITY
FOR IMMEDIATE CASH PURCHASE

FULL DEALER FACILITIES INCLUDING FINANCE & PART EXCHANGE

PLEASE CALL JONATHAN FRANKLIN ON 0208 3485 151 OR 07522 911911

WWW.HEXAGONMODERNCLASSICS.COM

BUYING POWER

THIS MONTH'S MUST-HAVES AND PORSCHE ACCESSORIES

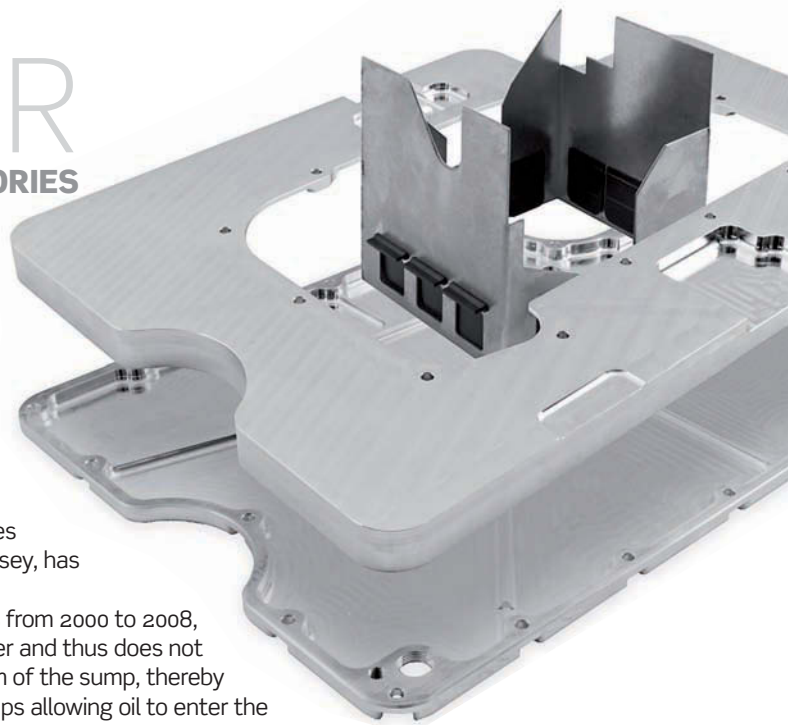
An end to starvation

The all new, water cooled flat-six engine introduced for the original Boxster and 996 generation 911 in the mid 1990s used a wet sump configuration, whereby the oil sits in a pan below the crankshaft. This differed from the preceding air cooled unit which was dry sumped, its oil held in a tank and essentially squirted at the bearings to lubricate them.

One problem that wet sumped engines can suffer is oil surge, where under hard cornering and heavy G forces, the oil is forced to one side of the sump, thus temporarily starving the crankshaft bearings of lubrication. The Porsche engine does feature a baffle system to offset this effect, but one tuner, Bodymotion in New Jersey, has developed a new oil pan claimed to improve lubrication efficiency.

The Racing Billet Oil Sump Pan, designed for all Boxster, Cayman and 911 engines from 2000 to 2008, increases oil capacity by 2.8 litres, though thanks to its "winged design" is no deeper and thus does not reduce ground clearance. It features a baffle that reaches down to the very bottom of the sump, thereby trapping almost all the oil and minimising surge, 11 baffle windows with one way flaps allowing oil to enter the sump but not flow out.

The pan, made from billet aluminium, returns pressurised oil from the cam covers through air/oil separators, this preventing oil aeration, or foaming, and useful features include two drain plugs at opposite ends of the engine, while built in threaded "jack" screws make removing and lowering the pan easier, especially when it has been attached with Porsche RTV sealant. The pan is priced at \$3695 (about £2370), with fitting in three to four hours. Go to www.bodymotion.com



Air time

Long established air filter specialist K&N has introduced an intake filter for the 991-series Porsche 911. It's said to increase airflow by 30 to 40 per cent, and to increase power and acceleration, while at the same time maintaining 99 per cent of the original filtration efficiency.

The High-Flow Air Filter, priced at £112 including VAT, is a direct replacement and therefore easy to fit, and can be reused after being washed and re-oiled after 30,000 to 50,000 miles. The Cheshire-based company gives its K&N Million-Mile Limited Warranty on each filter. To find a stockist, call 01925 636950 or visit www.knfilters.co.uk

Classic suspension

KW Automotive, maker of a wide range of Porsche suspension upgrades, has introduced a new kit for classic 911s, the 1971-73 F-Series and 1973-74 G-series. A coilover kit using the German company's two-way twin-tube technology, the Porsche Classic Clubsport kit lowers the ride height 40mm and features independently adjustable rebound and bump. It was originally made up as a one off for a tuner customer of KWA.

The front units are finished in a black powder coating finish, and supplied on an exchange basis, while the rears are made from KW's own stainless steel technology, said to offer longevity in all weather and driving conditions. The kit's part number is 39571050, and the cost, including VAT but not fitting, is £2510.

At the same time KW has launched a new range of bolt on wheel spacers for a wide range of Porsches. These are sold under the Weitec name, a KW-owned brand that supplies lower cost items including roll bars and lowering springs.

Made from aluminium and with an anodised finish, the spacers, which go between the wheel hub and the road wheel with no modifications necessary, increase the track by either 20mm or 30mm, costing £111 and £123. They fit all Boxsters, the 987-series Cayman, and some versions of the 996-, 997- and 991-series 911s. For more information on either the coilover kits or spacers, call 0870 990 7536 or visit www.kwautomotive.co.uk



EVERY PART FOR every PORSCHE

Call our Sales Team on
+44 (0) 20 8500 8811

OR
Visit our Online Catalogue at
www.design911.com

PARTS FOR:
356, 944, 928, 968, 964, 993,
912 & 911's from 1965 to 2012

NOT ONLY PARTS, BUT ALSO:

- BODY SHOP & FITTING FACILITIES
- SERVICE & FITTING CENTRE
- BODY STYLING & CONVERSIONS
- WHEEL & TYRE FITTING
- DAMAGE REPAIR & RESTORATION
- ENGINE & GEARBOX REBUILDS
- SUSPENSION & EXHAUST UPGRADES
- PARTS DEPARTMENT
- WORLDWIDE DELIVERIES
- PERFORMANCE UPGRADES



**WAYS
TO BUY**



IN PERSON



PHONE



MOBILE
SHOP



WWW



E-MAIL



**EASY TO USE
RIGHT PRODUCTS
AT THE RIGHT PRICE**

WWW.DESIGN911.COM



UNIT 5 • BRACKEN INDUSTRIAL ESTATE
185 FOREST ROAD • HAINAULT • ESSEX IG6 3HX

DESIGN 911
Centre for Porsche

PRODUCTS

Sharpen night sight

Sharp eyesight is obviously crucial for the safe enjoyment of a car, and all the more so for a Porsche, given its performance. But being expensive cars, by the time you can afford the one you want, you might not exactly be in the full bloom of youth – and your eyesight might be a little bit past its best, too. It is quite normal for people in their forties and fifties to find that their night vision is less crisp than it used to be.

It was a problem experienced by one leading eye surgeon, John Grindle who had found that he was troubled by an increasing level of glare, especially from oncoming lights. The consultant ophthalmologist at Moorfields Eye Hospital in London was in a position to do something about it, and set about developing a new type of spectacle lens, called Vista Mesh and featuring a micromesh filter. The formula was originally developed to deflect electro-magnetic radiation 10 years ago, but has only now been applied to spectacle lenses.

Working on a pinhole effect, the super fine mesh is claimed to damp down flicker and sharpen contrast at night, due to the lenses aligning scattered light reflections. The lenses have the normal clear appearance, and are designed for day as well as night use.

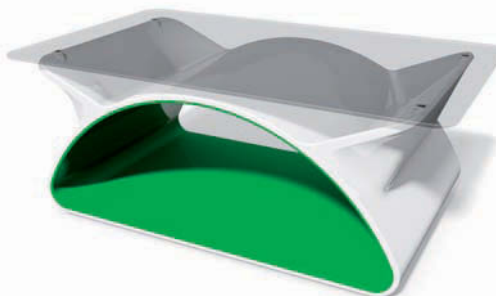
Now might be a good time to see if this lens formula works for you, given that daylight is now getting shorter, and that at the end of October the UK clocks go back, plunging the late afternoon into darkness. The central London optician dispensing them is Roger Pope and Partners, on 020 7935 2124 or at www.rogerpope.co.uk.



911 motion tabled

The original 911 Carrera 2.7 RS, particularly around its tail, is among the most iconic automotive shapes of the early 1970s, so much so that one furniture designer sees no reason why it shouldn't be brought into the house, or indeed man cave, in the form of a coffee table. Guards Red Design, based in Aberdeen in Scotland put two RS "ducktail" shaped mouldings together and attached a panel of 8mm glass on top to produce the Anatina Table. "Anatina" is "duck" in Latin, so we assume company proprietor Andrew Smith had an expensive education.

The table, whose base is made from glassfibre, as was the original ducktail and can thus be cleaned and polished up in the same way, costs £1911 plus £25 UK delivery. Measuring 1100mm in length, 650mm wide and 400mm high, it comes in eight colour combinations: the base white or black on the outside, and blue, red, yellow or green on the inside. See them all at www.guardsred-design.com



The Tyre Depot - Now is the time to consider winter tyres for your Porsche

With winter here soon, it is worth considering the slightly less expensive option of running winter tyres on existing wheels rather than fitting them to a second set of rims. You can still use a reputable fitter's "tyre hotel service", whereby your summer tyres are stored from November through to April, at a moderate cost.

A growing number of performance winter tyres are being made in N rated homologation (as recommended by Porsche) by leading manufacturers. These include the Dunlop SP Sport Winter 3D, Continental TS830, Pirelli Winter SottoZero Serie II, and Michelin Pilot Alpin PA4 N-Spec. Both Michelin and Pirelli are already producing 20-inch winter tyres for the 991-series 911.

There are also specific 4x4 winter patterns for the Cayenne: Pirelli Scorpion Ice, Michelin Latitude Alpin, and Dunlop, again in the winter sport 3D pattern, and in all sizes from 235/65 R17 right through to 295/35 R21.

Let's remind ourselves why you would want to fit winter tyres, or rather "cold weather tyres", as they are designed for temperatures below 7°C, not just for use in snow and ice. They are a softer compound with a higher amount of natural rubber and silica, which does not harden in colder temperatures compared to the higher amount of synthetic rubber used in summer tyres, which hardens far quicker in lower temperatures. The benefit is more flexibility and hence better traction, and superior braking and cornering. They have a more aggressive appearance, though the parts of the tread that do the most work in winter conditions are the "sipes", small grooves in the tread that act as claws in the snow and ice, improving grip.

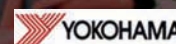
Some of the winter fitments might be different to the summer fitments for Porsches, but these are still permissible on the original sized wheels. For example, a 265/35 Z18 can be fitted as a winter tyre option for the rear of a 996 Porsche – changing from the existing 285/30 R18 while maintaining the same rolling circumference as well as keeping the original 10-inch wheels.

The key to successfully taking advantage of using your Porsche in winter is to order tyres early, as most tyre manufacturers will now have finished this season's production. For more information, and stockist details, go to www.grouptyre.co.uk



ONE OF THE UK'S LEADING SUPPLIERS OF ULTRA HIGH PERFORMANCE TYRES

- Authorised distributor for Pirelli P Zero Trofeo
- "the ultimate road/track tyre"
- Discount for Porsche Club Members
- Porsche and Ferrari tyre specialists
- All leading brands
- Fitting and mail order
- Wheel refurbishment



OCTOBER
OFFERS

Porsche Cayenne 29535R21 107Y Pirelli Pzero N0 or N1 £273.75
Porsche Cayenne 27540r20 106Y Pirelli Pzero Rosso N1 £224.95

Porsche Panamera Front 25540R20 101Y Pzero NO £295.95
Porsche Panamera Rear 29535ZR20 105Y Pzero NO £290.95

Porsche 997 Turbo/2S/4S front 23535ZR19 Bridgestone RE050a N1 £185.95
Porsche 997 Turbo/2S/4S rear 30530R19 Bridgestone Re050a N1 £280.95

Porsche 996 Turbo/C4S Front 22540R18 Continental Sport Contact 2 N2 £137.95
Porsche 996 Turbo/C4S Rear 29530R18 Continental Sport Contact 2 N2 £248.95

Porsche Cayman Boxster Front 23535R19 Goodyear F1A NO £178.95
Porsche Cayman Boxster Rear 26535R19 Goodyear F1A NO £219.95

All Prices are Fitted including Adhesive Balance, New Valve
and Environmental casing disposal

Elite Garages

Call: 0844 324 6880 • Email: tyres@elitegarages.co.uk • www.elitegarages.co.uk

Branches in: Horsham • Pulborough • Caterham • Haywards Heath • Bournemouth • Southampton • Salisbury • Portsmouth • Worthing • Brighton • Eastbourne • Strood • Canterbury • Deal



Endyke Tyres

ZR Tyres: Lincoln • Bush Tyres branches in: Horncastle • Spilsby • Skegness • Louth • Boston • Sleaford • Beverley • Great Grimsby • Hull • Long Sutton
Scunthorpe • Kings Lynn • Bourne • Spalding • Goole • Endyke Tyres: Hull

Call: 0845 6801537 • Email: enquiries@bushtyres.co.uk • www.bushtyres.co.uk



Tanvic branches in: Newark • Lincoln • Grantham • Corby • Melton Mowbray • Nottingham • Loughborough • Worksop • Market Harborough
Steer Tyres branches in: Coalville • Lutterworth

Call: 0845 122 6226 • Email: porsche.post@tanvictoryres.co.uk • www.tanvic.co.uk

KENWAY TYRES

Kenway Tyres branches in: Aberdeen • Dundee

Call: 01224 497000 • Email: konrad@kenwayautotrade.co.uk • www.kenwaytyres.co.uk

cooper bros

Cooper Bros branches in: Newmains • Carluke • Cumbernauld

Call: 01501 823366 • Email: wholesale@cooperbrothers.co.uk • www.cooperbros.co.uk

MAGOWAN
tyres

MT Wholesale: Co. Atrim N. Ireland Magowan Tyres Co: Atrim N. Ireland

Call: 02890 848444 • Email: info@magowantires.co.uk • www.magowantires.co.uk

PRODUCTS

A fitting purchase

When you buy a replacement exhaust from Porsche, the system will not come with any of the clamps and sundries that are needed, and an independently made sports exhaust is unlikely to either. Therefore the full fitting kit supplied by Midlands Porsche part specialist Porscheshop could be a very useful purchase for the self fitter.

Various kits are offered, and taking the 996/997-series kit as an example, it includes A2 grade stainless steel nuts and bolts, gaskets, clamps and galvanised catalyst pipe sleeves. It fits all Carrera models, from 1997 until 2012 when the 991 arrived, and Porscheshop says it will definitely fit aftermarket sports systems, as their mountings have to be the same as for the standard exhaust in order to fit. The price is £90 including VAT, and there is a separate kit for the 996/997 GT3, as there is for the first generation Boxster, both costing the same. Some of the items can be purchased individually, such as the clamps and gaskets. For more details, call 0121 585 6088 or go to www.porscheshop.co.uk



Introducing the band

The sound of alloy wheels grinding on a kerb is a painful one, and the sight of what a moment's careless parking did to those lovely rims on your Porsche is equally distressing. One novel preventative measure is the AlloyGator, a super tough nylon band that fits around the outer edge of the rim.

The patented system is designed to take all the punishment when soft alloy and unyielding kerbstone meet, leaving the actual wheel undamaged, and it gives some protection to the tyre, also likely to be an expensive item on a Porsche. They come in nine different colours, with black and silver blending in discreetly, while red, blue, yellow, pink, green, orange and white offer a more extrovert look.

It can be fitted by a confident DIY owner, says Warwickshire based AlloyGator. However the tyre needs to be partially deflated, and the band, which comes in 21-inch diameter, cut to size if necessary. You can buy it on line for £65.45 including VAT and delivery, or pay extra for the fitting service. More details on 08450 707078 or visit www.alloygator.co.uk

Cool calendar

There may still be a bit of 2013 to go, but there is no harm in buying a 2014 calendar early – especially when it contains a dozen lovely images of classic Porsches, ranging from 356s up to the 993-series 911, and with the mid 1960s 904 racer (one of which was recently auctioned for £1.2m) on the cover. Porsche Klassik 2014 is produced by the German publishing company Delius Klasing, and is available on its website, or through classic Porsche parts specialist Karmann Konnection in Southend, Essex, priced at £24.95.

Measuring a generous 675x470mm – about 27 by 19 inches, in old money – it is not a calendar that will go unnoticed, we'd say. Call 01712 601155, or visit www.karmannkonnection.com





Adjustable Gas Pedal

986/996/987/997/981/991/Pano

Rennline's fully adjustable gas pedal system is an industry first, and finally solves the problem of the weak and unstable throttle assembly found on the late model water cooled cars. These factory plastic assemblies are notorious for hinge and housing failure due to its flimsy construction that was designed strictly for street use. The factory replaced these assemblies on their race cars with a true metal to metal mount system, and now so can you. Rennline's fully adjustable pedal is a very unique system that gives you that true metal to metal mount, yet retains all your necessary electronics and or cables. Additionally, this pedal system can be adjusted in any direction, not only for height and depth, but also laterally and angularly, as well as width-wise using the supplied throttle extensions. You'll never again have to struggle to heel-and-toe, or be towed into the paddock due to a pedal failure.



Quick Release Steering Wheel Hub

Rennline has adapted Porsche Motorsports engineering with our own style and design to give you the highest quality quick release hub on the market. Unlike similar units on the market, this hub has a tapered asymmetrical socket that eliminates any chance of looseness as the hub breaks in. Rennline quick releases are equipped with spring loaded roll pins to allow for a seamless one hand removal which is vital in any emergency situation. All critical components are precision machined from anodized 7075 aircraft grade aluminum and designed to work with the standard 6 bolt pattern found on most Momo, OMP, and Sparco wheels.



Billet Valve Covers

911/964/993/993tt

Tired of your wife nagging you about the oil puddles in the driveway? Rennline has the solution with our new billet, fully CNC machined valve covers. These valve covers are a direct bolt on replacement for your flimsy leaking factory covers, and are machined to accept the reusable OEM gaskets. With the corrosion resistant finish, chamfered edges, and tight gasket fitment, these valve covers are simply the best on the market. Available in Anodized clear or black finishes, or powdercoat red all with or without the fins brushed. Also included are the spark plug wire retainers and retainer hardware for a clean installation.



RSJ SPORTS CARS

Specialising in Porsche Cars www.rsjsportscars.com



911 (997) TURBO "S" 3.8 (2013 - 62)
White with black leather, Sat Nav,
12,000 miles..... **£100,000**



911 (997) TURBO 3.6 (2008 - 08)
Cobalt blue with stone grey leather,
Sat Nav, 32,000 miles..... **£50,000**



911 (997) TURBO 3.6 (2007 - 07)
Slate grey with black leather,
Sat Nav, 44,000 miles..... **£47,000**



911 (997) TURBO 3.6 (2006 - 56)
Basalt black with stone grey leather,
Sat Nav, 44,000 miles..... **£44,000**



911 (997) "2S" 3.8 PDK (2009 - 59)
Silver with black leather,
Sat Nav, 35,000 miles..... **£45,000**



911 (997) "2S" 3.8 (2008 - 08)
Silver with black leather,
Sat Nav, 27,000 miles..... **£37,000**



911 (997) "2S" 3.8 TIP (2007 - 07)
Basalt black with black leather,
Sat Nav, 33,000 miles..... **£34,000**



911 (997) "4S" 3.8 (2007 - 07)
GT Silver with ocean blue leather,
Sat Nav, 41,000 miles..... **£34,000**



911 (997) "2S" 3.8 (2006 - 56)
Silver with black leather,
Sat Nav, 20,000 miles..... **£33,000**



911 (997) "2S" 3.8 (2006 - 56)
Silver with black leather, Sat Nav,
32,000 miles..... **£33,000**



911 (997) "4S" 3.8 (2005 - 55)
Basalt black with stone grey leather,
Sat Nav, 27,000 miles..... **£32,000**



911 (997) "4S" 3.8 (2006 - 56)
Slate grey with black leather,
Sat Nav 44,000 miles..... **£33,000**



911 (997) "2S" 3.8 tip (2006 - 56)
Basalt black with black leather,
Sat Nav, 31,000 miles..... **£32,000**



911 (997) "2S" 3.8 (2006 - 56)
Silver with black leather,
Sat Nav, 32,000 miles..... **£31,000**



911 (997) "2S" 3.8 tip (2005 - 55)
Silver with ocean blue leather,
32,000 miles..... **£29,000**



911 (997) "2S" 3.8 (2006 - 55)
Seal grey with black leather,
Sat Nav 68,000 miles..... **£26,000**

SERVICE DEPT

All Porsches serviced from 924's to 997's.

All work performed by factory trained technicians using Mobil oil and Porsche PIWIS diagnostics

ALL CARS SOLD WITH 1 YEAR IN HOUSE RSJ WARRANTY

STS HOUSE
BRISTOL WAY
SLOUGH
BERKSHIRE
SL1 3QA

T: 01753 553 969

PORSCHE WANTED (2003 TO 2012)

Servicing that **Stands out!**

Air & Water Cooled Specialists

Porsche trained Technicians. Over 28 years experience.



- Servicing
- Repairs
- Tyres
- MOT'S
- Air con servicing
- Bodywork
- Interior repairs
- Vehicle detailing
- Full Engine Rebuilds
- 4 wheel alignment
- Upgrades
- PIWIS diagnostics
- and much more...

FREE
141 POINT
CHECK



Our Nottingham Workshop



Full Main Dealer Facilities

EXPERIENCE IS EVERYTHING

From servicing to full engine re-builds, your beloved Porsche is in very safe hands. Our technicians are fully Porsche trained with many years of experience.

We use the latest PIWIS official Porsche diagnostic systems and can offer you the same workshop facilities that you would find at any Official Porsche centre, but at independent prices.



Cavendish Porsche Ltd

We are just off Fields Farm Road at...
Unit 7, Gainsborough Close,
Long Eaton, Nottingham, NG10 1PX

Call 0115 972 2001
or visit www.cavendishporsche.co.uk

What part would you like?



Featured on National Geographic's TV series, Break It Down, episode "Porsche in Pieces"



Worldwide Shipping Available

Los Angeles Dismantler is the leading supplier of used OEM Porsche Engines, Wheels, Seats, Electronic parts and everything in between.



9819 Glenoaks Blvd, Sun Valley CA 91352

Sales@ladismantler.com

(001-1) 818.767.7243

Contact and see us on

USUAL SUSPECTS

BENNETT GOES TO FRANKFURT AND FINALLY HE 'GETS' THE 918 ALTHOUGH IT WOULD APPEAR HE'S MORE INTERESTED IN FUEL ECONOMY THESE DAYS. FORTUNATELY A RIDE IN A 720BHP 996 GT2 WITH MIKE WILDS BRINGS HIM TO HIS SENSES



STEVE BENNETT

918 IS LORD OF THE RING

We've gone big on the 918 in the news pages in this issue of *g11&PW*. For various reasons I have in the past confessed to feeling rather luke-warm towards the 918. I may even have described it as Porsche's latest 'vanity project,' but certainly I didn't feel any real connection to this otherworldly machine.

And so it was with a certain amount of scepticism that I headed off to Frankfurt for the launch of the petrol/electric hybrid. Launch? Hold on, Porsche seem to have been launching the 918 for the past two years or so. It's been snapped in various retro liveries, some journos have ridden in it and even driven it (albeit sparingly), a production version was at Goodwood and superstar petrolhead, Jay Leno, seems to have one already in his world famous garage. This constant drip-feeding of info by Porsche has rather destroyed the mystique of the 918. Really, what on earth was there left to say/see at Frankfurt?

I know I sound like a hackneyed old hack, but to me this is reverse marketing. Where was the excitement? Not at the VW Group grand party (the place to be) on the night before the show's opening day. The 918 glided in under electro power to music, light and dry ice and later we milled around it trying not to get in the way of the various camera crews. It looked quite cool, but that's only because Jacky Ickx was sitting in it. My 944 would look quite cool if Jacky Ickx was sitting in it!

Maybe things would be different at the launch proper the next morning at the Frankfurt Show itself. So at 10am once again the 918 glided in with, Wolfgang Hatz at the wheel. He jumped out, said a few things about Porsche's commitment to hybrid power and how it was the future and then introduced lanky Walter Rohrl who confessed to being initially sceptical about the 918 dual power set up, but was now on side. Yeah, but he would say that.

And then it popped out: Six minutes and fifty-seven seconds, or to put it another way: 6m 57s. Three numbers that had the collected crowd clapping, cheering and tweeting. Within seconds 6m 57s had gone

global, and you don't need me to tell you here that those three numbers refer to the lap time that the 918 put in at the Nürburgring with Patrick Linge at the wheel. In other words (Radical SR something or another aside, but that doesn't really count) the Porsche 918 is the fastest production, road legal car in the world and has stolen a march on McLaren and Ferrari.

This came as something of a bolt out of the blue. The 918 was considered by most to be too heavy and, while at 1634kg it's no lightweight, thanks to batteries and additional electric motor, the combination of a 699bhp normally aspirated V8, an electric motor, four-wheel drive and some apparently revolutionary new Michelin tyres, have created a shock result.

Now there are plenty of folk who see the Nürburgring as the scourge of modern car development and the reason why ride quality has gone out of the window, but for the supercar contingent, the Nürburgring is as relevant in terms of development as it is to bragging rights. In all likelihood the 918 will be king for a day. By the time this issue hits the shelves it wouldn't be a surprise if McLaren's P1 has smashed the 918's time. It was widely tipped to be the first supercar to do so. But it wasn't and Porsche pulled it out of the bag when it mattered and stole the show.

And slowly the significance of what the 918's development team have achieved began to sink into my grey matter. It's easy to be blasé about things these days but the fact is that if you owned a 918 in the UK, you wouldn't have to pay road tax on it, you could drive it through London's congestion charging zone for free, you could probably drive it on electric power only to your place of work, plug it in and then drive home again at the end of the day, all without starting the engine all week, every week.

And then on the flipside you have a car that will top 200mph and accelerate to 60mph in 2.8 secs, has upwards of 750bhp combined and will with the right driver behind the wheel, lap the Nürburgring in a time that's not far off Stefan Belloff's outright lap record in a



Wolfgang Hatz and Walter Rohrl with the new Porsche 918 in full production guise. As launches go, this one has lasted for the best part of three years, but there's no denying that this plug-in hybrid supercar is a seriously clever piece of kit

Porsche 956 (6m 25.91 secs, although in practice he set an unofficial time of 6m 11.13s, but it's the race time that counts in the record books). Makes you think doesn't it? In fact if this is the future, and it probably is, then it's not too scary at all. In fact it's pretty bloody exciting.

That night at Porsche's post show bash, there was the 'Ring lapping machine looking mean in matt black with a splash of Martini livery, with the lap record time printed across its bonnet. The development team posed for photographs and looked and sounded pretty pleased with themselves as the beer flowed, and who could blame them.

So, yes, I've warmed to the 918 and I can't wait to see how this technology is rolled out. There will be a plug-in hybrid 911. In fact there will probably be plug-in hybrid versions of just about every Porsche in the range.

But just imagine if Porsche had resisted the temptation to share the 918's development and gestation in the public eye, not leaked info, not let famous people drive it and kept it disguised to the hilt, while pounding around the Nürburgring and all those hot and cold places around the world where cars go to be tortured. Imagine the impact that all of the above would have had if Porsche had kept a lid on it?

Here they are: The usual suspects, g11 & Porsche World's elite squad of journalists and Porscheophiles. They've always got plenty to say so we've given them a couple of pages each month to chunter on



PAUL DAVIES



BRETT FRASER



JOHNNY TIPLER



CHRIS HORTON



KEITH SEUME

GETTING OLD - BENNETT GETS OBSESSED WITH ECO DRIVING

I'm a lot closer to 50 than 40, hair is starting to sprout from my nostrils and ears and I appear to have developed a fascination with miles per gallon. Show me a car with a trip and MPG computer and I'll be trying to get the max from it. This must surely be an age thing.

I blame Porsche, obviously. Ever since the seven-speed PDK 'box arrived on the scene in the 997, I've been fascinated with its ability to short-shift up to seventh at 45mph in its default eco mode and then cruise at 70mph at under 2000rpm, and at 80mph at bang on 2000rpm.

The 991 is even more eco configured and I get some sort of strange delight in ever improving my MPG figures over a long journey. So, it was with some glee that I aimed a 991 Carrera 4S at Frankfurt with the avowed intention of getting there on a single tank of fuel (it's over 500-miles from my gaff).

It was a doddle really. These days belting across Europe in the style of motoring journals of the past, is really a big no, no. Much

more than 80mph and you really stand out, especially if you're driving a g11 in a lurid lime gold sort of colour.

Of course it's not just the PDK gearbox that enables such impressive economy from Porsche flat six engines. Direct fuel injection, on demand oil pumps, special slippery coatings for all the moving parts, plus state of the art injectors, electronics, engine decoupling and even the maligned electronic steering all play a part. So much so that as I hit the German border I had averaged 34.7 mpg. Not bad for a 400bhp sports car capable of 190+mph.

And then something odd happened. Scanning the airwaves, the radio picked up a German music station, and the tail end of some Euro pop. But then the unmistakable drum heavy intro of AC/DC's Highway to Hell, enhanced by the Bose sound system option, began to thud through the cabin, and just as it did the Autobahn went derestricted. This was clearly a sign – a Spinal Tap moment – but

in the absence of anything that I could turn up to 11, I hit the Sports Plus button. In homage to Bon Scott's falsetto wailing, two gears were blipped and dropped, the exhaust went to its sport setting, the throttle went all spiky and the C4S took off like a g11 should do. It was a wonderfully synchronised moment. I even felt young again,

not that there's anything young about listening to AC/DC.

If you're worried, I still made Frankfurt with fuel to spare and, a couple of days later, back in the UK, and with the help of Radio 2, I managed to complete a 157-mile journey at an average of 35.8mpg. My transfer to *What Car* magazine should be just a formality.



Playing the MPG game has become an obsession for Bennett, but you have to say, the 991 is capable of some astonishing figures

HOW TO REALLY DRIVE A G11

It's always a humbling experience to passenger with someone who really knows how to drive, and the difference between us and them is never more pronounced than when the car in question is something really powerful and old school.

So as a bit of a sneak preview to an upcoming feature, imagine being strapped into the passenger seat of a 996 GT2 with over 720bhp and over 800N/m of torque, about to hit the Silverstone Grand Prix circuit. The car has been built by Silverstone based Fearnspport for Chris Reed as a track day special, but for the purposes of my few laps in the passenger seat, ex '70s F1 driver, Mike Wilds, is at the wheel. Mike has been in g11&PW before standing proudly next to his 911 3.2 Carrera

Club Sport. You name it, he's raced it and he particularly likes g11s. "I love the way they feel, he says. "You've got to go with them. Do something unexpected and a g11 will have you off. Work with a g11 and it will look after you."

So Mike trundles out of the pits and then hits the throttle. There's a momentary lag and then all I can utter is an expletive. The sheer power and speed of this thing catches me completely off guard. It takes half a lap to acclimatise and for the brain to assimilate the information, but Wilds does what all good drivers seem to be able to do in something this fast and powerful: He manages to slow it all down. No frantic movements, his inputs are calm and collected, despite the

huge power of the thing, which, OK, is on trackday tyres, but is otherwise devoid of any form of electronic driver aid save for the intervention of the right foot.

It takes a really quick car to make the Silverstone GP circuit feel small,

but in this it feels like a go kart track. It monsters everything, even the Radicals. Mike doesn't make it look easy as such. There is a battle going on here, but he's winning and it's a privilege to have a front row seat. More next month.



Fearnspport's monster 996 GT2 is capable of astonishing speed. Fortunately in Mike Wilds they have a driver to get the best from it



- menu servicing
- cost-effective repair
- MOT testing station
- 4 wheel alignment
- restoration/rebuild
- full diagnostics



www.brauntonengineering.co.uk
01271 814144



Porsche Specialist
DEVON
EX33 2JP



AlloyGator®

Protect your wheels from kerb damage

Tested at
MIRA

FITS
WHEELS UP TO
AND INCLUDING
21" ALLOYS

**Auto
EXPRESS**
PRODUCT
OF THE YEAR
ALLOYGATOR
ALLOY WHEEL PROTECTORS
2013



AVAILABLE IN VARIOUS COLOURS



www.alloygator.com

'KERB THE GATOR NOT THE ALLOY!'



call now 0121 55 77 911

www.ramusporsche.com

independent centre for

RAMUS PORSCHE

Porsche Advanced Fault Diagnosis

High Definition Digital Imaging Wheels Alignment

Alloy Wheels and Tyre Fitting

Suspension Package Upgrades

Performance Exhaust Upgrades

Brake Upgrades inc. Ceramics

Full Body Repair Shop

Chassis Alignment Centre



Fixed Price Menu Servicing for all Models

PERFORMANCE STYLING SERVICE PARTS



European Collectibles, Costa Mesa, CA



Authentic. Always.

The essence of Porsche is to deliver a driving experience like no other, as it has been with the first Coupes from the little sawmill in Gmünd to the refined performance of the last Carrera Cabriolet. The respect for the 356 series cars has not diminished, nor has our commitment to provide the most complete range of exclusive sheet metal, glass, trim and mechanical components. This ensures that our customers can enjoy and maintain the performance, authenticity and value of their cars.

Stoddard's NLA Authentic Parts, keeping your Vintage Porsche on the road since 1957.

Stoddard NLA-LLC stoddard.com

Highland Heights, Ohio 44143 USA 800 342 1414 | Reno, Nevada 89502 USA 800 438 8119



Body Tail Panel
Fits 356B T6 and 356C
Porsche Classic Part
644-503-081-06-GRV



356 Coupe Side Glass
Our European Production
Fits 356B T6 and 356C
NLA-542-105-01
NLA-542-101-02
NLA-543-101-00



Ashtray Complete
Our Reproduction
Fits 356A, 356B and 356C
644-552-061-01

Speedster



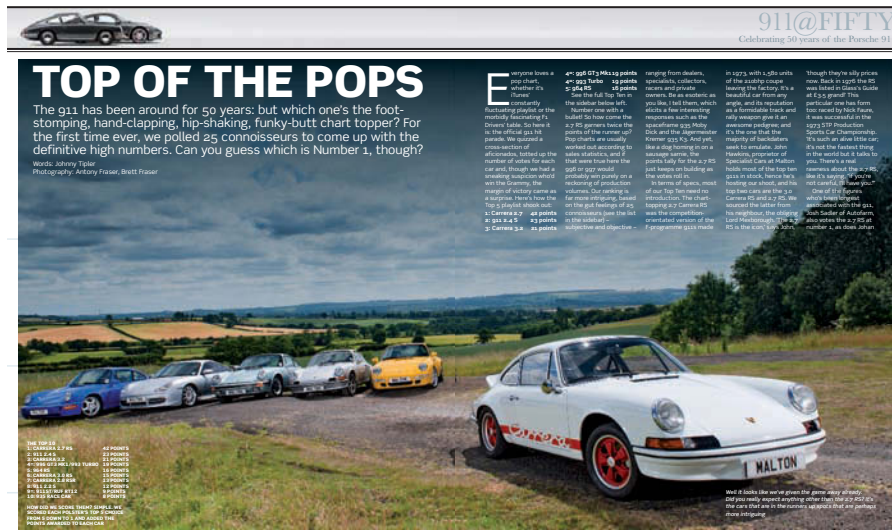
Speedster Emblem Gold
Our Reproduction
Fits All Speedsters
644559-321-40

Restored Brake Drums
Fits 356, 356A and 356B
Front and Rear pairs
356-41-022-X
644-331-061-X
695-341-061-X
695-331-061-X

LETTERS

GOT SOMETHING TO SAY? NEED TO EXPRESS AN OPINION ON THE PORSCHE WORLD? WELL, HERE'S YOUR CHANCE...

911@FIFTY
Celebrating 50 years of the Porsche 911



TOP OF THE POPS

The 911 has been around for 50 years, but which one's the foot-stomping, hand-clapping, hip-shaking, funky-butt chart topper? For the first time ever, we polled 25 connoisseurs to come up with the definitive high numbers. Can you guess which is Number 1, though?

Words: Johnny Tipler
Photography: Antony Fisher, Brett Flower

1. Carrera 2.7	25 points
2. 911 4.2	22 points
3. Carrera 3.6	21 points

EVERYONE loves a pop chart, whether it's the music charts, the best-selling books list, the box office, or the number of votes for a particular candidate in an election. So it's no surprise that we've decided to create our own list of the most popular Porsche 911 models. We've asked 25 of our readers to vote for their favourite 911, and the results are in. The Carrera 2.7 is the most popular model, with 25 votes. The 911 4.2 is a close second with 22 votes, and the Carrera 3.6 is in third place with 21 votes.

1. Carrera 2.7 25 points
2. 911 4.2 22 points
3. Carrera 3.6 21 points

STUCK IN A 912

I read with great interest the article 'Top of the pops' in the September issue of *g11 & Porsche World* magazine. I was especially intrigued to look at the individual opinions of the experts you chose to vote for the best 911 ever, partly because I'm honoured to know some of them. I do not personally agree on the choice of the winning car, the now legendary and (to me) over-valued 1973 2.7 Carrera RS. It is basically no more than a similar 2.4S with a bigger engine displacement and larger rear tyres, with over 1500 examples built for homologation purposes. To me the real landmarks in the 911 story were such as when the wheelbase was changed, mechanical fuel-injection was adopted or the Turbo was born. In fact I was pleased when friends like Jürgen (Barth) put in first place cars like the 2.2S and 2.5T that, in my view, are more interesting than the RS. But personal opinions apart, there is a little question that makes me wonder: I noticed

that no less than the great Hans Stuck put in third place on his personal list the little 912. Isn't this quite surprising from such a race hero who's driven the most powerful Porsche cars? As a 912 fan, too, I was just curious if any of you had the chance to ask Mr Stuck why this underrated four-cylinder Porsche holds such appeal? With the best compliments for your beautiful Porsche magazines. **Mauro Borella, Italy**

Steve Bennett replies: Hi Mauro. Yes that was an interesting choice from Hans Stuck. According to Johnny Tipler, who spoke with Stuck, he said that the 912 was the first Porsche that he drove as a youth. Also, with less weight in the back, he reckoned that the handling was more predictable, too.

GT3 OVER-RATED?
Thanks for a fascinating latest issue of *g11 & Porsche World*. Picking the greatest of all 911s is always a bit of fun and of course it came as no surprise

that the number one slot went to the 2.7 Carrera RS. It's currently the obligatory choice you would think although interestingly, out of your panel of twenty three, less than 25 per cent selected it as their number one choice. However, even more interesting for me was the recognition bestowed upon the 996 in GT3 spec. If I had a pound for every time I heard a Porsche enthusiast say that the 996 was his/her least favourite body style, except for the 996GT3, which they find beautiful, I'd be able to buy one. It just proves how much perception is the law. It is, of course, the exact same body, albeit lowered slightly, with a kit and its own wheels, a look Xeroxed onto many standard 996 Carreras. But somehow the knowledge of what it does, and the intangible aura around it, seems to hypnotise Porsche enthusiasts into seeing the same body panels morph into different shape. Put 'Carrera' in the back and it's tired, worn out, slab-sided, with odd lights and an engine

about to blow. Put 'GT3' on the very same shape and it becomes iconic, purposeful, sleek, timeless, pretty, beautifully compact and, wait for it, 'classic'! Porsche fans are a funny lot. **Niall Gately, Cape Town, SA**

Keith Seume replies: I know what you are hinting at but I honestly believe that most people find the GT3 more attractive to look at because of the promise of what lies within. The GT1-derived engine, the superior brakes, the uprated suspension – the knowledge that this Porsche became the first production car to lap the 'Ring in under eight minutes. All of this far outweighs the skin-deep 'beauty' bestowed upon the arguably bland lines of the standard 996 by a few spoilers and minimalist badging...

IT IS AN 'S'!
I am a subscriber to your magazine through i-Tunes and really enjoy reading it. I have recently purchased a 911 C2S from JZ Machtech which was featured in your magazine. I was suprised to note that you had it down as a base-model C2 when it is in fact a C2S (which the journalist states he regrets not trying in the article!). **Frank Ward, via E-mail**

Keith Seume replies: Please accept our apologies and rest easy in the knowledge that we have now fitted an 'S' key to the author's keyboard...

