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mag



Walter Rohrl

# 911 Heaven



**The Last Real Sports Car**

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We explain how it works in  
our Aerodynamics special...

  
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Keeping Bugs out of Britain's Homes





# Sign This

Scrap the proposed ban on new petrol and diesel cars

<https://petition.parliament.uk/petitions/556842>

There are 40 million of us with cars...

 **Petitions**  
UK Government and Parliament

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Petition

## Scrap the proposed ban on new petrol and diesel cars


The Government plan to ban the sale of diesel and petrol cars by 2040 or even 2030. This is because of the goal of UK being carbon neutral by 2050. We believe this is not realistic and that electric cars are nowhere near as economic as diesel and petrol cars.


[▶ More details](#)

[Sign this petition](#)



**7,081** signatures

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 **At 10,000 signatures...**  
At 10,000 signatures, government will respond to this petition

 **At 100,000 signatures...**  
At 100,000 signatures, this petition will be considered for debate in Parliament

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Created by  
**Aryan Bastani**

Deadline  
**4 May 2021**

All petitions run for 6 months

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# freetorial

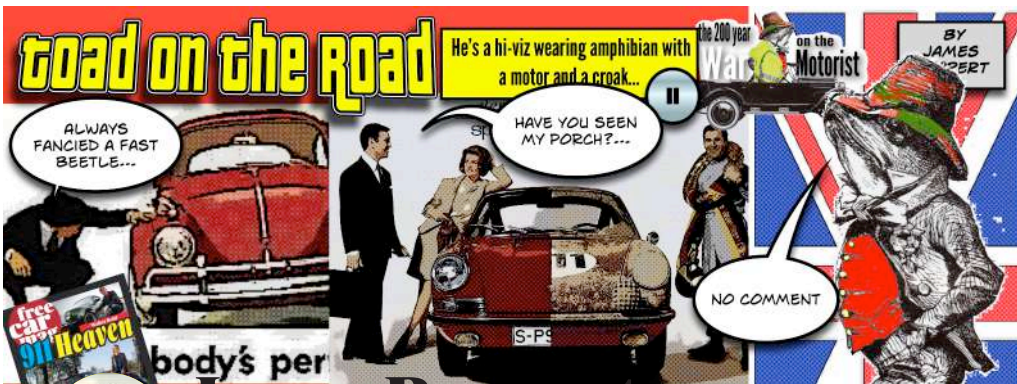
Real cars are now an endangered species. Ones that get you by the scruff of the neck and entertain, amuse and provoke. That's why we have gone big on the 911. It has become fatter and ever more expensive, but in a world of quite ordinary motors, the 911 remains special. It was great that Porsche have produced quality articles that allow us into the mind of Walter Rohrl. We also enjoyed listening to what Laura Kukuk had to say.

With all that in mind, please sign the petition to tell the government to think twice about banning the sale of affordable and practical motor cars.

Kiran Parmar has told us all about aerodynamics and I apologise for splitting it in two, sometimes the restrictions of a digital format... Shahzad Sheikh is our Road Test Editor who tells you what cars are like in the real world, driving a Honda Jazz, BMW Z4 and Peugeot 2008 SUV. See you next time.



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# Singer Off Road Racer with a Brit Connection



At the request of a long-term client, Singer has looked to a golden era of Porsche rallying in the 1980s, and to automotive heroes including the 911 SC/RS and 959, to reimagine his air-cooled 911s as World Rally Championship-inspired, all-terrain competition machines. Singer's latest services will enable their clients to go off-road racing, with a Porsche 911 modified by Singer for all-terrain use.

The All-terrain Competition Study has been undertaken by Singer, in partnership with renowned 911 rally specialist Richard Tuthill, in response to the request from their client for modifications to his air-cooled Porsche 911 that would enable the car to compete in off-road racing and to demonstrate extensive all-terrain exploration capabilities. To highlight the broad

repertoire of the ACS, the client has commissioned two machines, one - in Singer's iconic Parallax White - focused on high-speed desert rallying and a second - in Corsica Red - configured for high-speed, high-grip tarmac events and disciplines.

Porsche 911s prepared by UK-based off-road competition specialist Richard Tuthill have dominated rally events for decades, with recent victory in the 2019 East African Safari Classic marking a remarkable 4th win in the grueling 5000km event across Kenya and Tanzania. These successes sit alongside deep expertise from the world of WRC competition and events such as the Paris-Dakar.