KING CAYMAN?
The recent rumour that Porsche is to build a four-cylinder turbo Boxster and Cayman must surely raise the

question when will the Cayman finally be allowed to mature into the car it has always deserved to be? It has long been said that Porsche will never allow the Cayman to become the 'new 911' – by that I mean the driver's car that the old 911s always were. But now that the 997 has grown into what can only be described as a 'Grand Tourer' (wait for the mutterings off stage...), can we please all ask Porsche to give the outstanding Cayman its head? It would, of course, be wonderful if the Cayman was equipped with a full-monty six-cylinder turbocharged motor, but the idea of a lighter, four-cylinder model really does have some appeal. Sorry, I mean a lot of appeal... The late great Colin Chapman is quoted as saying that to add speed, add lightness, and this is surely where the Cayman's future as a real driver's car in the mould of the original 911 must lie. Porsche has shown its willingness to produce 'driver's' versions of the Boxster (Boxster Spyder) and the 997 (Sport Classic), but a bare-bones Cayman with a 'cooking' four-cylinder turbo engine could be the best-handling Porsche ever. It would certainly be a hoot – a 300bhp, turbo lightweight mid-engined coupé? If that ever happens, then sign me up! Of course, it wouldn't be as fast as a 997, but then top speeds of anything over 150mph are pretty academic. Give me a car like this, a clear mountain pass and I'd be far happier than trying to outrun a Prancing Horse on the autobahn in my 'GT'... **Michael Williams, via E-mail**



Specialist Vehicle Preparations

Telephone: 01299 251152

www.specialistvehiclepreparations.com

Email: dominic@specialistvehiclepreparations.com

Unit 2, Building 329, Rushock Trading Estate,
Rushock, Droitwich, Worcs. WRO 0NR

Championship Winning Competition Preparation

Fixed priced Porsche servicing (all models)

Builders of bespoke classic Porsches

Suppliers of parts & equipment

Porsches for sale

“The chassis mods on SVP’s Cayman SV allow you to reach a state of driving nirvana”

911&PW magazine



Servicing

Cars For Sale

Project Work

Competition Parts

'74-'89 911

UNRIVALLED EXPERIENCE IN TOP LEVEL MOTORSPORT



Nine Excellence

Independent Porsche Specialist



- Servicing, repairs & MOTs
- Engine & transmission rebuilds
- Complete restorations including bodywork & interior
- 9e Packages, exhausts, suspension & performance upgrades
- Pre-purchase inspections
- Detailing & aftercare
- Tyre fitting & Wheel refurb
- Alignment & Geo
- Fully trained Porsche technicians
- All Porsche models covered
- Fixed price servicing with genuine Porsche parts
- Collection & Delivery service
- Comfortable reception area with WiFi & refreshments

Unit 3, Axiom Business Park,
41 Balcombe Road, Horley,
(Nr Gatwick) Surrey, RH6 7HF

www.nineexcellence.com
01293 226 911
service@nineexcellence.com

NORTHWAY PORSCHE LIMITED

INDEPENDENT PORSCHE SPECIALISTS

GRANGE PLACE, GRANGE LANE,
BEENHAM INDUSTRIAL AREA,
BATH ROAD, READING,
BERKSHIRE, RG7 5PT



Repairing and servicing of Porsches
for over 20 years

USED PORSCHE IN STOCK AND WANTED FOR
OUTRIGHT PURCHASE

TELEPHONE: 0118 9714333 MOBILE: 07831 424911
EMAIL: INFO@NORTHWAY.CO.UK WWW.NORTHWAY.CO.UK

Engine rebuilds all models and general repairs & servicing	Gearbox rebuilds all models	Air Conditioning	Disc refacing
	<h1>RGA</h1> <p>London's Major Porsche Specialist Units 32-34 Miles St, Vauxhall SW8 1RY www.rgaporschelondon.co.uk email bob@rgaporsche.co.uk All work to the highest standard and carried out in house Mon-Fri 7am-7pm Sat 9-6 Sun call</p> <p>Tel 020 7793 1447 ask for Bob for booking & advice</p>		
Tyre supply & fitting Wheel alignment			Wheel balancing, wheel straightening & wheel refurbishment
Jig repairs	Restoration & resprays	Damage repair including for all insurance companies	Torque tube overhaul 924, 944, 968, 928

VAN ZWEEEDEN

Since 1957

Porsche specialist

Elektraweg 9-11

4338 PK Middelburg

The Netherlands

Tel: +31(0)118-581370

Fax: +31(0)118-582678

info@v-zweeden.co.uk



Used & new parts in stock

Worldwide delivery

www.v-zweeden.co.uk

THE DAILY DRIVER

When his SUV started to go wrong, Ben Williams decided to go leftfield and buy an old 944 for the grind. Turned out to be a machine of some mystery

Words: Adam Towler Photography: Neill Watson

The affection that exists between an owner and their Porsche can strike up in the most unusual circumstances, between possibly unlikely combinations of owners and cars, and for a broad spectrum of reasons. It isn't always related to financial worth; in fact, sometimes it can be hard to explain on any logical level at all.

It could be argued that one such example is Ben Williams and his 944. Ben has owned some very interesting cars over the years, and that includes both a 993 Turbo and a 996 Turbo. But when last year his daily driver began to cost him serious money in repairs (let's just say it was a modern luxury SUV from a British brand...) he decided to try something different – and then saw this particular 944 for sale. Could it really be pressed into such service? The answer was 'yes'. He has since spent a fair amount of cash getting this ostensibly scruffy 944 to drive how its maker intended, and to repair rot in the sills, but then this isn't any normal 944, as soon becomes apparent.

According to its VIN this 944 was manufactured in 1981, and yet – we know what you're thinking – the 944 wasn't on sale until the year after. Further evidence that all is not as it seems can be found under the bonnet where there are numerous mechanical differences compared with the regular production spec. The coolant pipework for starters, the engine mounts and the various connectors that are 911-spec, not as they normally are for the water-cooled cars. Recent research reveals that the suspension geometry is different, too.

What makes the tale all the more mysterious is that while the VIN sticker matches up, the chassis plate has been deliberately defaced and then left in place in unreadable form.

Moreover, the first owner of the car was Porsche GB, who kept the car for a year before our 944 made its way to a new owner in Scotland. There it stayed for many years, being used only sporadically, before recently

passing through the hands of owner number three and then onto Ben last summer. In one sense it was a lucky car, as many an early 944 has been broken for spares when they look shabby, but in Ben the car has found an owner of tremendous enthusiasm, along with an appreciation for driving and what makes for a great car.

But back to our history trail: beyond the above clues and life story Ben knows little else, and a call we made to the Porsche archive in Stuttgart yielded nothing, with simply a reply that the records for the 944 are kept in Ludwigsburg and they knew nothing of the car. It goes without saying that if a reader out there knows anything about the history of this car, do write into the magazine and let us know.

Could this car have been a pre-production 944 brought over to the UK for the purposes of Porsche GB in some way, and then perhaps sold on when it would, usually, have been destroyed? Was it a press car or a dealer-training car, or used internally to get staff up to speed on the exciting new model that Stuttgart would soon be sending over? Maybe that's a fanciful suggestion, but such an occurrence isn't without precedence; the original right-hand drive 928 for the UK made its way eventually into private hands after lying dormant for many years, and there are many pre-production details on that car, too.

Ben's interest in Porsches began at an early age. "A school friend's father was an ad guy, and was responsible for that famous photoshoot with a Ferrari F40 and Porsche 959 on an airfield," he recalls. "So we went along as spotty kids and the 959 was just 'it! It was the most awesome thing I'd ever seen, period. We didn't even sit in it, but I loved it all the same."

Porsche's supercar guv'nor of the '80s still has the power to utterly beguile to this day, in my experience, so it's no surprise that when new it could mould a life time's respect and affection for a marque.

Starting his motoring career with an ancient Land

Right: Ben Williams and the mystery 944. Mystery? Well it was built in 1981 (despite its 'Y' suffix plate), which makes it pre-production, and was first owned by Porsche GB. There are numerous detail differences between it and the production 944s too, but thus far no positive info has turned up as regard its early life





Rover, he eventually progressed through various Saabs and BMWs, including an E36 318TDS he describes as 'truly awful' and an E39 M5 as "an absolute stonker – a terrific car." Multiple Golf GTIs in the early days bred a love of sporting cars.

Ben's Porsche adventure began with the last of the air-cooled Turbo models: "When I saw my 993 on a garage forecourt I just said 'yes! I didn't do any research – I suppose I was lucky really. But every Porsche I've owned has been so well put together; they are easy to understand, the classics especially. In fact, they're easy to teach yourself on (to do your own work on them) if you have the balls to do so. There are also good specialist garages to deal with, the parts are available, and the whole culture around Porsches is such that people are so helpful and willing to share info. I've not found that so much with other marques. As a marque Porsche are hard to beat". The camaraderie and raw enthusiasm around Porsches is something that, perhaps, we occasionally take for granted.

replacing suspension components and servicing the car properly, and the result is that it's a terrific steer, borne of its light weight through simplicity, and the inherent chassis balance and fine controls possessed by the type. I have a quick blast up the road in it and I'm grinning from ear to ear: of course you'd spend the money on it and what does it matter what it looks like when it drives this well – suddenly the logic is obvious. That big four pot is amazingly free revving, it may just be the sweetest eight-valve example of Porsche's 928-engine-cut-in-half I've ever driven, zipping up the rev range and giving this 944 a surprisingly good turn of speed. It's still no road rocket, but it's the kind of car you immediately want to drive hard, everywhere. The interior is actually in remarkably good condition given what you might have expected when you first see the car's exterior, although the low-slung steering wheel on these early 944s can take some getting used to.

As this story goes to print, Ben has stripped the interior out of the old 944 and is preparing it to Class 3 classic

“Ben has stripped the interior out of the old 944 and is preparing it for Class 3 classic rallying”

Could he be tempted back, I ask, into Porsche ownership of a more recent – and expensive – kind? "I would like a lairy 997, maybe a GT3: the GTS is amazing as well. The 991 is, err nice... (the conversation ends there, revealing another Porsche enthusiast less-than-romanced by the firm's latest offering), but I've no interest in the paraphernalia – the Cayenne and the Panamera I mean." And from the man who has rallied a Citroen DS in classic events over recent years, there's an important proviso: "I like to be able to compete in my cars. If I was to have an older Porsche I'd want it to be for classic rallying." We muse on the possibility of an SC for just such a task (I wonder how long before there's one in the garage?) before Ben tells me about the 356B restoration project he has tucked away "in a million pieces."

Which leads us back to this wonderful early 944, complete with its brush painted bonnet, GRP nose repair and 'heavy patina' (as they'd say at auction). The 'cookie-cutter' alloys have been painted a metallic dark grey finish, and today they're shod with some fresh winter rubber – testament to the car's all-year-round new life. As previously mentioned, Ben has spent a considerable sum

rally spec for FIA/HERO and CRA events: the HERO Throckmorton Challenge in October, and the HERO LeJog in December are already in the diary.

It's going to be 'extreme', he reports, before illustrating just how extreme he's intending: "it's going to have full underfloor protection including sump guard, starter motor and transaxle guards; a 1.5 in ride height lift for additional ground clearance; rally seats and four-point harnesses; bespoke half cage and a front four spot light pod."

But there's an added dimension to all of this that takes this 944's new life far beyond the realms of just rallying: "I'm doing both with Mission Motorsport (the Forces' motorsport charity, that aides in the recovery and rehabilitation of those affected by military operations by providing opportunities through motorsport), taking along a wounded soldier as a navigator and also overseeing another MM sister car where both driver and navigator are complete novices."

It's simply another chapter for a car that's nothing if not a true survivor, which just needed an owner that could see past the blemishes to the rewarding driving experience that lurked just beneath the surface. **PW**

CONTACT

With thanks to Ben Williams.
Further info on Mission Motorsport:
www.missionmotorsport.org

As if being on the road for 32-years wasn't enough, Ben is preparing his 944 for classic rally duty and in conjunction with forces charity, Mission Motorsport, his co-drivers will be injured soldiers. Another chapter, then, for the mystery 944



Suspension Science, Made Easy.

www.ElephantRacing.com

- High tech suspension systems
- Elephant Racing engineered, in Silicon Valley
- Restoration to full-race
- Easy to configure packages at ElephantRacing.com



The science of suspension is daunting. So many options and complex interactions. Choose complementing parts balanced as a system and your suspension will sing. Choose the wrong mix and the song falls flat.

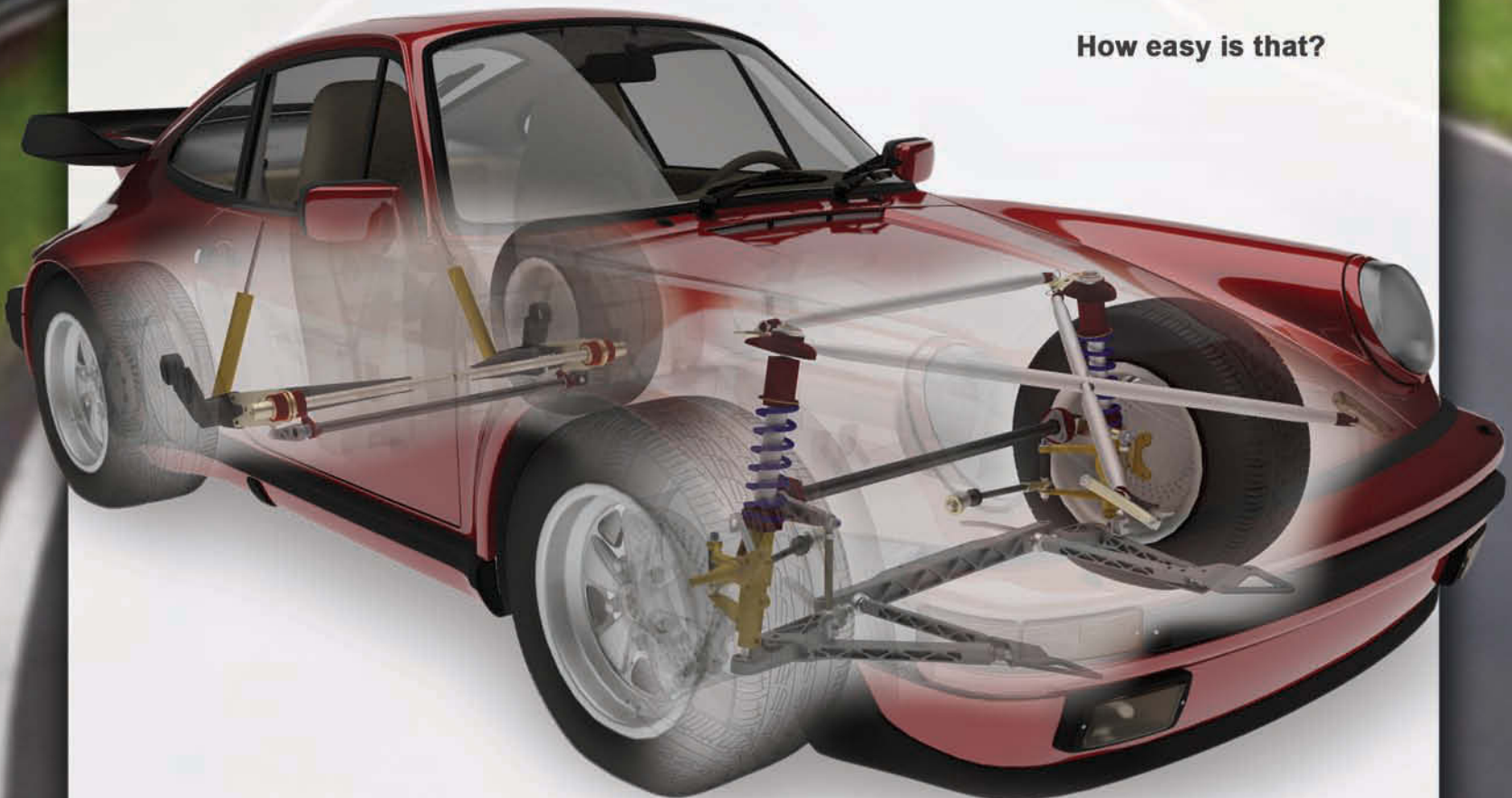
We are performance-obsessed Silicon Valley engineers who live for this challenge. We've done the hard work so you don't have to.

Using sophisticated development tools, modern materials, and innovation we've re-engineered every component of the suspension. We make it work as a balanced system. Better, faster, smarter.

Best of all, we make it easy.

We have packages to meet your objective - from restoration to full-race. Online tools let you choose and customize your suspension at www.ElephantRacing.com or call and we'll customize a solution for you.

How easy is that?



+1 408.297.2789

www.ElephantRacing.com

Santa Clara, California

Fast Worldwide Shipping, Low Rates.



Addspeed Performance Cars Ltd

Quality Service at Affordable Prices



- General servicing
- Full mechanical rebuilds
- IMS bearing failure prevention
- Full Porsche diagnostics
- Free collection / delivery
- Free courtesy car

SPECIAL OFFER!

Boxster 986/996
Lower Wishbones Fitted
From £330 each - NOW £198 each

Quote Ref: NOV13
(*Limited stock availability, prices include fitting and VAT)

01403 255616

www.addspeed.co.uk

Foundry Close, Horsham, West Sussex, RH13 5TX

THE REAL
ALTERNATIVE
to
MAIN DEALER

SERVICING

HERTS / BEDS / BUCKS
01296 663824
WWW.RPMTECHNIK.CO.UK

KEN'S IN HEAVEN.

He can find anything he needs from our endless inventory of **NEW, USED, or REBUILT** parts at www.partsheaven.com.

Sign up online to get our **Monthly Wrecks** email bulletins!

Porsche® enthusiasts like Ken have been relying on us for over 26 years to keep their vehicles performing at their very best. From complete engines to the most obscure bolt, we've got the exact part you're looking for and can ship right to your door. Shop anytime online at partsheaven.com, call us at 1.800.767.7250, or come by and see us. Whichever way, you'll get friendly, knowledgeable customer service to answer any question.

  Follow us on Facebook and Twitter.

**PARTSHEAVEN**

23694 Bernhardt St., Hayward, CA 94545 • Tel: 510.782.0354 • Fax: 510.782.0358 • info@partsheaven.com • Porsche is a trademark of Porsche AG

MENTION PROMO CODE
911PW0913
FOR SPECIAL SAVINGS

Excellence, improved.



Center Muffler Bypass



Side Muffler Bypass



Sport Headers



Carbon Fiber Competition Intake



FABSPEED
MOTORSPORT
EXOTIC CAR PERFORMANCE SPECIALISTS

— THE WORLD'S BEST EXHAUST SYSTEMS & INTAKE UPGRADES

For over 20 years, Fabspeed Motorsport has been engineering and producing the highest-quality performance exhaust and intake systems for the Porsche 911.

Fabspeed's unique Performance Packages provide proven performance increases; resulting in the ultimate 911. Performance Packages are now available for the GT3 and GT3RS, along with most other Porsche models.

- HIGH PERFORMANCE MUFFLERS & TIPS
- SPORT CATALYTIC CONVERTERS
- MUFFLER-BYPASS PIPES
- SPORT/RACE HEADERS
- ECU TUNING SOFTWARE
- COMPETITION AIR INTAKE SYSTEMS
- CARBON FIBER ACCESSORIES

Product videos and dyno results available at www.fabspeed.com!

BLOWN AWAY

The Porsche 911 Turbo legend keeps on trucking. The new 991 version builds on the supercar for all seasons and reasons reputation of its illustrious predecessors

Words: Brett Fraser

Photography: Brett Fraser/Malcolm Griffiths







The helmeted hero on the superbike is all over the new Turbo's tail as it creeps through the sleepy German rural town. And as we turn off onto back roads, he's revving himself up for his chance of a Porsche scalp. He kicks down a couple of gears; cranes his head to one side in an effort to see past the Turbo's fat flanks and assess how quickly he'll zap by. Only it doesn't happen that way.

Let's be clear straight away, we're not countenancing anything so stupid as a race. Just one quick blast against this supercar-humbler and then let him shoot past: mostly these bi-wheeled missiles make a mockery of big-boned sports cars on narrow winding roads, so it's likely to be a brief and highly subjective measure of the Turbo S's talents, for reasons of curiosity and perspective.

Because even accounting for the new Turbo S's prodigious acceleration – 0-62mph in 3.1 seconds and 0-124mph in 10.3 seconds – dropping a superbike is a tricky proposition. And that's despite the fact that we're in the 552bhp Turbo S, complete with the Sport Chrono package as standard, which blesses it with an overboost function that gives an extra 50Nm for up to 20 seconds in the mid-range. The 3.8-litre flat-six is a heavily revised version of the twin, variable blade turbo engine from the 997 Turbo, strengthened internally to cope with increased boost pressure. And to ensure the maximum of everything, the Sport Plus program for the engine management is currently engaged, the

little red light confirming its activation shining from the centre console.

Sure enough, the raging, tempestuous thrust from the Turbo sees our two-wheeled friend momentarily perplexed yet still very much a looming presence in the rear view mirrors. But ahead is a sharp, tight, bumpy, narrow left-hander. The straight on its approach is comparatively short, and yet the Turbo S is already knocking on the door of 120mph: it's hellish quick, even on first acquaintance. Thankfully PCCB carbon ceramics the diameter of cartwheels (well, strictly speaking they're 410mm diameter on the front, 390mm on the rear) are standard on the S, and they promptly send the speedo digits into a nosedive.

Superbikeman is keeping a respectful distance, which given the immensity of the Porsche's braking is a sensible move. Meanwhile, the seven-speed PDK transmission (as with the new GT3, there is no manual 'box) is blatting down through the ratios, causing a wicked, sharp-edged cackle to erupt from the tailpipes. The Turbo's nose doesn't dip much, in spite of the ferocity of the deceleration, and as the electrically power assisted steering whipcracks the nose towards what initially appears to be the apex, there's not much body roll, either – new to the Turbo is Porsche Dynamic Chassis Control, or PDCC, that effectively functions as an active anti-roll bar, keeping the car flat through corners and enabling the wider new tyres to leave a bigger footprint on the ground.

Not that you get an overwhelming sense of such

Right: Porsche launched both the standard 911 Turbo and Turbo S alongside each other. Base Turbo gets 513bhp, while Turbo S gets an extra 39bhp and added torque. Not that you would guess as much from peering in the engine bay, which looks like it's powered by a pair of computer cooling fans!

Size matters and the 911 Turbo has been growing in width with every new model. The 991 Turbo is 28mm wider than the 991 C4S and the rear haunches fill the wing mirrors





things through the steering wheel or the cushion of the 18-way adjustable sports seat, but other new technologies are also slaving away on the driver's behalf to make the new Turbo more agile and grippy and capable through corners. Electro-hydraulically control for the multi-plate coupling of the four-wheel drive system, for instance, means that the torque is bounced between the front and rear axles quicker than before, and more of it can be directed to the pointy end: in fact, the front axle now has the potential to work so hard that Porsche has provided it with water cooling.

And then there's active rear-wheel steering, which we've already seen on another recent top-end 911, the GT3. It's become necessary because the 991 is 100mm longer in the wheelbase than the 997: good for comfort and cabin space, less handy for agility. Hence a pair of electromechanical actuators in place of regular rear

“The sheer brutality of the acceleration can convince you that you're barely hanging on”

track rod arms: at speeds below 50km/h (31mph) they steer the rear wheels in the opposite direction to the fronts – by up to 2.8 degrees – creating the dynamic effect of a shorter wheelbase, making the Turbo more manoeuvrable and sprightly. Above 80km/h (50mph) the rears steer the same way as the fronts, generating the effect of an even longer wheelbase that makes the car more stable in high-speed direction changes. And in both instances rear-wheel steering makes the overall steering sharper than with a conventional chassis.

But there's yet more tech to come. Standard on the Turbo S and optional on the Turbo, Porsche Torque Vectoring Plus (PTV Plus) works through an electronically controlled, fully variable rear differential lock: on slippery surfaces the system applies light

braking pressure to whichever of the rear wheels is struggling with grip, and when you're turning into a corner it slightly brakes the inside rear wheel, thereby improving turn-in at low to medium speeds.

Yet that's all very much background information as the corner begins to draw the Turbo S into its depths; other matters now require total focus. Despite the huge braking effort, suddenly the entry speed feels mightily ambitious. And with the Armco crowding the outside of the bend, the car seems huge – it's 28mm wider even than the 991 Carrera 4 models, a fact you're reminded of every time you glance in the door mirrors and find half your field of view obscured by those expansive rear haunches.

Now that we're committed to the corner, it trickily starts to curl round much tighter than was visible on its approach. A slight moment of panic, but the primal

instinct to get back on the brakes ignored. Carry on steering, peering past the chunky A-posts to get a bead on where the exit will pop into view. Have faith in the car. Then realise that, actually, there is no drama here other than in your own imagination. The Turbo S has a stunning amount of roadholding and a chassis that is not to be deflected even by some savage mid-corner bumps. Newfound confidence blooms into a gung-ho quest to try a little harder in the corner, go a little quicker.

Care is still required, though, because this car is endowed with so much readily accessible mid-range performance, that on the exit to the bend the tail steps momentarily out of line. In Sport Plus mode the electronics allow you the satisfaction of dealing with a

THE TURBO AT BILSTER BERG

Bilster Berg Driving Resort – sounds a bit like a German golf range. In fact, it's a devilishly difficult private/corporate circuit that was designed with guidance from Walter Röhrl. And it's where Porsche based the Turbo launch.

It sure was an interesting – and perhaps daring – way for Porsche to give journalists their first taste of the Turbo. A quick press conference then saddle up. In small groups, follow an instructor's car around the track. Sounds simple enough, except that the instructors are 'on it' from the outset. And the circuit twists and writhes, plummets and soars like a tarmac roller-coaster, complete with blind crests, spine-crushing hollows, and very limited run-off areas.

Faithfully follow the instructor's line? You've got to catch him first. Which, of course, you don't. Leaving you to create your own lines, on a circuit that punishes imperfection... And in a car with colossal performance: big on the throttle and then, having overstretched yourself, big on the brakes.

For most of us it was a case of forget tidiness, just hang on and hope. And laugh. Aloud. Very nervously. What it proved, though, was how user-friendly the Turbo is. It allows you to go bananas, but then its electronics ensure you don't slip on the skins. All in a manner that mostly doesn't feel intrusive. And tellingly for a 911 Turbo, without any understeer.

Five laps and we're back in. Buzzing. Thankful that we weren't the ones who sprayed gravel across the track. In less frantic circumstances both Bilster Berg and the new Turbo will be worth revisiting.



modest degree of opposite lock, before sparking into life and smoothly restoring the chassis' equilibrium, leaving the car set up for another shot of full throttle.

Of course it has always been the way with Porsche's four-wheel drive Turbos, but the 991 series has incredible traction out of corners and extraordinary pace. It erupts furiously onto the straight, engine and exhaust shrieking, speed racking up quicker than an MP's expenses. It's a wild ride despite the engine revving 'only' to 7200rpm, and although the PDK normally slithers the next ratio into place, on a balls-out charge it sometimes lumps them home, a bit like if you were doing the shifting yourself and were in such a hurry to get the job done that you simply abandoned all thoughts of finesse. And while in the back of your mind you know that the Turbo S's electronics have got it all under control, the sheer brutality of the acceleration can convince you that you're barely hanging on to a thrilling but malevolent force.

Boom! Slam on the brakes as the Turbo S arrives at the mouth of the next corner, again ahead of schedule. It's a long sweeper with plenty of vision and the Porsche latches on to your chosen line and just sticks with it, refusing to be deflected by throttle input or surface imperfections, just so long as you amend the steering appropriately. It's a real test of nerve to keep pressing down harder and harder on the throttle in an attempt to find the merest hint of a limit being reached; and if ever you do, it's probably your own, on

the public road, at least.

The frenzied progress and the concentration required to maintain it has precluded a look in the mirrors to see how close biker boy is: the aim is to let him through, get out of his way. Yet he's not there. Not five seconds later. Not 15 seconds later. Not 30 seconds later. There were no side roads so he couldn't have turned off: the mirrors remain empty. We carry on for a few miles at unabated pace. Park up to make notes on the Turbo experience thus far. A minute and a half later our two-wheeled friend scorches by. Clearly this is one helluva car.

Out of the forest roads and onto clearer, wider, better surfaced blacktop that rolls and meanders through German pastures and past huge phalanxes of wind turbines, and the Turbo S's performance becomes even more immense. Frankly there's no compulsion to use full throttle anywhere: you seldom need it. Just keep it at about 2500 to 3500rpm and you'll be cracking along at speeds that would be very difficult to explain to any upholder of traffic laws. Long distances telescope. Without even trying, you reach the point where you question how much quicker anyone really needs to travel on public roads. And the Turbo S handles the task with near nonchalance.

What of the 'regular' Turbo? In terms of its performance out on the road, it packs pretty much the same sort of punch as the S variant does, despite having 'only' 513bhp, which is 39bhp less than its stablemate. Frankly, the magnitude of shock and awe

Left: Interior is pure 911 combining excellent driving position with unrivalled (for a supercar) visibility. Some might feel that the Turbo should have a more bespoke interior, but its quality fits its price. Transmission is PDK only and, given the sheer pace of the modern Turbo, that's probably no bad thing

On track and the aerodynamics have moved into 'Speed mode' activating and extending the three-piece lip spoiler and raising the rear wing by 25mm



TECHNICAL SPECIFICATION

PORSCHE 991 TURBO S

YEAR:	2013
ENGINE:	3800cc twin turbo, flat six
POWER:	552bhp at 6500rpm
TORQUE:	517lb ft at 2100rpm
TRANSMISSION:	Seven-speed PDK
TOP SPEED:	198mph
0-60MPH:	3.1 secs
SUSPENSION:	MacPherson strut front, multi-link rear
TYRES:	235/35 ZR20 front, 305/30 ZR20 rear

that the Turbo dispenses when pedal kisses carpet never leaves you feeling bereft of horsepower, although when overtaking or on swiftly travelled open highway, you can sometimes miss the extra 29lb ft of torque the S has over the standard car. That torque advantage is even greater if the straight Turbo isn't fitted with the option of Sports Chrono – standard on the S – that gives it the 20-second turbo overboost facility; however, most Turbos are likely to have that option box ticked.

Standard versus optional equipment are where the differences lie between the Turbo and Turbo S. The latter comes complete with those bigger ceramic discs, Porsche Dynamic Chassis Control (PDCC), and dynamic engine mounts that collectively are part of the Sports Chrono package: that's an option on the Turbo. Again optional on the Turbo are the S's full LED headlights that shine around corners and are self-

levelling and self-dipping; they're also claimed to emit a quality of light that's more relaxing on the eyes during long nighttime journeys.

Common to both models is what Porsche is heralding as the debut of active front and rear aerodynamic devices on road-going sports cars. There's an acronym, of course – PAA, for Porsche Active Aerodynamics, and it teams a slotted rear wing that automatically adjusts for height and attack angle, with an extending three-piece lip spoiler that glides out in multiple stages depending on conditions. Up to 75mph, both front spoiler and rear wing remain tucked largely out of sight; the latter looking quite discreet compared with duck-tailed Turbos of yore, the former giving much better ground clearance and ramp approach angles than the 997 Turbo enjoyed. (Bad news for makers of aftermarket nose lift kits...)

Above 75mph – or if you press the SPORT Plus button on the centre console – the system moves into 'Speed mode'. In this setting the two outer segments of the three-piece lip spoiler are extended, pushing air around the sides of the car and reducing lift on the front axle: meanwhile the rear wing rises 25mm to balance out the aerodynamic loading. Porsche describes this as a low-drag setup that's beneficial to fuel economy and allows the car to reach its top speed.

However, if you stab the aero button on the centre console you activate 'Performance' mode: it's the downforce setting. Now the centre section of the lip

A VERY BIG DEAL

You could sense what the new Turbo means to Porsche by the scale of the launch. Even at the – admittedly small – airport of Paderberg there were Turbo flags fluttering from the flagpoles, and the locally sourced mineral water bottles in our rooms and cars wore Turbo labels. The sprawling hotel was chic and manicured, served stunning food, and occupied the land area of a modest rural town.

There were plenty of test cars in plenty of colours – often on Porsche launches the test fleet seems barely large enough and the colours so dull that it drives the photographers insane. Hiring a private circuit is no small deal, either, but then Bilster Berg is new and probably welcomes the attendant publicity in exchange for a favourable rental rate.

Where Porsche really went to town was around the pits area – billboards the size of Jumbo jets with giant pictures of every generation of Turbo, graced the side of every available building. There was no doubting which Porsche model was the star of the show here...





spoiler sticks out to join its playmates, diverting yet more air around the sides of the car and creating a low-pressure zone behind the spoiler. Simultaneously the rear wing soars 75mm above its basic position and is angled forward by seven degrees. The overall effect is to create 132kg of downforce at 186mph, which in turn increases the Turbo's maximum transverse acceleration by 10 per cent. And that, says Porsche, is good for knocking 2.0 seconds off a Nürburgring lap compared with the car in 'Speed' mode.

As for the Nürburgring lap time, the Turbo S is mighty impressive for a 911 that isn't track-biased in its setup –

Excellent fuel economy for a 198mph supercar. Roadholding to scare you silly. Roomy cabin with all the baubles. A PDK gearbox of such brilliantly executed design and function that even manual diehards must surely concede that it's the best transmission for the job. The reassurance of a fabulously well sorted four-wheel drive system. Styling that whilst imposing isn't Flash Harry. And an overwhelming sense that if you started to drive it really fast, the Turbo would just keep piling on speed until you ran out of planet on which to drive it.

And yet and yet and yet... Just as in the Turbo's

We doubt many 991 Turbos will be specced in yellow. Keep it dark and stealthy and few people will even notice as you flash by at warp factor pace

“You get the weeny impression that as a driver you're there simply to fill the void in the cabin”

it thunders round in 7m 27s on its conventional road tyres, 7m 24s on optional road-legal track tyres. Or slightly faster than the new GT3... To put that achievement into perspective, Walter Röhrl can't pedal a Carrera GT around the 'Ring that quickly.

All in all, it's starting to sound as though the 991 Turbo is a candidate for the mantle of best Porsche to date. And if you could afford just the one super-expensive Porsche, then you could make a pretty convincing case for the Turbo or Turbo S.

Truly epic performance. Spirited handling, especially for such a comparatively large, heavy sports car. Great soundtrack. Nicely honed settings for the PASM, even in the sportier of its two damper programs, giving a far more compliant ride than you'd imagine. Monster brakes.

nemesis, the Nissan GT-R, you get the weeny suspicion that as a driver you're there to simply fill a void in the cabin. You're never quite sure whether the blinding pace you set along that last section of twisties was down to your driving prowess or the latent talents of the electronically controlled chassis and aerodynamic enhancements at your disposal. Some of your actions maybe weren't your own. Or were they? It's that element of doubt that keeps the new Turbo one step removed from ultimate greatness.

However, most of the time you'll just marvel at the insanity of how fast the Turbo goes and care not much if your involvement in the process wasn't 100 per cent. Because when it comes to an automotive rush, the new Turbo and Turbo S are complete masters of the trade. **PW**

You wouldn't be wrong in thinking that the Turbo is becoming a big car, but it's still on the right side of being wieldy for our roads – but only just





ROAD OR RACE

GMG IS THE LEADING PORSCHE PERFORMANCE SPECIALIST



GT3 CENTER SECTION



997 GT2 EXHAUST



GT3 HEADERS & CATS



997 TURBO EXHAUST



WC-GT DOG BONES



WC-GT SWAY BARS



WC-GT RSR THRUST ARMS



WC-GT BUMP / TOE STEER KIT



GMG 130R CENTERLOCK



GMG 130R 5-BOLT



GMG WC-GT CENTERLOCK



GMG WC-GT 5-BOLT

SPECIALIZING IN:
 996 GT3 - RS - TURBO - GT2- CUP | 997.1 & 997.2 GT3 - RS - TURBO- GT2/RS | 991 - CARRERA - C4S | 997.1/2 GT3 CUP



WORLD WIDE SHIPPING
 WHOLESALE DEALER INQUIRIES WELCOME

3210 SOUTH SHANNON STREET
 SANTA ANA, CALIFORNIA 92075
 UNITED STATES

+1 714.432.1582
 SALES@GMGRACING.COM
 GMGRACING.COM



NUMERIC III *Racing*



USED IN - PIRELLI WORLD CHALLENGE | INTERCONTINENTAL TROPHY CUP RACING SERIES | GRAND-AM ROLEX SERIES
SCANDINAVIAN PORSCHE SPORTS CUP | AMERICAN LE MANS SERIES | NASA CLUB | PCA CLUB & MORE!

NM100 ADJUSTABLE SHORT SHIFTER

986 | 987 | 996 | 997

- ADJUSTABLE SHIFT LEVER
- PRECISION BALL BEARING
- 40% THROW REDUCTION
- ADJUSTABLE CABLE BLOCKS
- AEROSPACE GRADE ALUMINUM
- ENHANCES SHIFT TIMING
- COMPLETE DIRECT REPLACEMENT
- NO MODIFICATION NECESSARY
- LIFETIME MANUFACTURER WARRANTY



PERFORMANCE SHIFTER CABLE

986 | 987 | 996 | 997

- INCREASED CABLE DIAMETER TO ELIMINATE BREAKING
- ALUMINUM ROD ENDS
- STAINLESS STEEL MOUNTING CONNECTORS
- INCREASED STRENGTH & DURABILITY
- ENHANCED SHIFT CONNECTION
- ABSOLUTELY NO PLAY
- LIFETIME MANUFACTURER WARRANTY



P: 727.372.0300 F: 727.372.0304 E: SALES@NUMERICRACING.COM

NUMERICRACING.COM

NINEMEISTER

Service that's
above and beyond

Call +44 (0)1925 242342

Ninemeister, Units 21 - 26, Bank Quay Trading Estate, Warrington, Cheshire WA1 1PJ www.ninemeister.com ask@ninemeister.com www.cloud9m.com



911 GT3 (997 GEN II, 6-Speed)
 Basalt Black • Black Nomex Bucket Seats
 Touchscreen Satellite Navigation • Clubsport
 Package • 3,983 miles • 2009 (59)
 £81,995



911 Turbo (997, 6-Speed)
 Basalt Black • Black Leather Adaptive Sports Seats
 Sport Chrono Pack Plus • Satellite Navigation
 11,798 miles • 2007 (07)
 £53,995



911 Turbo (997, Tiptronic S)
 Basalt Black • Black Leather Seats • Satellite
 Navigation • 19" Turbo Wheels • 29,982 miles
 2008 (08)
 £52,995



911 Carrera 4 S (997 GEN II, PDK)
 7-Speed PDK • Arctic Silver • Black Leather Seats
 Gloss Black 19" Carrera S II Wheels • Sport Chrono
 Pack with Sport Plus • 23,933 miles • 2009 (59)
 £51,995



911 Turbo (997, Tiptronic S)
 Arctic Silver • Black Leather Seats • Satellite
 Navigation • Sport Chrono Pack Plus • 19,982
 miles • 2007 (07)
 £50,995



911 Carrera 4 S (997 GEN II, 6-Speed)
 Atlas Grey • Black Leather Seats • Touchscreen
 Satellite Navigation • 19" Carrera Classic Wheels
 26,465 miles • 2009 (09)
 £49,995



911 Turbo (997, Tiptronic S)
 Midnight Blue • Black Leather Adaptive Sport Seats
 • Sport Chrono Pack Plus • Satellite Navigation
 42,391 miles, 2007 (07)
 £49,995



911 Turbo (997, 6-Speed)
 Basalt Black • Black Leather Seats • Satellite
 Navigation • Sport Chrono Pack Plus • 53,733
 miles • 2007 (07)
 £47,995



911 Carrera 2 S (997 GEN II, 6-Speed)
 Arctic Silver • Black Leather Heated & Ventilated
 Seats • Touchscreen Satellite Navigation • 19"
 Carrera 'S' II wheels • 32,224 miles • 2009 (09)
 £46,995



911 Carrera 2 S (997 GEN II, 6-Speed)
 Meteor Grey • Black Leather Seats • Touchscreen
 Satellite Navigation • Switchable Sports Exhaust
 35,251 miles • 2009 (59)
 £44,995

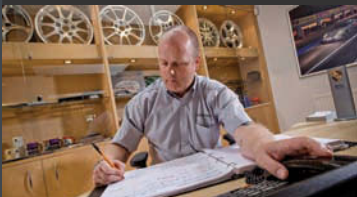


911 Turbo (996, 6-Speed)
 Arctic Silver • Black Leather Seats • Kenwood
 Touchscreen Satellite Navigation • Electric Memory
 Seats • 50,491 miles • 2002 (02)
 £31,995



Boxster S (Tiptronic S)
 Arctic Silver • Black Leather Heated Seats
 18" Sport Classic Wheels • Cruise Control
 42,464 miles • 2002 (02)
 £9,995

The Natural Choice for Porsche Service, Repairs & Upgrades



Why Choose Paragon Service?

We've been offering expert Porsche Servicing since 1993 and our vastly experienced technicians provide real value without compromise.

With transparent fixed pricing, clear communication, free courtesy cars and free local collection and delivery, we are the natural choice for Porsche service.



Our Capabilities & Experience

With a full range of facilities onsite including MOT testing and a tyre bay, we have everything for your Porsche under one roof.

We have 'Dealer level' diagnostic equipment and special tools, and our Porsche trained technicians have vast experience across all models and ages of Porsche.



Beyond the Conventional

We offer a wide range of enhanced services ranging from engine and gearbox rebuilds, performance tuning, upgrades and modifications through to track day preparation and support - even race car building.

Our successful racing heritage means we are experts in laser four wheel alignment and corner weighting - offering settings from standard road to fast track.



The Natural Choice

We have thrived because of our focus on building long term relationships with our customers.

Our ability to offer independent advice and high quality parts choices sets us apart - as does our commitment to offering value and exemplary customer service.

The next time your Porsche needs attention, call us on 01825 830424 - we will be delighted to help you.

At Paragon, we have superb in-house service and preparation facilities, and each car is supplied with a new MOT, a 12-month/12,000-mile comprehensive parts and labour warranty, and we also include the next due service.