## Magnus Walker + 911 Flatnose

Behind a hangar door downtown, the whiff of oil and gasoline mixes with the familiar smells of another warm Los Angeles afternoon. When the lights flicker on overhead, the sight of Magnus Walker's incredible car collection still takes your breath away. Wall-to-wall Porsche, a sea of original and highly modified air-cooled 911 and turbocharged transaxles. But front and centre today is something altogether new, a car with a special place even in this elite company.

After months of searching, Magnus has found himself a slantnose 911, this one a wild homage to the Group 5 racers of the late 1970s. It's the latest blank canvas for the Urban Outlaw, with the potential to become the most outrageous car in his garage. Which is saying something. "I'd been looking for a slantnose on and off for almost a year," Magnus explains. "I'd driven all the way to Miami to look at one, and travelled as far afield as Europe. I'd posted on Instagram and Facebook that I was looking and naturally I got a lot of responses with all types of cars from factory originals to aftermarket kits. Even race cars from the likes of DP Motorsport and Kremer. But none of them felt right for various reasons."

The original slantnose or 'Flachbau' 911 was a rare factory option provided by Porsche in the 1980s as a cost option for the flagship 911 Turbo. Its aerodynamic styling was derived from the

935s that had dominated endurance racing for years and was applied to a little over 900 cars from the factory. Even accounting for aftermarket kits, the number of slantnose cars on the road today is diminishingly small. So Magnus's quest was sure to be a long one. "In the end the car found me," he reveals. "The one I ended up buying was actually in LA all along. A global search ended up less than ten miles from my door."

Fans of the Urban Outlaw brand might be surprised to find Magnus hunting down something so obscure, but as is so often the case with the British-born designer, his motives are rooted in his past. "I always loved the 935 styling," he explains, "and the first Porsche I ever bought, back in 1992, was a '74 Red steel body with a slantnose conversion. The car's looks are very 'Miami Vice' and people tend to love them or hate them. I've always loved them."

The plan at the moment is a 277-inspired livery Magnus's car is more Don Whittington than Don Johnson, however, with oversized Group 5-style headlamps in the front air dam and the giant rear air scoops and aero from the 935 racers. The original car beneath is a US-market 1974 Carrera, currently running a 2.7-litre boxer built to RS spec with mechanical fuel injection and mated to a stock 915 transmission.





## DYNAMICS + LIGHTWEIGHTING SINGER STUDY - THE DLS

Singer clients commissioned special cars with still more extreme power and weight targets, and to meet them Singer enlisted the services of Williams Advanced Engineering (the consultancy arm of the Grand Prix group) and Porsche engine designer Hans Mezger, plus Michelin, BBS and Brembo. These cars are modified at Williams' Grove base in Oxfordshire. Williams Advanced Engineering has undertaken a 'Dynamics and Lightweighting Study' (DLS) on behalf of Singer. First car to come out of the Singer/Williams collaboration was based on a 1990 Porsche 964 owned and commissioned by Porsche enthusiast and it's finished in 'Absinthe' paint colour, with Blood Orange leather inside. The engine unit is a 1990 3.6, is worked over with four-valve heads, titanium con-rods, aluminium throttle bodies, carbon intake trumpets, a bespoke carbon airbox, fuel injection with twin injectors, a ram-air induction system fed by inlets at the rear side windows and a lightweight exhaust system in Inconel and titanium. The suspension has been made lighter and more adjustable, with altered geometry and special dampers by competition specialists EXE-TC.







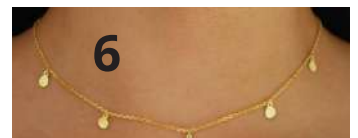
## Get The Look

### LAURA KUKUK + PORSCHE HERITAGE DESIGN ED

Here is a lovely photo by Niclas von Glahn which features Laura Kukuk and it is worth going to the kukuk.com website if you want to see how car inspections should be done. They really get to look at some fantastic pieces of classic car kit and there is a great film showing you what Laura does for a living. Being Free Car Mag we are just as interested in the superficial, hence our commitment to checking out how she gets that rather cool, comfy and relaxed look. It can't be easy, or maybe the last thing Laura needs is a distraction in the wardrobe department. Anyway, let's see if we can get the Heritage Design Edition Porsche, we will have to join the queue as just 992 are to be made available to customers. It is based on the Targa 4S but costs £26,918 more than that. Laura's jumper may be cheaper.