See more of our current stock at www.paragon.gb.com 01825 830424



TIMELORD TAILOR

We go time-travelling in Paul Stephens' latest offering, the classic Speedster, based on a 964 C4 and debuting his latest PS Bespoke range

Words: Johnny Tipler
Photography: Antony Fraser

Bravo barchetta! That's what it feels like, this powerful, purposeful Porsche Speedster, an open-top fifties roadster. It's a bruising '50s sports car, full of wayward attitude and I'm in the '55 Mille Miglia, blasting through Brescia, racing round Rimini, upping the Apennines, and my blood's up for a Raticosa rumble. It's hard to break the spell, but all too soon the reality check reveals I'm heading down Halstead High Street in rural Essex. Nothing inopportune about the vehicle though: I'm aboard Paul Stephens' brand-new Speedster, a drop-top rag-roofer that, by virtue of its classic demeanor and big-diameter Moto-Lita steering wheel with its three dazzling chrome spokes, manages to convince me that I have regressed to a period some 40 years previous to the creation of the donor car. For this is, in fact, a 964 C4 I'm driving and, by delving into a pile of period accoutrements, allied to cunning metalwork and composite wizardry, PS Autoart has accomplished a masquerade that feels real enough. OK, I can't kid myself for long; this is a four-wheel drive chassis, whose '90s handling and tenacity belies the classic posturing.

This Speedster is the first of Paul's Bespoke range. Like getting measured up at the tailor's for a personalised whistle-and-flute, the customer comes along with ideas and a concept for their ideal 911, discusses the viability with Paul and, if it's feasible and the budget permits, the project starts to take shape. Paul has become a dab hand at backdating 911s, offering his luxury PS Autoart series in which 3.2 Carreras and 964s are presented as cars from the late '60s or early '70s but with fully reconditioned cabins and drivelines. For more modest budgets he also offers the RS Technik range, based on body panels that transport a 3.2 or 911SC back to the

land of the 2.7RS and 2.8RSR. Three years ago he produced the PS Spyder, a one off that's just been sold to a well-known German TV producer. That was designed at PS and the body crafted by Braintree-based restoration specialists Clark and Carter, and we featured it in *911&PW* in issue 212, November 2011. Although that was an exceptional experience, I don't recall feeling so completely transmuted in time as I did with this new Speedster. Perhaps it was just so different it felt more like being in a 550 sports-racer than a roadster. And yet, there are 550s and 356 Speedsters aplenty on the modern Mille Miglia, which confirms the timewarp enigma of my earlier illusion.

Until the 3.2 Carrera Speedster came along, the model was absent from the 911 line-up. The 356 Speedster was in production from 1954 to 1958, with 4,822 units built, enjoying a fair amount of race and rally participation and class successes in contemporary events including the Mille Miglia along the way. It was a significant front-line model, so it's surprising that there was no direct successor in the classic 911 range, and there was a gap of almost 30 years till the 3.2 Carrera Speedster was shown at Frankfurt in 1987. Between 1988 and 1989, 2,103 examples were released, but though a Club Sport version was made with no windscreen, theirs was never a competition role, more a style statement. As the 3.2 gave way to the 964, another 930 Speedsters left the factory in the 1993 model year. They were C2 rather than C4 chassis, and all but four were narrow bodied. These too were high-days-and-holidays cars rather than weekend warriors. There's a couple more modern takes on the Speedster imagery too: in October 2010 Porsche released 356 units dubbed the Speedster, in either blue or white and based on the 997 and incorporating most elements of the traditional machine, bringing the frische Luft wheel full circle. But we are plotting a course mid-channel,

CONTACT:

Paul Stephens
PS Autoart
Sudbury Road
Little Maplestead
Halstead
Essex CO9 2SE
Tel: 01440 714884
Web: www.psautoart.com
Email: ps@psautoart.com



Left: It's all in the detail. Bespoke dials and switchgear lift the interior. Gearlever surround/gaitor is more in keeping with the retro vibe. Below right: Looks good on the road, which is what it's all about



“The Speedster represents the vision of the customer”



Moto-Lita steering wheel imitates '50s Spyder/Speedster style wheel. Leather is tastefully employed and stereo looks retro but contains modern internals and LCD display

chronologically, through the Speedster theme park. The pleasures of topless motoring, as well as the alternative stylistic buzz of the low-slung screen and double-bubble rear lid have not been lost on Paul Stephens' illustrious customer. Recognising the gap in the Speedster historiography, he's asked Paul to build him one that might have graced the Porsche showrooms circa 1970.

The ambiguous specification is easy enough to elucidate: 'The Speedster represents the preferences and the vision of the customer it was built for,' says Paul. 'The styling of the car is a blend of our retro 964 AutoArt series and the PS Spyder. He's had a number of Porsches, including restored classics as well as PS Autoart cars, and an Eagle E-type tops the list of other British sports cars he's owned previously. So although he's a classic buff, reliability and modern amenities are essential for the type of driving he does. He wanted something that would allow him to have the top off, but be sufficiently watertight to drive in all weather conditions, and since he's not into the foibles of 911 handling, that's why four-wheel drive was a consideration because he wanted to be able to drive it securely in the wet. He doesn't like the latest 911 styling but he does like the early pre-'73 look, and he liked the idea of having something truly unique that nobody else has.'

To create the bodywork for this Speedster, once again Paul commissioned Clark and Carter. Their oeuvre ranges from Rolls Royce and Bentley classics to Porsches and Aston Martins, and conveniently for PS they are just down the road, so they worked closely on the construction of the car and its special fixtures and fittings. The donor Porsche is a 964 C4 Targa, though a Cabriolet body-chassis unit would have served just as well. At any rate, no further internal strengthening of the shell was necessary. There's a unique chassis plate under the carpet in the front luggage compartment stating that it's PS Retro Speedster number 1.

It bridges the gap between 356 and 3.2 models



admirably. Crucially, there's a nod to previous Speedsters and, indeed, Zagato iconography, in the plastic double-bubble rear canopy that folds inside the rear seat-well when the hood is erected. There's rationale behind the soft-top's complexity. As Paul points out, 'if you bought a Speedster from Porsche you were also given a cautionary supplement in the handbook to say that it may leak in heavy weather, and obviously he didn't want this to happen to his car since he might use it in all weathers.' So although the roof is styled like the 964 Speedster's, and the windscreen is an original 964 Speedster item, the hood is a one-off, manufactured in the style of the original Speedster, and configured so it does fit securely like a proper cabriolet. And indeed it does button down very tightly, and the complex hinge mechanism pulls the canvas very taut. The curvature of the laid-back windscreen A-pillars is interesting as they perform a pronounced convex curve, and the genuine Porsche Speedster side windows fit the resulting shape. When the hood is erected the tops of the windows are sealed by canvas strips on either side.

Obviously a lowered chassis with 18in wheels and 3in tailpipes would have given the car a more aggressive stance, but Paul's customer doesn't like loud exhausts or big wheels, so the wheels are standard diameter 16in PS Fuchs replicas, shod with taller section Bridgestone S-02 tyres to give a softer ride. Brakes and suspension are standard at his request too, and the inventory of this faux antique also extends to cruise-control and air-conditioning, so it's a comfortable cruiser for when the owner motors to the Med to his holiday retreat. It has a bespoke twin-pipe exhaust system mimicking the 356 Speedster but producing relatively normal 964 emissions. The customer is quite a big fellow, so the seats are re-manufactured with a lower, flatter base but retaining the standard sports backrest. Paul tells me that the footwell on the driver's side is also modified to give him more room for his size 12 feet than standard, though I can't say I was

aware of that. However, it should mean there is more space on the right-hand side of the pedals to rest your foot when the cruise control is activated. Actually, in normal driving the offset driving position of the right-hooker and the relationship between the seat and the wheel and the pedals being way over to the left even endorses the impression that I'm in a machine from a different period; I can kid myself my Mille Miglia barchetta is a '50s Mazer or Lancia, which would have been RHD.

In any case, the result is truly impressive. The Speedster's cockpit is a fabulously cossetting environment: we may be exposed to the elements, agreeably sunny today, but its lavishness entices to the extent that we're spoiled for anything else. It also helps foster this illusion that I'm a time-traveller in a period piece. The 964 seats are reupholstered in luscious blackberry-hued hide, and door cards and dashboard are leather faced in a similar colour, allied with sleek, silvery grey carpeting that feels like a Weimaraner dog to stroke, trimmed with the same leather and tailored to a high standard. Fiddling with the electrical seat controls – an acceptable anachronism – I pinpoint a really good seating position, slightly tilted at the front and fairly upright back, just the way I like it.

I have the 964 instrumentation in front of me – though it's retro'd 964: fuel and oil over on the left, oil temp and oil pressure are right in the centre, rev counter bearing the legend 'PS Speedster Edition 001'. The dials are all set in silver painted metal, with the silver theme following neatly through in the instrument panel with the veteran switchgear and antique-look radio. In a nod to modernity it has also got a Bluetooth plug-in for mobile phones tucked discretely under the dash. The speedo says that we have done precisely 146 miles; it's that new. The clock face playfully highlights 12, 3, 6, and '911'. It's all in the detail!

The chromed door levers are L-shaped, sitting in their niches, and it's got fold down D-shaped chrome handles to pull the doors shut. The indicator stalk and the wiper



RAISING THE ROOF

The action of raising the soft-top canopy at the end of our trip also requires a commentary. The running order starts with releasing the double bubble with a locking lever that's located in the rear well behind the passenger seat. Then the hood can be drawn out, taking care not to crease the transparent plastic back window, then you lift the rear of the hood over the double bubble, and that enables you to put the soft-top's poppers back on, and then you can stretch the whole roof up to the windscreen header rail where there are two clips, and the hood-frame fastens either side. Make sure you've got the half-size sun visors down first. And then clip the double-bubble lever back down, and hey presto it is completely taut.





SUITS YOU SIR

The recently launched PS Bespoke line enables customers to take a 964 or 993 donor car and enhance it further than the standard PS Autoart series normally extends to. As Paul Stephens says, "We have a basic range of cars in our PS Autoart retro and classic series, and people can specify different trim and engine options, including power, suspension and brake upgrades. Bespoke really came about from the launch of the Spyder which was a one-off car that we built to showcase what can be achieved if you choose to expand your mind a bit. Give us a brief, and as long as your pocket is fairly deep and you're patient, you really can have your own bespoke 911 built to a level above our standard products. As well as this recently completed Speedster we are also building a very special coupe for a client in Monaco. It's not like buying a normal Porsche, it's hand-built with flawless paintwork, fit and finish that is genuinely a level above a factory production car, the whole thing is designed to make you feel really special."

lever, plus all the period knobs on the dashboard, are all machined from brass, engraved with their functions and finished in chrome, even down to the controls of the Retro Sound model 1 radio. One knob bears an exclamation mark, and that performs the same function as the button in the 964's centre console that over-rides the telltale light on the dashboard that lets you know if there's a fault. Press the exclamation mark and out it goes. The passenger footwell is illuminated by a light on the side of the radio housing, and there is soft mood lighting set in the underside of the dashboard that glows on the chrome switches below at night. The only obviously 964 switches ahead of the gearlever are the 4x4 and manual spoiler controls, and even these are set in a redesigned centre console. It's currently waiting on a heater control unit in the same chromed finish as the switchgear that will occupy the middle of the dashboard.

The Speedster looks svelte with the rag-roof in place, but for the purposes of our photoshoot we must learn how to demount it, because it's not as straightforward as a 964 Cabriolet and is specifically designed for the PS Speedster. And it's a two-man job as well. There are a couple of catches above the windscreen header and a

lever located in the bulkhead behind the passenger seat that takes the tension off and releases the whole back end of the soft-top. Having undone the poppers and released the canopy off the windscreen header we pull the hood backwards, taking care to tuck all the folds in so that the plastic rear window isn't creased, and then when the catches are locked and the canopy is in its resting place in the rear footwell, the double-bubble cover goes over the rear seat-well, and it's job done.

The first thing that I notice as I set off on our photoshoot is the reflection in the windscreen of the chrome air vents on top of the dashboard, which I soon ignore. It definitely feels like I'm in a car from a different era, though of course that's all a convincingly wrought fantasy, because it's really behaving like a 964 C4. Appearances are indeed deceptive, because although it looks like a 50-year-old classic, the power and the sound that it delivers speak of a much more powerful car. I put my foot down and it glides away, the flat-six growl rising to a bellow, and it's the planted feel of the all-wheel drive C4 chassis that comes to belie the classic look.

Out on the open road. The Speedster is an effortless car to drive, thanks to its rebuilt 3.6-litre engine. It pulls

PS AUTOART SPEEDSTER DRIVE

Speedster is based on a 964 C4, so no surprise to find a 964 engine lurking in the rear. With 3.6-litres and 250bhp, it's one of Porsche's best, offering effortless performance. The 964's retractable wing is a feature



“The Speedster is an effortless car to drive thanks to its engine”

happily in any gear and it toddles along at 2,000rpm in 4th. I'm struggling a little bit to find 5th, which is the stiffest slot in the G-50 gearbox, but that's probably a matter of usage – we are, after all, in running-in mode. Everything about the chassis feels very firm, the suspension is tight and there are no rattles or bonks. It's easily manoeuvrable in the back lanes, and on the fast corners where we do our tracking shots there is a tendency to understeer, which may be down to the four-wheel drive. And on that point I prefer the more sprightly C2 because there's more feedback from the steering.

And then there's a moment when my vintage reverie is confounded. During our photoshoot Antony motions me to a standstill. 'Your rear spoiler is out,' he tells me. 'Don't go so fast! We want a clean profile.' I'm shocked – not that I've exceeded 50mph during our panning shots, but that this paragon of fifties fantasy conceals – whisper it – a spoiler! What's that doing here? The retro cooling grille convinced me earlier that it must be a replacement period engine lid, but no, this handmade grille is still issuing forth at 50mph and retracting at 5mph. I accept that this is a 160mph car, and therefore it needs the benefit of aerodynamic downforce on the unrestricted autobahn, but I would perhaps confer a ducktail in order to retain the period ambiance – though maybe that is too time-specific and would detract aesthetically from the double-bubble hindquarters, which are fundamental to the Speedster iconography. On the open road all's forgotten and I can revert to my adrenaline-fuelled reverie, grasping the mighty Moto-Lita wheel as if I'm Hans Herrmann on the Futa pass, circa '53. Bliss!

Back at base, I press Paul for a ballpark price. 'With a bespoke product, you keep pushing the boundaries of what you want, so the Speedster cost north of £150 grand. Projects like this aren't cheap, but that's still around half the price of a Singer, and that would be a more interesting comparison in terms of build quality.'

It's a romantic notion, the PS Speedster, and whether you'd go for this or a genuine 964 or 3.2 Carrera Speedster or, indeed, venture back in time and seek out a 356 Speedster depends on your love of the classic long-bonnet look, plus the inspiration and the wherewithal to commission PS Bespoke to make you the car of your dreams. Beam me up Scotty! **PW**



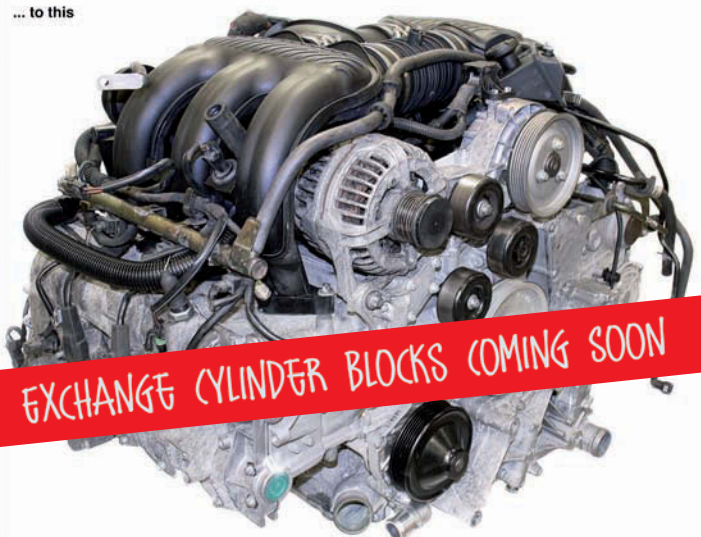
- Sales • Service • Repairs
- Monthly paid maintenance package
- Re-con suspension parts



986 996 987 997 & Cayman engine repair specialists



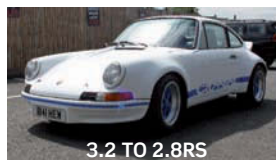
... to this



Tel: 01204 302809 Web: www.hartech.org
Email: auto@hartech.org

www.clubautosport.co.uk

Porsche Specialists since 1971



WORKSHOP FACILITIES - servicing, repairs, diagnostics, inspection engine & gearbox rebuilds, MOT work



FULL BODYSHOP & REPAIR FACILITIES - paintwork, bodystyling & conversions, restoration, welding, accident damage repairs, bespoke modification i.e backdates/updates



NEW AND USED PARTS - any part for any Porsche, from engines and gearboxes, body panels to small trim parts



LIGHTWEIGHT COMPOSITE PANELS - manufactured in house panels and styling conversions. All models from early SWB 911's to 997 RSR Supplied in fibreglass, Kevlar or carbon doors, roofs, bonnets. The list is endless

Next day delivery or collection

Tel: 01384 410879

email: richard@porsche.co.uk or mick@porsche.co.uk
Park Lane, Halesowen, West Midlands, B63 2RA

PAUL STEPHENS

Classic, Bespoke and Performance Porsche Specialist



WANTED - AIR COOLED PORSCHE

Especially pre 73, RS, GT and Turbo models, plus any rare or low mileage examples

www.paul-stephens.com

01440 714 884

email@paul-stephens.com

Halstead, Essex CO92SE



STEER IT UP

Fed up with arm-wrestling your classic Porsche round the lanes? EZ Electric Power Steering will have you whirling from lock to lock like a dervish

Words: Johnny Tipler
Photography: Antony Fraser

I'm blatting along on the top of a dyke. Unlike most Dutch waterways, this one has some sharp bends and the towpath roads reflect that, so this is a great place to test the electric power steering that's been applied to this 3.2 Carrera. And what a transformation! As I helm the tiller, the 911 swishes effortlessly around the corners, as if carried by

the current: it's turned a prize-fighter into a lounge-lizard.

We've come to Leerdam near Utrecht to visit EZ Electric Power Steering – that's Eee-Zee like in ZZ Top – where we're greeted by the amiable and effusive CEO, Roger Reijngoud. It's a converted garage premises on an industrial estate, with an Alpine-Renault specialist in the adjacent building

and a cross-section of decrepit Matra-Simcas languishing, like unbuilt TVRs at the redundant Blackpool factory, in the huge yard out back. EZ's entertaining showroom is fronted by a range of classic steering wheels mounted on pedestals, from a variety of makes that have received the electric twirling treatment, encouraging visitors to have a spin of

their fave wheel. At the back there's a wall-mounted display of wood- and leather-rimmed wheels they've created as substitutes for classic models and for restoration projects. One for a D-type Jaguar is almost flat across the bottom, to clear the knees of a Le Mans-starting driver. To the rear of the small factory is where the electric

POWER STEERING FOR CLASSIC 911S

modules and motors are fabricated and mounted on steering columns, staffed by a dozen technicians who are busy at their benches with soldering irons and screwdrivers concocting compact wiring looms. A dozen shiny black MGB steering columns with DC electric motor modules attached, are batched and ready for export. To one side of the building are racks full of splined steel shafts and needle-bearing UJs for Porsches, Beetles, Jaguars, Ferraris, Maseratis and a variety of other makes and models. Apart from our 3.2 Carrera, there's just one other car inside: at the far end, a trad Morgan V8 is undergoing the transition from stone- to rocket-age as EZ techies apply their wizardry. There's further endorsement for the concept here: EZ recently got the contract from Malvern to fit their electric power assisted steering (EPAS)

kit on Morgan V6 roadsters' steering columns from new.

Vintage cars require little short of superhuman strength to manhandle, and some classics like the Volvo P1800 have unfeasibly heavy steering. But what's the attraction of fitting power steering on a classic Porsche? Roger's customers drive their cars a lot. 'If you only drive the car two or three weekends a year, you're not going to splash out for power steering, but if you use it a lot you really do reap the benefit of having had the conversion done.' There's also the husband and wife factor: 'sometimes they talk about their wives, and then I get two reactions,' says Roger; 'firstly, I have a customer coming over saying, "oh, I love the power steering, except there's just one problem: before, my wife never drove the car, and now she drives the car at every opportunity," and

they are upset about that. On the other hand, I have a client with a Jaguar, and he says, "in the evening I drive my Jaguar to the pub, and later on she drives me home," so he looks at it on the positive side. I've had men turn up who love classic rallies and their wives want to be co-pilots. With EPAS fitted, now they can.'

Being rear-engined, the 911 has a light front end and doesn't suffer from overly heavy steering. However, when its suspension is tuned with a more sporting attitude, maybe with wider tyres as well, the steering weights up, and it was in response to this type of set-up that EZ developed a power-steering kit for classic 911s seven years ago. 'If a 911 is set up for fast driving,' says Roger, 'especially as they like to do in Germany, they tend to apply maximum castor, and if you put full lock on you can actually see the

front wing rising up and when you centre it, it goes down again. So, the more castor, the better the straight line stability, but the heavier the steering becomes in corners, because the steering always wants to go straight.' Adding more castor doesn't affect tyre wear, and though the steering does become heavier in the turns, it's no longer an issue with the power steering kit. 'If you put more castor on in combination with the power steering kit, the steering wheel always wants to push back, so you get even more feel and feed back.'

It's the work of moments to adjust the electronics so the 'feel' is lighter or, alternatively, offers more resistance. One EZ customer who bought the system for his wife declared he'd have expected it to be even lighter, but Roger disabused him: 'I said, "look, it's a sports car, you

Below: The EZ power steering unit is compact and either sits under the dashboard, or in the case of the 911, in the 'smuggler's box' in the front luggage area. The steering can be set up for differing levels of assistance

Left: EZ Electric Power Steering main man, Roger Reijngoud



“We drove the test car on three separate runs, each with a different setting”

shouldn't be able to steer it with one finger,” but he was adamant, so we fitted an even more powerful unit in it. Now it's really light, but it's speed sensitive so at higher speeds it doesn't become overly light. We can always find a setting that's right for all tastes, and that's quite easy to do.' To verify this I drove the test car on three separate runs, each with a different setting: one very light, one medium light and one with hardly any lightening, and I would probably opt for the middle way, if push came to shove.

There was always going to be a little bit of science so, bad luck, here goes.

Pre-1974 911s have a speedometer cable, and that's where EZ fit a sensor that provides the speed signal which their appliance uses to determine how much assistance to apply, so that the faster the car goes, the less assistance is applied. Roger is our interlocutor: 'if you put a classic 911 on a rolling road, you'd find that in neutral its steering is light, but when you put it in 3rd or 4th gear it seems like it doesn't have power steering: that's how you know it is speed sensitive.' At the heart of the system is a torsion rod (the first part of the steering column emanating from the

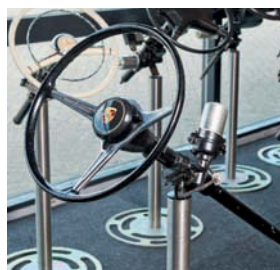
steering wheel that disappears behind the dashboard) and a sensor on the torsion rod recognises that you're turning the steering wheel, and it wants to negate that. 'For instance, it notices I'm twisting 25-percent to the left, and the electric motor on the column immediately starts turning to the left and eliminates the 25-percent torsion. If it detects 50-percent torsion it provides 50-percent power so it's not only speed sensitive, it is also torsion sensitive.'

So why is electric power assisted steering better than regular hydraulic power steering? Roger explains: 'It's not true to say that hydraulic power steering doesn't have any feel, but it is down to how much effort it applies. It's like the suspension damping, the shock absorbers: what one driver finds ideal, another doesn't, and that's the nice thing about this electronic

power steering; we've got a small module that fits in between the sensor wires and we can adjust its sensitivity. Mechanically, we could put in a heavier torsion rod so you'd need to have more torsion to get the same amount of power steering but, being electronic, it's infinitely adaptable and you can reduce the sensitivity and then it's the same effect as having more torsion.' Right.

The first 911 to be spec'd with hydraulic power assistance was the 964, and there's no way that model's steering can be described as insensitive and lacking in feedback. The last Porsche to use the hydraulic system was the 997. So EZ beat Zuffenhausen to the EPAS grail by six years: the hydraulic system and its engine-bay mounted pump and lengthy pipework was discarded after the 997 moved over for the 991 in 2012, and that, along with the

Below: The unit fits snugly in the 'smuggler's box' on left hand drive cars. On RHD cars this is much smaller, so EZ are obliged to locate the kit on the second steering column shaft



POWER STEERING FOR CLASSIC 911S

Boxster, became the first 911 to offer electric power assistance. We don't have a problem with the way they steer, either, but there's a fundamental conceptual difference between the aftermarket and factory installations. While the EZ system focuses on the wheelman's end of the proceedings, modulating the level of feel and degree of assistance according to the torque input at the steering wheel, the modern Porsche factory version of EPAS (developed in association with ZF) calculates the desirable resistance manifest at the steering wheel from sensors on the other end of the steering train, through stability control sensors that modulate yaw rate and steering angle. However technically brilliant this is, feedback to the steering wheel is contrived during the process by a reduction in rack force, something that's beyond the realms of classic car steering systems, of course, and probably anathema to the genre in any case. The vast majority of EZ's Porsche applications have been for pre-'89 cars, though they have had a few enquiries for 964 racing applications because electronic power steering will perhaps yield 4bhp, because they can get rid of the hydraulic pump and the weight migrates from the back to the front. A hydraulic pump is always sapping power, but EPAS only draws power when turning and travelling slowly; as soon as the car's heading in a straight line it doesn't use any power at all.

So whereabouts in the 911 do the EPAS components live? In the smuggler's box! EZ usually aim to fit the electronic

module behind the dashboard, but there's not enough room in the 911's, so, in left-hand drive cars, they insert it in the so-called smuggler's cubbyhole which can be found to the right hand side under the front lid in all pre-PAS 911s – unless they have air-conditioning; the box originally housed the Webasto petrol heater and was home to the blower and evaporator box of the factory-option Behr air con system from 1970. The smuggler's box was originally designed into the 901 shell as a more central location for the battery, but fortuitously it now provides a home for EZ to stash their electronics. The power steering module takes the place of the air conditioning unit. This is all well and good on left-hookers, but on right-hand drive cars the smuggler's box is considerably smaller, the air-con situated ahead of the passenger footwell, and this also obliges EZ to locate their kit on the second steering column shaft. 'We can reconstruct the complete column,' claims Roger, indicating the universal joint that's attached to the rack. The 911 steering column consists of a very short torsion rod behind the dashboard, and beyond the bulkhead an angled universal joint points the second shaft at a peculiar 66.6 degrees towards the centre of the car where it's coupled with the rack at another universal joint. If the car is a right-hooker or has air-con, EZ locate their electronic module midway between the universal joints, so it's effectively mounted beyond the bulkhead. 'The only drawback is that it takes a bit more time to install because we have to

demount the ventilation unit in the middle of the car to fit it,' says Roger. Before fitting their kit to a customer's car EZ run a few tests to make sure the steering is in good shape and self-centres properly, whether the horn works and the indicators self cancel, in order to rule out problems post fit.

Are friends electric? It's time to put them to the test. An EZ customer has kindly provided his 3.2 Carrera for the test drive. It's a sweet performer, a nice original non-Sport

equipment car showing 141,282km. It's a model I know very well, and my first impression is how uncannily easy it is to steer. It bears no resemblance to the normal unassisted 3.2 steering characteristics; it's not limp, exactly, but returning little feedback, a bit like a soggy Jaguar XJS, for example. That's because it's on the lightest setting, and Roger's colleague Ruud quickly tweaks the sensor to give me more 'feel'. But hey, hold hard there, helmsman! What's this

Roger Reijngoud and EZ Electric Power Steering have done much to make the classic car a much more useable proposition for everyday motoring





wheel we're grasping? It sure isn't that characteristic parallel four-spoke 3.2 Carrera wheel with its rectangular centrepiece horn – less a button, more a cake. No, it's an EZ special, familiar to classic 911 buffs as an ST wheel. It's not merely a sideline to the electric paraphernalia, more an adjunct, and EZ offers a range of nicely finished reproduction wheels for most classic makes including Mercedes-Benz, Jaguar, Volvo, Triumph and MG. Some, like this one, are eccentric, meaning that their hub is slightly higher in relation to the centre of the wheel, and it's diverting to see how the hub apparently rises and falls as the wheel's rotated. Along with the 911 ST wheel there's a very similar 911 R version with teardrop slats in the tri-spokes instead of round holes. 'Most of our customers have the post-1974 dished three-spoke wheel in R or ST format,

which has Porsche on the boss,' confirms Roger. 'It's 38cm, and fitting the eccentric adaptor increases leg space too.' It looks and feels like a retro wheel you'd find on an early 911, and it's not too dished either, but it does present a paradox: it throws the '80s car's main control device back in time, yet the electric power assistance projects the steering characteristics into the 21st century. The standard 3.2 is by no means the lightest 911 in the steering stakes, so this newfound lightness is perhaps equally redolent of a '60s 911 with its follow-the-contours fingertip sensitivity, though with more precision. Best of both worlds by the sound of it. And whether you agree depends on how wedded you are to the butch arm-wrestle of the standard 3.2. The 911 kit will cost you €1,530 excluding VAT, or €2,150 excluding VAT completely fitted, and EZ

CONTACT:

Roger Reijngoud
EZ Electric Power Steering
Energieweg 21A
4143 HK Leerdam
Nederland
Tel: 0031 345 633 551
Email:
sales@ezpowersteering.nl
Web:
<http://www.ezpowersteering.nl>

Ignore Tipler if you can – this is all about the steering, although we concede that this is hard to convey in a picture! Power steering transforms the 3.2 Carrera test car, making it easy to point into a corner and hold it there. Steering wheel is EZ's own ST inspired design

have several international agencies competent to carry out the conversion.

We get going the few kilometres across the polder to our waterland photoshoot. I become accustomed to the ease of the 3.2's steering process on a mix of rural lanes, straight and narrow, till we reach the meandering curves of the ancient canalside towpath. It really is finger-light, and the slightest input registers immediately, transforming the 3.2 Carrera steering into a much more modern car. I'm reminded more of a 993 than a 996, so that lifts it at least a decade. It makes very light work of the twisty bits, pin-sharp turn-in, and as I flick from curve to curve I'm thinking what a fine innovation this is. It actually helps you come off a corner or a roundabout a little bit quicker because it is so delicately wrought. But what's important is that you do feel a bit of

resistance against your wrist-work, and that's down to the amount of castor that EZ has set it up with. And as I go about with a three-point turn after each pass of the camera, never has full opposite lock been so easy to achieve. It's not what I was expecting of a 3.2, and I would find it very easy to live with my steering being like this. It doesn't lose the tactile qualities associated with non-assisted steering, and my earlier scepticism is dispelled to the extent that I think it genuinely qualifies as an improvement. Having it on the 'heavy' setting doesn't really make any significant difference, so medium is where you'd get optimum driving feel as well as assistance in a parking or reversing situation. It might be advantageous in a rallying context too; the only downside is the lack of muscular challenge. Still, that's a way better prospect than rowing. **PW**



EZ ELECTRIC POWER STEERING

A TURNING POINT IN CLASSICS!



Tailor made electric power steering systems for practically all classic cars!

- hidden installation behind the dashboard
- speed sensitive: maximum assistance whilst parking, minimum at speed
- completely new steering column that replaces the original, with German TÜV approval

Contact us at sales@ezpowersteering.nl or 0031 - 345633551
and visit our website www.ezpowersteering.co.uk

Porsche

TORQUE

Porsche Specialists

We carry out a full range of Porsche servicing and Porsche repair projects on all popular and classic models including diagnostics and body repair work. Porsche Torque are able to undertake all types of mechanical, cosmetic and restoration work to your complete satisfaction.

FULLY EQUIPPED WORKSHOP
BODYWORK AND RESTORATIONS
DIAGNOSTICS AND TUNING
FREE ESTIMATES

ENGINE & GEARBOX RE BUILD SPECIALISTS
COLLECTION & DELIVERY SERVICE
POP IN FOR A FREE MECHANICAL ASSESSMENT
AUDIO & ALARM FITTING

50 YEARS COMBINED EXPERIENCE FROM EX OPC MASTER TECHNICIANS (AFN, RUF & HATFIELD)

01895 814446 / 07507 623997

www.porschespecialistheathrow.co.uk

Unit C2, Arun Buildings, Arundel Road, Uxbridge. UB8 2RP



Mobil 1
SERVICE CENTRE



all major credit cards are accepted



LN ENGINEERING
Aircooled Precision Performance



Nickies™ The Original & Genuine Solid Aluminum CNC Billet NSC-Plated Cylinders



66% Stronger & Twice the Cooling - 80-105mm
Lifetime Warranty on Plating • 356, 911 & 914
PRICES STARTING AT \$4099 6CYL \$2899 4 CYL
INC. FORGED JE PISTONS ALL MODELS 1948-1998

IMS Guardian
Engine Failure Detection System

\$389
in-stock

The first line of defense against IMS Bearing failure.

Blown engine? Want more power?
We have your 'D' chunk or slipped sleeve
Cylinder repair solution!



Nickies™ for 986/987 & 996/997 models
\$4199 INC. FSR ULTRA-LIGHT JE PISTONS
STOCK OR BIG BORE SIZES UP TO 4.0 LITERS
UPGRADE TO TRIPLE CERAMIC IMS BEARING \$895
9A1 MY09+ DFI BIG-BORE TO 4.0+ ALSO AVAILABLE



IMS Retrofit™
MY97-05 M96 MODELS
CERAMIC BEARING
STRONGER DESIGN
SINGLE & DUAL ROW \$619
IMS PRO TOOLKIT \$189



R&R Pro Connecting Rods
Manufactured exclusively for LN Engineering
CRYO-TREATED BILLET 4340 CHROMOLY
MOST SIZES IN-STOCK THRU 997 MODEL
6 CYL \$1699 | 100% MADE IN THE USA



MY97-12 M96/M97/9A1 UPGRADES

Improve your engine's reliability and longevity

- Low-Temp Thermostat \$99+
- Spin-On Filter Adapter \$135
- Magnetic Drain Plug \$23
- Oil Change Bundles Available
- Billet Racing Oil Filter \$250
- .5 & 2 qt Deep Sump \$283+
- HPDE Accusump \$1359
- "X51" Dual Oil Scavenge Pump Kits \$1699+
- Power Steering Cooler Kit \$150
- External Oil Cooler Adapter (Heat Exchanger Delete) \$270
- Billet Tensioner Paddle \$272
- Chromoly Oil Pump Drive \$20
- ARP Rod Bolts \$243
- ARP Carrier Bolts \$177



815-472-2939
www.LNEngineering.com

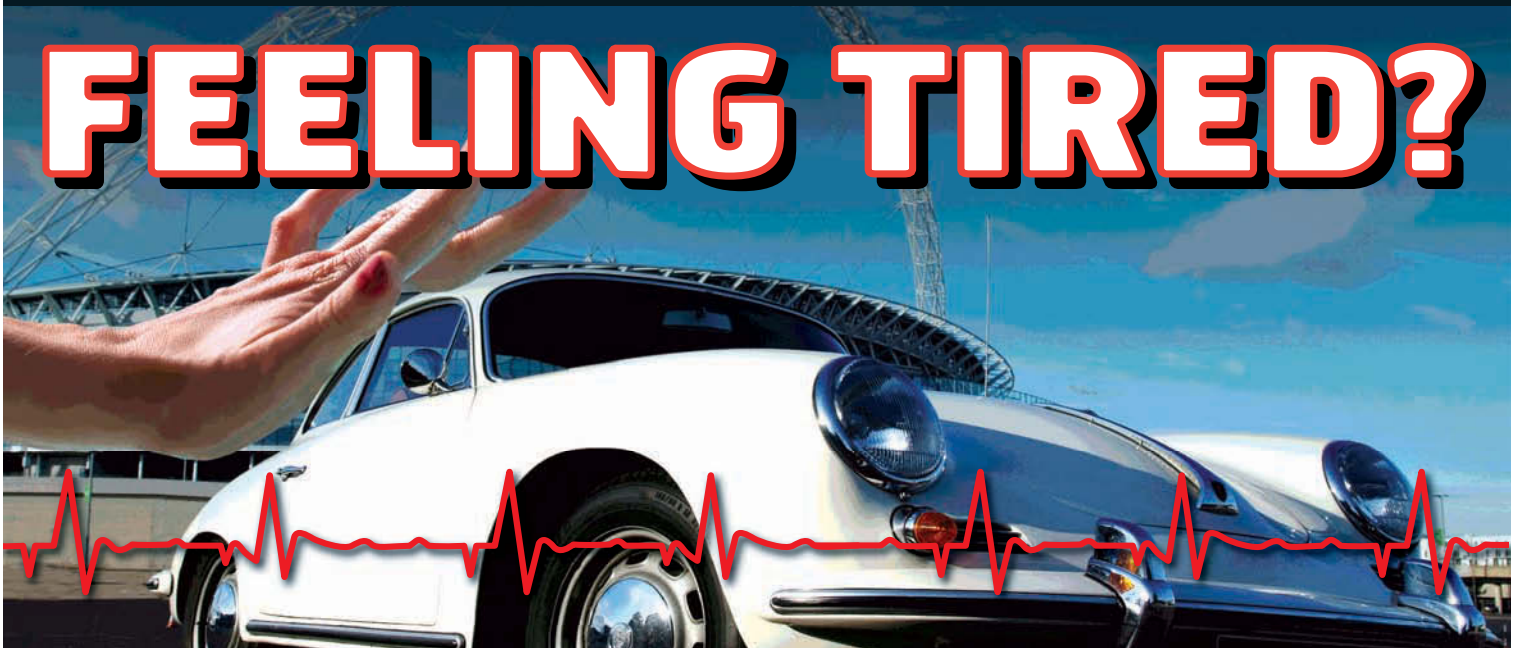


dealer inquiries welcome | prices subject to change | please mention this ad when calling

Private healthcare for your Porsche

Independent servicing and repair specialists for classic and modern Porsche

FEELING TIRED?



Call 020 8903 1118 or visit www.jazweb.co.uk

Unit 1, The Mirage Centre, First Way, Wembley, Middlesex HA9 0JD



Porsche Parts *Exclusively*

Engine ■ Transmission ■ Suspension ■ Brakes
Restoration ■ Street ■ High Performance ■ Racing

EBS RACING

JE Forged Piston Sets

356 914 911 930 944 996
81mm 906 10.3:1 CR
84mm 2.2S 9.8:1 CR
85mm 9.5 & 10.5:1 CR
90mm 9.5 & 10.5:1 CR
92mm 9.5 & 10.5:1 CR
95mm 9.5 & 10.5:1 CR
98mm 9.5 & 10.5:1 CR
100mm 3.6 12.5:1 CR
102mm 3.8 12.5:1 CR

▶ ASK ABOUT:

Special orders for custom applications!

EBS CO.

Engine Rebuild Kits

356SC/912
914 1.7-2.0
911 2.0-2.2
911 2.4-2.7
911 3.0-3.3
930 3.0-3.3
924
924 Turbo
944
944 Turbo
996, TT, & GT3

▶ ASK ABOUT: *Top End Rebuild Kits*

and our EBS Master Rebuild Kits!

Exclusively for EBS customers

EBS Racing Machine Shop Services

Flywheel surfacing & lightening
Fuel injector servicing & flow matching
Engine case inspection, align bore, time sert
Stock, performance & racing cylinder heads & camshafts
Inspection & rebuilding rods, oil pumps, layshafts, crankshafts

EBS Racing Engine & Transmission Services

Complete engine & transmission rebuild service
Failure analysis & recommendations
Parts inspection, reconditioning & rebuilding

EBS Racing Engines & Transmissions Available

New Engines	Rebuilt Engines	Transmissions
996 3.6 Engine	2.8 CIS Engine HP	993 C2 Rebuilt
Boxster 2.7 Engine	3.2-3.4 Engine HP	993 C4 Rebuilt
Boxster S 3.2 Engine	3.2-3.6 Engine HP	Boxster S 6spd New

▶ *Call or email for details!*

Visit our website **EBSracing.com** for:

- **Secure Online Catalog Ordering**
- **Bolt-on Performance Parts**
- **Porsche News and Updates**
- **Inventory Reduction & Closeout Specials**
- **Stay informed:** Sign up to receive new product news special offers, updates, in-house projects and other cool stuff

Inventory Clearance & Monthly Specials

996

Euro GT3 update parts
Sport suspension kit
GT3 sway bar kit
Racing brake pad set

911/930

ARP case stud w/hardware
Sport dual in-outlet mufflers
L/W racing flywheels
Pauter Racing Rods

Boxster

M030 Euro spring kit
Sport suspension kit
GT3 sway bar kit
Racing brake pad set

356/912/914

Big Bore piston & cylinder kits
Performance camshafts
Body seal kits
Stock & racing brake pads

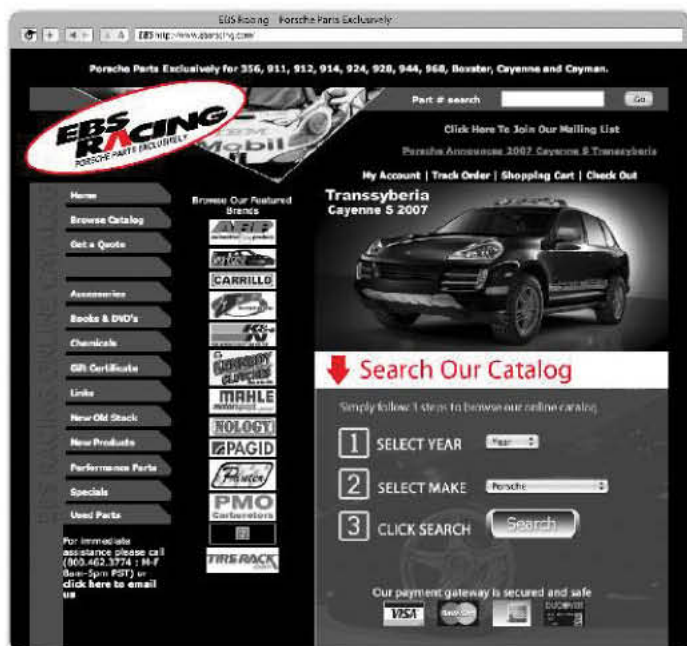
944/944S/944T

Sport suspension kit
Racing brake pad set
Lightweight racing crankshafts
Pauter Racing Rods

964/993

ARP case stud & rod nuts & bolt kits
Euro RS flywheel & clutch kits
Euro RS big valves & camshafts
Sport & Racing Suspension kits

▶ **CHECK OUR WEBSITE FOR:** *Unadvertised specials and clearance items.*



If you would like to be added to the Engine Builders Supply Co. mailing list, please write, fax or email us with your name, phone number, car model and year!