#### Laura

- 1 Porsche 911 Heritage Design Edition £136,643
- 2 Jeans - Marks & Spencer £19.50
- 3 Leather Jacket - Borden £149.00
- 4 Jumper - Shein £14.99
- 5 Pendant Necklace - Argos £4.99
- 6 Necklace - Etsy £19.00





**Porsche 911**



Photography: Niclas von Glahn

# Heritage Site

Engineer Laura Kukuk is in demand all over the world as a sports cars appraiser and classic vehicle expert. The 27-year-old takes a closer look at the story behind the 911 Targa 4S Heritage Design Edition.







Sometimes looks say more than a thousand words: anyone who is out on the road with the new Targa 4S Heritage Design Edition will know what I am talking about. People meet you with a sense of familiarity and delight, combined with just a touch of astonishment: “What kind of car is that?” they ask. It’s understandable – many design elements recall the purist 550 and early 356 models, as well as the first Targa cars of the early 1960s. But this is in fact an ultra-modern Porsche 911 of the current age.

As an appraiser and classic car expert, I am extremely lucky to spend my working days examining and testing some very special vehicles. Alongside the technical aspects, much of my work is focused on checking the originality of the details. I also conduct extensive research into a vehicle’s history, because a car comes to life only when its story is known. In my line of work, a passion for detail is an absolute must and that is exactly where I would like to start here – with the details.

In order to study the special elements of the Heritage Design Edition, I have taken an early Targa model from 1971 with a 2.2-litre engine and black/black Pepita seats to use as a reference. With the two cars side by side, many parallels are noticeable. Let’s start with the wheels: on one car, the classic Fuchs rim – the

world’s first forged aluminium wheel. On the other, a modern interpretation that brings the design firmly into the 21st century. Meinerzhagen is not far away from the Kukuk engineering office, so we have a special relationship with the Otto Fuchs foundry. Thanks to a combination of innovation and clever craftsmanship, Otto Fuchs succeeded in establishing a new manufacturing method for wheel rims, namely forging an aluminium alloy in one piece, which resulted in a significant reduction in weight. Even from the age of about six I associated the famous Fuchs rim with the Porsche 911, and I would often be irritated if I saw a Porsche fitted with other wheels. The impeller wheel design is still known as the “Fuchs rim” all over the world right up to the present day.

For the Heritage Design Edition, the Fuchs rim in cloverleaf form was revived and reinterpreted, with both the black high-gloss elements and the bright aluminium side faces establishing a link. The brake calipers are painted black to maintain the particularly classic look, so they blend inconspicuously into the background. Meanwhile, the wheel hub is adorned with the traditional Porsche logo from 1963. Tip: the classic Fuchs rim can still be purchased today from Porsche Classic.

As an engineer, I am really impressed by the design of the Targa roof in particular. No, I’m not talking about the historic Targa bar with the small, manually removable roof and the folding soft



# Porsche 911







window, which was a milestone back in its day. Rather, I'm looking at the new mechanism. It is a true engineering feat to develop something that opens a rear window weighing 13 kilograms before lifting it smoothly over the Targa bar, and stowing it so elegantly – especially in just 15 seconds.

Inside, is a two-tone interior; seat panels and interior door trims made of corduroy; a perforated leather roofliner; and leather-trimmed A-pillars and instruments. A visual highlight is the historic Porsche crest, which can be found on the steering wheel, head restraints and centre armrest.

Another detail that I really want to emphasise, and which is also based on the early models, is the traditional Porsche analogue rev counter, which features the typical green digits of the 1950s, just like the stopwatch. Now, if that is not attention to detail. The Cherry Metallic paintwork of this car is ideally matched to the two-tone interior and works in harmony with the corduroy of the seats and interior door trim panels.

There are various decorative trim elements to be discovered, such as the "Heritage" badge on the engine grille, which was handed to the early Porsche 356 owners after they had successfully completed the first 100,000 kilometres, as well as the traditional gold Targa logo on the rear. The spears applied to the two front CFRP wings are a particular highlight. This type of paintwork or decal application was used in the early days of motorsport, when the elongated "eyelashes" were chosen in the works or national colour so that the teams could identify their cars from a distance on the race track.