EBSracing.com

email: **ebsracing@aol.com**

toll-free: **800-462-3774**

international: **775-673-1300**

international fax: **775-673-2088**

4068 S. McCarran Blvd. Unit B, Reno, NV 89502

IN SEARCH OF THE ULTIMATE AIR-COOLED STREET 911

It's a question oft asked but seldom solved; what is the absolute coolest, baddest, handsomest, most elegant, superb performing, highest quality, naturally aspirated street purposed Porsche 911 extant? Most would say it's an unmolested '73 Carrera RS 2.7, — a logical, solid, if obvious answer. California's Singer Vehicle Design offers another, highly different, and entirely compelling response. And we drive it

Words: Matt Stone
Photography: Les Bidrawn





With the birth of the Porsche 911 50 years ago being celebrated all about the automotive community, it's only natural to ponder, philosophise, and argue about which models from among those five decades are the best. Our recent cover story, "THE NO1 911" asked a variety of owners, authors, experts and other hangers on to rate and rank their top five 911 models, with quotes and justification for their thinking (YT included). Much of the result was predictable, and some was not. The aforementioned Carrera 2.7 RS indeed copped the top spot, with the chrome-bumpered 2.4-litre 911S taking second place honours, the Carrera 3.2 lineup coming in a pleasing and surprising third, and down the line from there. The focus was on factory engineered and built road cars, but a Ruf and a race car or two snuck in there on merit.

Into that considerable fray we'd humbly submit the Porsche 911, "Reimagined, Restored, Modified, Optimised and utterly Reborn" at the behest of discerning customers by Singer Vehicle Design. This modest run of bespoke and finely detailed machines are like no 911s you've ever seen or driven.

Rob Dickinson is an affable Brit who was formally educated in design, but like so many young males of his era and nationality, Dickinson struck out as a musician, with gos alt rock band The Catherine Wheel. Amidst his relatively successful stint as a rock singer and guitarist, he bought

himself a '69 911. Rob had a vision for what he wanted his Porsche to look, run, sound and feel like – and by comparison, it wasn't so very different from what we've come to think of as the ethos inspiring America's R Gruppe cars, although his notion was a bit less winged and flared than some of those august California hot rods have come out. There's a bit of 911R and S/T, and some Carrera RS 2.7 in Dickinson's envisioned blend, but finished to an altogether more jewel like level. So Rob built his car. His way. And people saw it, drove it, and loved it. Therein was born from potential customer demand, about five years ago, the kernel of an idea: A business (ultimately named Singer Vehicle Design, or SVD) dedicated to restoring, modifying, tuning and customising 911s to customers' ultimate specification. The vision and philosophy behind the look, feel, and spec of each car SVD modifies goes beyond the scope of simply restoring, hot rodding, or recreating any given year or model from the greatest hits list of air-cooled 911s: "The fact that our work visually recalls the past is more a product of thoughtful consideration of the term "optimised" than a pre-occupation with nostalgia. Sometimes the finest 911 characteristic comes from 1964 and sometimes it's lifted from 1997. The company's view is about preserving a moment in time for the owner and capturing a snapshot of the air-cooled period of the Porsche 911.

Dickinson knew that willy-nilly customising bespoke 911s was a short path to bankruptcy, and believed he needed to design and plan the car

much as a conventionally produced automobile would need to be done. Meaning he would need a willing and very able group of skilled staff, and partners with which to work, and whom would develop and supply the plethora of bespoke, modified, and hand built parts and components required. The look and concept demanded by customers had an unquestioned heritage-inspired aspect, but reimagined and optimised at a much higher level than simply building RS 2.7 clones or some such. He opines strongly that the 964 chassis is the best basic platform that Porsche ever created, as it has all of the proper air-cooled 911 bits built in, and benefits from all of the suspension hardware and other development that it picked up along the way. A not insignificant side benefit is also that the 964

platform, produced from model years 1990-1994 (not counting the earliest 964 Carrera 4 models, many of which are dubbed 1989.5 cars) use OBD1 engine management, emissions, and electrical system architecture. Much simpler to get all the systems talking to each other, and to meet emissions regs.

The design and concept phase was long and critical, as the look, fit, finish, overall weight, and every single surface, had to be perfect. Wider fender flares were specced, but nothing resembling an overstuffed 935. The bumper and fascia treatments also needed to utilise the all important 911 “long hood” visuals, yet be functional and contemporary. And the only way to get the balance of performance and response customers wanted was to dramatically reduce the

car’s weight (as well as a serious power infusion), yet a stripped out race car or even RS America style interior wasn’t part of the plan. That meant carbon fibre panels for the fenders, hood, and decklid in the name of serious weight reduction. “We kept the steel door skins in the name of occupant protection” adds Dickinson. The design and clay modelling phase took more than a year in order to achieve the look, weight savings, structural rigidity, and quality finish that would suit the market for this kind of machine. He liberally credits development and production partner Aria Group for the car’s considerable composite panelwork.

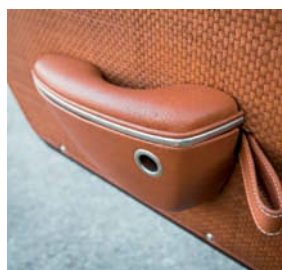
It’s important to mention that the 964 that gives so much of itself in the creation of one of these special cars is, was, and remains a Porsche 911,

restored and reborn for customers by Singer Vehicle Design. And whom, you may ask, is Mr. Singer? In his rock band days, Dickinson was both guitarist and vocalist, thus he is logically the “singer” in Singer Vehicle Design.

There was never a question that the powerplant for Dickinson’s ever so special 911s would be air cooled and naturally aspirated. Fortunately, the 964 already comes with the ideal 3.6-litre starting point for just such a Porsche engine. SVD hands the factory lump to legendary Cosworth Engine Technologies, which strips the engine to nubbins and punches and drills it out to 3.8-litres, and balances, blueprints and assembles the new longblock to its customary race car levels of quality and tolerance. The intake system has little resemblance to a stock 964 – that would be far too easy!

Left: Sumptuous interior is swathed in Spinnybeck smooth and woven leather, specially imported from Tuscany

Below: More exquisite interior detailing and leather lined front luggage compartment is something of a Singer Design calling card. Central fuel filler is a neat retro touch. This is not all show and no go, however. The mechanicals are equally well thought out



“Dickinson opines that the 964 chassis is the best basic platform that Porsche ever created”





Left: Fancy sitting here? Below: On the road stance is just right and the 17in Fuchs replicas fill the arches perfectly. Any bigger would be overkill. Oh, and the colour combo is always a winner!

SVD's goal with the Cosworth developed engine is to build an ultimate air-cooled flat-six that has all the high revving and high horsepower drama of a classic Porsche race engine but combined with as much low and mid range torque as possible to maximise performance and driveability on the road. "As far as the intake system is concerned we use 48mm Jenvey individual throttle bodies aligned to a bespoke fuel injection system developed by Jeff Gamroth at his Rothsport facility. Jeff also pioneered the use of the 996 GT3 intake plenum on the air-cooled engines which is a big provider of that mid

range punch – we tried all sorts of open velocity stacks and other Porsche intake plenums but none supported the high revving HP numbers with the torque we were looking for like the GT3 unit." These engines make around 360bhp at 7200rpm and 280lb/ft at 5500rpm. All this hardware is controlled by an AEM Infinity engine management system that communicates with Motec PDMs (Power Distribution Modules) that replace all the transistors from the original electrical system and along with a bespoke Mil Spec wiring harness bring the electrical system kicking and screaming into the 21st Century. The engines themselves are



SINGER: THE BESPOKE PORSCHE

meticulously constructed and blueprinted with matched and weighed custom components in a 70 hour assembly.

The g64 case is the only reused item (it is thoroughly remachined) and SVD employs the crank and oil pump from a GT3. The pistons are from JE and cylinders are bespoke LN Engineering 3.8L items and the rods are unique super light Carrillo items – all other ancillaries are chosen with a no expense spared mindset to support the high revving and high durability requirements of a real world road-going engine that has race engine performance – a tricky balancing act.

The care taken in construction and component choice is reflected in the motor's huge appetite for revs combined with OEM standards of driveability and durability.

It's all backed up by a Burns bespoke stainless steel exhaust system with high flow cats and dual pipes exiting centrally, just below the license plate area. The result is something around 360 horsepower with a powerband as wide as Montana. And a sound straight from heaven, or Le Mans in about 1969. More about all that soon. And yes, it's true: the engine compartment is lined with quilted Italian leather.

SVD currently offers a choice of two similar if slightly different Porsche/Getrag G50 transmissions: the thoroughly overhauled five-speed box that came with the g64, or a 993-spec G50 six-speed manual trans. I ask Dickinson if he has any notion to modify a car using the Tiptronic that may come with a given starting point g64? He looks sceptical. One of the several dozen g64s used to create the cars restored to date came with a Tiptronic box – it was converted to a six-speed manual at the customer's request. However, the hot rodder in Rob concedes that he would rather like the challenge of tinkering

with the Tiptronic 'box. "We have some tricks up our sleeve to vastly improve it," he says.

Dickinson is working with Cosworth to engineer up a 4.0-litre version of the same engine package; "a little more displacement might yield a tick more torque and a few more horsepower, but I'd never do it at the risk of perfect running manners and streetability. Even though there are many racing parts used, and the car looks and feels pretty racey, it's still a road car to be driven anywhere, anytime, and anywhere the owner wants to travel." Stay tuned on the notion of a bigger motor.

As you peruse the

photos on these pages, you'll notice unprecedented levels of fit, finish, and materials quality. "Besides optimising and reimagining the Porsche 911's great design and performance, our goal is to finish and assemble this car to jewellery and horological levels; we're using at minimum Rolex quality level parts and Rolex levels of assembly and finish." Not sure we agree with that; the fit, finish, and detailing level of restoration work performed on this astonishing automobile is more like the melding of a Porsche 911, a Patek Philippe watch, a Prada bag, and a Faberge Egg.

A tour of the interior will





WHERE THE WIZARDS OF SINGER GO TO WORK

If you didn't see the Singer Vehicle Design sign on the side of the building, and know what goes on in the space behind it, you'd likely drive right by. SVD shares a non-descript, cinderblock industrial building with a paint, body, and resto shop, which floods the front parking area with cars awaiting restoration. Dickinson is clear that this shop serves as office, parts warehouse, and assembly/disassembly facility only. There's no paint, plating or engine shop areas; the space is currently under remodel expanding the office areas and constructing a proper parts department. In order to maintain quality, and have any shot at making a dollar or two Dickinson and his small team of skilled elves have set up the shop like a true low volume automobile production facility, replete with quality assurance processes and lots of careful list-keeping. Dickinson gave considerable thought as to where to locate, and ultimately settled in the north-of-Los-Angeles industrial burb of Sun Valley, California. He notes that "it just had to happen in America, and California particularly, because the culture here is right for what we do, the skilled craftsmen are available, and it's proximate to many of SVD's all important parts, service, and technology partners. They'll be happy to restore your 911 for you. www.singervehicledesign.com



Below: Quite a view! The body is formed from steel and carbon fibre. The rear arches stretch over the fat wheels perfectly and the kick on the retractable rear spoiler pays homage to the RS's ducktail

leave you breathless. Every control, every surface, and every finish has in some way been rethought and optimised in keeping with the Porsche/Patek/Faberge ethos. The lightweight carbon fibre shelled seats are wrapped in sturdy yet ultra supple Spinneybeck woven leather (imported from Tuscany) highlighted by 16 small "aeration rivets" à la Ford GT40 in each seat. Smooth, supple, and sturdy Spinneybeck leather covers a multitude of other interior surfaces, including the rest of the seat bolsters, backs, and bespoke door panels and floor mats. The 964's arcane HVAC controls are binned in favor of a high tech electronic control system that manages those functions, and an audiophile level entertainment system has also been developed. One detail that particularly flipped our lid is the clock, custom re-engineered to resemble a classic Heuer Carrera Chronograph

wristwatch. The balance of the instrumentation is visually and mechanically refurbished by a long standing gauges, clocks and instruments specialist in nearby North Hollywood, California.

The finish and fanatical levels of detail continue underneath; an hour spent looking at the bottom of this car is sixty minutes well invested. The stock suspension architecture is retained, although it receives considerable upgrading courtesy of a Bilstein spa treatment, and the fitment of Öhlins Racing aluminum, adjustable dampers. Brembo supplies the brakes. And the paint on the undercarriage is as smooth as it is on any of the exterior body panels up top. This particular car carries, at customer request, a fully Heim-jointed suspension, replacing nearly all commonly rubber bushed pieces with spherical rod ends; exorcising any notion of play or slop out of the



SINGER: THE BESPOKE PORSCHE

suspension, further sharpening the steering, if at the expense of some ride quality over harsh surfaces.

Before we twist the usual key, which still lives in the usual place, let's neaten up a few details we glossed over on the way to 911 heaven. For example, you'll note that SVD has added an external engine oil filler, à la '72 911. There's no pure mechanical need for that, but it's a touch that the most ardent 911 enthusiasts enjoy.

Check out those unique exterior rearview mirrors, super light in spun aluminium, and mounted right through the front quarter window glass, easily at hand for adjustment, and perfectly placed for an ideal view rearward. SVD has installed a variety of steering wheels on customer cars, but you'll note this one

wears the seminal Momo Prototipo piece, complementing the certain period look, and deepening the connection with legendary Porsches like the 917. The red faced tacho is a particularly racey touch. And how about those Fuchs style modular wheels, specially finished just for SVD. And you'll note that the 17-in wheel and tyre sizes were carefully chosen to preserve not only some semblance of ride quality, but also a certain period look. At first glance you may think that the motorised decklid wing is stock, but no; it's carefully crafted entirely of carbon fibre, and can be painted body colour or left in its natural, "weave" look state.

The tyres are Michelin Pilot Sports in 225/45-17 front, with 265/40-17s aft. "We could have gone much more aggressive in the wheel and tyre

department" Dickinson acknowledges. Production Engineer, Dorian Valenzuela summarises the notion much more succinctly: "Stuffing crazy 20 or 22 inchers under there would just be wrong." With which we agree.

A twist of the left wrist brings the usual 911 cranking noises, followed by an urgent bark from the big six and subsequent stainless steel tubes. Of course the engine is fully catalysed, but sounds as if it weren't. It's not over the top loud, but there's no mistaking the crisp, throaty response of individual throttle butterflies feeding a naturally aspirated Porsche engine with legit racing pedigree in its construction. While the engine warms we run the short throw shifter through the gear slots to get a feel for it. Once the temps are up a bit, we're away with

zero drama. Even though the engine carries aggressive cam profiles, the engine management system compensates for them nicely, and there's plenty of low end torque, and no part throttle splutters, stumbles or other bad habits. When all the oils and gears are thoroughly warmed, we let the 3.8 off the chain, and the massive rear rubber bites and the car responds with the crisp, urgent pull of deep breathing displacement. It's not quick, it's genuinely fast and the sound curls all your small hairs. For a hint, pull out your McQueen Le Mans DVD and play the start of the race scene again. Our subject car doesn't blare quite to that unmuffled level, but it gives you a hint. The short throw shifter and excellent G50 six-speed box are perfect dance partners, and you'll run up and down

The 3.8-litre normally aspirated engine is a work of engineering art. Developed by Cosworth it puts out 360bhp and is dominated by a 996 GT3 plenum, which feeds 48mm Jenvey throttle bodies



“We let the 3.8 off its chain. It's not quick, it's genuinely fast and the sound curls all your short hairs”

the gears as smoothly and quickly as Haywood himself. Non-power assisted 911s have long been lauded for quick, telepathic steering response, but this car takes it to an altogether more Kizmetic level. The Prototipo wheel feels perfect in your hands, and when you guide it left or right, the car responds crisply and quickly – yet never jumpy – because of course everything underneath is tight and fresh and recall that this car has few rubber bushes in the underpinnings, so no slop need apply. The wide sticky gumballs help the front end bite hard and true, while the tail keeps itself well planted. As this is a bought and paid for bespoke customer car, and we're on public roads, we can't hang it out too far,

and our drive didn't include track time, but we can confirm this to be among the best handling and most firmly supple riding air-cooled 911s we've ever sampled, at any price, with 0-60 times firmly into the fives and mid range torque you must experience to understand and appreciate.

How much does all this speed and beauty cost? Begin with your stock donor 964 – coupe bodystyles only please. Then add about \$350,000 for the rims to roof, bumper to bumper Singer recreation. Sound like a lot? Indeed it is, but look at the level of componentry employed, and the fanatical detail of finish. Alone the bespoke wiring harness cost something like \$25,000. Although Singer admits its efforts

are in no way endorsed, warranted or officially connected with Porsche AG, We suspect that the original Dr. Ferdinand himself and 911 designer FA Butzi Porsche, would appreciate what happens here at Singer Vehicle Design – distilling the very best that the air-cooled 911 ethos has to offer, and taking it to previously unprecedented levels of fit, finish, quality, luxury, performance, comfort and aesthetics.

An "ultimate 911" that belongs on any "best list?" Most certainly. **PW**

CONTACT:

Singer Vehicle Design
Los Angeles, California
USA
Tel: +001 (323) 799 1237
Email:
info@singervehicledesign.com
Web:
http://www.singervehicledesign.com

VEHICLE DESIGN PARTS, SERVICES, AND DEVELOPMENT PROVIDERS

- Aria Group – composite body (and other) panels
- Apex Technology – wiring/electrical/engine mapping
- Bilstein – suspension components
- BMC&GEE – six-speed close ratio G50 gearbox
- Brembo North America, Inc. – brakes
- Burns Stainless – stainless steel racing header and exhaust system
- Cosworth Engine Technologies – engine building
- GROWit 3D – rapid prototyping and manufacture
- Hella – lighting components
- Little John Interior Concepts – seats and upholstery
- Mirage International – engine and suspension development
- Nate Hranek – prototyping and parts production
- North Hollywood Speedometer – gauge restoration and reimagination
- Nz Aero, Nz Autosport – high performance cabin acoustic noise reduction; S.O.A., aviation standard cutting-edge materials
- Öhlins Racing AB – suspension components and development
- Quaker City Plating – nickel/chrome plating, metal finishing and parts fabrication
- Ray Griggs – carpeting and additional upholstery
- Rug Rat Racers – prototyping and part production
- Scott Kaiser and Bill Corbett – additional paint, hand rubbing, detailing
- V&C Metal Polishing – polishing
- Spinneybeck Enterprises – leather
- Weidmans Wheels – wheel finishing
- Zuffenhaus Products – wheels



Finally some curves worth discussing.



With over 50 years of experience we have proved that the most exhilarating line for every car enthusiast is a curve. It also shows what a suspension is really capable of. It's no wonder that many renowned automotive brands and successful racing drivers rely on BILSTEIN shock absorbers and suspensions. For all suspension requirements from universal spare parts to tuning, or motor sports; with BILSTEIN you can experience both technology and quality – every time you drive. **BILSTEIN – The Driving Experience.**

www.bilstein.com • 0116 247 8930



PREPFAB MOTORSPORT

P O R S C H E ENGINEERING LTD

PORSCHE bodyshell & component manufacturers
Buy direct from the manufacturers

FOR ALL YOUR TRACKDAY & COMPETITION REQUIREMENTS - ROAD - RACE - RALLY
FOR COMPETITION VEHICLES FOR SALE, SEE OUR SISTER COMPANY AT www.richardlepleyracing.com

We are proud to announce the opening of our new France (Langres 52250) premises.



LHD FIA RS 3.0 AVAILABLE NOW-AS SHELL OR FULL BUILD-POA



BODY SHELL PREPARATIONS
Full or part preps to the very highest standards from historic to modern shell mods. Coach works available.



NEW PREPFAB BUILD FULL FIA RS 3.0 RALLYCAR
Reigers mech.inj.motor 930 brakes, fuel cell, short rear steel arms. Call for details.



NEW PREPFAB REMANUFACTURED RSR SHORT REAR ARMS
Perfect recreation, original spec RSR rear turrets. Call for details.

ENGINE/GEARBOX REBUILDS
We have a purpose built engine/transmission build unit, competition gearbox builds, diff setting, race engine building - RING FOR DETAILS



911 UNDERBODY PROTECTION
Front tank/under bodyguard in aluminium full width, fits from front bumper back rear of front wheel. Complete with fitting kit (welding required)£290/£350
Rear engine/transmission guard, full width covering heat exchangers level with rear shock absorbers, cover rear exhaust silencer going forward to centre tuned at gear linkage point. Complete with fitting kit (welding required) £420/£500
Front & rear guards available with extra 'skid ribs' - add £100/£120 front/£150/£180 rear.
Rear available with clutch adjustment access - add £30/£36.
Under body aluminium skidded floor guard, covers whole centre section of car, manufactured from high grade lightweight with TIG welded sides and strengthening skids£300/£360
Moulded under bodyguards, 2 pcs, fit on each side of floors, eligible for historic £300/£360 pair
Rear arch protectors - bond - on £140/£170 pair



Safety Devices
TECHNOLOGY OF PROTECTION

THE OFFICIAL SAFETY DEVICES APPOINTED FITTING CENTRE
Stocking weld-in and bolt-in Porsche roll cages.

Weld-in 911£560/£670
Full spec - CDS£560/£670
Full spec - T45£960/£1150
Fitting prices to a stripped shell - CDS £750/£900
T45£750/£900
TIG WELDED - Add £350

SD 911 bolt-in multi-point cage£500/£600
door bars£46/£55 each
993 bolt-in multi-point cage£500/£600
door bars£46/£55 each
996 bolt-in multi-point cage£600/£720
door bars£90/£108 each

NEW PRODUCTS
SD 911 rear half cage for road use£295/£354
with diagonal£340/£408 inc fitting kits

HYDRAULIC HANDBRAKE KIT
To suit standard 911 lever, £85/£100 alloy lever assy complete replacement (retains original heater flap controls) ..£230/£276
Scrutineer compliant handbrake cable kit£120/£168.



TWIN BOX STAINLESS REPACKABLE EXHAUSTS
Bolt directly onto SS's, sounds superb with power gain £470/£560 complete kit.



911 WORKS RS SPEC DUAL CYLINDER BIAS PEDAL BOX
Complete with cylinders - £470/£560 exchange, dash adjuster with machined alloy turn knob£45/£54
Now available 964 bias pedal box complete£470/£560 exchange



'911 direct replacement throttle pedal fits directly onto factory rod £120/£168.

ONE PIECE QUICK RELEASE PIAA LAMP POD
Latest design, fully adjustable on car £895.00/£1074.00
Mill-spec bonnet connectors + loom £260/£310



RSR TYPE FIA LEGAL 'TURBO' 4POT BRAKE SYSTEM
Designed to bolt directly onto an SC front hub and SC rear alloy arm.
Front kit consists of: 2 Porsche 4 pot turbo callipers, 2 cross drilled discs, adaptor alloy bell to bolt to SC hub, all bolts/fixings etc£2000/£2200/set
Rear kit consists of: 2 Porsche 4 pot turbo callipers, 2 cross drilled rear discs, adaptor bracket to fit directly onto an SC rear arm - no mods. All bolts/fixings etc .. £2000/£2200/set
Race pads for front/rear£148/£178/set



RSR rear turrets, accurate reproduction of the original, necessary for FIA use, manufactured by ourselves, in stock.

911 PERSPEX WINDOW KITS
With slider & formed rear screen - top quality£320/£390 full set
911 heated front screen£270/£320



911 PROFILED AND SWAGED LIGHTWEIGHT ALLOY DOOR CARDS
Machined closure slot, hole to utilise original door release rod & supplied alloy opening lever £140/£170/pr plus £60/£70 powder coated.

TOP QUALITY FIBREGLASS PANELS
RS Ducktail£350/£420
RH Drive/LHD dash top panel.....£148/£180
3.0 RS type rear bumper£350/£420
3.0 RS type front panel£350/£420
911s bumper with lip & notch out£200/£240
RS long bonnet£250/£300
SC bonnet£240/£290
Turbo front wings (add £45 for steel bowls).....£300/£360 each
Turbo rear 1/4 panel.....£280/£340 each
Std 911 front wings (add £45 for steel bowls)£245/£290 each
RSR rear spoiler (10kg)£900/£1080

OFFICIAL MINILITE DEALER
Usually available from stock

15 x 5 1/2	aluminium minilite	£105/£130
15 X 6	aluminium minilite	£112/£135
15 X 7	aluminium minilite	£125/£150
15 X 8	aluminium minilite	£135/£160
15 X 9 NEW	aluminium minilite	£145/£170
15 X 10 NEW	aluminium minilite	£150/£180

NOW AVAILABLE 16X6, 16X7, 16X8 AND COMING SOON MAGNESIUM



PORSCHE 911 HIGH RATIO STEERING RACK
Top quality 2.5 lock to lock (casing requiring machining) ..£360/£430 exchange
Turbo rod ends & Track arms£150/£180/set

BILSTEIN COILOVER SHOCK ABSORBERS
Front coil over including spring etc (choice of rates) complete uses original top mount£400/£480 pair exchange
Rear coil over - conversion inc threaded tube, spring seats, spring top and choice of spring rates£200/£240 pair
Complete front Bilstein leg & inset - new£460/£550 each
Rear Bilstein - 911£123/£148 each
Strengthening mods for front leg RING FOR DETAILS



ALWAYS WANTED 911 BODY SHELLS AND PARTS

T:UK 0044 1427 858114, France 00 33 781 611 850

E:prepfabsales@btinternet.com

www.prepfab.com

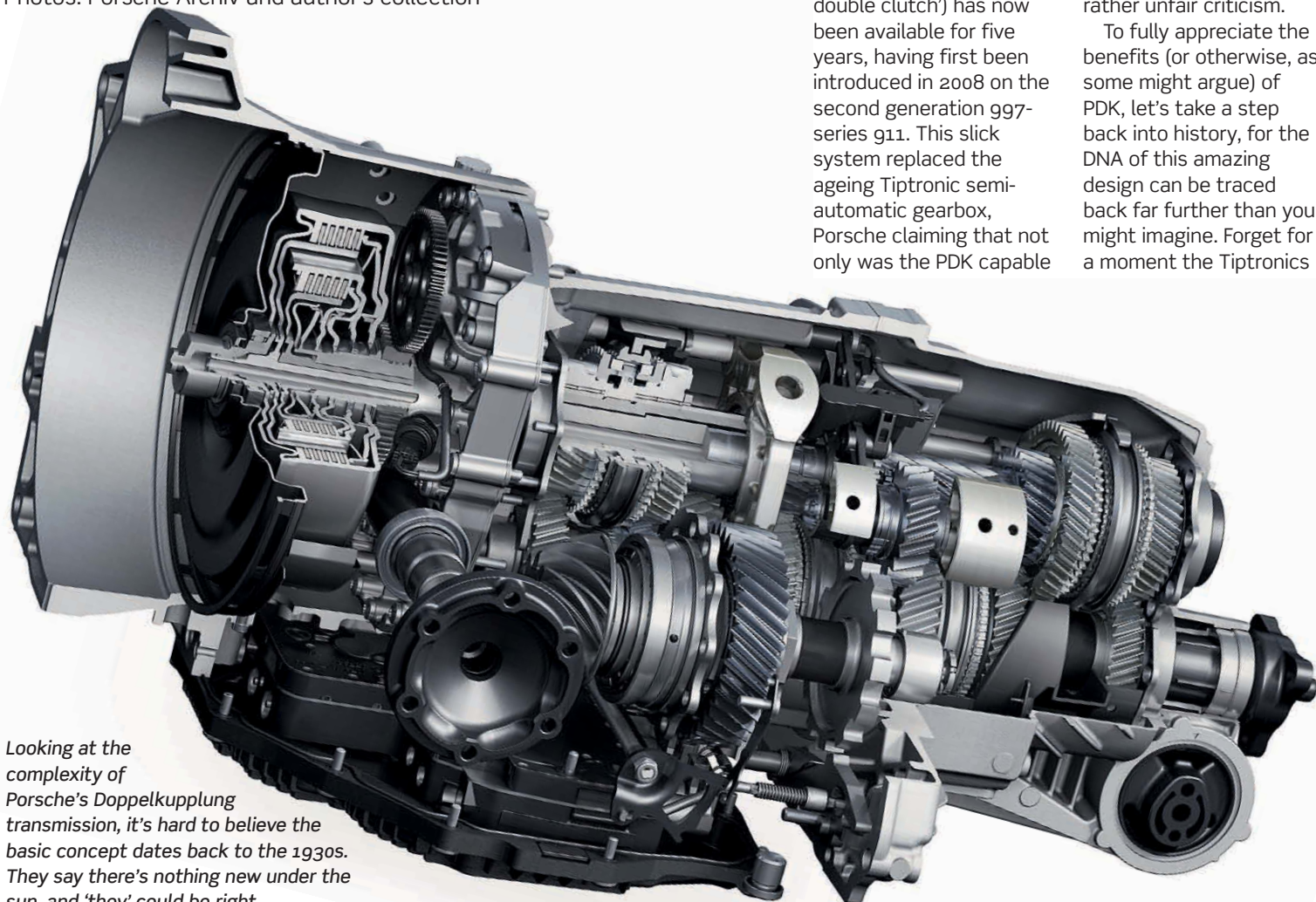
ALL PRICES + VAT @ 20% ALL CREDIT CARDS ACCEPTED & WORLDWIDE SHIPPING

ALL PRODUCTS LISTED ARE AVAILABLE TO PURCHASE IN OUR NEW ON-LINE SHOP

DOUBLE TROUBLE

If Porsche has its way, double-clutch technology is the future, as the news that the new GT3 will only be available with a PDK transmission suggests. However, this system is nothing new – indeed, as Keith Seume discovered, the first patents were granted as far back as 1939. But PDK history is littered with tales of success and failure...

Words: Keith Seume
Photos: Porsche Archiv and author's collection



Looking at the complexity of Porsche's Doppelkupplung transmission, it's hard to believe the basic concept dates back to the 1930s. They say there's nothing new under the sun, and 'they' could be right...

The news that the new 991 GT3 would only be available with Porsche's revolutionary PDK transmission caused something of a stir among those who feel that real race cars – or should that be, real cars that can be raced – have manual gearboxes. Surely the skilled driver wants to take total control of the car, right down to synching every push of the clutch pedal with every shift of the gear lever and every rev of the engine? But Porsche knows better than to trust we mere mortals with such a task...

The PDK transmission (that's short for 'Porsche Doppelkupplung', by the way – or, to put it in Queen's English, 'Porsche double clutch') has now been available for five years, having first been introduced in 2008 on the second generation 997-series 911. This slick system replaced the ageing Tiptronic semi-automatic gearbox, Porsche claiming that not only was the PDK capable

of shifting some 60 per cent faster than the Tiptronic, but it also helped to reduce fuel consumption thanks to its more efficient design.

But, as impressive as it was on paper, the PDK system didn't meet with universal praise. Well, to be truthful, it wasn't so much the transmission itself that came in for a pasting in the press so much as the way in which it was operated. For some reason best known to the gents at Zuffenhausen, the PDK-equipped 997 featured rocker switches mounted on the steering wheel, rather than the more familiar paddles located behind the wheel. The ergonomics of this early design left much to be desired, the result of which was that the PDK gearbox itself came in for rather unfair criticism.

To fully appreciate the benefits (or otherwise, as some might argue) of PDK, let's take a step back into history, for the DNA of this amazing design can be traced back far further than you might imagine. Forget for a moment the Tiptronic

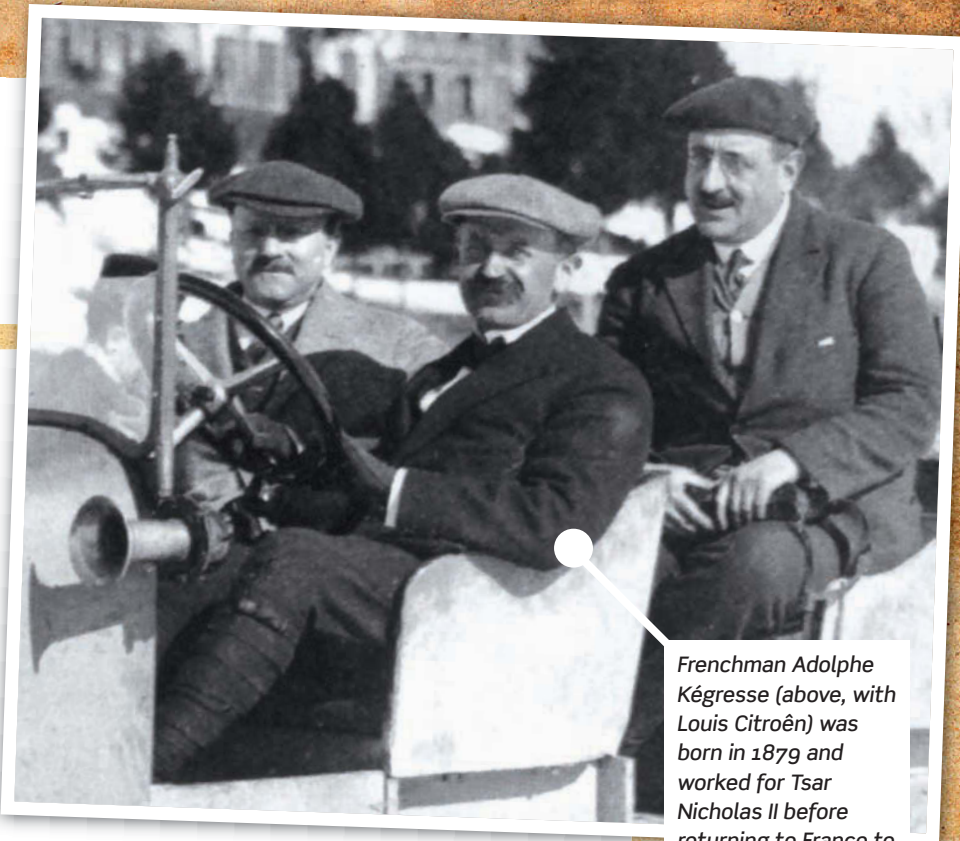
“The thread which connects the past with the present is the concept of the preselector gearbox...”

of the 1990s and Sportomatics of the 1970s, even though they were both important steps in the evolution of the modern g11. Instead, cast your mind back (or do a quick 'Google') to the days of pre-war cars like Armstrong-Siddeleys and Daimlers. Or double-decker buses and lumbering lorries... Seriously. They have more in common with the modern Porsche than you might at first realise.

Sectional drawing of Kégresse's double-clutch transmission formed part of a patent application filed posthumously in 1946. The layout, with its concentric shafts is virtually identical to the PDK of today

The thread which connects the past with the present is the concept of the preselector gearbox. It's almost unheard of now outside the commercial vehicle and vintage car scenes but is a very clever idea. Vehicles with preselector gearboxes allowed the driver to select the next gear (either a higher or lower ratio) which was engaged only when the left-hand pedal was depressed. Note we don't call it the 'clutch pedal' as cars with preselector gearboxes use centrifugal clutches, which engage with rising engine speed.

In a similar fashion, with a PDK-equipped Porsche the transmission is always in a state of

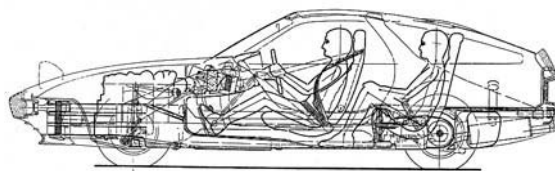


Frenchman Adolphe Kégresse (above, with Louis Citroën) was born in 1879 and worked for Tsar Nicholas II before returning to France to concentrate on his Autoserve double-clutch transmission. He is the godfather of the PDK gearbox

readiness to almost instantly engage the next ratio, awaiting only for a signal from the driver (using the paddle shift) or the engine electronics. There is no clutch pedal. But we'll come back to that in a while.

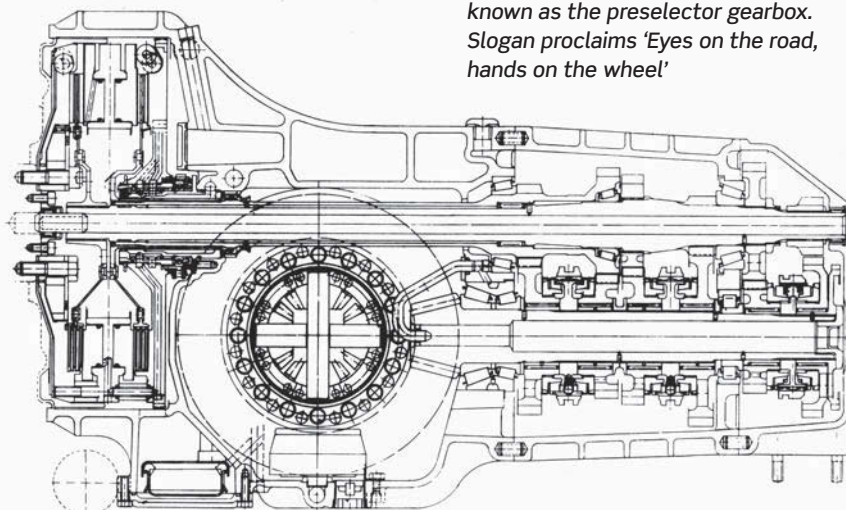
Driving a car equipped with a preselector

gearbox is a unique experience. To start the car, first you must make sure the 'gear lever' – usually nothing more than a spindly lever on the dashboard or steering column – is in the neutral position. Start the engine and then move the lever to 'first'. Nothing will

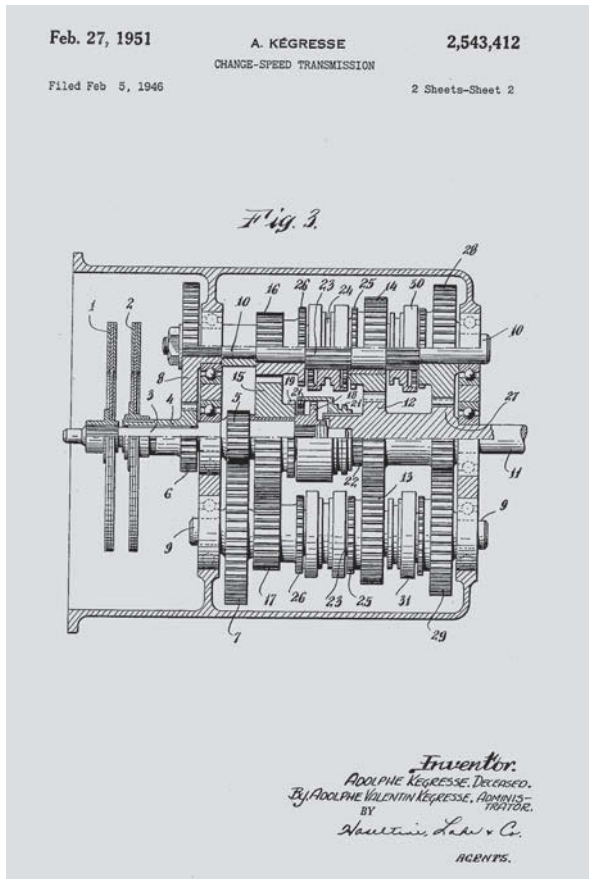


Type 995 was a design for a 928-based car of the future which, among other things, relied on a double-clutch transmission. The project never got off the ground but kept interest in the PDK alive

Artwork from a 1930s Armstrong-Siddeley brochure demonstrates use of the 'self-changing gear' – otherwise known as the preselector gearbox. Slogan proclaims 'Eyes on the road, hands on the wheel'



Sectional view of a PDK transmission emphasises the compactness of Porsche design





In cars fitted with preselector gearboxes, the left-hand pedal is referred to as the 'gear changing pedal', rather than a clutch pedal. Centrifugal design means no ordinary clutch pedal is needed

this sounds all very ponderous – for example, when struggling up a steep hill – never fear: you could effect the change of ratios without lifting off the throttle. Oh, and somewhat scarily, you can also move the lever into the reverse gear position when travelling forwards in anticipation of backing up into a parking space...