Before I get in the car, one element at the upper end of the windscreen frame catches my eye. The aerodynamics specialists at Porsche have developed a kind of spoiler that extends or retracts depending on the airflow and speed, thus ensuring improved wind routing in the cabin. This reminds me how in the early days of the Targa, owners would open the windows slightly to reduce the drumming noise.

I set off on a lap of the Chiemsee lake, east of Munich – it's as close as we'll get to the Targa Florio today. The famous Sicilian endurance race has been on my bucket list since I was a child, and so the name "Targa" has a great personal appeal to me. Harald Wagner, who was Porsche's Director of Sales, said in 1965 that it was "a happy coincidence that Targa means 'shield'". This special link to Porsche's five Targa Florio victories between 1956 and 1965 – and to the idea of a shield and safety – make this name feel particularly appropriate.

Having spent some time with the car, I can say that the Heritage Design Edition succeeds in combining the best historic aspects and details of the early Targa and reinterpreting them using state-of-the-art technology. With its references to the 1950s and 60s, the 992 cleverly transports a feeling of heritage into the present. The result is a modern vehicle offering plenty of comfort, while lovingly combining the feelings evoked by the first models.

**Vehicle technology engineer Laura Kukuk grew up with classic cars and today works as an appraiser for sports and racing cars and as an expert in classic cars in her father's renowned Kukuk engineering office. She has also worked as a freelance journalist for a number of years.**



Porsche 911



The driving legend explains what makes the 911 Turbo tick

# Röhrl Call...







**N**o-one knows the Porsche 911 Turbo better than rally legend Walter Röhrl. He first bought one for himself 41 years ago, and his first company car at Porsche was also a Turbo. At the Porsche Experience Centre Hockenheimring, he takes a look back at seven generations of the flagship model.

#### **The 930 generation**

“The forefather of all Turbos was a technical revolution in car production. The first variant with 260 PS and a four-speed gearbox was still very sharp as regards its power development, but that made it a fantastic challenge for skilled drivers. The visual styling of the 930 was also a dream: the flared wings in combination with the Fuchs wheels, not to mention the large rear spoiler. I fulfilled a very personal dream in 1979 when, within four years of the market launch, I bought my own, first, 911 Turbo.”

#### **The 964 generation**

“The successor then still had a displacement of 3.3 litres, like the last variants of the 930 models. It was still extremely beautiful; the wide wings at the sides with the high headlights and the powerful rear wing. Like the 964, the new models also offered significantly improved driving safety with ABS and power steering. However, the engines of the first variants were slightly outdated. It was not a great step forward in terms of longitudinal dynamics compared with the predecessors, which is why the earlier models are among the less popular variants today. That changed fundamentally with

the Turbo 3.6, however. With a completely newly designed engine and a power output of 360 PS, it remains a dream car to this day.”

#### **The 996 generation**

“The next development milestone came with the new generation: water cooling. The car was technically outstanding. Even the Porsche Carbon Ceramic Brakes (PCCB) from motorsports were now available as standard. The 996 was far and away the best Turbo there had ever been up to this point, but the visual appearance of the new car was not very popular; many people complained about the ‘fried-egg’ headlights. That is completely unjustified in my opinion. For me, the 996 Turbo is perhaps the insider tip, especially when seen from today’s perspective: it’s still a very fast sports car that is completely suitable for everyday driving at a reasonable price – though I would personally prefer a manual transmission. The Tiptronic automatic gearbox that was introduced for the first time in a Turbo with the 996 significantly blunted the power output of 420 PS.”