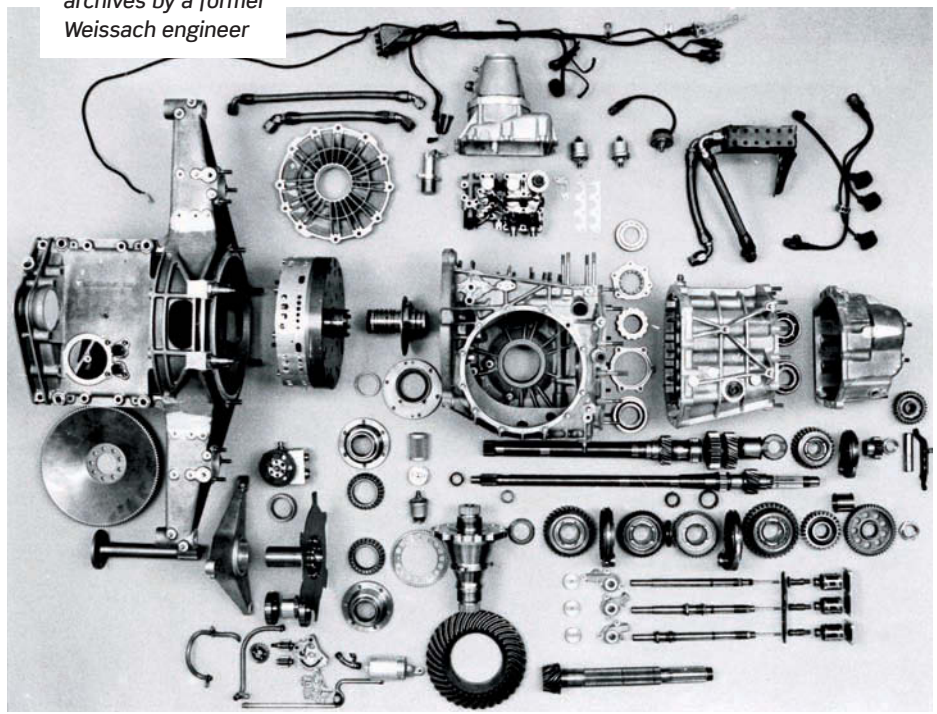
Although never intended as a sporting option, the concept of 'having the next gear ready', so to speak, would clearly be of advantage to a driver who wished to press on without having to worry about grabbing a gear lever midway through a series of twists and turns.

In 1939, when preselector gearboxes were popular, a French engineer by the name of Adolphe Kégresse tested a new transmission in a Citroën 'Traction', a design which he felt would make driving easier, dispensing with the need for manual gear changes. Kégresse was born in 1879 in France but moved to Russia in 1905 to work for Tsar Nicholas II. There he developed the 'Kégresse

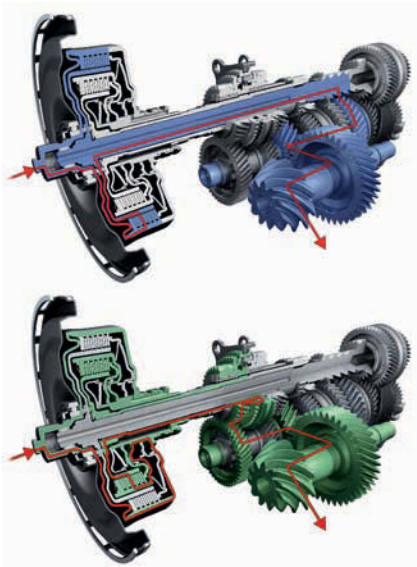
happen until you depress the left-hand pedal and release it – that engages first gear. Now, using the throttle, you bring the engine revs up to the point where the centrifugal clutch bites and the car moves off.

As soon as the car is underway, move the gear lever into second and, when you're ready, simply lift off the throttle and depress/release the left-hand pedal again. And that's it. Continue the process until you're in top gear, at which point you move the gear lever into the next lower ratio ready for when you need to change down a gear. If

Previously unseen photo of disassembled 956/962 PDK transmission recently given to the Porsche archives by a former Weissach engineer



*Schematic illustration showing the PDK transmission with first gear selected. This uses the central solid shaft while...
...second gear is located on the outer hollow shaft. Check the complexity of the double-clutch package. Remember, this is a near 80-year-old concept!*



track', a half-track conversion for conventional cars, allowing them to be driven in mud and snow.

On his return to France in 1919, Kégresse began work with Citroën but left after a brief few years to concentrate on developing his own gearbox: the twin-clutch Autoserve transmission. Pre-war manual gearboxes tended to be rather agricultural in operation, requiring drivers to carefully synchronise road and engine speed to prevent clashes between gear teeth. Kégresse's patented design was ingenious, compact and efficient, and proved satisfactory in operation in his Citroën 'guinea pig'. However, the onset of hostilities brought a premature halt to his work, and Kégresse sadly passed away in 1943 at the age of 64.

He had already filed a patent in 1939 and further patents were submitted posthumously in 1946, and granted in 1951: 'The search for automatic operation of change-speed transmissions as applied to motor cars has led, in some systems, to connecting the engine to the gear trains by means

of two independent clutches forming a unit and mounted on the same axis by means of two concentric shafts, as in French Patent No. 861,394 of 28th July 1939 in particular. An arrangement is thus obtained in which some of the shifts, the even numbered shifts for example, are taken on one of the clutches, and the odd numbered shifts on the other.'

The essence of Porsche's current PDK design, however, is contained in the following paragraph: 'The use of two clutches on concentric shafts enables a more compact transmission to be obtained with shorter shafts and having less parts than in the usual construction.'

Over the next decades, several related patents were applied for by other companies, many of which made direct reference to Kégresse's Autoserve design. Dodge in the USA (1950) and Panhard & Levassor in France (in 1957) both tipped their hats to the Frenchman, as did Zanhradfabrik Friedrichshafen AG, also in 1957. If that name is not immediately familiar, the initial letters will be: ZF. In

fact, the list of patent applicants who made reference to Kégresse's design reads like a who's who of the motor industry – and right up until as recently as July this year, ZF still acknowledged his work. He is truly the godfather of the PDK gearbox, yet his name rarely appears in connection with Porsche's fast-shifting transmission.

It wasn't until the 1980s that PDK development really moved into top gear (sorry, couldn't resist it...), but the Porsche connection actually has its roots in the late 1960s with the arrival of a Hungarian engineer, Imre Szodfridt, who had taken a keen interest in Kégresse's design. Szodfridt worked under Helmut Flegl at Weissach who, according to Karl Ludvigsen, considered him 'a very innovative character, (but) very difficult to control'.

Kégresse's double-clutch system was championed by Szodfridt and shown to Ferdinand Piëch, who saw it as a possible option on the 911. However, the design was shelved due to a lack of refinement, only to be resurrected a few years later when Porsche collaborated in a programme to design a fuel-efficient car of the future: Type 995, based

on the aluminium structure of the 928 and equipped with an early form of double-clutch transmission. In the early 1980s, the PDK idea was initially seen as only being relevant to road cars, but all that was about to change as the race department came under pressure to take a closer look at this innovative design.

The advantages for racers were obvious, for the driver would be able to concentrate on keeping his eyes on the road, his hands on the wheel, while making full-power gear changes. Not only that but, as with the preselector design of old, the next gear ratio was always lined up ready to go as soon as the driver hit the 'up' or 'down' shift buttons. And there was another advantage...

Porsche's racing programme almost entirely centred around turbocharged machinery, the problem here being that conventional gear changing allowed the engine to drop off boost if the driver couldn't change gear quickly enough. Race transmissions tended to be heavy and relatively slow, rugged so as to withstand hours of abuse. If only the driver could make full-power shifts there would be no loss of

turbo boost, no momentary lag in performance. And that's where the PDK came into its own.

The early 1980s saw a lot of behind the scenes work at Porsche, with the 944 programme well under way. One omission from the range was an automatic version of the 944S. The non-S models were offered with a three-speed Audi-built auto 'box, but this wasn't considered strong enough to cope with the added torque of the 944S's engine. Volkswagen had been developing an electrohydraulic four-speed unit, which was tested in a 944 and found to be just what Porsche was after. However, VW then dropped the bombshell that the unit wasn't yet ready for production and they would be unable to meet the proposed 1989 launch of an automatic 944S.

ZF had also been developing its own four-speed automatic, although in prototype form it was only available with hydraulic control. ZF pointed out that it could be updated to the more advanced electronic control if Porsche was prepared to make further investment. This proved too much for Porsche and the idea was dropped.

So, where did this leave



Porsche was becoming so proud of the PDK transmission that cars so-equipped boasted this little logo (top) at the top of the windscreen.

In 1987, Porsche held a press event to demonstrate the PDK-equipped 962 in action at the Nürburgring (middle). Hans Stuck was the driver - we'd have given anything to take a passenger ride that day...

Lever on the far right allowed the driver to preselect a particular gear (above), while punching the buttons on the steering wheel effected an up or down shift. Digital display mounted on the dashboard informed the driver which ratios had been selected

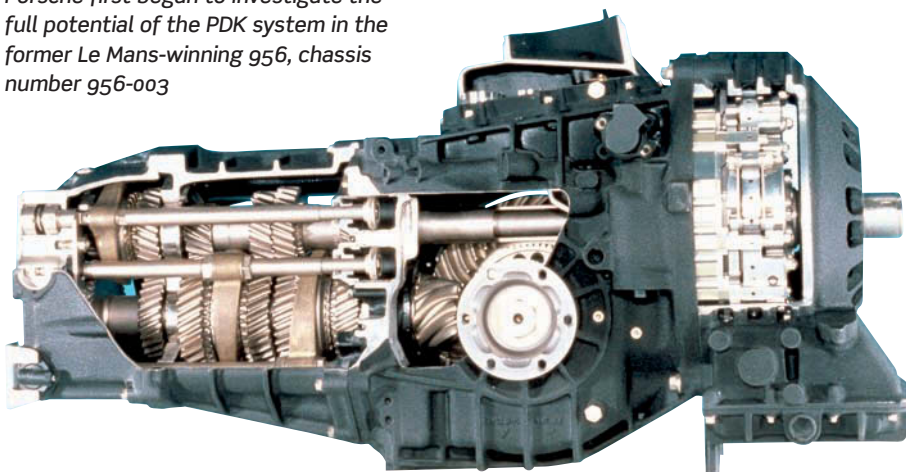
Porsche? By now, the PDK idea had been bubbling away in the background for some time, with particular emphasis on the race programme. However, it is said that expenditure on the PDK concept could only be justified if there was a spin-off for road cars.

Once Imre Szodfridt had presented his (or, more correctly, Adolphe Kégresse's) ideas to his superiors, a 924S was built equipped with an early version of the PDK gearbox. It was massively over-engineered for the road car but allowed the system to be evaluated.

The control system

fitted to the 924S test car was nothing more than a single lever, which could be pushed in any one of four different directions: forwards to shift up a ratio, back to change down, to the left to select reverse and to the right to select 'park'. This was the same system as used in the race cars, with one exception: it lacked the facility to pre-select ratios, which could then be engaged by pushing a button on the steering wheel. This was a deliberate omission as Flegl and his team were concerned that an inexperienced driver on

Porsche first began to investigate the full potential of the PDK system in the former Le Mans-winning 956, chassis number 956-003



the road might accidentally select an inappropriate ratio which could then be engaged at the wrong time.

Paul Frère tested the PDK-equipped 924S for *Road & Track* magazine and was impressed, although doubtful that it would go into production much before the end of 1987. Helmut Flegl had his own 944 Turbo fitted with a PDK unit, finding it both quicker and more economical than the regular 944 Turbo. Tests on a variety of roads around Weissach showed the PDK-equipped car to be some 12 per cent more fuel-efficient than a similar model fitted with a conventional automatic and even fractionally more frugal than a 944 Turbo with a manual transmission. Hans-Joachim Stuck also enjoyed driving a PDK-equipped 928, the torque of which was a far better test of the new transmission than any 'four-banger'.

The problem, however, was that these first PDK gearboxes were not very smooth in operation. That, of course, was not a problem in a race application, but was unacceptable as far as a road car was concerned. Twin dry-plate clutches were responsible for the PDK's rather brutal character, the only option being to develop a wet-clutch design familiar to motorcycle engineers. However, production costs proved prohibitive – it is estimated that Porsche would have needed to sell 40,000 PDK-equipped 944s to make the concept viable – so the PDK programme was quietly dropped, at least as far as road cars were concerned.

The PDK programme was perfect for the race department, though, and

this is where the most interest lay. The double-clutch unit was based around a conventional 'all indirect' manual gearbox, with Borg-Warner synchromesh. As the name suggests, the PDK unit features two clutches, in a combined housing. One engages/disengages a pair of input gears located at the front of the unit by way of a hollow shaft through which a second, solid, shaft passes. This is attached to the second clutch and drives the remaining two or three ratios. Gear selection and clutch operation was achieved by way of a system of hydraulics.

Essentially, the system allowed a gear ratio on one shaft to be selected while a ratio on the other shaft is in use. When the driver was ready to effect a change of ratios, all he had to do was punch the button and the hydraulics disengaged one clutch and engaged the other. This then freed the first set of ratios ready to be engaged at the next shift.

One shaft carried ratios one, three and five, while the other carried ratios two and four. While third gear, for example, was in use, either the second or fourth ratios could be put in a state of readiness.

The first tests were carried out towards the end of 1983 on Porsche 956 chassis number 956-003, the very car which had won Le Mans earlier that year. Initial impressions were not favourable, as the unit suffered from oil leaks, and weak castings and gears. There were also problems with the clutches. However, the race department persevered and the first PDK-equipped Porsche took to the track at Kyalami in December '83.

Unfortunately, it proved problematic in practice, so the car was refitted with its original manual gearbox for the race.

The PDK-equipped 956 next appeared in January 1984 at Paul Ricard in southern France. Over a test session that clocked up 1000kms, no fewer than three PDK units were fitted, the tests being thwarted by a clutch explosion and sundry failures due to hydraulic and electrical problems. In March, Jochen Mass was called in to drive the car, the result being more failures and the conclusion that the system was too cumbersome in operation – lap times were almost two seconds slower than those achieved using the old gearboxes.

At this point, a decision needed to be made about the future of PDK technology. Helping to sway arguments in favour of the double-clutch design was Audi's interest in developing the transmission for use in its high-powered Quattro rally cars. The programme went ahead as planned: next stop, Imola in



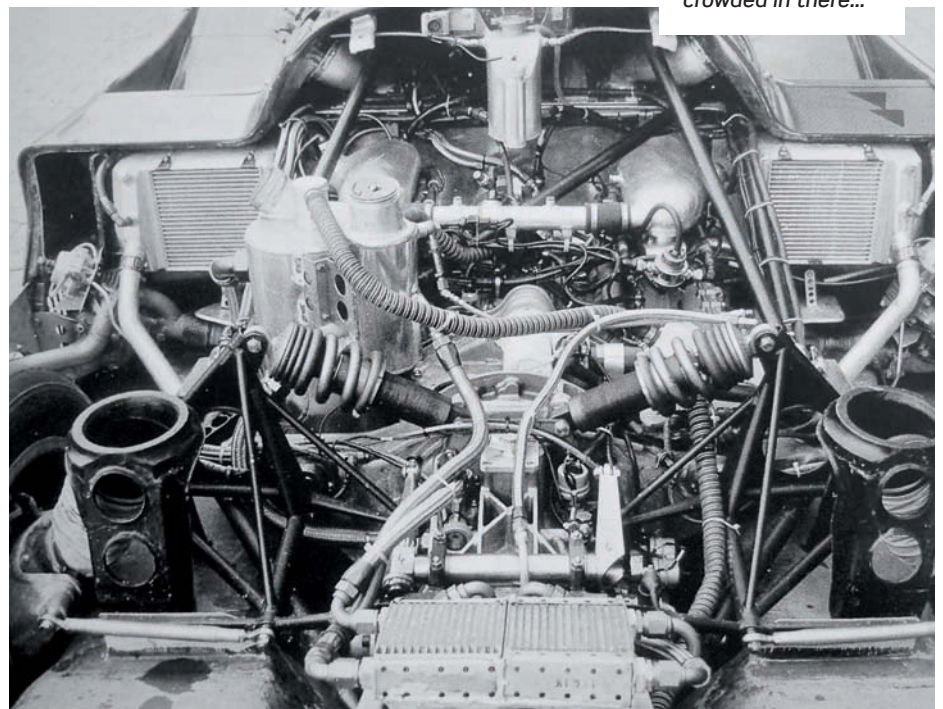
Audi expressed a keen interest in Porsche's new double-clutch system. Adapting it for use in the world-beating Quattro S1 rally cars. This example is currently on display at the Porsche Museum

September 1984. It was not a success...

John Watson and Jacky Ickx suffered a clutch explosion in practice, followed by hydraulic failure after just two laps of the race. Watson is reported as finding the vagaries of the PDK system slightly off-putting, too. He was used to making gear shifts straight from fifth down into second – or even first – gear to save time, but this was not possible with the PDK system. However, the Weissach engineers refused to be beaten, calling in Hans Stuck to do yet more testing. He was impressed, despite initial scepticism.

1985 was set aside as a development year, with PDK-equipped cars

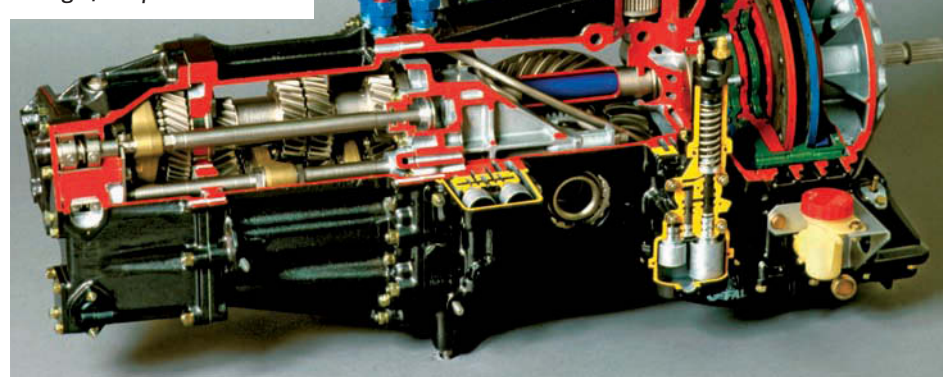
Rear view of a 'naked' 962 shows the PDK in situ. It looks awfully crowded in there...





Interest in the double-clutch system was aroused in the early 1980s when Porsche sought an alternative to the conventional automatic transmission. Both 924s and 944s were adapted to use the PDK gearbox, this 944 Turbo (top) being Helmut Flegl's personal car. If the PDK could stand up to the torque of a 944 Turbo, how would it survive the grunt of a V8 (middle)? Hans-Joachim Stuck put the double-clutch system to work in his own 928 and loved it. The Type 969 (above) was close to becoming the first production road-going Porsche to be equipped with PDK technology, but the project was cancelled in favour of the 964 Turbo

Cutaway model of the seven-speed PDK transmission only hints at the complexity of the current system. If Porsche has its way, this will be the future, with manual gearboxes possibly becoming a thing of the past...



appearing only at Brands Hatch and Malaysia. Despite electrical problems, Al Holbert and Vern Schuppan finished a creditable fifth overall at Brands, but Hans Stuck and Derek Bell were forced to retire from the lead in Malaysia with a broken half-shaft. These early test races were sufficiently encouraging for Norbert Singer to push for the PDK transmissions to be used for the 1986 season. It was not a decision that filled Derek Bell with enthusiasm.

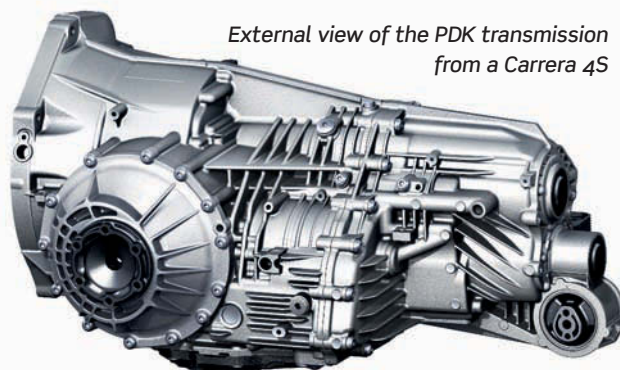
Bell recalled his feelings in an interview he gave to the American publication, *Automobile*, which coincided with the adoption of the PDK system for the 997 models in 2008. In general, he approved of Porsche's strategy of constantly trying something new but became frustrated when every race appeared to be treated as a test session. 'We picked up time, without a doubt. The big help was that you didn't have to depress the clutch, but it added a lot of extra weight - it felt like you had a trailer on the back. We tried to persevere with it but the system just wouldn't last

a 1000-kilometre race. It nearly cost me the World Championship in 1986...'

However, Bell did appreciate that the new gearbox was ultimately a good idea, as it removed the worry of the driver messing up gear changes to the detriment of the transmission. The old dog-clutch boxes were brutal and needed a firm hand, and wear on components was higher than an engineer would wish for.

Extensive testing ahead of the 1986 season reaped rewards, despite Bell's initial scepticism. Installing the PDK transmission in the 962 added a not-insignificant 44 kilos to the overall weight, all at the rear of the car. Despite this apparent handicap, Stuck lapped the full 3.6-mile Paul Ricard circuit some 0.77 seconds quicker than his best time in the car fitted with manual transmission, while Bob Wollek lapped the shorter 2.03-mile circuit 0.81 seconds quicker.

By the end of the 1986 season, PDK-equipped 962s had competed in no fewer than 11 major races, notching up three wins and two seconds. There were three retirements, two of which were directly attributable to the PDK system, the third when both team cars collided in



External view of the PDK transmission from a Carrera 4S

poor visibility at the Nürburgring!

The one event where PDK wasn't able (or perhaps 'allowed' is the right word) to prove itself was Le Mans, Singer not trusting the double-clutch transmission to last the full 24 hours. A PDK-equipped 962 did run at the '86 Le Mans test day and proved to be the fastest car on track, but at the main event, only one car was thus equipped. The drivers, Vern Schuppan and Drake Olson, were informed that if the unit broke in the warm-up ahead of the race, their entry would be withdrawn. As it happens, the gearbox survived the warm-up session, only to break a mere 41 laps into the race.

PDK transmissions continued to be used in the 962 throughout the 1987 season, but had still yet to make an impact on the road-going range. In 1985, there was talk of resurrecting the technology for use in the 964-series 911s, following the decision to end further development of the old 'clutchless-manual' Sportomatic system. The PDK programme was again to be a joint venture with Audi, who wanted an automatic transmission for the new V8-powered front-wheel-drive saloon. But then Audi backed out, and Porsche once again abandoned PDK for its road cars. Almost...

In 1990, PDK was cited

for use in the proposed Type 969, a 3.5-litre water-cooled, twin-turbocharged supercar built on the 964 Carrera 4 chassis but styled along the lines of the mighty 959. It was to be fitted as standard with the PDK transmission, with manual as an option. This range-topping, 185mph coupé was scheduled to enter production in 1991 but the project was cancelled at the last minute in favour of the 964 Turbo.

Another 17 years would pass before the Porsche Doppelkupplung system would finally be adopted for road use, despite having proved itself time and again on the race track. In the interim years, Porsche's successful Tiptronic semi-automatic transmission had reigned supreme, but its days were numbered almost from the outset.

PDK was clearly the future for, as Volkswagen proved with its similar DSG transmissions, no other technology could match the double-clutch design for speed and ease of use. Like it or not, PDK is here to stay.

Something tells us that, right now, Adolphe Kégresse is looking down from on high, smiling at Porsche's seven-speed, lightning-fast gearboxes that rely on his 1939 patents for inspiration. Porsche may have claimed it took 25 years of development to bring PDK to the table, but in reality, it was more like 70 years...**PW**

Sportwagen ECKERT



Porsche spare parts for all models since 1950

Powered by Sportwagen Eckert - Made by Dansk



329 Euro each
Bumper rear, left/right
911: '65-'68 / '69-'73



125 Euro each
Lower bumper corner, rear left/right
911: '74-'76



449 Euro each
Bumper front with or without hole for fog light
911: '69-'73



Door outer skin, left/right
911: all Models **169 Euro each**
356: all Models **389 Euro each**



629 Euro each
Front wing left/right
911: '69-'73



559 Euro each
Front wing, left/right
911: '74-'86 and
964: '89-'94



669 Euro each
Quarter panel left/right
911 Targa: '69-'73 / '74-'77
911 Coupé: '69-'73 / '74-'77



59 Euro each
911 inner sill, left/right



55 Euro each
911 outer sill, left/right



259 Euro each
Floor panel, left/right
911



129 Euro
Floor panel, front
356 A/B/C



119 Euro
Floor panel, rear
356 A/B/C



Cross panel, front
911: '65-'67 **279 Euro**
911: '68-'73 **259 Euro**
911: '74-'89 **159 Euro**



Tank support, center
911: '65-'68 **69 Euro**
911: '69-'89 **59 Euro**



Fuel tank
911: '65-'73 / '74-'89 **279 Euro**
356 A/B/T5 **279 Euro**
356 T6/C **279 Euro**



911 Tank suspension repair panel
complete **329 Euro**
front **119 Euro**



Heat exchanger
911: 2,0 - 2,7 l, steel **339 Euro**
911: 2,0 - 2,7 l, stainless steel **429 Euro**
911: 2,7 - 3,0 l, steel **269 Euro**
911: 2,7 - 3,0 l, stainless steel **329 Euro**
911: 3,2 l, steel **335 Euro**
911: 3,2 l, stainless steel **395 Euro**



Exhaust
911 turbo 3,0 l, stainless steel **549 Euro**
911 turbo 3,3 l
Mod. '78-'82, stainless steel



549 Euro
Exhaust set
993 sport, stainless steel



699 Euro
Exhaust
964, stainless steel



Heat exchanger left
mechanical injection
911: 2,2 - 2,7 l, steel **379 Euro**
911: 2,2 - 2,7 l, stainl. steel **449 Euro**



Set
995 Euro
Heat exchanger SSI



Exhaust
911: 2,0 - 2,7 l, sport, stainless steel **459 Euro**
911: 2,7 - 3,2 l, sport, stainless steel **459 Euro**



Exhaust
911: 2,0 - 2,7 l, stainless steel **359 Euro**
911: 2,7 - 3,2 l, stainless steel **359 Euro**



Exhaust
356: sport, painted steel **369 Euro**



Exhaust
356: B/C / 912, steel **315 Euro**

If you can't find the right parts, please contact us!

Piece price (Euro) exclude 19% VAT, Dealer inquires welcome

Ambergstr. 3 · 86633 Neuburg/Donau · Tel. (+49) 84 31 / 40 740 · Fax (+49) 84 31 / 42 174 · www.sportwagen-eckert.de · info@sportwagen-eckert.com

HP MOTORSPORT SPECIALISTS IN EVERYTHING PORSCHE

HP Motorsports are an Essex/East London based company specialising solely in Porsche cars. We have all diagnostics to cater for later models as well as early test equipment for 924, 944, 968 and 928's.

We offer full engine/gearbox rebuilds for all model's from air cooled (our favourite) up to 997 as well as servicing and routine maintenance. Having worked on all sorts of Porsche's since 1983 we bring many years experience to our customers



- Full Engine Rebuilds
- Gearbox Rebuilds
- Porsche Servicing
- Routine Maintenance
- Fixed Price Servicing
- Brake Replacement
- Clutch Replacement
- All Electrical Repairs
- Air Conditioning Repairs
- Pre MoT Checks

HP Motorsports, Unit 6a, Bracken Industrial Estate, 185 Forest Road, Essex IG6 3HX
Tel: 020 8500 2510

www.hpmotorsport.co.uk



Yorkshire Classic Porsche

Yorkshire's No. 1 choice for classic to modern Porsche

Please call us on 08434 996 911



Porsche Boxster S £7,995



2000 Convertible 3.2L, Superb condition, FSH, Manual, Petrol, 58,000 miles

Porsche 911 997 Carrera 2 £25,995



2005 3.6, Convertible, Black, Stunning high spec, FSH, Extended leather, 58,000 miles

Porsche Carrera 4 £13,995



1998 Coupe 3.4L, Aluminium/silver Manual, 69,500 miles

Porsche Carrera 4S £21,995



2003 Convertible 3.6L, Stunning, Manual, Petrol, 53,000 miles

www.yorkshireclassicporsche.co.uk

Leeds Road, Collingham, Nr Wetherby, West Yorkshire LS22 5AA



RPM
Specialist Cars

PORSCHE SALES AND SERVICE SPECIALIST

RPM Specialist Cars are an independent Porsche Sales, Service and Race specialist. Established in 2004 we have strived to deliver an ever increasing first class, personal service to our loyal and expanding customer group this all encompassed within an affordable pricing structure.



Please View Our Web Site For A Full Stock List

05/2005 Boxster S (987)
Manual - Only 12500 Miles
£16750



- Car Sales
- Porsche Servicing And Mot's
- Full Diagnostic Facilities
- Air Conditioning Repairs
- Suspension Alignment
- Engine And Gearbox Rebuilds
- Race Car Preparation
- Race And Track Day Support

Nidd Valley Business Park, Market Flat Lane
Lingerfield, Knaresborough, North Yorkshire HG5 9JA

01423 865602

Email : info@rpmspecialistcars.co.uk
Web : www.rpmspecialistcars.co.uk

PROMAX

- After Market Tuning Parts
- All Porsche Parts Supplied
- Comprehensive Service Facilities
- Engine Rebuilds for 911, 928, 944, 968
- Cayenne, Cayman, Boxster & 996/997
- Geometry & Tracking
- Guaranteed Power Packages
- Performance Upgrades
- Race & Track Car Preparation
- A/C Repairs and Gas Replenishment
- Wheel & Tyre Supply and Fitting
- Wheel Refurbishment
- Bilstein & KW Suspension Kits

Please visit us at
www.promaxmotorsport.com
or Tel: 01296 714856



Professional Service, Maximum Performance

ProMAX Motorsport
The Warehouse
Sunnyhill Farm
Little Horwood Road
Great Horwood
Bucks
MK17 0NZ

Telephone: 01296 714856
Workshop email: service@promaxmotorsport.com
Parts email: parts@promaxmotorsport.com
Website: www.promaxmotorsport.com



911 Air Conditioning Specialists

Upgrade Components to Complete AC Systems

- Compressors (Denso, Sanden, and others) and adaptor brackets.
- Complete RennAire reduced diameter barrier hose kits (our hoses are the lighter, smaller, and stronger than factory and are true drop-in replacements with fittings identical to factory).
- Exclusive RennAire ProCooler. The ProCooler is a refrigerated receiver drier that boosts efficiency by lowering high-side temperatures and ensuring efficient evaporation and cooling.
- RennAire Serpentine Evaporator - the most proven available.
- Our System Kits include everything to upgrade factory AC: with new insulation, o-rings, clamps, hardware, instructions, oil.



email: info@RennAire.com

WWW. *RENN*AIRE .COM telephone: 830-522-0300

Austin, Texas USA

PORSCH-APART LTD

www.porsch-apat.co.uk Tel: 01706 824 053
 Email: enquiries@porsch-apat.co.uk Fax: 01706 824 665

**FIELD MILL
HARRISON STREET
RAMSBOTTOM
BURY
LANCS
BLO 0AH**




Boxster / Carrera Oil Service - £99+VAT

Boxster / Carrera Minor Service - £185+VAT

Boxster / Carrera Major Service - £265+VAT

AirCon Regas - £75+VAT

Brake Fluid Change - £60+VAT

18,000 sq. ft of Shelved Parts

Large selection of New and Used parts
 Over 800 Genuine Porsche Alloy Wheels in Stock.
 A comprehensive selection of used and refurbished engines and gearboxes in stock.
 Please call for details

Used Cars & Parts Bought and Sold






JASMINE PORSCHALINK

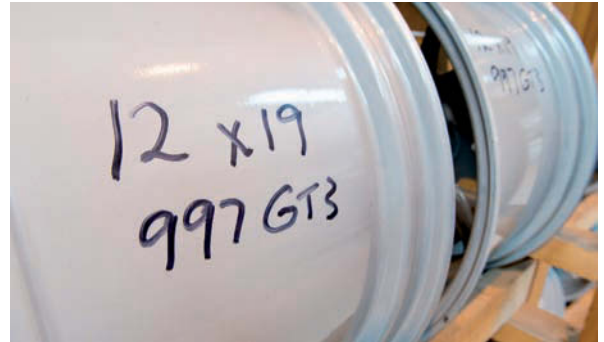
IT STARTED WITH WHEELS AND A CLASSIFIED AD IN *g11&PW*. NOW JASMINE PORSCHALINK IS A MAJOR SUPPLIER OF NEW AND USED PARTS, A SERVICE CENTRE AND HAS EVEN RETURNED TO RACING. WE DROP IN FOR A CATCH-UP

Words: Steve Bennett Photography: Antony Fraser

It all seems like a long time ago now. There I was in 2001 with my first Porsche – a black 944 Lux (I haven't moved on very far) and goodness I was proud of it. Obviously I had a list of things I wanted to do to spruce it up and top of that list was to get the wheels refurbed. Idly flicking through *g11&PW* I came across an advert for Jasmine Motorsport: 'Suppliers of genuine Porsche wheels.' Encouraged by their part exchange service I committed to a set of refurbed Teledials, which arrived promptly and looked brand new. A quick swap at the local tyre centre and my tatty originals were dispatched back to Jasmine, and I was a very happy punter indeed.

And you know what? Not only is that 944 still around my local area, but every time I see it I am struck by how good those wheels still look 12-years down the line. But time moves on. The idea that buying a 944 in 2001 would somehow lead to my being a fixture at *g11&PW* a few years later would have seemed fanciful. Equally for Jasmine Motorsport the idea that a business created to sell a garage full of second hand Porsche wheels would grow year-by-year to now occupy two new units, dismantling Porsches and sending both used and new parts all over the world... Well, it's not fanciful as such, but as Brian and Sue Goff concede, it's a long way from the kitchen table, where they used to process orders and take phone calls.

In 2013 for Jasmine Motorsport read Jasmine PorschLink. In fact it's been Jasmine PorschLink for ten years now and it's ten years since we last dropped in to see Brian and Sue, who still very much head up the team.



What's changed? Oh, everything and nothing. There's still the wheels – neatly stacked and of all types, but whereas ten years ago and before it was all wheels, now Jasmine is very much in the Porsche recycling and servicing business.

But for the moment we'll stick with the wheels, because this after all is how Jasmine got off the ground. You see the business really did start with a collection of Porsche wheels in Brian's garage, surplus

now its two huge units and nine staff in Nelson, Lancashire, Jasmine's North West heartland.

In many ways Jasmine's business has expanded alongside Porsche itself. The rapid increase in Porsche's car sales has, of course, meant more Porsches on the road and more models too. All these cars need looking after and there's more than one way to look after a Porsche and it's here that Jasmine have got just about all bases covered.

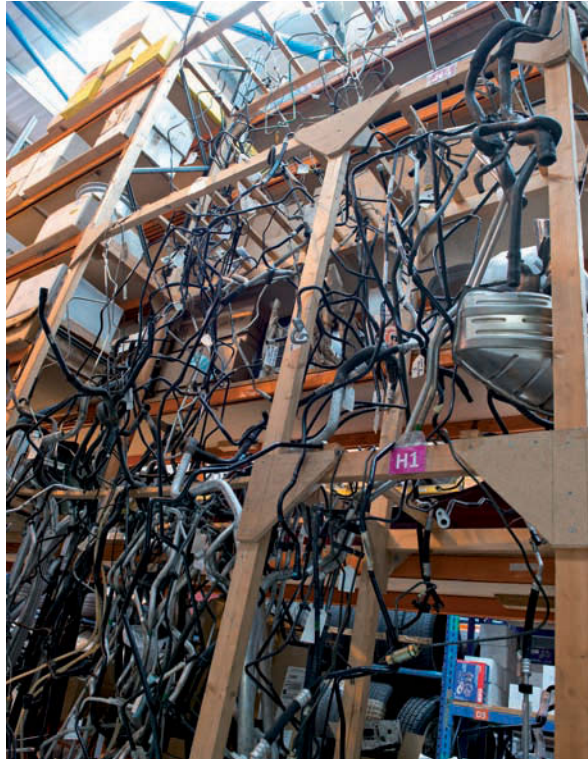
“Porsche owners are savvy these days as to where to source parts, and why not?”

Top: Front nose for a Cayman will be snapped up and at a considerable saving to a brand new nose. Wheels still form an important part of the business. Below: Racking from floor to ceiling. Pipework for cooling and air con systems, while '70s 2.7 receives attention to sunroof

to his racing and rallying adventures in historic Porsches. An advert for 40 wheels, mostly Fuchs, placed in the back of this here magazine is all it took to get the wheels rolling. Of course back in those days a set of Fuchs, while desirable, were nothing special. These days Brian's cachet of Fuchs would be worth an absolute fortune, but of course the future we cannot predict.

At this point Brian was working in the oil and gas industry and was looking for a change of career, while Sue, a conference organiser was of a similar mindset and so wheels it was. The garage became a warehouse, the warehouse became an old mill and

The core of the business is in parts both old and new. Jasmine break, dismantle and recycle Porsches. Enter the warehouse and there is racking from floor to ceiling with every conceivable part for just about every conceivable model, although it's fair to say that it's the later water-cooled cars that make up the bulk of the recycling business. Owners are savvy these days as to where to source parts, and if a secondhand part will do the job, then why not. And Porsche's rapid expansion in terms of numbers of cars sold has been something of a double-edged sword. More cars hits the residuals and so prices can slump to the point where a once £70,000+ 996 or what was a £35,000+





Boxster are ripe to be stripped for parts, and as Brian concedes, at this stage the cars are worth more in their component form.

But if your image of a typical breaker's is one of cars piled on top of each other and oil soaked floors, then think again. This is modern recycling and immaculate with it. Not many customers will wander the aisles of racking, but everything here is clean, serviceable or refurbished and ready to go. Ready to go all over the

and racing. "We got more and more requests to look after customers' cars," says Brian. "It seemed like the right move when we moved to our latest premises in 2006." Again, the bulk of the work is with the water-cooled cars, and yes Jasmine have seen plenty of 996 and Boxster engine issues, but Brian reckons that these models are as good as the maintenance afforded to them. "We see too many neglected cars and too many cars that have been bought for a song

CONTACT

Jasmine PorschLink
The Porscha Centre
3A Pendleside
Lomeshaye Industrial Estate
Nelson
Lancashire
BB6 6RY
Email:
jasmine.motorsport@virgin.net
www.jasmine-porschlink.co.uk
Tel: 0044 (0) 1282 697171

“This is modern recycling and immaculate with it. Everything is clean, serviced and ready to go”

world usually too. The internet has expanded Jasmine's business base dramatically, as has eBay. Sue reckons that this has become a major part of the business, and as anyone who sells online knows, it's a time-consuming operation to constantly keep your website up to date. While we were visiting an engine was being crated up to go to Singapore, which is nothing unusual. On top of the used parts Jasmine can also supply just about any new part too, particularly servicing parts, and in a competitive market, parts are equally competitively priced.

So wheels, parts and almost inevitably servicing, oh

and need nearly the same spent on them to being them back to useable condition."

Racing? Yes. Jasmine proudly sponsors the BRSCC Boxster Championship. "It's been a real learning curve, says Sue. "Everyone wants to go to the races, which is great for team building. We've started building race cars too." So Jasmine started with racing and has moved back into racing. You could say that they've gone full circle. Maybe, but a rather large circle that has in the centre a major Porsche parts and servicing business that looks after locals in the North West and indeed the rest of the world. Small/big world isn't it? **PW**

Jasmine will be holding its annual Saturday morning open day on October 12, so why not drop in. As well as being able to see what Jasmine have to offer, the event attracts Porsche enthusiasts and their cars from all over the country

Top: Boxster race car in preparation. Below left, Brian Goff (front foreground) and the Jasmine PorschLink team with Sue Goff in the middle



JASMINE

Independent **PORSCHE** Specialist

Servicing

Complimentary Collection Service

Repair

MOT

Genuine Porsche Parts

A.T.A. Technicians

Bespoke Special Build Projects

Bodyshop & Repair Clinic

Classic Car Restoration

Alloy Wheel Refurbishment

Air Con Regas

JASMINE
PORSCHALINK UK



TEL : 01282 69 71 71

PORSCHE | Servicing | Parts | MOT | Repair Centre

JASMINE PORSCHALINK UK

THE PORSCHA CENTRE 3A Pendleside

Lomeshaye Industrial Estate

Nelson Lancashire BB9 6RY

T:/ 01 282 697171 F:/ 01 282 691911 M:/ 07770 962354

W:/ www.jasmine-porschalink.co.uk NEW

E:/ jasmine.motorsport@virgin.net



FOLLOW US



UK Distributor / Warehouse

Tel: +44 (0)1784 493 555

Fax: +44 (0)1784 493 222

Email: sales@glencoeltd.co.uk

"Fuel Pumps for the Professionals" :-

**Original Equipment
Formula One
Race Teams
Rally Teams
Military**



FAST ROAD

'IN TANK PUMP'
UPGRADES

From **£53.41**

Pump kits..... **£60.40**



From **£94.10**

FAST ROAD

'OUT OF TANK'
(3 BAR) REPLACEMENT PUMPS

MOTORSPORT

'OUT OF TANK'
COMPETITION PUMPS

325 LTR / HR

(180 LTR / HR @ 3 BAR)

5 BAR FUEL PUMP

From **£99.50**

**400
450** LITRES/HR



400 LTR/HR

Pt.No. GST400

GST400K

EXTREME FUEL

For

**EXTREME
POWER**



From **£92.40**

450 LTR/HR

Pt.No. GST450

GST450K



From **£112.00**

MOTORSPORT

From **350 BHP £65.80**

190 LTR / HR

From **500 BHP £74.64**

TOP SPEC - 255 LTR/HR

'HIGH FLOW' + 'HIGH PRESSURE'

Motorsport pump kit prices **£75.90**




Prices exclude VAT @ 20%

www.glencoeltd.co.uk


PATRICK MOTORSPORTS
 PORSCHE & MID-ENGINE PERFORMANCE SPECIALISTS

Sport Flywheel & Clutch Packages

- OEM Reproductions / Conversions
- Sport / RS / RSR Lightweight
- Certified Computer Balancing



Industry Leaders for Over 23 Years!



Phone: (602) 244-0911 | www.patrickmotorsports.com
 Phoenix, Arizona - USA | Daily Worldwide Shipping

© 2012 - All Rights Reserved - JE Patrick Motorsports, LLC - RMO TO 12 | PORSCHE® is a registered trademark of Dr. Ing. h.c. F. Porsche AG. These products are not officially approved by PORSCHE®.

JMG PORSCHE
 THREE GENERATIONS OF CARING FOR PORSCHE

At JMG we are dedicated to helping you get the best experience from your Porsche.

We service, diagnose, repair and improve Porsche Vehicles in our **South of England** workshops.

JMG Porsche are a family run business built on a foundation of three generations of Porsche experience stretching back to the early 1970's.



As of the 1st May our new address will be:
 JMG Porsche
 98 Cobham Road,
 Ferndown Ind Est.
 Wimborne
 Dorset
 BH21 7RE

Tel: 01202 488800 or 07000 996911
 Email: service@jmggarage.co.uk
mailorder@jmggarage.co.uk

www.jmggarage.co.uk

SPECIALIST CARS OF MALTON LTD

APPROVED MOTOR CARS



WANTED

<p>356 Speedster 2.7 RS 2.8 RS 3.0 RS 3.2 Speedster 959 964 RS 964 Turbo 964 Cup Car 964 Speedster</p>	<p>993 Carrera 2 993 Carrera 4 993 Carrera S 993 Carrera 4S 993 Turbo 993 GT2 993 GT2 Evo 993 RS 993 Cup Car GT1</p>	<p>996 GT3 996 GT3 RS 996 Cup Car 996 RSR 996 GT3R 997 Cup Car 997 GT3 997 GT3 RS Carrera GT Le Mans cars</p>
---	--	---

Any other interesting or rare Porsches RHD OR LHD

Telephone: 0844 7000 997 • 0844 7000 993 • 07794 911 911 (after hours) Fax: 0844 7000 959
 Visit our award winning site – www.specialistcarsltd.co.uk
 22 York Road Business Park, Malton YO17 6AX
 Part of Specialist Car Group of companies

download now

911 & PORSCHE WORLD APP NOW AVAILABLE



FREE SAMPLE ISSUE!



Available via Apple Newsstand, iTunes, Google Play for Android market or www.pocketmags.com

Latest Issue & Back Issues just £2.99 each

Subscribe for one year or six months

Download to your iPad, iPhone, Android device, Mac, PC or Kindle Fire

A digital subscription to 911 & Porsche World is the perfect way to treat yourself!

	6 ISSUES	12 ISSUES
UK	£14.99	£28.99
US	\$20.99	\$40.99
EUROPE	€16.99	€32.99
AUSTRALIA	\$21.99	\$42.99



 Find us on Facebook

REASONS TO BE CHEERFUL

It's always nice to see a new Porsche specialist joining the fray. Even more so when not only are they great people to work with, but also use their knowledge, their skill and their pragmatism to put an ailing car – like this g86 Boxster – back on the road quickly and above cost-effectively



Something of a multi-faceted, catch-all *g11 & Porsche World* how-to this month, and one that I hope will make encouraging reading for all g86 and mainstream g96 owners – as well as g87 and g97 enthusiasts, of course, whose cars are in certain respects pretty much identical.

It all began, one Monday afternoon in early September, with an introductory phone call to Cotswold Porsche Specialists Ltd of Toddington, near Winchcombe in Gloucestershire – one of the magazine's newest advertisers,

and almost by definition one of the UK's most recently established Porsche independents. Barely 24 hours later, after one of the most interesting, informative and simply uplifting workshop visits I have enjoyed for some time, I had in the bag the accompanying photos, plus a story with both a number of hopefully useful angles and – for one of CPS's customers – a far happier ending than he was probably expecting. Contented smiles all round, then.

The job in question, ably tackled by technician Stuart Fleck, with assistance from no less keen apprentice Dan Stevens, was

essentially to revitalise said customer's recently acquired g86-model 2003/03 Boxster 'S'. It was his first Porsche, bought privately for £6500, and to his understandable disappointment had started to go wrong even before he got it home. The six-speed transmission was by then occasionally crunching and jumping out of gear – something these units seem increasingly prone to – and even as a newcomer to the marque it had dawned on him that the clutch

pedal was way heavier and stiffer than it ought to be. Other than that, though, all seemed pretty good, and CPS proprietor Lee Jones was able to reassure him that they could probably rectify all of the above issues for no more than about £1500; perhaps less. Sighs of relief all round.

Central to both the ethos and the low cost of the overhaul would be installing a good second-hand gearbox from CPS's extensive stock – they have broken around a dozen g86s and g96s since

Necessity is the mother of invention (above). Transmission stands temporarily unavailable, so Stuart Fleck does it the way any of us would. Oil drum, g24 wheel and a block of wood make a perfectly satisfactory alternative – and next-door mechanics actually helped lift gearbox out. There's a fair bit of dismantling to do before you get to that stage, though – not least exhaust system (below)



HOW-TO: CHANGE 986/996 GEARBOX, CLUTCH, RMS, IMS BEARING



Obvious 'disconnections' to allow transmission removal include undertray(s) and support(s), drive shafts, anti-roll bar, and naturally clutch housing-to-engine bolts - no less naturally leaving a couple until you're ready actually to separate units. Younger of these two, above left, is apprentice Dan

starting up in 2011, reckons Lee, as well as twice that number of 944s and 924s - but obviously a brand-new Sachs clutch. Prudently taking advantage of the 'while you are in there' philosophy, they would also fit a new crankshaft oil seal - aka the infamous RMS, or rear main seal - as well as a new IMS or intermediate-shaft bearing (not that there appeared to be any great problem with the old one, or even the RMS, for that matter). Last but not least, there would be a replacement cover for the inboard CV joint on the right-hand drive shaft. 'With the gearbox out it's easy to get the shaft out to

work on it,' says Stuart. 'Otherwise you have to take half the suspension apart, as well.'

Boss and electronics expert Lee, meanwhile, would be fixing a 'bleeding' LCD screen in the heater control module (another increasingly common problem) by means of some subtle but similarly cost-effective spare-part surgery. More on that in this month's Q&A on page 105 - there was only so much we could squeeze in here.

So far, so conventional. Interesting and instructive, but not necessarily cutting-edge, hold-the-front-page stuff. What had immediately caught my attention,

So it continues: gear-shift cables and support bracket (use correct Torx bits for screws, below), main gearbox mounts and brackets, final bellhousing bolt(s). Gearbox is HEAVY - as demonstrated by Dan Stevens, CPS proprietor Lee Jones, and Stuart Fleck. No obvious reason why clutch should have been so stiff; not badly worn, either. Dual-mass flywheel removed - after one loose clutch dowel is tapped home again. Inset pics show dual-row IMS bearings, and above those the LN removal and fitting tools

WHICH MODELS HAVE WHICH IMS BEARING?

Broadly speaking, your Mg6 engine (g86-model Boxster; mainstream g96-model g11 Carrera) would have been built with first a so-called double-row IMS bearing, and then later a shallower, single-row item. Both are of the familiar ball-race type, designed to cope with radial and modest axial forces. Why Porsche went from one bearing to a smaller and apparently lower-capacity item is, as you might expect, unclear.

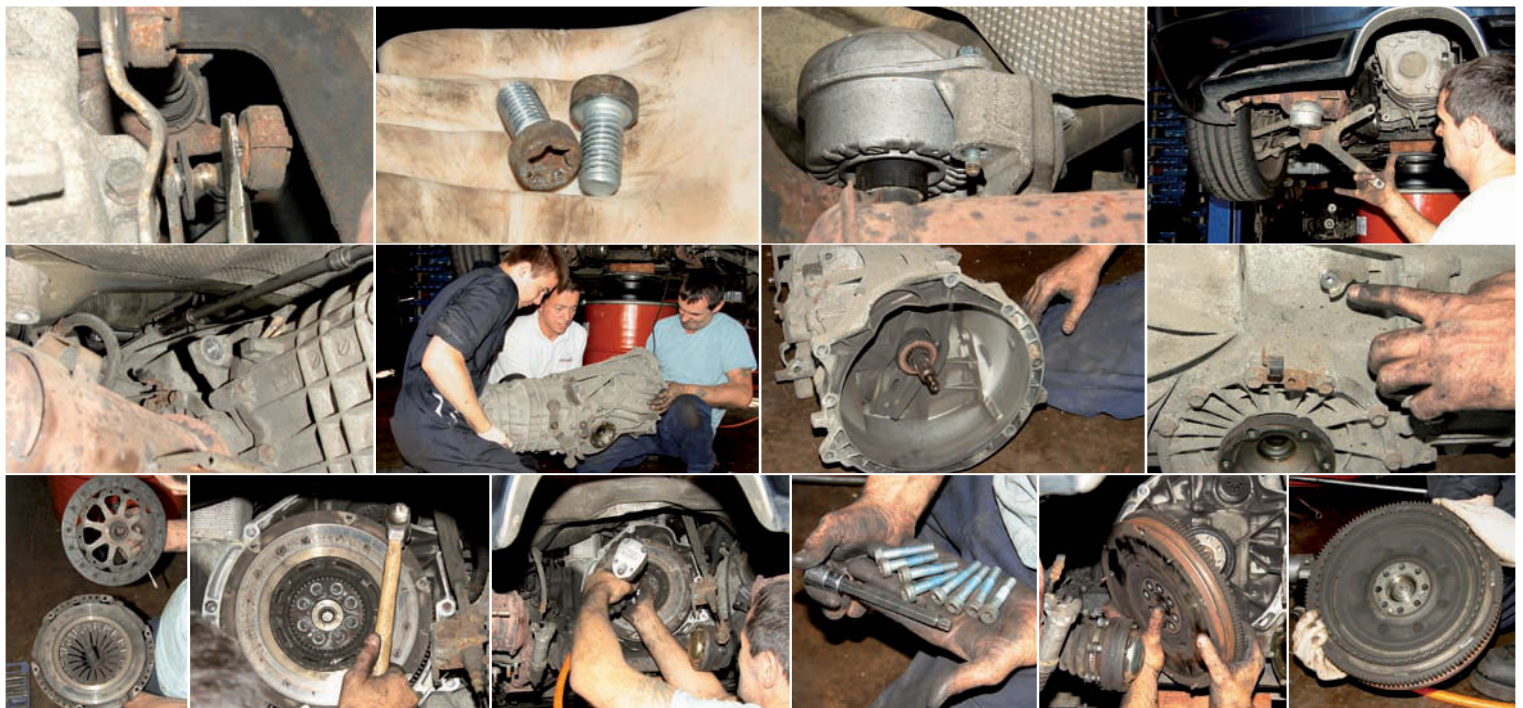
No less obscure is exactly when this change took place. Accepted wisdom now seems to be that the deeper, double-row bearing - and its 'shallow' mounting flange; see below - was used in all 1997-1999 engines, but confusingly also for some 2000 and 2001 motors. Similarly the later single-row unit (and its deeper mounting flange) was fitted to the remaining 2000- and 2001-model engines, and then to all 2002-2005 power units.

The early Mg7 engine (g87-model Boxster and Cayman; g97-model g11) came as standard with a further slightly different IMS bearing, which for various reasons cannot be removed without separating the crankcase halves, putting it well beyond the scope of this particular story, but no less confusingly this is said by some to have been fitted to a few of the very last g86s and g96s. By the same token, of course, all g11 GT3s, g11 GT2s and g11 Turbo models have what amounts to the earlier air-cooled engine's crankcase, and thus again no relevant IMS bearing. Likewise all 2009-on 'Gen[eration] 2' engines have a substantially modified bottom end, and again no IMS bearing, as such.

The only sure and certain way of identifying which IMS bearing your engine has - and the engine itself may not be original to the car, remember - is to remove the gearbox, the clutch and the flywheel, and to inspect its outer flange. The earlier, deeper, double-row item has a relatively small 'offset', to borrow some familiar road-wheel terminology; the later, shallower, single-row bearing (as in this story) a commensurately greater depth between the three M6 fixing screws and the central nut. The non-serviceable Mg7-style bearing has a larger 22mm nut securing it to the outer flange.

Precisely why any of these bearings should fail is something of a mystery, too - they should never be particularly heavily loaded - but naturally theories abound. Some have suggested a lubrication problem, but both the bearings shown here have a plastic cover over each side of the ball race proper - apparently this means that they are factory-packed with grease, and in theory sealed for life, however long that may prove to be. And it's worth remembering that even after nearly 70,000 miles the IMS bearing that came out of this Boxster's engine was still perfectly serviceable. Maybe it was a quality-control issue, back in the day, with a specific production batch. Who really knows?

For the time being we are going to have to sit firmly on the fence on that question. Suffice it to say that failure - which might even be caused by the engine's own oil washing the original factory-packed grease out of the bearing - tends to be both noisy and sudden, and if left for too long thereafter then also catastrophic. Metallic swarf will quickly enter the engine's lubricating system, with obvious consequences for any other bearing surfaces, and excessive radial movement of the intermediate shaft itself can allow the valve timing to 'slip', with similarly dire consequences for the valves and/or pistons.





One of the lesser problems affecting this g86 Boxster was a split rubber cover on the right-hand drive shaft's inner CV joint – an MoT failure. Ordinarily this would be quite awkward to get at, but the temporary absence of transmission allows shaft to be withdrawn inward from hub, once large nut at its outer end has been undone. More on this often needed procedure in a forthcoming how-to story

though, was that not only was all this work scheduled for just a single day, but also that the IMS bearing was to be replaced with nothing more sophisticated (or expensive) than a proprietary item – of exactly the same make and type as the original one, in this case Polish-made NSK – from a local bearing supplier. That is certainly not to undermine the ingenious after-market IMS solutions from LN Engineering – see our September 2012 issue. Or to understate the engine damage that can be caused by a failure of either the original Porsche bearing – of whatever

make or type – or any subsequent replacement. But we would be failing in our duty if we neglected to point out that you can obtain one of these later, so-called single-row IMS bearings more or less anywhere in the UK – if not the developed world – for less than £20 including VAT. See opposite for details. The uprated, ceramic LN equivalent starts at around US\$650, plus shipping and taxes.

That doesn't make either the NSK or any broadly similar bearing (including that fully re-engineered LN item) a guaranteed DIY proposition. Even if you are able to remove the gearbox, the clutch

Congeaed clutch dust suggests that RMS had been weeping rather than leaking; easy to replace, even without special Porsche fitting device – when you know how... Broken bolt (below) suggests gearbox has been out at least once before. IMS bearing flange can be removed only after crankshaft and camshafts have been 'locked' with Porsche tools – see September 2012 issue for full details. Oil that gushes out (bottom left) may be clue to bearings' failure (or even survival). More on this soon

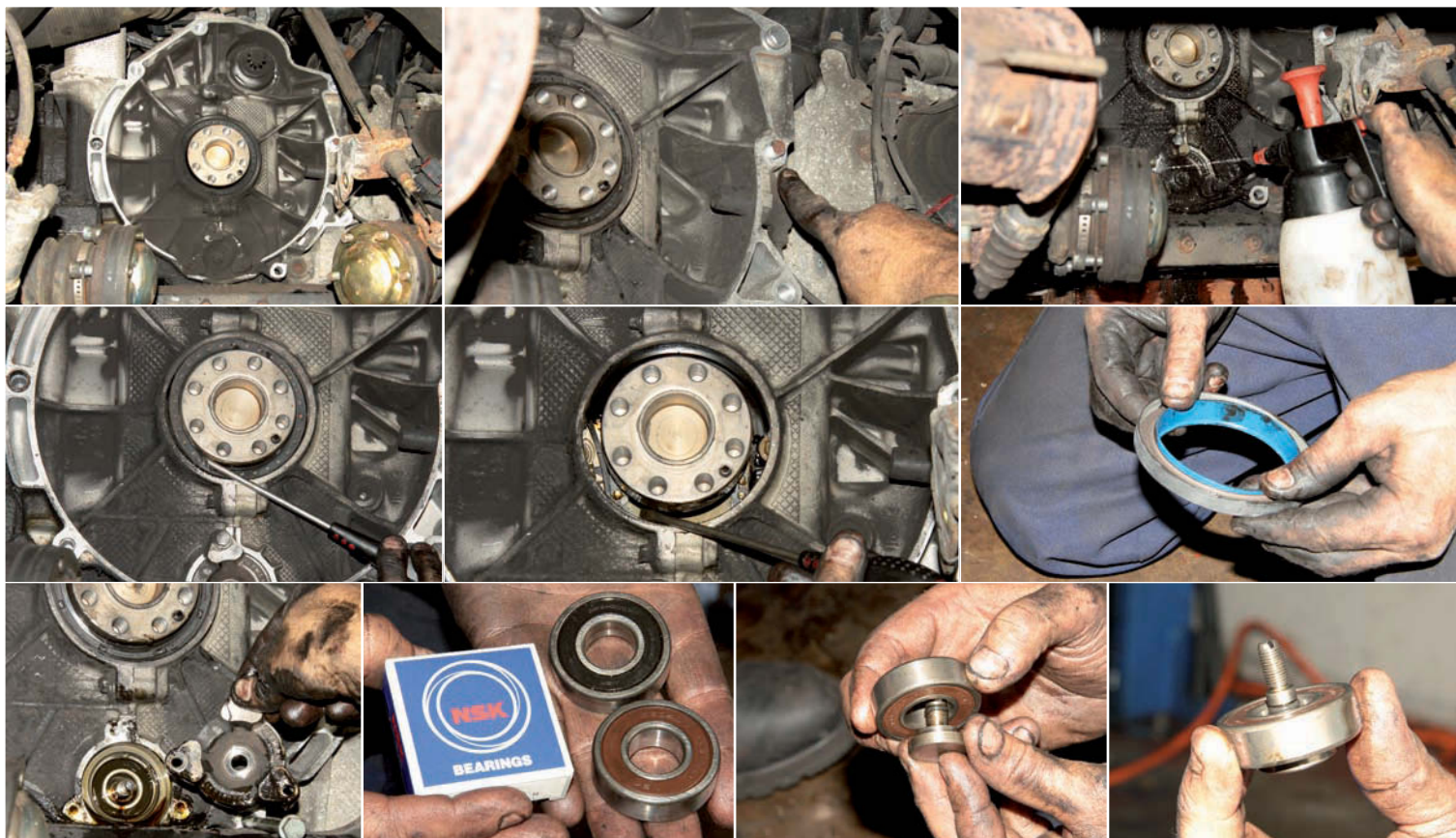
THE KNOWLEDGE

Or in this particular case, perhaps, Stuart Fleck's (huge) knowledge. A former tank mechanic in the British army, and now widely regarded one of the most accomplished vehicle technicians in this part of Gloucestershire, Stuart was head-hunted by an astute and determined Lee Jones, CPS's proprietor, and has been with the company more or less from its inception in late 2011.

He is, as you might thus expect, one of those confidence-inspiring people who works quietly and deceptively quickly, even under pressure – turn your back for a moment and you'll miss something – and is plainly prepared to improvise if necessary. CPS's two transmission jacks, for instance, normally employed in a task such as this to support the engine and bring the gearbox down to a more convenient height so that it can then be manhandled to the ground, were in use on another job. Undaunted, Stuart used a block of wood on an oil drum and a g24 wheel for the former task, gently lowering the car onto them with the aid of the workshop's two-post lift, and then enlisting the help of a couple of mechanics from an adjacent workshop to assist with the latter procedure. No surprise, either, that they needed little encouragement to come and lend a hand.

Think you need a special tool to change an RMS? Watch and learn how Stuart Fleck does it, safely starting the new seal over the end of the crankshaft with the blue-plastic inner sleeve with which it's supplied, and painstakingly tapping it home with another (smaller) block of wood and a hammer, and thereby save yourself the roughly £250 such a device normally costs. Same with a clutch alignment tool, normally considered essential (and certainly by me) for centring the friction plate. Stuart does it by eye alone, and I wasn't remotely surprised that the gearbox – again with willing help from the two blokes from next door – slid home with a reassuring clunk at the very first attempt. Just about the only 'special' he did use was the combined puller and pusher (from LN Engineering) first to extract the old IMS bearing and then install the new one, but I don't doubt that even in a war zone he could quickly adapt some unlikely piece of military hardware to make a perfectly serviceable slide hammer and a drift.

Not for Stuart Fleck, as you can see from some of the accompanying photographs, a pair of the usual latex or nitrile gloves – which in any case even the most health-conscious of us usually give up on after ripping open the third or even fourth pair within just a few minutes of particularly hard spannering. But the simple fact is that I would be delighted to have him work on my Porsche any day of the week.



HOW-TO: CHANGE 986/996 GEARBOX, CLUTCH, RMS, IMS BEARING



Clutch replacement is a simple enough task - but can you centre friction plate by eye alone (above)? We would guess probably not. Still no obvious sign of why clutch was so heavy. Release mechanism was OK; must have been cover-plate springs. New release bearing was fitted as a matter of course. Replacement transmission (above) shows evidence of leaking crank seal; oil easily rinsed put with brake cleaner. Team gathers again to manhandle transmission back into position; job nearly done

and the flywheel, you will still need roughly £250 worth of special tools safely to lock the crankshaft and camshafts, and then to draw out the old unit and install the new one without the risk of damaging it in the process. Hence why CPS will justifiably charge up to £600 for the task - unless, as here, it is to be carried out as part of some other related overhaul. And the fact remains that if your car is an earlier model, with the arguably even more problematic double-row bearing, you may have no choice but to buy either from Porsche or, say, LN (again see the panel on the right). But it definitely does mean that you could realistically and cost-effectively renew your standard, later-type, single-row IMS bearing at least as often as you install a new clutch - or perhaps as often as every 40,000

miles if you are the really paranoid type. And the fact is that even at very nearly 70,000 miles this Boxster's plainly original IMS bearing was still in good enough condition to have been used again. Maybe Porsche has finally got right this once so troublesome area of the M96/M97 engine. (Or then again maybe not.) Perhaps there was never quite as much of a problem as is so widely believed. And perhaps, as I suspect, there may still be a lot more to this aspect of the M96 than so far meets the eye; watch this space. Either way, CPS's real-world, down-to-earth approach offers many valid reasons for owners of these fundamentally great Porsches to be a lot more cheerful than they might otherwise be. And that works for us. **PW**

THINKING INSIDE THE BOX

Purely out of curiosity - because I don't doubt for a single moment what Lee Jones earlier told me - I sourced this replacement M96 IMS bearing (see below) from my local branch of Bearing Traders Ltd in High Wycombe, Buckinghamshire (01494 441301). The nearer Aylesbury sales counter, as I discovered by driving there first - and only the day before speaking to someone seemingly on the Aylesbury number - had actually closed a few weeks previously. Yeah, thanks for that. They didn't have an exact match for the NSK unit that came out of the CPS Boxster, but from the reference number shown on it - 6204 DU - were able to offer an equivalent alternative. This one is an FAG component made in Portugal, and I am assured is an even higher-quality component than the original. It cost £13.57 (ie £11.31 plus VAT), and as I write there are more than 200 in stock at Wycombe alone, so in the bearing world it is clearly nothing overly special. I took the opportunity of this face-to-face contact to check on the likely availability of a match for the earlier double-row IMS bearing, and while this was rendered inconclusive by the absence at that stage of a specific reference number (I'm working on that; more in future editions of the magazine), it seems that Bearing Traders - for one - would be able to supply an FAG-made 3204 RS for £53.65 plus VAT.

Further questioning the helpful salesman established that all bearings seemingly specified for this application would routinely have what is known as a straight contact between the balls and the outer track, plus some sort of rubber or plastic dust seal over each side of said balls. Apparently these are designed to retain the grease packed into them during manufacture, further suggesting that any engine oil that finds its way into this part of the engine, and washes out the grease, actually does more harm than good. More on this soon, too. Bearing Traders Ltd has six - sorry, five - branches around the UK (full details at www.bearingtraders.com), and there are many other companies, both here and abroad, offering a similar range of services. A Google search should produce plenty of results.



ACKNOWLEDGEMENTS, CONTACTS & FURTHER READING

Our sincere thanks to all at Cotswold Porsche Specialists Ltd, including Lee Jones's wife, Lynsey, who even if not a trained Porsche technician clearly has an encyclopaedic knowledge of their extensive (and ever-growing) stock of second-hand parts for 986 and 996s, as well as 924s and 944s. The company is at Unit 4A, Orchard Industrial Estate, Toddington, Gloucestershire GL54 5EB; tel: 01242 620180; www.cotswoldporschepspecialists.co.uk. LN Engineering, which offers completely re-engineered upgrade kits for both types of M96 IMS bearing, and also the M97 unit that requires an engine strip to install it,

is at 626 North Locust Street, Mokence, Illinois, USA; tel: (001) 815 472 2939; e-mail: info@lnengineering.com; www.lnengineering.com. For more on the specifics of fitting the IMS (and first locking the crankshaft and camshaft), as well as the RMS, see pages 88-91 of the September 2012 issue of *911 & Porsche World* (right). PDFs are available via www.911porscheworld.com. Thanks also for their invaluable technical assistance to Paul Stacey at Northway Porsche in Beenham, Berkshire; Nick Fulljames at Redtek in Brackley, Northamptonshire; and Ollie Preston at RPM Technik in Long Marston, Hertfordshire.

SUPPORT ACT

More photographs by Chris Redden

If your 911's, your Boxster or your Cayman's notorious crankshaft-bearing seal lets go, then you could end up with some very serious problems. But this ingenious, and increasingly well-known upgrade should fix it - for good.

Support Act is a new, innovative, and highly effective solution for the crankshaft-bearing seal problem on Porsche 911, Boxster, and Cayman. It's a simple, straightforward upgrade that can be done in a few hours, and it's guaranteed to last for the life of the engine. The support act is a small, cylindrical component that fits between the crankshaft and the bearing housing. It's made of a special material that's designed to withstand the high temperatures and pressures of the engine. The support act is easy to install and doesn't require any special tools or equipment. It's a great way to prevent a major engine failure and save a lot of money. For more information, visit www.supportact.com.

M96 IMS BEARING UPGRADE

The M96 IMS bearing upgrade is a critical maintenance task for Porsche 911 and Boxster owners. The original double-row bearing is prone to failure, which can lead to catastrophic engine damage. The upgrade involves replacing the original bearing with a single-row bearing, which is more durable and easier to install. The upgrade kit includes all the necessary components, including the bearing, seals, and tools. The process is straightforward and can be done in a few hours. For more information, visit www.lnengineering.com.



Used Porsche Parts Specialists
Save up to 75% on fully tested OE parts

We also offer...

- **Service Bay** - full workshop facilities, we offer great value servicing packages that match Porsche schedules
- **Car Sales** - excellent quality Porsches, selected by us and backed up by our in-house warranty
- **30 years experience** - fast and cost effective fault diagnosis and repair

**From 924 to 911,
from classic to
nearly new, we can
keep your Porsche
on the road for less**



Call **01242 620 180** or visit
www.cotswoldporschespecialists.co.uk

Unit 4 Alpha, Orchard Trading Estate, Toddington, Gloucestershire, GL54 5EB



www.augmentautomotive.co.uk

Porsche 944 ECU upgrades with live mapping, wasted spark and more!

- ★ **POWER**
- ★ **PERFORMANCE**
- ★ **PRECISION**



**Re-engineered with
new and modern technologies**

PORSCHE PARTS



01257 472866

07801 456066

WWW.DOUGLASVALLEY.CO.UK

SUBSCRIBE & SAVE!

PAY JUST £4.00* PER ISSUE INSTEAD OF THE £4.60 NEWSSTAND PRICE

GUARANTEE YOUR COPY OF 911 & PORSCHE WORLD, DELIVERED DIRECT FROM THE PRINTER TO YOUR DOOR - BEFORE THE OFFICIAL ON-SALE DATE!**

CALL +44 (0)20 8655 6400


OR SUBSCRIBE ONLINE AT

911PORSCHEWORLD.COM

*BASED ON UK ONE YEAR SUBSCRIPTION

**UK ONLY



 Find us on
Facebook

SUBSCRIBE ONLINE:
WWW.911PORSCHEWORLD.COM

	12 ISSUES
UK	£48.00
EUROPE	£67.00
REST OF WORLD	£85.00

CALL TODAY 020 8655 6400

PROJECTS

WE DON'T JUST WRITE ABOUT PORSCHEs, WE DRIVE AND LIVE WITH THEM, TOO

THE TEAM

JOHNNY TIPLER

964 C2 (PEPPERMINT PIG)

How do you replace an icon? It looks like I may have to start again, because the Peppermint Pig and I may have to part company. One or two 'fanciers' on the continent have asked me to 'name my price,' in which case, bearing in mind escalating 964 values and its new engine, means ballpark £40K. Watch this space.



PETER SIMPSON

996 C4/CARRERA 3.4 TARGA

The 996 is still going well and I've finally made the decision to sell it and move on. The Targa needs my attention and will soon be in full swing. If anyone wants to get involved in the buildup of the 3.4 backdate fire me an email and let's see what we can do. I can't wait to get it back out on the road - I did love driving this car.



KEITH SEUME

912/6 (EL CHUCO)

Engine build? Underway! Gearbox rebuild? All done! Seats? Check! Well, Cornish tartan, actually... Suspension? Getting there. Brakes? OK, OK, still a long way to go. Stop trying to rush me, alright? El Chucho is definitely taking shape and I'm a happy bunny - but I'll be even happier when I can fire it up and drive the little mongrel!



STEVE BENNETT

944 LUX

Putting on the miles in my ECU enhanced 944. The extra power is welcome, but what's really noticeable is the extra 20bhp in the mid-range. It feels very gutsy now. And we're not finished yet. The ASNU injectors have been trialled by Augment Automotive, and they're producing yet more power. Will be fitted to my car soon.



BRETT FRASER

BOXSTER S

Having recently been lucky enough to drive the new GT3 and 911 Turbo, I wondered if getting back into the Boxster might leave me feeling a bit flat. Strangely not. Yes, it's beginning to feel a bit old, and obviously it's not as quick as those two, yet its quintessential Porscheness remains intact and endearing.



GETTING THERE!

Our 912/6 is coming along just fine - only one step back after three steps forward, rather than the usual two... But if it was easy, everyone would do it, right?

Story and photography: Keith Seume

There comes a point in every project when you suddenly realise that, instead of removing bits and pieces, you can start to bolt parts back on. For me, that point arrived as soon as the car was pushed out of the paint booth - I couldn't wait to get started.

The goal was to have the car in some kind of presentable state by early September, so I could show it off at Classics at the Castle, Hedingham, Essex. That was the plan but it wasn't to be for a variety of reasons.

I didn't expect *El Chucho* to be drivable - the engine woes I described last time saw to that - but I did hope to have the rest of the car together in time. What I had totally underestimated, of course, is how long it takes to reassemble a pile of parts into what passes as a 912.

I didn't really know quite

where to start, so began fiddling around with bits and bobs like door locks and striker plates. One thing I was pleased to see was how nicely the doors lined up, which was more than could be said of the window frames when I first tried to install them.

The frames are made from extruded aluminium and bolted together. It seems they bend fairly easily if you're not careful and their exact shape appears to vary from car to car - maybe the workers on the assembly line gave them a slight tweak to match the frames to the car? Mine just didn't sit right, so I compared them to a set off another 911, and they were even worse. In the end, I had to apply some gentle 'persuasion' to get my frames to line up.

If you've never done it before, reassembling all the components in a door takes a long time - there is

KEITH SEUME

1966 912

Occupation: Editor, Classic Porsche

Home town: Lostwithiel, Cornwall

Previous Porsches owned:

Carrera 2.7; 928; 912; 914/6; Junior Tractor

Car: 912

Year: 1966

Owned for: Nearly two years!

Mods/options: Six-cylinder engine conversion, etc.

Contact:

classicporsche@chpltd.com

THIS MONTH IN BRIEF:

Putting it back together...

a lot more involved than you might think. Fitting all the seals and scrapers is one thing, getting the window winder mechanism and glass to fit (and work) is another. My door glass still won't wind up and I know I'll have to pull it all to pieces again. One day...

Mounting the seats was the next step. I had originally planned on making some simple supports to run from sills to centre tunnel onto which I could bolt the Corbeau runners. Then I decided to use the original Porsche runners instead, as they are far superior - that meant drilling new mounting





holes to line up with the base of the seats. But what about the supports?

After some thought, I changed direction and decided to use 1/4-inch aluminium plate which bolts to the original Porsche seat mounts on the sills and tunnel, the seat runners then being bolted directly to this.

It was simple (like me, really...) and effective and made it easy to decide exactly where to locate the seats. However, the flat plates don't look very

pretty, so I attacked one with a hole saw to remove excess material and it's looking better already. All I have to decide is whether to have them powder-coated black or go for a polished finish.

But what of the mechanical side of the project. In the last instalment I told of my engine woes, but things are now starting to look up in a big way. Bob Watson, long-time 911 engine specialist with more experience at building 911

engines than most others put together, stepped in and offered to assemble our 2.2-litre 'six'.

We're using the original case, crankshaft, rods and heads, but fitting WebCam 'S' cams with matching hard-welded rocker arms, 1.0mm-oversize Wossner 10:1 forged pistons and ARP studs and rod-bolts. The plan is to twin-plug the heads while it's apart.

Topping this off will be the ITB injection from Jenvey and a crank-fire ignition system based

around Ford V6 coil packs and EDIS units. With a custom-made exhaust system from Turbo Thomas, it should be an interesting package, especially in a relatively light SWB 911!

Braking is to be taken care of by four-wheel billet calipers from R-to-RSR, the fronts being six-pots, the rears four. These impressive calipers allow the use of larger vented front discs from a Carrera 3.2 (or 911SC), while at the rear we're using discs from

Shame it can't sit this low when it's done! The 912/6 is starting to come together now, and most major components have now been rounded up ready for the rebuild

CONTACT

R-to-RSR:
www.r-to-rsr.com
Mike Bainbridge:
www.mbporsche-engineering.co.uk
WebCam:
www.webcamshafts.com
Wossner pistons:
www.tsr-performancestore.com
Powerflex:
www.powerflex.co.uk

Brakes are six- and four-pot billet calipers with later vented discs. Purple polybushes from Powerflex are used throughout the suspension



RUNNING REPORTS



a non-Turbo Porsche 944. These are the same offset as the original SWB discs but require the use of later narrow handbrake linings. We also had to redrill the hole for one of the disc retaining screws.

When I bought the car, it came with two gearboxes: the original five-speed aluminium case 901 and a slightly later magnesium-cased 911 four-speed. The latter had been installed in the car to take advantage of the stronger differential and larger output flanges.

I, however, wanted a

five-speed but wished to retain the later differential unit. This is where Mike Bainbridge stepped in to help, offering to combine the two units by installing the five-speed gear cluster into the later transmission.

This was a pretty straightforward job for someone like Mike but would have been beyond my means as I have no experience with Porsche gearboxes – or any gearboxes, for that matter!

When Mike pulled the later unit apart he discovered that it had

been fitted relatively recently with new bearings, which was a bonus. He also found evidence of a broken first gear in the five-speed unit in the shape of a solitary tooth sitting in the bottom of the case! You can see it 'attached' to the drain plug in the photo below.

Anyway, Mike worked his magic and I now have a fully-rebuilt mag-cased five-speed ready to go in the car once we're ready. It's certainly reassuring to know the transmission would be good for the rest

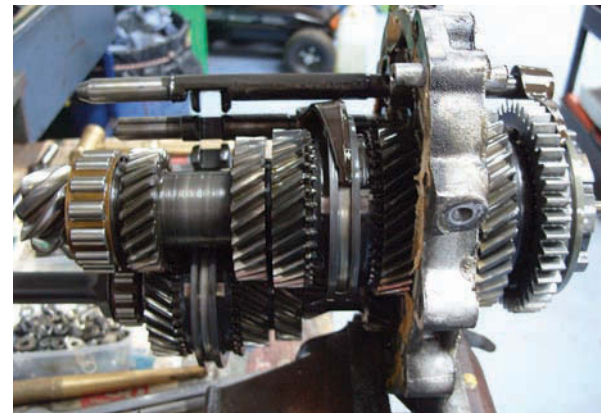
of the car's life – in my hands, at least...

So, what's next? As we 'speak', I'm refitting all the suspension, building it up with new polybushes from Powerflex, prior to getting the car on its side courtesy of a 'tilt-roller' so that I can finish sealing every seam and applying copious amounts of stone-chip. Then I can install the brake and fuel lines in readiness for when the engine comes 'home'.

It's been two years since I bought the car and now I'm getting impatient! **PW**

New pistons are 85mm (ie, 1mm-oversize) forgings from Wössner. 911S-spec cams and hard-welded rocker arms were supplied by the good folk at WebCam in California

Mike Bainbridge built a five-speed gearbox for the project using the internals of the original aluminium-cased four-speed with the later differential and magnesium case from the four-speed we inherited



EMAIL: INFO@R-TO-RSR.COM
TEL: +44 (0)1626 832672

www.R-TO-RSR.com

PORSCHE RACING RESTORATION PARTS

West London Porsche Specialists

Porschembri
independent porsche specialists

t: 020 8577 9520
m: 07956 501 668
e: porschembri@gmail.com

We pride ourselves on clear and transparent pricing, all of our pricing includes VAT

Porsche 997 Servicing Pricing	3.6	3.8	Turbo	GT3	
20,000 mile service	£210.00	£210.00	£210.00	£210.00	
40,000 mile service inc plugs	£450.00	£470.00	£510.00	£510.00	
Porsche 993 Servicing Pricing	C2	C4	C4S	Turbo	RS
12,000 mile service	£270.00	£270.00	£270.00	£330.00	£270.00
24,000 mile service inc plugs	£390.00	£390.00	£390.00	£510.00	£390.00
48,000 mile service inc plugs	£510.00	£510.00	£510.00	£595.00	£595.00
Porsche 996 Servicing Pricing	3.4	3.6	3.6 C4S	Turbo	GT3
12,000 mile service	£200.00	£200.00	£200.00	£225.00	£255.00
24,000 mile service inc plugs	£395.00	£395.00	£395.00	£495.00	£455.00

Other Items

	For Brakes Call			
Air con service	£60.00	£60.00	£60.00	£60.00
Complete clutch	£810.00	£950.00	£2000.00	£1275.00

Porsche Fixed Price Servicing Menu. Free collection and delivery within 10 mile radius

www.porschembri.co.uk

9e

Nine Excellence
Porsche Performance Specialists

Home Of The 9e Porsche Cars

- 9e Performance Packages
- 9e Performance Exhausts
- 9e Suspension & Brakes
- 9e Engine Builds
- 9e Custom Builds

Contact us for more details

Unit 3, Axiom Business Park,
41 Balcombe Road, Horley,
(Nr Gatwick) Surrey, RH6 7HF

www.nineexcellence.com
01293 226 911
service@nineexcellence.com

EuroCupGT.com

PERFORMANCE & STYLING

911		924
964		944
993		968
996		986
997		987
970		955

P.C.T.