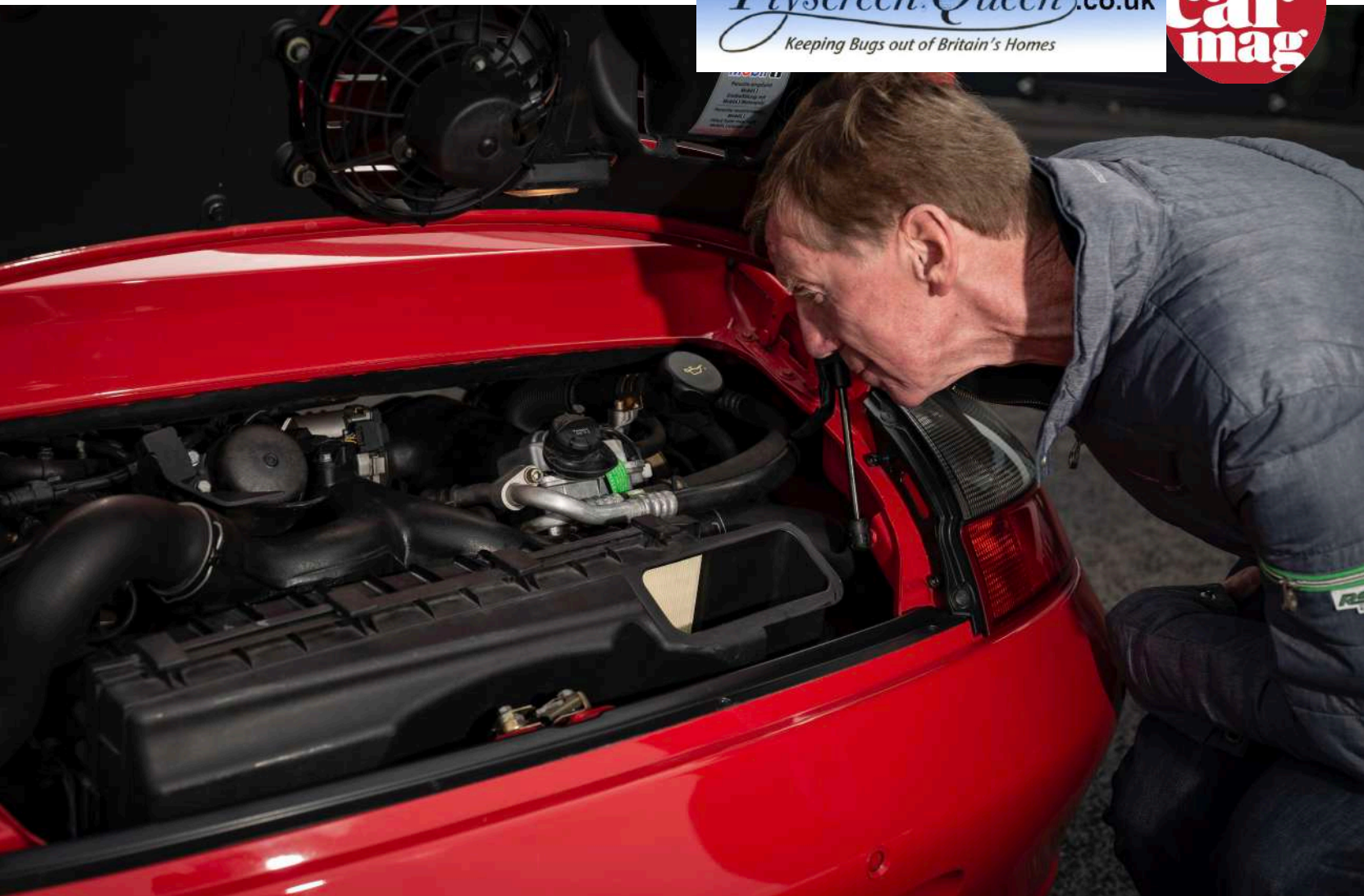
#### **The 997 generation**

“The 997 generation above all represented a step forward into modern times in terms of the visual styling. Even today the car has hardly aged – it continues to embody the aesthetics of a modern Porsche. On the technical side, the then magical limit of 500 PS was reached with the 997.2 Turbo, and the PDK dual-clutch transmission was introduced for the first time. As a result,









the car was wonderful. Even today I still cannot find anything negative to say, and I always enjoy sitting behind the wheel of a 997 Turbo. There is a marvellously analogue feeling to the set-up of the steering, running gear and brakes.”

#### **The 991 generation**

“The even wider wings are almost reminiscent of the wings on the original Turbos. And there is also the refined power distribution of the all-wheel drive, the introduction of rear axle steering and, naturally, the even higher power output: the 991 Turbo models set such a high standard in terms of driving dynamics that it is hard to believe that it’s possible to improve anything here. The responsiveness, balance and unbridled power of the engines – it’s just incredible.”

#### **The 992 generation**

“I will be quite honest here: I simply could not imagine how it would be possible to further enhance the experience offered by the previous generation. But when I drive the 992 Turbo today in Hockenheim, it is quite incredible. It has improved once more in so many dimensions that it leaves me almost speechless. The 992 Turbo drives at the level of a super sports car, but you can put anyone behind the wheel without having to be afraid. There is no oversteer or understeer. It is just unbelievably fast. I take my hat off to the Development department, because this vehicle’s many different talents were simply inconceivable a few years ago.”