PORSCHE SPECIALISTS

Passionate about Porsche

ESTABLISHED 1978

t.02476 407770 www.pctcars.co.uk



PORSCHE SALES ■ SERVICING & REPAIR ■ PARTS & ACCESSORIES ■ EXPERIENCED & PASSIONATE ■ PORSCHE WANTED

RS-911

Porsche Specialist
Mid Wales

Tel : 01686 440 323

Roselea, Llangurig, Llanidloes, Powys SY18 6QJ



Specialising in all aspects of high quality
Bodywork Restoration, Welding & Fabrication
Work carried out on all models
Insurance work, Early 911's for sale & restoration
Replicas built to order, to any stage at realistic prices
Check out our new web site

www.rs911.com

Email: mark@rs911.com

www.portiacraft.com

EST. 1984

PORSCHE SERVICING - UNBEATABLE RATES
PORSCHE SALES - UNBEATABLE PRICES

HERE AT PORTIACRAFT WE BELIEVE THAT A PORSCHE
CAN BE RUN FOR THE SAME COST AS A HOT HATCH

WITH FULLY TRAINED MECHANICS - WE ONLY DO WHAT NEEDS DOING

WE OWN OUR OWN STOCK AND OUR BUILDING
SO OUR OVERHEADS ARE LOWER THAN MOST GARAGES
WE KEEP 25/30 FULLY PREPARED AND WARRANTED
CARS FOR SALE RIGHT ACROSS THE RANGE
NOBODY BEATS US ON PRICE OR SERVICE
TRY US ONCE AND YOU WILL NOT GO ELSEWHERE
PORSCHE ALWAYS WANTED

PHONE: 020 8959 1604 email: sales@portiacraft.com

OF VISIT WWW.PORTIACRAFT.COM

Classic PORSCHE

SEPT/OCT ISSUE ON SALE NOW



Buy online at www.classicporschemag.com

ZIMS
AUTOTECHNIK
PORSCHE SPECIALISTS

ORDER ONLINE
www.allzim.com

PARTS FOR ALL PORSCHEs • LOW PRICES • FAST SHIPPING

Kupplung
Clutch
Embrayage
Couple

RECHARGER.
MOTIVE PRODUCTS
POWER BLEEDER

PORSCHE

OC 54
Oil-Filter

PERMA LITE

FedEx UNITED STATES POSTAL SERVICE

1804 RELIANCE PKWY. BEDFORD, TX 76021 USA

VISA MasterCard DISCOVER AMERICAN EXPRESS

Fax: 001-817-545-2002
Phone: 001-817-267-4451

CLASSIC ADDITIONS

From only £90

• Established 1989 •

Innovative range of covers and accessories
Wind deflectors for convertibles

Official Supplier
ASTON MARTIN

Get a quote online at www.classicadditions.com
or call 01938 561717

Beeson Retrosport
Restoration and sales of modern classic cars

Workshop: 01293 862 863
Mobile: 07801 235 272

Restorations & Sales

- We offer full restoration, sales and servicing of modern classic cars from our workshop located close to Gatwick airport
- For a full list of cars undergoing restoration or for sale please visit our website
- Porsche specialists

Tel: 01293 862863 or 07801 235272
www.beesonretrosport.com

One badge...one Club

From £600 to 600bhp, whatever you own – we're here for you

The Benefits
Flagship Magazine • International, National and Regional Club Events • Registers
Factory Visits • Motorsport Division (inc. Track Days) • Cars and Parts For Sale
Technical Support • Member Discounts • Club Shop • Website and Forum

Join Us
The ONLY officially recognised Porsche Club in the UK - with approx 13,000 members
Membership from £60 pa*

Porsche Club Great Britain

* Individual UK Resident's Membership (plus initial £10 joining fee).
Porsche ownership not required! Prices correct at time of going to press.

Tel: 01608 652911 (8.30am - 5pm) www.porscheclubgb.com



PORSCHE PROBLEMS?

E-MAIL US AT PORSCHEMAN1956@YAHOO.CO.UK, AND WE'LL PASS THEM ON TO OUR RESIDENT EXPERTS TO ANSWER

Welcome to *g11 & Porsche World's* Q&A pages, edited and assembled by the magazine's technical man and incorrigible do-it-yourselfer, Chris Horton (right). It's much the same format as you would expect - you ask, and our experts answer - but we have recently added more detail (including part numbers and typical costs, and also contact phone numbers and websites where relevant), and not least as many illustrations as we can squeeze in. Please note that all prices quoted were to the best of our knowledge correct - for the UK market - at the time of writing, and for the sake of consistency generally exclude VAT, unless otherwise stated. We naturally do our very best to make sure that the information given is both accurate and useful, but unfortunately we can accept no responsibility for any effects arising from it.



CHRIS HORTON
g11 & Porsche World



PAUL STACEY
Northway Porsche



PETER TOGNOLA
Tognola Engineering



PER SCHRÖEDER
Stoddard Imported Cars



OLLIE PRESTON
RPM Technik

MEET THE TEAM

986 BOXSTER KEY PROBLEMS MIGHT BE DUE TO A WATERLOGGED ALARM MODULE

I own a 2004 Boxster that has covered 70,000km - I think that's about 45,000 miles. When I first bought the car, back in March, both of the keys had flat batteries, and the man I bought it from said he just used the key manually to lock and unlock the door.

I replaced the batteries, and then both keys seemed to work fine - sometimes. Occasionally the car will lock and unlock with the remote, as normal, and then on other days it will have none of it. There doesn't seem to be any pattern to it, though: it's just totally random. The same goes for the front and rear bonnet buttons on the key.

The central-locking button on the dashboard works fine, as do the front and rear bonnet release switches on the right-hand sill. I was just wondering if anybody else out there has had a similar experience.

Matthew Lomas, Queensland, Australia

Paul Stacey, Northway Porsche: *The alarm system in both the 986-model Boxster and the 996 Carrera does have a few common failure issues. First, and most likely, is the remote control in the key(s) playing up.*

Once the battery has been replaced or has gone flat it loses its coding, and unfortunately cannot be recoded to the car with the Porsche software. This is due to the military-style encryption used: once the buttons have been used more than 50 times the car will change the code. This is also known as anti-grab coding. The result is that new remotes have to be programmed to the car, and the codes for each car have to be obtained from Porsche. There are numerous different remotes depending on model, year and

country, all costing (here in the UK, anyway) around the £100 mark - plus VAT.

The other issue that we often see is water ingress into the passenger floor area, which Chris Horton wrote an extensive article about earlier this year. The alarm control unit (see below) is attached to the floor under the passenger seat, and once it becomes full of water can - not surprisingly - generate all sorts of problems. If you pull the seat forward and place your hand under the carpet at the base of the rear bulkhead you may find that it

is soaking wet. In order to replace the alarm-system control module you will again require the programming codes, and at the time of writing the unit costs £258.54 plus VAT. The part number is 996 618 262 02.

One final thing is to make sure that the car doesn't beep at you when it is being locked. One beep means that a door/lid or a window has been left open, and two beeps that the system has detected a fault in one of the other components, which will require diagnosing with the Porsche system tester.



Boxster (and 996) alarm issues can have several fairly common causes, but the key battery is probably the most obvious thing to check and/or replace first. Rainwater in the system's ECU, beneath the left-hand seat (in left-hand-drive cars, too), is a strong possibility, too. Slide forward the seat - here removed for clarity - and feel for dampness behind it, where the floor meets the bulkhead. For more on fixing water leaks see pages 86-89 in our March 2013 issue

In Technical Partnership with
Honda Racing
World Motocross Team

NO WATER NO OVERHEATING NO CORROSION NO PRESSURE NO PROBLEMS

www.evanscoolants.co.uk • 01792 572295

993'S WIPER BLADES NEED A SILENCING RUBBER BUFFER FITTED BETWEEN THEM

I recently fitted a pair of new windscreen-wiper blades to my 1994-model 993. Since then, whenever I run the wipers at their fastest setting they seem to be knocking together at some point – although then, of course, the rapid movement of the arms makes it rather difficult to see exactly what's going on. It's not a huge problem at the moment, thanks to what has turned out to be a surprisingly dry summer here in the UK, but I suspect it will soon become very annoying come the autumn and then winter. Do you

have any suggestions? Might I simply have fitted the new blades wrongly?

Mark Radford

Ollie Preston, RPM Technik: You don't name the brand of wiper blades you have bought, but from what you say I am guessing that they must be relatively cheap after-market items, rather than genuine Porsche parts. The latter incorporate – although it has to be bought separately; typical Porsche! – a small rubber buffer designed to prevent just the

situation you describe. The Porsche part number for the set of two blades is 993 628 901 00 (they retail at £30.60 plus VAT), and for the buffer 993 628 239 01. That costs £3.10 plus VAT, and the accompanying photos give a pretty clear view of how it fits. By way of comparison, after-market blades – which may or may not have provision for fitting the rubber buffer – can at the moment be bought for as little as a couple of pounds each, but as usual in these circumstances I think you get what you pay for.



Unusually, if not uniquely, both of the 993's two windscreen wiper arms pivot from near the centre of the scuttle panel, and as a result the blades need to be kept apart by this small rubber buffer (arrowed). Unfortunately, some after-market wipers don't have the necessary cut-out in the metal to allow this to be fitted, with the result that at the mechanism's fastest setting the two blades can knock together. The answer should be obvious!

SPARE-PART SURGERY REVITALISES 986 BOXSTER'S HEATER CONTROL PANEL - WORKS FOR 996, TOO

One of the many fascinating technical issues I discussed with Lee Jones from Cotswold Porsche Specialists while photographing this issue's how-to story (see pages 92-95) was the later models' increasingly complex and occasionally troublesome electronic systems. (Lee used to design high-end circuitry for the military, so I think he probably knows what he is talking about.)

He mentioned, almost in passing, that he had on several occasions recently been asked to supply a second-hand heater control panel for either a 986 or a 996, almost invariably because while the customer's unit still functioned well enough, the characteristic LCD display had 'bled' – much like the one in the accompanying picture (below). Looks a real mess, doesn't it?

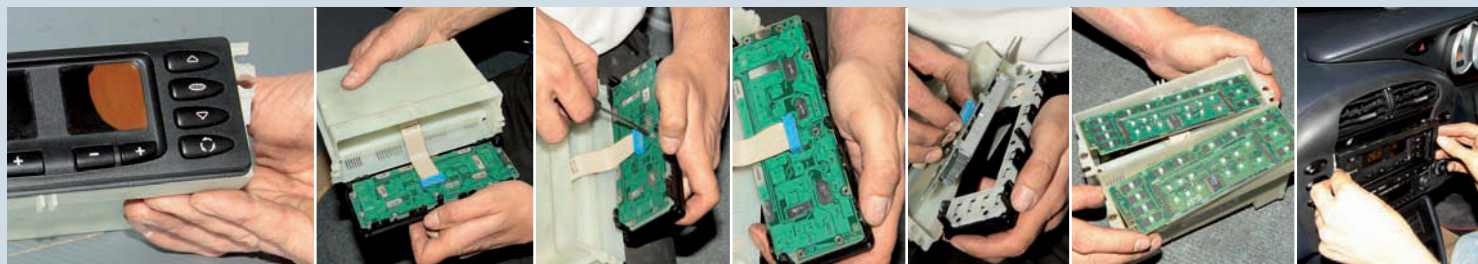
'We've broken up enough Boxsters and 911s since we started the business back in 2011 to have a pretty good stock of these units,' says Lee. 'But the trouble is that you can fit one car's heater control panel only to another vehicle of pretty much exactly the same type and age – and even then there seems to be no cast-iron guarantee that they will subsequently talk to each other as they are meant to. Knowing from personal experience how all this stuff is designed and put together, though, I realised that it would be worth taking a couple of units apart,

and finding out what happens if you change just the screen.'

And the answer, of course, is that a control panel carefully 'cannibalised' in this way works perfectly – as Lee proved for me there and then by performing the task on the very same Boxster that we had been using for that how-to feature, and whose heater-control screen had plainly haemorrhaged in a big way.

Whether you will want to do the job yourself is a moot point – although I would say that it's perfectly feasible for anyone with reasonable mechanical aptitude and eyesight, and not least nimble fingers – but Lee is happy either to supply a good unit for anyone who does fancy trying it (with the help of my step-by-step photographs, perhaps?), or else to rebuild your existing module for you.

Either way, you are looking at a cost of around £85 or £105, respectively, both figures including VAT and postage, and clearly representing a hefty saving over the roughly £420 plus fitting and VAT that you might pay for a brand-new unit at a Porsche Centre – or perhaps even an independent who doesn't have this specialised knowledge. For more information call Cotswold Porsche Specialists Ltd on 01242 620180, or go to www.cotswoldporschespecialists.co.uk. And, as I say, see also pages 92-95 for the full story on a highly cost-effective Boxster refurb.



The complete heater control module, as you will see from the final two photographs in the accompanying group, is secured into the fascia by a simple plastic edge trim, and just two cross-head screws. Once it's out, and unplugged from the car's own wiring, undo the three screws securing the front panel: one at each top corner, and a third in the middle of the lower edge. Gently pull the panel forward – be careful not to strain the ribbon cable – and undo the seven smaller cross-head screws securing the printed circuit board to the back of the front panel. Straighten the eight metal tangs with a suitable pair of pliers – small, but at the same time broad enough to span more or less the full width of the twist. Gently pull the circuit board away from the outer front panel, and then equally carefully pull the screen proper away from the circuit board. If it doesn't come easily check that those bent tabs are all as straight as possible

Repeat the process with your donor module, and then reassemble the good one by reversing the dismantling procedure. Don't bend the metal tabs too far, though, and risk breaking them – and keep your fingers away from any of the circuitry to prevent possible electrostatic damage. Last but not least, keep the outermost front panel face down as far as possible, or you risk the control buttons and their inner 'membrane' falling out. That's not a disaster – unless you lose one of the buttons – but certainly quite fiddly to rectify. By the way, Lee did recommend taking precautions to avoid possible circuit or component damage from electrostatic discharges, but at the same time is realistic about what most people will have available to them. An anti-static mat is the preferred option, although an inexpensive anti-static heel strap would offer some protection, too. Failing either of those, be sure to handle the electronic PCBs only by the edges, reducing the risk of an ESD 'strike' to any of the components fitted

BARGAIN 996 CABRIO NEEDS A HOME

Not exactly a Q&A item, this – although a cynic (not me!) might mischievously suggest that a sub-£10K 996 could itself soon become the subject of one. Or more. Either way, I feel I ought to use a small part of this technical section to tell you that the 911 Carrera Cabrio featured as one of my *Tried & Tested* cars in the August 2013 issue (page 125) is still for sale. I know this because I drive past it pretty much every day – and thus I know, too, that vendor Kenny Harding at Tiddington Garage has recently reduced the price to a frankly almost giveaway £9750. OK, so it has done quite a high mileage (103,000, as I recall), but it's a nice colour combination, it drives well (the gearbox is the smooth-shifting six-speed manual), and as I suggested a few months back is arguably no more likely to suffer an engine meltdown

than any other 996 – or 997 – costing twice or even three times the price. And at this level that has to be well worth a punt, I reckon. More information, as I say, in the August edition, or call Kenny Harding on 01844 339210. Please!!! If it sits there for much longer I might even have to give it a good home myself.

WORKSHOP MANUALS THE 21ST CENTURY WAY

You were kind enough to answer a question about my Cayenne's PDDC reservoir here in Q&A a few months ago. Now I have two more for you!

First, is it possible to obtain a workshop manual for the 2010 958-model (ie new-shape) Cayenne Diesel?

On the same model there is not the usual opening at the rear of the brake caliper through which the friction pads can be removed and replaced. Is it the case that the three Torx screws must be removed, partially disassembling the caliper in order to replace the pads? If so, is it necessary also to renew the Torx bolts with each pad change?

Bill Douglas, Perth, Western Australia

Paul Stacey, Northway Porsche: All of the latest official Porsche workshop manuals are essentially Internet-based only, and as such are intended solely for the dealer network. You can, however, download certain files from www.porsche.com/uk at a cost per file. From the menu on the left-hand side of the home page go down to Service & Accessories, across to Porsche Service, and then roughly halfway down the following page to Technical Service Information. You will have to set up an account, which you can then either keep in credit or else pay for each file that you view.

As for the brake pads on the Cayenne, the easiest method of replacing them is to remove the caliper from the hub, and then to remove the pads through the bottom of the caliper. They can be a little tricky to get back in with the spring plates, but that is certainly easier than taking the caliper itself apart.

GT3-LOOK 996: A QUESTION - BUT ANOTHER WELCOME UPDATE, TOO

I thought I would drop you a line to give you another brief update on my GT3-look 996 Carrera 2, which you have been kind enough to feature several times in these Q&A pages since I bought it last year, but firstly to ask a technical question.

I had a new Dansk exhaust system fitted to the car, and this has, as I expected, exposed the weakness of the now 14-year-old manifolds. I always knew that these would need replacing sooner or later. The right-hand manifold can be heard 'fluffing' at tickover, and that sound is also a little raspy under acceleration. That said, I intend to hang on as long as possible before fitting new ones, in an attempt to limit my 2013 expenditure.

My question relates to catalytic converters. My car – which is actually a 1999-registered 911 Carrera 3.4 – has catalysts fitted already, but I understand that these are a legal requirement only in cars sold after March 2001. On this basis, am I able to remove these 'cats', and replace them with a bypass pipe, without affecting the engine management system? I presume that in removing the catalysts I would see an increase in performance – or have I got that all wrong? Your advice would be much appreciated.

Now for that promised update. All is going well, and the Porsche has had many outings, both short and long. I am quite pleased with the average 23mpg that I get on shorter runs, and this figure improves to nearer 27mpg on a longer trip, when I have the chance to use that high sixth gear for a while.

I have invested in an indoor cover – I am lucky enough to be able to keep the car in my garage when it's not in use – and was pleasantly surprised to find that the best price was from Porsche Centre Sutton Coldfield. I had spotted an advert on eBay (not realising that it had been placed by a Porsche main dealer) and asked whether it would fit the 996 with Aerokit – which is, of course, what my car is.

After a couple of e-mails and phone calls I was offered the cover for £212 including VAT and first-class postage – a cracking price when you consider what these covers are being sold for on specialist Porsche websites! It just goes to show that sometimes it's best to speak to a main dealer first. Anyway, my thanks to Ben Carr at PC Sutton Coldfield for his help and attention. He even included a couple of packs of Porsche-branded sweets for my two sons.

Finally, I have ordered myself a birthday present, which I intend to fit myself, too. Having spoken to a local car-audio specialist, who wanted me to spend

upwards of £800 on an amplifier, custom subwoofer and new speakers and so on, I have decided simply to try upgrading the speakers first with a kit from JMG in Bournemouth (<http://www.jmgshop.com>).

The problem comes when you remove the existing speakers, and discover that Porsche (in its infinite wisdom) uses a three-point fixing for them, rather than the industry-standard four. But the speakers I have ordered are part of a conversion kit, developed by JMG, so I shall update you again once I have fitted them. After-market under-seat (or in my case, behind-the-rear-seats) subwoofer bass boost units can be found for around £150 – again a DIY fit.

So, life with T130 DUY – or L20 NCS as it now is – is as wonderful as ever. The car always puts a smile on my face, as well as rattling a few fillings driving on the local roads, due to the sports suspension that came as part of the Aerokit option!

If anyone reading this is hesitating about investing in one of these fantastic cars, then all I can say is do your homework, do your maths, expect £1000 a year in running costs (at least!), and then just go ahead and have some fun. Life is just too short not to.

I look forward to hearing from you – or even to seeing my question in the magazine.
Graham Loncaster, Yorkshire

Paul Stacey, Northway Porsche: The 996 up to the 2001 model year will have only two oxygen sensors, both of them fitted upstream of the catalysis. This means that you could, in theory, remove the cats and the management system won't be affected, although the engine will sound rather loud without them.

If your car was built for the 2001 model year or later it will have the system with four oxygen sensors, which means that the engine checks the efficiency of the cats, and will immediately bring on the check engine light, or CEL, if they are removed.

Either way, the major downside of running the car with no cats comes when it is due the annual MoT test. All cars first registered after August 1992 had to have a catalyst(s) fitted as standard (so your source of information is quite wrong), and this is a legal requirement for the emissions part of the MoT test.

By the way, you suggest that the exhaust manifolds are somehow leaking. This may well be true, of course, but are you sure it's not simply the gaskets between them and the cylinder heads that are the problem? Even that is not the easiest or cheapest of issues to solve, thanks to what are usually horribly corroded fixing bolts, that simply break when you try to undo them, but at least you might not necessarily need to buy new manifolds. Just a thought...



Graham Loncaster's GT3-look 996 is still providing him with much pleasure, and he has plainly caught the modification bug in a big way – hardly surprising given the model's huge potential. One thing he can't realistically do, though, is 'decate' the exhaust system for more performance. Catalysts are a legal requirement for road use in all cars first registered in the UK after August 1992 – so even the last 964s are in theory thus affected. The car lives in a garage when not in use, now under a slinky new cover Graham bought for a bargain price from Porsche Centre Sutton Coldfield – see text

elite motor tune Limited



Porsche specialist for over 30 years

Servicing for all Porsches

Up to 40% off main dealer rates

Courtesy cars available

**Close to Northampton train station
(Direct lines to London & Birmingham)**

Recent new workshop with latest German technology and 7 service bays

www.elitemotortune.co.uk

NORTHAMPTON Tel: 01604 757510

Enviro-Strip (UK) Ltd

Industrial Paint Stripping | Metal Finishing | Engineering Services

Auto Restoration Division

Enviro-Strip (UK) Ltd have been supplying Paint Removal services to the Automotive, Manufacturing & Process industries for over 14 years which has led us to becoming a highly valued business partner to the vast majority of the UK's car manufacturers including Bentley, Rolls Royce, McLaren and BMW.

We are proud to offer our Auto Restoration division housed within its own 7,000 Sq. Ft secure factory which carries out Paint Stripping for complete Body Shells, Car Doors, Bonnets, Wings, Chassis Units & associated small parts.

THE PROCESS ENCOMPASSES THE FOLLOWING

- STAGE 1 > PAINT REMOVAL USING PYROLYSIS
- STAGE 2 > COMPLETE DE-RUSTING
- STAGE 3 > PROTECTIVE COATING
- STAGE 4 > 2 PK ETCH PRIMER COATING



All Body Shells & equipment processed on our site are stored within the secure factory which is fully alarmed and CCTV protected which gives all customers peace of mind in the safe guarding of their valued items.

Collection & Delivery Service Available within the UK & Europe
 Enviro-Strip (UK) Ltd. Unit 4 Hedging Lane Industrial Estate, Tamworth, Staffs, B77 5HH
Telephone: 01827 284333 Fax 01827 284555
Email: vb@envirostripukltd.com or md@envirostripukltd.com
website: www.envirostripukltd.com

PMO carburetors

Pair 40mm PMO's: \$3400

Pair 46mm PMO's: \$3500

Pair 50mm PMO's: \$3600

Installation Kit adds \$600 to the above prices:

- PMO Ported Manifolds
- Crossbar Linkage Set
- Watershield Air Cleaners
- Pressure Control Unit
- Heat Insulator Kit
- Oil Tank Breather
- Fuel Line, Clamps, Filters
- Injector Plugs, as needed
- Power Brake Check Valve

40mm, 46mm and 50mm



"The finest piece of Porsche merchandise I've seen"
 Randall Aase

Please fax or write us

135 17th Street

Santa Monica, CA 90402

Fax 310-394-6313

www.pmocarb.com

VISA, MasterCard, or Prepaid



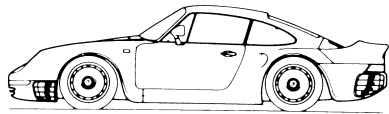
1970's Wheel Brace...



One Mans Speciality.....

www.thewheelrestorer.co.uk

Tel : 01978 352980



AUTOSTRASSE

INDEPENDENT PORSCHE ENGINEERS

Do you suffer from these?

Expensive bills

Mediocre workmanship

CALL NOW TO ELIMINATE THESE PROBLEMS

Tel: 01376 562922 Fax: 01376 562916

UNIT 31, PRIORS WAY, COGGESHALL INDUSTRIAL PARK,
COGGESHALL, ESSEX CO6 1TW



PRESTIGE

SALVAGE

The UK's largest Porsche dismantler

★ Dealers in high quality damaged repairables ★

07836 540726 07774 618818

0113 243 1392

Water Lane, Leeds Fax: 0113 234 1858

neilprestige@aol.com www.porschebreaker.com

TWG MOTORSPORT

SPECIALISING IN PORSCHE

Servicing repairs 356-991

Porsche parts new up to 60% off, 915 gearbox rebuilds
from £450 and menu price servicing.

Thorpe Road, Longthorpe, nr Peterborough PE3 6LU (on A1)

Sales & Workshop 01733 332911

www.twgmotorsport.co.uk



Photo: Brett Fraser



TIPEC

The all model club for enthusiasts; even if you don't own a Porsche

Discount schemes
Valuation service
Busy online forum
Technical assistance
Bi-monthly magazine
Regional & national events
Family friendly

One year membership £40
Two year membership £50

0845 602 0052
www.tipec.net



STEVE BULL

SPECIALIST CARS

SERVICING & REPAIRS

- New purpose built premises
- Factory trained / 15 years dealer experience
- Personal attention / Free advice
- Dealer standards maintained
- Pre-purchase inspection
- Full diagnostic facilities
- All models of Porsche



Tel 01380
725444

Mobile 07767 324542

www.stevebullspecialistcars.co.uk

PORSCHE SPECIALIST

An established service in Devizes Wilts

Chris Turner

PORSCHE Specialists



020 8451 6000

www.christurner.com

Skype: ctporsche

PORSCHE CLASSIFIEDS

INCORPORATING TRIED & TESTED

ADVERTISE YOUR PORSCHE FOR **FREE** - ON THE PAGE AND ONLINE at www.911porscheworld.com

356

Porsch-Apart

Parts specialists for 356
01706 824 053

www.KARMANN KONNECTION.com

Porsche 356 & Early 911 Specialists

Great selection of Cars and a huge selection of O.E. and Top Quality parts for all 356's and 911's 65-73.

Everything needed to Restore & Maintain an early Porsche.

Please call or see website for more details, price lists & catalogues.

01702 601155

info@karmannkonnektion.com



AFN RHD 1959 356A, fully restored, no expense spared, fashion grey, vintage red leather interior, engine, gearbox rebuilt, brakes rebuilt, drums, cylinders, suspension, rebuilt, Konis, kingpins etc, £80,000. Tel: 01622 728899. P1113/027

ROGER BRAY RESTORATION

Milestone Services, London Road, Whimpey, Exeter, Devon EX5 2QB



FOR SALE

1965 356SC Cabriolet LHD
Ruby Red with black leather interior.
Enquire regarding Price.

CLASSIC PARTS FOR PORSCHE
356 • 911 • 912 • 914

www.rogerbrayrestoration.com

T: 01404 822005

F: 01404 822007

parts@rogerbrayrestoration.com

NEXT ISSUE DEADLINE
17 OCTOBER

911

Porsch-Apart

Parts specialists for 911
01706 824 053

DSO MOTORWORKS
old school porsche mechanics for the 21st century

"OLD SCHOOL" PORSCHE MECHANICS FOR THE 21ST CENTURY
Hutton, Essex
www.dsdmotorworks.co.uk
CALL US ON
07002 911 356
OR
07774 854 418



911 2.4 S LHD SPORTOMATIC, 69,000 kilometres, an extremely rare 911S which has been in storage since 1980 when it was brought over from Germany, the car is still registered in Germany with its original papers, also paper work confirming original order from the factory. Consists of Recaro seats and tilting bases, 7x15 Fuchs wheels all round, sunroof and plastic tank. This car is for light restoration, it is totally rust free. The carpets, seats and headlining, instrument and dash panel are all in excellent condition and totally original. The underside of the car has not got its usual dents, it's never been jacked up in places where it bends the floor pans. Car has all original matching numbers and is in light yellow, colour code 117. From what I can see the car will need painting and new seals and rubbers to be replaced. The car is timeless having only covered 69,000km from new and has only had three owners from new. From what I can understand only 139 of these cars were ever made with a Sporto box but this covers the full range of 911s which would make this car one of only 30 to 40 of these in existence being a LHD coupe. The wheels and all the anodising are all in excellent condition, sills and kidney bowls are in perfect condition. If you're interested in this vehicle or if you need more photos or require an inspection please do not hesitate to contact me, £95,000. Tel: 01686 440323. P1113/024

CLASSIC PORSCHE REQUIRED.

Classic Porsche required by family business based in the Midlands. Quality, well maintained 911s and other models urgently needed. Both LHD and RHD considered. Best trade prices paid for the right vehicles, normally within 48 hours of inspection. Please contact us if you have a genuine classic Porsche that needs a new home. We have more clients than cars! Call Jon Green, Libertas (UK) Ltd. Tel: 07714 240152 to discuss anytime (Trade). P1113/020



LOW MILEAGE GT2 TWIN TURBO

track machine, tuned to over 550bhp, fully stripped and weight reduced, ECU, clutch, fully adjustable suspension, roll cage, plus all original spares available, £48,500. Tel: (852)96 888222. Email: samhui@ghiasports.com (Hong Kong). P1113/026

PETER MORGAN CONSULTING
INDEPENDENT Porsche DRIVER'S CONSULTANCY

PRE-PURCHASE INSPECTIONS
sourcing and insurance valuations
www.porscheinspections.com
or call +44 (0)1672 514038



1982 911 (930) TURBO, absolutely stunning in Guards Red with black, over £12,000 spent making a beautiful car perfect by fastidious Porsche Club member owner, £40,500. Tel: 07748 519670. Email: jamiecolwell@hotmail.com (Dorset). P1113/028

WILLIAMS CRAWFORD

Passion for Porsche

www.williams Crawford.co.uk



Communication is the key... if you are seeking a lovely Porsche of any type and would like someone to take away the worry, hassle and legwork, you are welcome to call. A lot of Porsche pass through our hands, or are on our database that never reach the press or website. By all means please view our site to see stock, however, the way to find something special, is to pick up the phone and let us know, we have an extensive database of Porsche modern and classic that you will not have seen. Speak to Richard or Adrian and we will do our best to help find your next Porsche.



997 GT3 Generation II. This is a two owner car looking like new. 6800 miles in gloss black. £75950.



996 GT3 Club Sport 2004 model. Guards Red, absolutely standard and original, 11700 miles. PCCB. £47950

968 Cabriolet. Manual. 1993. Mint Green. Ex motor show. Mint in colour and condition. Very special. £12995.

(Over 30 Porsche in stock and 100's on our database).

Porsche Required. We buy, we broker, we advise, we source. We will purchase show winning Porsche through to those requiring love & restoration. Straight advice given on the various ways to sell your Porsche or your extraordinary Porsche (or collection).

Porsche purchased with care and a smile, all models and ages.

01752 840307 07768 555855

info@williams Crawford.co.uk

PORSCHE CLASSIFIEDS

ADVERTISE YOUR PORSCHE FOR **FREE** - ON THE PAGE AND ONLINE at www.911porscheworld.com

1976 RHD CARRERA 3.0

TARGA, GP White/black leather, restored to original spec, all MoTs/history since 1976, excellent condition, 150,450 miles, engine + ancillaries rebuilt, call for further info. <http://911carrera3.com>, £28,000. Tel: 07811 061742. Email: bertroex@hotmail.com (Notts). P1113/029



911 2dr CARRERA SPORT TARGA, 3.2 Coupe, 1989, manual, 107K, Baltic Blue, colour coded mirrors and alloy wheels, cream leather interior, well cared for, garaged, rebuilt engine, recent clutch, electric seats/windows/mirrors, CD player/Alpine speakers, FSH with receipts, runs and sounds great, 6 months' road tax and MoT, excellent condition inside and out for year, £12,495. Tel: 07809 295482. Email: hilary7749@hotmail.co.uk (East Sussex). P1113/050



993 CARRERA 2 COUPE, 1994, Tip, Polar Silver, 77K, full PSSH, full leather immaculate interior, like new throughout, electric sunroof, electric seats, air con, 12 months' MoT and taxed, £19,000. Tel: 07780 643743. Email: stevemorris@satare.co.uk (Dorset). P1113/049



STUNNING 993 TARGA, gorgeous Polar Silver, manual, £8000 spent on bringing it to excellent condition, includes new tyres, discs, pads, paintwork and more, all 993 gremlins sorted, £28,745. Tel: 07534 982006. Email: james@tee2.tk (Suffolk). P1113/053



If you think she's odd wait until you see her father...

911virgin.com

We buy and sell
Porsches

01895 255222

Loads of used Porsches for sale all with large photos.
Always updated, no old stock.
Tips on buying a used Porsche, service and insurance contacts.
Around 40 cars in stock from around 1980 onwards.
Cars genuinely bought outright on the spot or sold on your behalf - speak to Henry

1982 911SC, 65K miles, in exceptional stunning condition, white leather, massive history folder, gorgeous colour combo, gearbox rebuild, drives like new, worldwide shipping available, £15,500. Tel: 07908 588962. Email: ciaran98@aol.com (Londonderry). P1113/030



911 (964), Grand Prix White, genuine 66,500 miles, Carrera 2 to RS specification, thousands spent, modifications to the highest standard. Complete new suspension: Bilstein and H&R, 993 Turbo brakes (all new). Complete new exhaust system Cup pipe, all new lights, reflectors, seals and rubbers. Complete new Alcantara interior from AP Car Design Germany, 18-inch AP wheels, Continental N2 tyres, extensive bills and receipts plus history, comprehensive recent service at Porsche Tonbridge, no expense or effort spared, £32,500, serious enquiries only. Tel: 01795 876276. Email: jt@westlands.kent.sch.uk (Kent). P1113/008



CARRERA GTS COUPE, automatic PDK, August 2011, 8500 miles, Carrera White, black interior, leather Sport seats, 19-inch black Carrera Sport wheels, extended navigation module, Park Assist, rear seats, Sport Chrono Package Plus, telephone module, universal audio interface, one owner since new, £58,000. Tel: 07850 936299. Email: tb2@soton.ac.uk (Hampshire). P1113/047

eporsch.

Specialist in used Porsche

tel: 01483 799245

email: info@eporsch.co.uk

visit: www.eporsch.co.uk



PORSCHE 911 (996) CARRERA 4 CABRIOLET, 2000, X-reg, 97K miles, Polar Silver, blue/black leather, sat nav, 18-in alloys, full service history, recent engine rebuild **£11,995**



PORSCHE 911 (996) CARRERA 4 COUPE, 2001, 51-reg, 81K miles, Meridien Silver (grey original D90s & Flags) **£12,995**



PORSCHE 911 CARRERA 4 TARGA, 1991, J-reg, Grand Prix White, 164K miles, original D90s & Flags **£13,000**



PORSCHE 911 (993) CARRERA TIPTRONIC, 1994, M-reg, 108K miles, black leather, full service history, 2013 **£19,995**



PORSCHE 928 GTS, 1993, L-reg, 129K miles, engine rebuild just completed, silver, blue leather, full service history, Feb history **£11,995**



PORSCHE 911 CARRERA 3.2 TARGA (despoiled), 1984, A-reg, silver, blue leather, full service history, huge documented history, almost all Official Porsche **£12,995**

PORSCHE 911 CARRERA 3.2 SUPERSPORT COUPE, 1986, D-reg, Guards Red, 49K miles, Rubinstrot (Ruby), reg, 162K miles, Super-black leather, 100K miles, cream leather interior, very charged 320bhp, Aventura, factory Supersport M491, original car, documented full bucket seats and harnesses, FSH, bodywork restored, new full black carpet set, Cat 1 alarm fitted **£24,995**

PORSCHE 911 SC 3.0 SUPERCHARGED, 1994, M-reg, 162K miles, Super-black leather, 100K miles, cream leather interior, very charged 320bhp, Aventura, factory Supersport M491, original car, documented full bucket seats and harnesses, FSH, bodywork restored, new full black carpet set, Cat 1 alarm fitted **£18,995**

PORSCHE 968 SPORT - SUPERCHARGED, 1994, M-reg, 162K miles, Super-black leather, 100K miles, cream leather interior, very charged 320bhp, Aventura, factory Supersport M491, original car, documented full bucket seats and harnesses, FSH, bodywork restored, new full black carpet set, Cat 1 alarm fitted **£9,995**

JTS THOMAS J. SCHMITZ JTS



964 RS Clubsport, 17k KM, factory custom paint



993 RS, 44k KM, factory RSR spoiler kit

WE BUY LHD PORSCHE
964 RS & RS CS, 964 TURBO 3.6, 964 TURBO S, 993 RS & RS CS,
993 CUP, 993 TURBO, 993 GT 2
WWW.GERMANSPOORTSCARS.NET

PORSCHE CLASSIFIEDS

INCORPORATING TRIED & TESTED

ADVERTISE YOUR PORSCHE FOR **FREE** - ON THE PAGE AND ONLINE at www.911porscheworld.com

MOTORFARM

964 Coupe rolling shell, RHD £2500
Mitsubishi Evo 6 Tommi Makinen, 49K miles, FSH, Silver £9950

PARTS

997 C4s Manual 3.8. Complete running car, all parts available
BBS RS 18" wheels & tyres (P.Zero) 8" & 10"
2 x early 911 tool rolls

CARS WANTED, any condition, aborted restorations

T: 01462 815 654 M: 07971 856 755



911 CARRERA RSR REPLICA, based on 1985 3.2 Carrera, full professional restoration by Cartec Neath, lightweight BBS wheels, rebuilt engine, please call for full details, £49,995. Tel: 07974 758272. Email: mark1@hotmail.co.uk (Carmarthenshire). P1113/045



997 CARRERA 2S TIPTRONIC, Arctic Silver with blue leather, FSH with receipts, MoT April 2014, Certificate of Authenticity, HPI clear, recent Porsche health check, PCM with sat nav, heated hardback Sport seats, Bose upgrade, £18,997. Tel: 07790 494772. Email: pml67@outlook.com (Beds). P1113/013



911SC COUPE, Zeiglerot Red, 81K miles, immaculate condition, MoTd, taxed, full history, Pasha trim excellent. Drives like a dream! Worldwide shipping available, £15,950. Tel: 07908 588962. Email: ciaran98@aol.com (Londonderry). P1113/048



964 CARRERA 4, 1989, 91K, 12 months' MoT, Linen Silver, recently serviced, lots of history, looks and drives great, £11,500. Tel: 07977 282457 (Northampton area). P1113/052



2003 911 CARRERA 2 CONVERTIBLE, 60K with full service history, 4 owners, met black with black leather, hard top, factory switchable sports exhaust, Garmin sat nav, DVD, Bluetooth etc, lovely throughout, £17,500. Tel: 07770 934004 (Kent). P1113/051



964 CARRERA 4 COUPE 1992, an unmodified car, interior retrimmed in half leather and Alcantara fabric, extensive service history, almost all repair invoices and MoT certificates from new, last serviced at 97K, 4 new tyres, engine removed and all gaskets replaced, owned since April 2007, garaged and regularly used as a second car, £15,900. Tel: 07729 015470 (Aberdeenshire). P1113/046



FINLAY GORHAM PORSCHE SPECIALISTS

Established 1972
sales | service | aftersales



2005 997 C2 MANUAL CABRIOLET £25,995

Seal Grey metallic with Extended Black Leather interior, matching black hood 51,000 miles

Heated Seats	CD and Bose	Switchable	Sports Chrono
AirCon &	SatNav &	Sports Exhaust	Plus
Climate Control	Phone	Home light	19" Carrera
Litronic Lights	PSM & PASM	One owner	Alloys



1999 996 C4 TIPTRONIC COUPE £9,995

Ocean Blue metallic with Tan Leather interior 123,000 miles

Comfort seats	PSM	Front and Rear	18" 5 spoke
AirCon &	Rear Park	discs and pads	Alloys
Climate Control	Assist	just replaced	



2006 55 BOXSTER 2.7 MANUAL £11,995

Arctic Silver metallic with Metropole Blue Leather interior 42,000 miles

Comfort	AirCon &	Home Light	18" Alloys
Heated Seats	Climate Control	Rear Park	
CD/Radio	PSM	Assist	



2006 997 CARRERA C2 MANUAL COUPE £20,995

Basalt Black metallic with black Leather interior 91,000 miles

Heated Seats	SatNav &	PSM	19" Multispoke
AirCon &	Phone	Home Light	Porsche
Climate Control	6 speed	Multichanger	Design Alloys



2007 BOXSTER 3.4 MANUAL £15,495

GT Silver with Coco Leather interior 54,000 miles

Heated	Climate Control	Cruise Control	Rear Park
Comfort seats	SatNav &	Bose Upgrade	Assist
AirCon &	Phone	PSM	19" Black Alloys



2005 BOXSTER S 3.2 MANUAL £12,495

Seal Grey Metallic with Metropole Blue Leather interior 73,000 miles

Comfort Seats	AirCon &	PSM	18" Alloys
Onboard	Climate Control	SatNav	
computer	Multichanger	Blue Hood	



2002 996 CARRERA C4S TIPTRONIC COUPE £18,995

Basalt Black metallic with black Leather interior 46,000 miles

Heated Seats	Parrot Phone	PASM	Multichanger
AirCon &	Module	Rear Park	18" Carrera
Climate Control	PSM	Assist	Twist Alloys



2007 BOXSTER 2.7 MANUAL £12,995

Arctic Silver Metallic with Metropole Blue Leather interior 52,000 miles

1 owner	Comfort Seats	CD Changer	Home Light
Onboard	AirCon &	Rear Park	18" Alloys
computer	Climate Control	Assist	

More quality 911's and
Boxsters coming soon.

Check the website
for more.



We always consider part exchange - please ask.

All our vehicles have Full service history, MOT and a minimum of 6 months warranty.

Viewing by appointment only | Telephone: 01284 827427 | Mobile: 07831 444100 | www.finlaygorham.com

PRESTIGE & PERFORMANCE SPECIALISTS

High performance motor insurance at

lower prices

- Limited Mileage
- Agreed Value Policies
- 60% Introductory Bonus
- Immediate Cover
- Monthly Instalments

Call us today on 01785 214444



Fax: 01785 25166

Dunston Business Village, Stafford Road, Dunston, Stafford ST18 9AB

Email: info@ashleyinsurance.co.uk www.ashleyinsurance.co.uk

The Centre for Porsche

BODYSHOP
CONVERSIONS
SERVICE CENTRE
ACCIDENT REPAIRS
RESPRAYS
RESTORATION

EVERY PART FOR
EVERY PORSCHE

www.design911.com

UNIT 5 · BRACKEN INDUSTRIAL ESTATE · FOREST ROAD · HAINAULT · ESSEX IG6 3HX



VISIT OUR NEW SHOWROOMS

What better place to discuss your Porsche needs with knowledgeable people while relaxing in comfortable chairs with a cup of quality coffee?

+44 (0)20 8500 8811

DESIGN 911

Centre for Porsche

27

Pr

Porsche

Our policies are formulated to provide great benefits as standard. We offer **agreed values** (for vehicles over 5 years old). **Limited mileage discounts**; the less you use your car, the less you pay. **Multi-vehicle policies**; we can insure additional cars at an extra discount. **Free club arranged track days**; all other track days are on a referable basis. There is also UK roadside and assistance **breakdown cover** included as standard on all our policies. With an added **discount for being a member of The Independent Porsche Enthusiasts Club (TIPEC) or Porsche Club GB.**

www.classiclineinsurance.co.uk

01455 639 000



fig 1. 1972 Porsche Carrera 2.7 RS

classicline*
INSURANCE

Scientifically proven.

Authorised and regulated by the Financial Conduct Authority.

PORSCHE INSURANCE SPECIALIST

THE MOST COMPETITIVE PRICE GUARANTEED*

MARKET LEADING COVER AS STANDARD, INCLUDING:

- 24 Hour Accident Helpline
- Lost Key Cover
- Misfuel Cover
- Nil Fire and Theft Excess
- Full Legal Cover
- Modified Cars Accepted

Our rates are not available online or from any other broker in the UK.

Call us now on:

Free Phone 0800 5877078



LLOYD LATCHFORD
SCHEMES LIMITED



Sunset Court, High Street, Princes Risborough, Bucks, HP27 0AX



Lloyd Latchford Schemes Limited are authorised and regulated by the Financial Conduct Authority. Registered in England No. 5988054.

*subject to competing quote offering the same cover terms and you meeting our acceptable criteria

PORSCHE CLASSIFIEDS

ADVERTISE YOUR PORSCHE FOR **FREE** - ON THE PAGE AND ONLINE at www.911porscheworld.com



VERY WELL SORTED 996 FOR SALE, 911 & Porsche World's project car has had around £20K in work and parts thrown at it not including the cost of the car. It is a 65,000 1999 C4 in black with black leather and lovely to drive. It has had everything done and would be a very quick track car but hasn't been tracked yet. Hartech engine rebuild all future proofed, Pauter rods fitted, bearings, rings, all ARP bolts etc, IPD fitted and K&N filter. Full remote exhaust system including racing manifolds and cats, new clutch and flywheel. H-R anti-roll bars, Bilstein suspension, fully adjustable height and damping. It has a full rose jointed arm set up by RSS (Tarmac Series). This car has been set up for fast road use by Torque Developments and is amazing. Fitted with a CobraTrak security system. This 996 is not bumpy and stiff like you would think, it is awesome to drive daily. It has Victor Equipment wheels fitted with Yokohama Advan AD08 tyres, no damage, like new. New project forces sale, £21,950. Tel: 07947 254765. Project 996 can be viewed at RPM. Email: peter@chpltd.com. P1113/026

PORSCHE 911 C2 PDK, June 2009, Sport Chrono, sat nav, heated seats, 19" alloy wheels, mileage 1100 (eleven hundred miles), Meteor Grey, warranty and MoT until May 2014, £48,000. Tel: 07860 350985. Email: andrew.m.knight@btinternet.com (Staffs). P1113/031

928

Porsch-Apart
Parts specialists for 928
01706 824 053



928S4 AUTO, 1989, silver, 105K miles, digital dash, non-cat, blue half-leather, 17-inch alloys, good documentation, MoT and interim service June '13, plate 'TIL 1928' included, £4400. Tel: 07769 99565. Email: jeremyfrost56@gmail.com (Lancashire). P1113/057

944

Porsch-Apart
Parts specialists for 944
01706 824 053



944 TURBO, 1986, C-reg, 89,000 miles, mint condition, FSH, former concours winner, much cherished car for sale due to arrival of 911, £7250. Tel: 07917 707670 or 01342 810018. P1113/056



1989 944S2, low mileage, G-reg, 98,000 miles, FSH till 2007, new clutch, MoT till May 2014, cloth trim, stainless back box, braided brake hoses, must go to make way for new project, sensible offers. Tel: 07415 855465. Email: ang1ed@aol.com (Warks). P1113/009

944 2.7, 1989, only 54,000 miles, white with blue pinstripe interior, S2 wheels with Michelin Pilot tyres, also original teledials, exceptional original condition, £6450. Tel: 07715 626204. Email: paulbeer45@googlemail.com (Devon). P1113/032

BOXSTER

Porsch-Apart
Parts specialists for Boxster
01706 824 053



BOXSTER S 550 SPYDER ANNIVERSARY EDITION, 2004 (04), 3.2 manual, GT Silver, full leather, 18" Carrera alloys, sat nav, Bose sound, FSH, just serviced, 12 months' MoT, 6 months' tax, 46K miles, immaculate, £11,750. Tel: 07979 536282. Email: christopher.wright@btconnect.co.uk. P1113/021



BOXSTER 2.5, very low miles, drives like new, (1999), 2.5 petrol, Tiptronic, in excellent condition and only 42,478 on the clock, a lot of history and a portfolio, if you want more photos drop me a text, £6999. Tel: 07989 321611. Email: jh002c3257@blueyonder.co.uk (Tyne & Wear). P1113/010

CAYENNE

Porsch-Apart
Parts specialists for Cayenne
01706 824 053



CAYENNE TURBO 2003 (53), owned since Feb 2007, black with grey leather, sat nav, phone, only 51,000 miles, has been kept in Spain for last 6 years, no rust!! FPSH, all MoTs and bills, £11,500. Tel: 07887 688279. Email: villa.pegasus@gmail.com (Durham). P1113/055

OTHER MAKES



MAZDA MX-5 MONTANA 2003, Garnett Red, cream leather, 59,000 miles, taxed April 2014, MoT Nov 2013, comprehensive service history, Montana upgrades include Nardi steering wheel, heated seats, chrome pack, air conditioning, hard top included, £3795. Tel: 01560 480862. Email: porschehb@aol.com (Ayrshire). P1113/054

WANT TO AMEND OR REPEAT YOUR ADVERT?
JUST EMAIL YOUR REQUEST TO
classifieds@chpltd.com

PORSCHESHOP.CO.UK

Tel: 0121 585 6088

Choose By Model >

Classics

911 930

964 993

996 997

928 & GTS

924 944 968

Boxster

Cayman

Cayenne

INDEPENDENT SPECIALIST RETAIL CENTRE



EXHAUSTS



ACCESSORIES



CAR SALES



WHEELS



SERVICING



PERFORMANCE



PARTS

ADDRESS: BLOCK 2 UNIT 4, SHENSTONE TRADING ESTATE, HALESOWEN, WEST MIDLANDS, B63 3XB

TRIED&TESTED

WITH 911 & PORSCHE WORLD'S CONSULTANT EDITOR, CHRIS HORTON

911 CARRERA 3.2 TARGA SUPER SPORT ■ 1989/'G' ■ 14,512 MILES ■ £46,995

I can't help but think that anything I might write about this truly exceptional 911 Carrera 3.2 – which has the added rarity value of not just a lift-out roof panel but also the wide, Turbo-style body – will risk merely stating the bleeding obvious. Nearly a quarter of a century old it may be, with five previous owners, and getting on for 15,000 miles on the clock. But it is to all intents and purposes quite literally brand-new, and as such an enticingly wide-open portal into a long-lost world of rampant Thatcherism, City wideboys in loud red braces, Amstrad personal computers (remember those?), and mobile phones famously the size of housebricks. Happy days...

Registered in early August 1989 – barely a couple of weeks before the *Marchioness* disaster on the River Thames in the very heart of London – it's on offer at Hexagon Modern Classics. Their similarly stunning 1976 912E (now in the hands of a delighted new owner in the West Country) you might remember from these pages in our March 2013 issue. Paint is mirror-smooth Baltic Blue metallic, and the upholstery is in Linen leather; that's an equally appealing cream colour, basically. Wheels, as you can see, are the iconic 16-inch Fuchs of the contemporary 911 Turbo, with the usual full-colour, Porsche-crested centre caps, chrome-plated covers for their fixing bolts, and again mirror-smooth Baltic Blue spokes. Very nice.

Additional equipment, over and above the obvious Turbo-style body configuration and matching wheels – the Super Sport was, of course, essentially a 911 Turbo with the standard, naturally aspirated 3.2-litre engine – consists of the 930's classic tea-tray rear wing (and the same model's red-enamelled, 917-derived brake calipers), headlamp washers, part-electric adjustment for both front seats (squab height and angle, essentially) and, although not quite contemporary with the car, a top-class Kenwood KRC-957SRC radio/CD player. That's the famous 'stealth' unit that ingeniously hides itself behind a completely blank front panel. There is no air-conditioning, but I can't see that either making or breaking the deal – and frankly I would be just as pleased to have the original Porsche tyre-pressure gauge, neatly tucked away in the glovebox. Steering wheel is the attractive three-spoke item of the period. Oh, and you get the usual electric windows, mirrors and central-locking, of course, plus a key-in-the-slot immobiliser.

Cosmetically, as I have suggested, the car is just about perfect: from paintwork to the very smallest item of trim. Even the registration plates are brand-new (and the number is part of the deal). All the usual 3.2 wear points – the bumper bellows; the so-called 'smile' under the leading edge of the front lid; the moulded lip around the rear wing; even the door-pocket lids, now so often annoyingly wavy – are here essentially irrelevant. There is a very light scuff on the right-hand side of the driver's seat – which I'm sure a first-class trimmer such as Southbound in Hampshire could easily eliminate – and the top of the gear knob is slightly worn (suggesting that the car has been used primarily for relatively low-speed urban cruising, perhaps), but even the dark-blue carpet feels as fluffy and as tactile as a new-born kitten. Overmats? Of course – and no less clean or appealing, either. The only other possible points-losers – and the car would still make the perfect concours d'elegance contender – are the slightly baggy inner lining for the Targa roof panel, and the tired-looking weather seals behind each door glass, but again Southbound or its ilk ought to be able to deal quite easily with those.

Mechanically, too, this 3.2 must now have few equals. The engine compartment both looks and smells new, with no hint of an oil leak, and likewise the entire underside is crying out for someone to do nothing more strenuous than a little detailing and clear the board at a concours event. All four (drilled) brake discs are reassuringly smooth and bright – despite the car's relative lack of use – and although they are not easily visible I don't doubt that the pads are fine, too. Tyres are Pirelli PZeros front and rear, the former virtually unworn, the latter with probably 80–90 per cent of their tread depth remaining – although I must confess that I didn't check their age via the code on each sidewall. Ride is predictably smooth and supple, the steering light but typically engaging, and the clutch and gear shift the usual G50 delight. And no squeaks or rattles, even from one of those sometimes noisy Targa roofs. Performance? Little chance of exploring that on a wet day anywhere inside London's North Circular Road, but again I can't see it being anything but scintillating.

History, such as it could ever be at this mileage, is good – the most recent service was in May, at 14,220 miles – the car is road-taxed until December, and like all Hexagon's vehicles it will come with a year's MoT. Just perfect. **PW**

CHECKLIST

Background: One of the last and most highly specified examples of the ever-popular Carrera 3.2 – and now arguably the best preserved, bar none. Super Sport designation provides the 930 Turbo's suspension, brakes and iconic wide body; Targa means lift-out roof panel and big, wraparound rear window. Five owners, low mileage, a year's MoT, and apart from a few easily fixable blemishes is simply perfect

Where is it?

Hexagon Modern Classics is part of Hexagon Classics, based in central London. Cars are shown by appointment in its East Finchley premises, and a new modern-classics-only showroom is opening soon. Call Jonathan Franklin on 07522 911911, or else go to hexagonmodernclassics.com – where you will find a selection of images of both this and many other truly stunning Porsches

For: Condition, condition, condition. It's really that simple. You won't find another one like this any time soon

Against: Not exactly inexpensive. And not really usable without seeing your investment start to lose value like any other car. Other than that, what's *not* to like?

Verdict: If I was impressed by Hexagon's 912E a few months ago (and if you read that piece you'll know that I was!), then this – and I'm not a huge fan of either the Super Sport or Targa 'options' – simply took my breath away. Truly stunning



Value at a glance

Condition	✓✓✓✓
Price	✓✓✓✓
Performance	✓✓✓✓
Overall	✓✓✓✓
	✓ Poor ✓ Fair ✓ OK
	✓✓✓ Very good ✓✓✓✓ Excellent

PORSCHE CLASSIFIEDS

ADVERTISE YOUR PORSCHE FOR FREE - ON THE PAGE AND ONLINE at www.911porscheworld.com

REGISTRATIONS

KEL IB

REGISTRATION 'KEL IB', the perfect number plate for Kelli, Kellie or Kelly, or your personal initials KEL, £5795. Tel: 01560 480862. Email: porschehb@aol.com. P1113/061

ASII POR

'AS11 POR', for sale on retention and available for immediate transfer, £2500. Tel: 07967 000349. Email: cunzie2@aol.com. P1113/002

ASII TUR

'AS11 TUR', for sale on retention and available for immediate transfer, £2500 ono. Tel: 07967 000349. Email: cunzie2@aol.com. P1113/003

GKS 44

'GKS 44', on retention, offers invited. Tel: 07757 206839. Email: sgs.488@gamil.com. P1113/005

NS03 XXX

INTERESTING NUMBER PLATE: 'NS03XXX', £299, sensible offers. Tel: 07788 340048. Email: martin911taylor@hotmail.co.uk. P1113/006

FAI3 GTS

CHERISHED PLATE for sale, 'FA13 GTS' saying FAB GTS, ready on retention for immediate transfer, vehicle must be 2013 to be able to wear it! Make me an offer? Tel: 07989 301469. P1113/018

C33 JTA

'C33 JTA', on retention, ideal for 3.3 Coupe or 3.3 Cabrio, perfect for Turbo or lookalike Turbo, £795 includes transfer fees. Tel: 01803 712990. Email: pauljolly@btinternet.com. P1113/033

SP55 NCE

'SP55 NCE', Spence private plate for sale, suit cars 2005 onwards, £1299 for quick sale. Text: 07799 064911. Email: calder911@yahoo.co.uk. P1113/034

9II WGX

REGISTRATION '911 WGX' for sale, on retention certificate for immediate transfer, £2500 including transfer fees. Tel: 07796 145169. Email: amdjm@btinternet.com. P1113/035

GT08 MAG

'GT08 MAG' reg for sale on retention, ready to transfer, perfect for Maggie or GT3, £600. Tel: 07815 441126. Email: wayne.helme@hotmail.co.uk. P1113/036

MY 54BOX

NUMBER PLATE on retention for sale, 'MY 54 BOX', £1200. Tel: 07768 695011. Email: libaohp@hotmail.co.uk. P1113/037

GT03 GPT

'GT 03 GPT', available for transfer, perfect plate for your GT3, £800. Tel: 07711 182888. P1113/022

R3 DHB

REGISTRATION NUMBER 'R3 DHB' for sale, on retention for immediate transfer, only £600 which includes the transfer fee. Tel: 07776 202642. Email: stewardhp@hotmail.co.uk. P1113/038

9II XBM

'911 XBM', private registration number (on retention, fees paid), £1995. Tel: 44 (0)7897 906307. Email: asimh.email@gmail.com. P1113/019



'S997 TTW', registration/number plate, suit Porsche (911) 997 S, Turbo etc, sensible offers invited. Tel: 07939 057879. Email: tim171717@hotmail.com. P1113/063

R5 CAR

RS REGISTRATION that can be fitted to models from 1977, number currently held on certificate, £5000. Tel: 01636 830582. Email: pcuthbert250@btinternet.com. P1113/058

A ROGUES

'A ROGUES' PLATE, fun number plate for a cheeky guy, raise a smile with this number, on retention, simple process, get in touch now, absolute bargain. Tel: 07020 923542. Email: cool@gmx.co.uk. P1113/062

PARTS

cmsporsche.co.uk

CMS Porsche Spares,
Horton Wood, Telford, W-Mids

01952 608911
07831 711609

Porsche & Porsche projects or
salvage bought and sold
**Servicing & Diagnostic
Work Undertaken**

Mail order and credit cards welcome

Various used interiors 944/996 etc
Various used panels 944/968/996 + Boxster
New panels for Boxster + 996. Please ask for latest prices

BROKEN!! FOR SPARES

• 964 C4 Coupe • 968 Coupe • 944 S2 16v • 996 Tiptronic Cabriolet (98) • 996 C2. S-reg. 49K • Boxster x5 from 98-04 • 964 C4 convertible • 944 Turbo. 1986. LHD • 944 Lux 1987 • 968 hard frontal • 944 Turbo 1987 x2

• Various 17" - 18" Wheel Sets for sale • Please enquire
Mechanical Work Undertaken!!
www.cmsporsche.co.uk

PORSCHE 18" SPORT Classic 2 rims, fronts 7.5"/50 offset/Avon Zv5 (225/40 x 18" - 5 mm tread), rears 9"/52 offset/Bridgestone Potenza RE040 (255/35 x 18" - 3mm tread), some bubbling (no kerb damage), £1150 ono. Tel: 01582 609131. Email: stu.mac@bookproductions.co.uk (Beds). P1113/012

911 TYRES, six Continental Sport Contact 2 N2 rated tyres, three 205/50/17s and three 225/40/17s, all have at least 5 mm of tread and have never been damaged or repaired, £300. Tel: 01325 377125. Email: petergherbert@btinternet.com (North Yorkshire). P1113/017

17" CUP 2 ALLOY, 9Jx17-ET55, 993,362128,00, SL769 ITALY, 5750N, used, refurbished, £75. Tel: 07971 697861. Email: willjohnwright@hotmail.co.uk (Warwickshire area). P1113/039

PORSCHE 911 3.6 Turbo speedo for sale (part number 993 641 538 00), still in box, 2690 miles only, as new, £110 or near offer invited. Email: lena911@googlemail.com. P1113/040

PORSCHE 924 PARTS, complete tailgate for 924 coupe, good glass and frame, £495; also removable roof panel, £50. Tel: 01638 781012. Email: raymond.hayes123@btinternet.com (Cams). P1113/041



PORSCHE 924-928 half leather interior, black with Porsche Pasha pattern, door cards, rear boot carpet, centre console, mint condition, buyer collects, (no time wasters), £670. Tel: 07867 840819 (West Midlands). P1113/011



911 STEREO, great stereo from 911 Carrera, 6 disc/tape/radio, 2x 200 watt door speakers upgrade, 2 Bose for parcel shelf specially made for 911s, £200 (£300 new). Tel: 07872 490760. Email: jimmydawson20032001@yahoo.com (Lanarkshire). P1113/060



PORSCHE 911 3.8RS body parts for sale, front and rear lightweight bumpers, rear bi-plane wing, side sills and brake ducts, manufactured by DP Motorsport Germany, new, unused condition, £1250. Tel: 07903 766114. Email: steve@btinternet.com (Worcs). P1113/001



PORSCHE 911 SPACESAVER spare wheel, 16-inch, very good, never used, £40. Tel: 07872 490760. Email: jimmydawson20032001@yahoo.com (Lanarkshire). P1113/059

TRIED & TESTED

WITH 911 & PORSCHE WORLD'S CONSULTANT EDITOR, CHRIS HORTON

993-MODEL 911 CARRERA 2 ■ 1995/'M' ■ 92,750 MILES ■ £24,950

It is a measure of the huge and rapid technological progress made by the 911 during the early 1990s that this 993 and the Carrera 3.2 on the previous spread are in model terms separated by yet a third – the 964 – but in age alone are fewer than six years apart. And even at now 18 years old the car pictured below feels as thoroughly and as genuinely modern as does the 3.2 like a throwback to a bygone age. No wonder that the 993 is still so eagerly sought after in this era of the modern water-cooled 911 – or for much the same reasons the 3.2, come to that.

I can't see this one taking too long to find a new home. On paper, and even on first acquaintance, it seems nothing particularly special – beyond the then relatively unusual Grand Prix White paint, perhaps, or the distinctive split-rim wheels, more commonly found as standard equipment on the rarer glass-roofed Targa variant. Mileage, too, is about what you would now reasonably expect, with the service history suggesting that the majority was accumulated during the first few years of the car's life. And as one of the so-called pre-Varioram models – ie without the modest but useful additional power and torque of the 1996 and later cars – it is arguably not quite what you might call the main 993 event. But to dismiss it on any or all of those grounds would be to risk missing out on an acknowledged and still modestly appreciating Porsche classic that, even if not quite the bargain of the century, is going to make a thoroughly worthwhile and desirable project for at least the next 18 years – and probably a lot longer than that.

We'll start, as usual, with the bodywork. A 2009 invoice (for the best part of £1500) is evidence of attention to corrosion in the backlight surround, and plainly the car has had some paintwork in this and a couple of other areas. There are signs of filler in the left-hand rear wheelarch lip – resulting from a parking scrape, I'm guessing – and the 'A'-post mounting for the driver's door check-strap (a very common problem in the 993 range) has no less clearly been repaired. And not entirely convincingly, unfortunately, so that will need doing again sooner or later – but probably at a cost of no more than around £500. That apart, the only obvious sign of the car's age is a little gravel rash on the lower rear part of each front wing, behind the adjacent wheel. Likewise the underside of the front apron is slightly scraped, but it all seems a sign of good, honest toil rather

than anything more sinister. Take heart, instead, from the exemplary condition of those eye-catching wheels – I still can't quite decide if they are first-class refurbs, or literally brand-new – and the unfaded rear reflector strip.

Inside, there is the perhaps inevitable wear patch on the right-hand side of the driver's seat (both have part-electric adjustment), but that aside the grey leather and matching carpets (with protective overmats front and rear) are just about flawless – and the former has that wonderful aroma you always get in any well-maintained 993. Equipment, as it were, consists of the standard four-spoke airbag steering wheel, a nice Kenwood radio/CD player (with a now obviously redundant cassette storage unit at the rear of the centre-tunnel console), and not least a somewhat counter-intuitive remote-operated immobiliser and central-locking control. There's no air-conditioning, but both a sunroof and a rear-window wiper – and I note that the front wipers are missing the rubber buffer designed to prevent them knocking together on their fastest setting. More on this in Q&A on page 117 of this issue.

Mechanically no obvious problems, either. The motor starts easily and settles to a quiet, steady idle, and even when hot has good oil pressure. The engine compartment is presentable rather than spectacular, but again looks (and smells) entirely honest. You will need some engine-lid support struts pretty soon, though. Nice clutch and gear shift – not that the busy Friday-afternoon traffic in Hendon allowed much of a drive, I have to confess – and no obvious rattles or squeaks from beneath. A good ride, too. Brake discs are evenly polished and thus predictably effective, and all four Continental tyres must be almost brand-new. Up front, the bonnet struts are OK, tools and space-saver spare wheel present and correct (beneath an unusually good carpet), and there's a newish Unipart battery with reassuringly clean terminals. All signs of a car that has been enjoyed, basically, but well looked after, too.

Plenty of stamps in the book, starting with Isaac Agnew in Northern Ireland (the car came to England in 2002), and most recently (January 2012; 89,245 miles) at No 5 Garage in Acton. There's a good sheaf of bills and old MoTs, with the most recent test in January 2013 at 92,423 miles – but like all HWM cars the 993 will leave with a full year's ticket. The only other item you will need to think about is road tax – and insurance, of course. Good to go, then! **PW**

CHECKLIST

Background: An essentially standard pre-Varioram 993 Carrera 2 with five previous owners. Sold new in Northern Ireland, and came to England in 2002. Unusually for a car of this period has Grand Prix White paint – making it look very modern, even now – and also Targa-style split-rim wheels. No tax, but a good history, and will leave with a full year's MoT

Where is it?

Hendon Way Motors is on the northbound side of the A41 at Hendon Central, north London, just a short walk from the Northern Line Underground station. Call 020 8202 8011, go to hendonwaymotors.com, or e-mail sales@hwm.biz

For: Overall condition, colour – white is famously making a bit of a comeback these days – those unusual Targa wheels, and if nothing else the simple fact that, well, it's a 993

Against: Shame about the previous repairs to both the left-hand rear wheelarch and right-hand 'A'-post (see text), but neither – and especially the latter – is something that you won't find in many other 993s. Other than that, not a lot

Verdict: Not the most immediately exciting of 911s, but seems essentially a very honest, original and appealing example of a Porsche model that famously shows signs of approaching sainthood. You will find better, and you will find cheaper. But not easily one that is cheaper and better

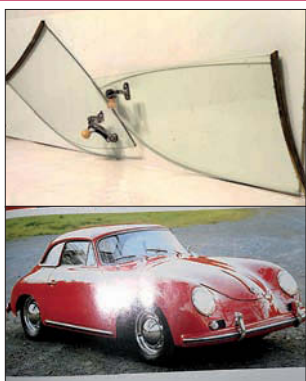


Value at a glance

Condition	✓✓✓✓
Price	✓✓✓✓
Performance	✓✓✓✓
Overall	✓✓✓✓✓
✓ Poor ✓ Fair ✓✓ OK	
✓✓✓ Very good ✓✓✓✓ Excellent	

PORSCHE CLASSIFIEDS

ADVERTISE YOUR PORSCHE FOR **FREE** - ON THE PAGE AND ONLINE at www.911porscheworld.com



ORIGINAL GLASS REAR QUARTER opening windows and securing mechanism from convertible hardtop, found on various 356 ragtop models, email for list of pricing/parts available; rear original glass windows for convertible hardtop off special 356 models. Email: wayne.hardman@btconnect.com. P1113/026



VDO PORSCHE GAUGES, complete set of three, £500 set/£200 each, sell set preferably, plus p&p, contact for full list of parts. Tel: 07732 844573. Email: wayne.hardman@btconnect.com. P1113/025

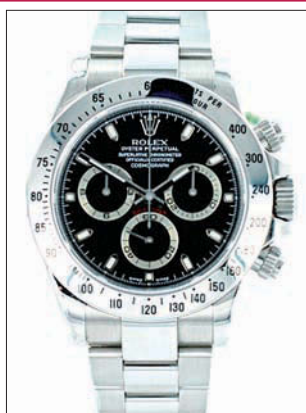
BOXSTER 987 GRILLES, stainless steel mesh front grilles, excellent cond, boxed, £60 (free postage). Tel: 07946 484718. Email: smithpaul65@sky.com (Norfolk). P1113/042



PORSCHE 924-928 CLOCK in perfect working condition and ideal for any project, £70, buyer collects, no time wasters please. Tel: 07867 840819 (West Mids). P1113/064

GENUINE PAIR OF BLACK Porsche Design Carfit suitcases to fit the front luggage compartment of the Boxster, 997, 996, Cayman etc, excellent condition, £700 new, yours for £195. Tel: 07841 464135. Email: dickhutton3@hotmail.com (South Yorkshire). P1113/014

MISCELLANEOUS



ROLEX DAYTONA COSMOGRAPH stainless steel (the rare one), absolutely as new condition, any inspection welcome, comes with all original boxes, paperwork and Rolex guarantee until December 2013, £7000, WHY? Tel: 07872 004147. Email: davyrob@aol.com (Flintshire). P1113/065



PORSCHE JUNIOR ISOFIX G1+G2 child seats, seats are in perfect condition with no wear marks, dirt, and all the original books, belts and Isofix brackets are still present, £220. Tel: 07778 814758. Email: min@minny.f9.co.uk (Antrim). P1113/007

BNIB GENUINE OEM Porsche umbrella to fit the passenger door sill, unwanted (duplicate) gift, cost £68, yours for £50 plus postage at cost. Tel: 07841 464135. Email: dickhutton3@hotmail.com (South Yorkshire). P1113/015

PORSCHE CARRERA CUP automatic umbrella, used but mint condition and, I'm told, very rare, will fit the passenger door sill, £25. Tel: 07841 464135. Email: dickhutton3@hotmail.com (South Yorkshire). P1113/016

LARGE COLLECTION of Porsche models, all scales and makes plus 25CMC Mercedes/Autounion and land speed record cars, all in A1 condition, trade welcome, all must go. Tel: 01733 746567. Email: rallyrita@gmail.com (Cams). P1113/024

BACK ISSUES, 23 years' worth, no.1 to current issue (excl 14 and 91), all in very good condition, offers over £150 please. Tel: 01372 722928. Email: jmstak2@hotmail.com. P1113/023

WANTED

WANTED 911, take car, pay finance, am private ad, car and payment book, why struggle, get debt away. Tel: 01475 529216. Email: lporsche997@aol.com. P1113/004

PRIVATE COLLECTOR SEEKING 3.2 1988 or 1989 G50 Carrera, FPSH, impeccable provenance essential, below 50K miles, likely private collector sale, discretion in sale assured. Tel: 07970 023001. Email: nigel@stream-communications.com (Lanarkshire). P1113/043

PORSCHE 928 MANUAL WANTED, prefer early 4.5 model in good condition, cash waiting for sensibly priced car, genuine enthusiast private buyer willing to travel. Tel: Damian, 07803 042618 (Lanarkshire). P1113/044

WANTED: PORSCHE 996 C4S red rear boot reflector in good used condition (no cracks), part number: 996.512.259.01. Tel: 01280 308793. Email: james@jgcporsche.co.uk (delivery needed to Brackley NN13 7BE). P1113/025

INSPECTION

Probably the largest independent Porsche inspectors in the UK

We provide a bespoke, individual Pre-Purchase Inspection service on any Porsche, nationwide, including Cat C, D and repair inspections. We'll thoroughly check all aspects of the car, inside, outside, underneath and by road test. Avoid lemons, get faults fixed for free and reduce asking prices!

Our fee is £295 inc. VAT and travel
01780 749449

www.carinspections.co.uk

TRADE

BRIAN MILLER MOTORS

SPECIALIST IN PORSCHE AND GERMAN MARQUES

- SERVICE • TUNING • FUEL INJECTION
- ELECTRICS • PRE-PURCHASE INSPECTIONS
- 46 YEARS EXPERIENCE
- OPEN MONDAY TO SATURDAY

0131 443 7806

2 LANARK ROAD EDINBURGH EH14 1TQ

HILLCREST SPECIALIST CARS

SPECIALIST IN PORSCHE

Whitehouse Garage, High Street, Nettlebed, Henley on Thames RG9 5DB
Service, Repair and Sales by factory-trained technicians



www.hillcrestspecialistcars.com

01491 642911

Car Cover Shop

To protect and preserve

Custom made Porsche covers, from stock:

- Indoor breathable (Red, Navy/Royal Blue, Black, Green, Silver) from £145
- Outdoor 100% Waterproof (Black, Red, Green, Navy) from £295
- Boxster, Cayman, 930, 3.0, 964, 993, 996, 997, 944/968, Cayenne

NEW

Online database for the perfect cover at
www.carcovershop.co.uk Tel 01780 749449

**YOU CAN UPLOAD YOUR PRIVATE ADVERT AT: www.911porscheworld.com
OR YOU CAN EMAIL: classifieds@chpltd.com**

ADVERTS ARE FREE! YOU MAY INCLUDE A PHOTOGRAPH AND UP TO 30 WORDS OF TEXT (thereafter it's 30p per word). Copy can be submitted online or by email, fax (+44 (0)20 8763 1001) or post, with remittance if applicable, to: 911&PW Private Classifieds, CHP, Nimax House, 20 Ullswater Crescent, Ullswater Business Park, Coulsdon, Surrey CR5 2HR, United Kingdom. Don't forget your contact details! Deadline for inclusion in the December issue is 17th October (January issue deadline 14th November).

Cherished by you **Insured by us**



WHY CHOOSE RH?

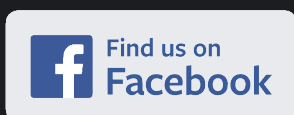
- ✓ No broker admin fees
- ✓ No upper age limit*
- ✓ Cover available for 18-25 year olds*
- ✓ Agreed value cover available
(subject to club or independent valuation)
- ✓ Salvage return – free and automatic for all vehicles
over 20 years of age
- ✓ UK & European breakdown recovery (over 1 mile from home
or nominated garage address) included at no extra cost
- ✓ Multi vehicle insurance – combine your specialist vehicle collection and
modern cars onto one policy (providing the majority are classic)
- ✓ We can tailor the cover required to meet your needs

Insurance Quotation Hotline
01277 206911
www.rhclassicinsurance.co.uk

* subject to underwriting criteria

RH Specialist Insurance is a trading name of Willis Limited, a Lloyd's broker. Registered office: 51 Lime Street, London, EC3M 7DQ. Registered number 181116 England and Wales. The RH insurance schemes are arranged and administered on behalf of Willis Limited by Equity Red Star Services Limited, an appointed representative of Equity Syndicate Management Limited for Equity Direct Broking Limited.

Equity Syndicate Management Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. All other firms are authorised and regulated by the Financial Conduct Authority or are agents of an authorised firm.



Modern



Multi-vehicle



Replica



Classic
Motorcycle



Household





DRIVE A BETTER DEAL
with
Performance Direct

PORSCHE INSURANCE

Last year thousands of motorists swapped their insurance to Performance Direct.

Want to find out why?

Don't just renew your insurance – save money and experience the difference with Performance Direct.

0844 573 3543

www.performancedirect.co.uk

Policy Options Include:

- Multi-car policies
- Classic Cars
- Limited mileage discounts
- Car Club discounts
- Agreed values
- Knowledgeable UK staff
- Open 7 days a week

*Subject to underwriting criteria



PERFORMANCE DIRECT .CO.UK

Performance Direct is a trading name of Grove & Dean Ltd, an independent intermediary who are authorised and regulated by the Financial Services Authority (FSA). For your security calls may be recorded.

Machine Mart

WHERE QUALITY COSTS LESS

NOW 64 SUPERSTORES NATIONWIDE

Clarke HEAVY DUTY INSTANT GARAGES

UP TO 24' (7.3M) LONG

MODEL SHOWN CIG1220 (20'x12'3")

FROM ONLY £279.98 EX.VAT

£335.98 INC.VAT

INSTANT GARAGES

ZIP CLOSE DOOR

MODEL	SIZE (LxWxH)	EX VAT	INC VAT
CIG1216*	4.9 x 3.7 x 2.6M	£279.98	£335.98
CIG1220#	6.1 x 3.7 x 2.5M	£339.00	£406.80
CIG1224	7.3 x 3.7 x 2.5M	£399.00	£478.80

* WAS £358.80 inc.VAT # WAS £418.80 inc.VAT

FROM ONLY £139.98 EX.VAT

£167.98 INC.VAT

INSTANT SHEDS

MODEL	SIZE (LxWxH)	EXC.VAT	INC.VAT
CIS88†	2.4 x 2.4 x 2.4M	£139.98	£167.98
CIS612#	1.8 x 3.7 x 2.4M	£169.98	£203.98
CIS1212*	3.7 x 3.7 x 2.6M	£214.99	£257.99

† WAS £191.98 # WAS £227.98 * WAS £275.98 inc.VAT

24' (7.3M) LONG GARAGE bricks not included

SHED - ZIP CLOSE DOOR

Great for temporary or permanent use as a garage/workshop for vehicles and general storage

- Extra tough, triple layer waterproof cover. Fully UV treated and manufactured to provide long term protection against rain, wind and sun
- Heavy duty powder coated steel tubing, for stability in all weathers
- Ratchet tight cover tensioning keeps cover tight - no need for guy ropes

3 EASY WAYS TO BUY...

IN-STORE

64 SUPERSTORES

Call 0844 880 1250 to find your nearest store

ONLINE

machinemart.co.uk

MAIL ORDER

0115 956 5555

All offers subject to availability, E&OE.

21061

Affordable peace of mind for you and your classic.



Privately owned for almost 50 years, we like to believe we know a thing or two about classic car insurance.

We understand what the enthusiast wants – and doesn't want – from their cover.



☎ 0121 248 9200

PROFESSIONAL • KNOWLEDGEABLE • FRIENDLY

www.heritage-quote.co.uk

Heritage Insurance, part of Norton Insurance is authorised and regulated by the Financial Conduct Authority. Telephone calls may be monitored or recorded for your protection.

REF:PW/07/13

Porsche motorInsurance

New & exclusive scheme
at reduced rates
guaranteed!

10%* discount for
**Porsche Club
Members**

With every New Policy
20% off your next service at
AUTO 2000
PORSCHE SPECIALISTS



mayfaironline
insurance & mortgage consultants

www.mayfaironline.co.uk

Tel: 08444 935 713

* Subject to terms & conditions. Calls may be monitored for training purposes.

Performance
INSURANCE

A member of Mayfair Insurance & Mortgage Consultants Limited

Mon-Thurs: 9am-7.00pm,

Fri: 9am-5.30pm - Sat: 9am-1pm



THREE WAY 964 RS GROUP TEST

3.6, 3.8 and 3.8 race car. All 964 RS bases covered in our *g11&PW* group test



**PLUS: 911SC V
CARRERA 3.2**
The choice isn't
as clear-cut as you
might think

PLUS: Our cars, You and yours, How to, Q&A, Tried and tested and a packed Porsche classifieds

DECEMBER ISSUE ON SALE: THURSDAY NOVEMBER 7

ADVERT INDEX

Aase Sales	16	Glencoe	89	PMO	107	Stoddard Parts	29
Addspeed Performance Cars	38	GMG Racing	47	Porsch-Apart	85	Tech 9 (TechArt UK)	124
Alloygator	28	H&R Suspension (Euro Car Parts)	13	Porsche Cars GB - Aftersales	7	The Wheel Restorer	107
Ashley Insurance	112	Hartech	56	Porsche Centre Portsmouth	6	Tipec	108
Augment Automotive	96	Hendon Way Motors	57	Porsche Club GB	103	TWG Motorsport	108
Autostrasse	108	Heritage Insurance	120	Porsche Torque	63	Van Zweeden	33
Beeson Retrosport	103	Hexagon Modern Classics	17	Porschembri Coachbuilders	101	Yorkshire Classic Porsche	84
Bilstein UK	75	HP Motorsports	84	Porscheshop	11	Zims Autotechnik	103
Braunton Engineering	28	Jasmine Porschalink	89	Porscheshop Euro Cup GT	101		
Brey Krause	6	Jaz Siat Porsche	64	Portiacraft	102	CLASSIFIEDS	109-118
Cargraphic	123	JMG Porsche	90	Prepfab	76	Brian Miller Motors	
Cavendish Porsche	24	JZM	16	Prestige Salvage	108	Car Cover Shop	
Chris Turner	108	LA Dismantler	25	ProMax Motorsport	85	Car Inspections	
Classic Additions	103	Lloyd Latchford Schemes	113	Ramus Porscha	28	CMS Porsche	
Classicline Insurance	112	LN Engineering	64	RennAire	85	DSD Motorwerks	
Club Autosport	56	Machine Mart	120	Rennline	23	Eporsch	
Cotswold Porsche Specialists	96	Mayfair Performance Insurance	121	RGA	32	Finlay Gorham	
Design 911	19, 112	Nine Excellence	32, 101	RH Specialist Car Insurance	119	Hillcrest Specialist Cars	
Douglas Valley Breakers	96	Ninemeister	48	RPM Specialist Cars	84	JGC Porsche Specialist	
Elephant Racing	37	Northway	32	RPM Technik	38	Karmann Konnection	
Elite Garages	21	Numeric Racing	48	RS 911	102	Libertas UK	
Elite Motor Tune	107	Paragon GB	49	RSJ Sportscars	24	Motorfarm	
Engine Builders Supply	65	Parts Heaven	38	R-to-RSR	101	Peter Morgan Media	
Enviro-Strip (UK)	107	Patrick Motorsports	90	Specialist Cars of Malton	90	Prestige & Performance Cars	
EZ Power Steering	63	Paul Stephens / PS AutoArt	56	Specialist Vehicle Preparations	31	Roger Bray Restoration	
Fabspeed	39	PCT Cars	102	Sportwagen Eckert	83	TJS Sportscars	
FVD	2	Performance Direct	120	Steve Bull Specialist Cars	108	Williams Crawford	

THE PERFECT
PARTNERSHIP
FOR YOUR PORSCHE



WITH OVER 25 YEARS EXPERIENCE,
PARR IS NOW ONE OF THE UK'S LEADING PORSCHE
SPECIALISTS. AS THE OFFICIAL IMPORTER OF CARGRAPHIC
TUNING PRODUCTS, WE CONTINUE TO OFFER THE BEST
POSSIBLE SERVICE TO OUR VALUED CUSTOMERS.



T: 01293 537 911

T: +49 63 41 968 911-0

TUNING // SERVICING // MOTORSPORT // STYLING



The 21-inch TECHART Formula IV wheel for the Porsche 911 Carrera 4 models. Available from November 2013.

Expectedly unexpected.

The new TECHART Formula IV sport wheel for the 911.

Genuine TECHART wheels embody consistent design and inimitable style. The renowned TECHART wheel range embodies a wide variety of different technologies and designs. No matter which of the six TECHART wheel series – TECHART Formula, Formula II, Formula II GTR, Formula III forged, Formula IV or Formula Race centerlock – TECHART wheels perfectly compliment your Porsche model.

The all new 21-inch TECHART Formula IV sport wheel unifies the typical TECHART product features in a unique thrilling twin-spokes sport design. Its sophisticated functional shaping combined with an aligned aluminium casting technology results in a significantly reduced weight and optimum rigidity. Besides the high-class bi-colour variant (titanium grey/gloss-turned) which comes as standard, individually matched custom colours are available on request.

Please contact Tech 9 Motorsport for availability of the TECHART Formula IV wheel for your Porsche model.

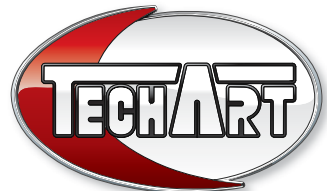


TECH9
ENGINEERING EXCELLENCE

www.tech9.ms

TECHART in the United Kingdom:

Tech 9 Motorsport Ltd
Hale Garage, Hale Road, Hale, Liverpool L24 5RB
Tel: +44 (0)151 4255 911, Email: sales@tech9.ms



www.techart.de