# The Great Wall

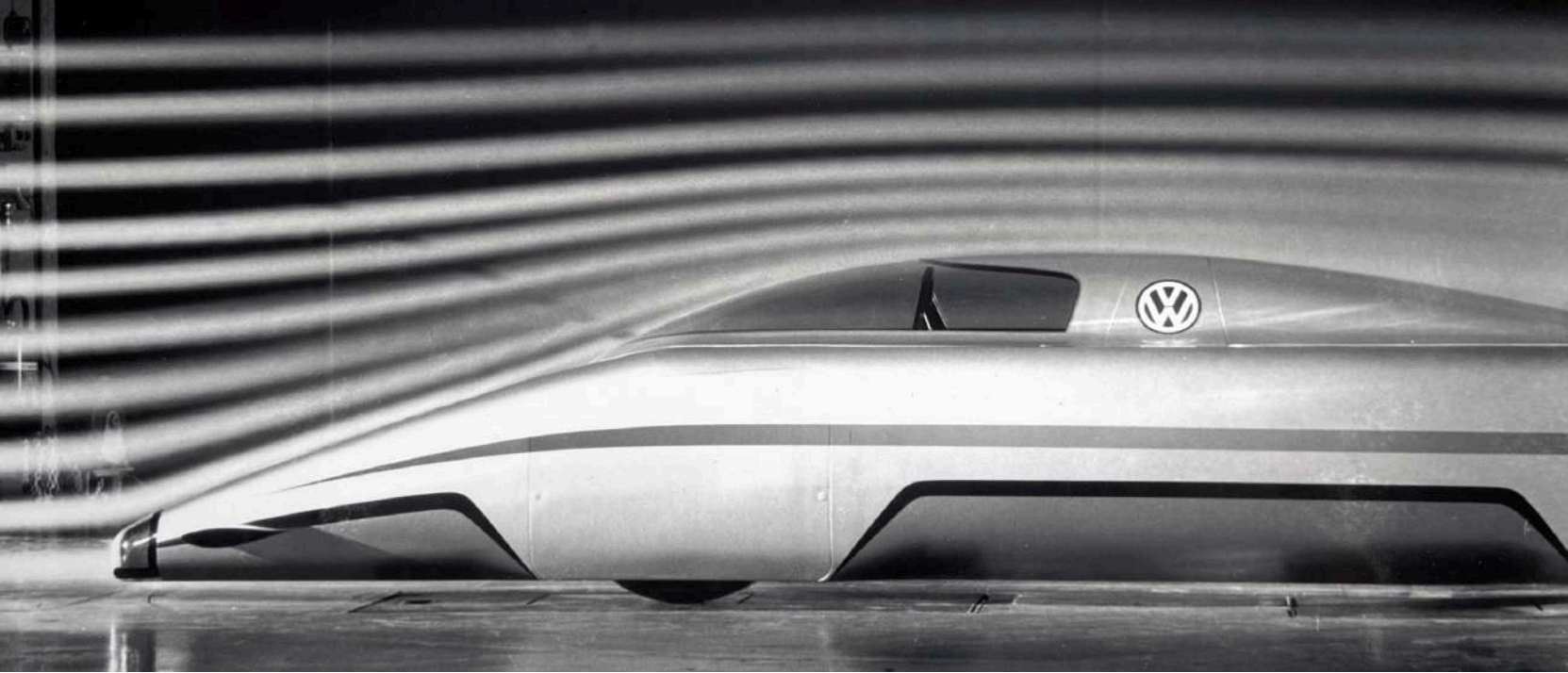
Kiran Parmar explains what's going on around your car when you go for a drive.







# Forschung



**D**id you know and every time you go for a drive, you are driving through a wall? Not a physical wall but rather a 'wall of air.' The faster you go, the more that wall pushes against the front of your car to slow you down. We do not often think about 'air' that much but when we drive at dual carriageway or motorway speeds and on windy days, air resistance or drag (which is the force that acts upon a moving object by the air) has a huge effect on the way a car accelerates, handles and the amount of fuel it consumes. This is where the science of 'aerodynamics' comes into play.

Aerodynamics is the study of the properties of moving air and the interaction between the air and solid bodies moving through it. For several decades' car designers have been designing cars with aerodynamics in mind and coming up with a variety of innovations that allow cars to cut through that 'wall of air' with greater ease and less impact, trying to replicate the 'tear drop' shape which is the most aerodynamically efficient shape in nature.

A car with a slippery shape will be able to accelerate with less difficulty and will be able to achieve better MPG as the engine does not have to work nearly as hard to push the car through the 'wall of air.' Engineers have come up with rounded designs and shapes on the vehicle bodies which allow air to flow around the car with the least resistance possible. Not only do sports cars look more visually appealing than SUV's and 4x4's, but they also cut through the 'wall' like a hot knife through butter.

High performance cars and racing cars even have front air dams (or splitters), spoilers and diffusers. A 'splitter' increases the downforce at the front of the car; airstream is brought to a

stagnation above the splitter by an air dam causing an area of high pressure and below the splitter the air is redirected away from the 'stagnation zone' and is accelerated causing the pressure to drop. This combined with high pressure of the splitter creates downforce. 'Diffusers' are shaped sections on the underbody which help improve vehicle aerodynamics and stability also creating downforce which helps the car stick to the road or track. The 1974, Porsche 911 Turbo featured a large, flared rear spoiler (often dubbed the 'whale-tail' and in 1978 it was redesigned and dubbed the 'tea-tray') which was designed to reduce rear-end lift to stop the car oversteering at high speeds.

So, if you want an aerodynamic car, what should you look out for?

Well, every modern car has a drag coefficient figure or 'Cd.' The lower the 'Cd' figure, the more aerodynamic the car is, and the easier it can push through the 'wall of air.' To begin with, only high-performance sports cars were designed to be streamlined. However, that changed in the 1980's when Audi brought out the '100' model; a four-door passenger saloon car with a then unheard of 'Cd' of 0.30. The Audi 100 had the most effective aerodynamics of any production car in its day thanks to its lightweight construction and painstaking air flow design over the body rather than a radical approach to its overall shape. The '100' went through an extensive programme of wind tunnel testing which was carried out in top secret across multiple facilities over Europe. Designers and engineers focused on smoothing the air flow around the engine bay, they fitted flush glazed side windows and utilised air flow management under the car. The most aerodynamic models with the narrowest tyres carried a 'Cd 0.30' badge in the rear side glass. Thanks to all this aerodynamic



## Back-Seat Driver



# Bag for Life

40 years ago : Mercedes-Benz airbag and pretensioners

The innovation made its preview in December 1980: the driver's airbag and seat belt tensioner (originally termed the belt tightener) were in those days the latest, cutting-edge innovations in safety from Mercedes-Benz. 40 years ago, back in 1980, a limited number of S-Class Saloons (126 model series) were the first cars to be delivered with this new technology and were another milestone in passive vehicle safety in a long line of outstanding innovations from the brand. The airbag was a joint development between the then Daimler-Benz AG and Bosch. More than 100 S-Class vehicles fitted with the new safety systems rolled off the assembly line in January and February 1981. This ushered in the triumph of a restraint system which was quickly adopted by many automotive manufacturers across the world. The restraint system

celebrated its world premiere at the Amsterdam International Motor Show from 5 to 15 February 1981. Just one month later, Mercedes-Benz presented the driver's airbag and seat belt tensioner to the public at the Geneva Motor Show. The combination of both systems was initially only available for the S-Class and SEC Coupés as an optional extra.

The protective airbag inflates within a few milliseconds in front of the occupants. Sensors detect a particularly strong deceleration, e.g. sudden braking in a severe head-on collision, and trigger the firing of a propellant charge. The resulting gas mixture, which at the time of the airbag's invention mainly consisted of nitrogen, inflates a cushion-shaped fabric cover – the airbag. It offers the best possible protection in combination with the seat belt, both deployed to gently cushion the upper body when it is thrown forward by the impact.

## ECO VW OKO POLO



The prototype was designed to run 100 km (62.13 miles) on just three liters of fuel, making it an ultra-economical car at the time. (In fact, the German name O'ko-Polo translates to Eco-Polo.) It had a two-cylinder diesel direct-injection engine and a G40 supercharger. The two cylinders displaced only 858 cubic centimeters and a heat-resistant foam substance encapsulated the engine bay to minimize the engine noise and vibrations.

After a year of testing in 1988, the series of about 50-75 O'ko-Polo prototypes ended. The car was never mass-produced, due to its high cost of production, but it did help future models become more efficient. The O'ko-Polo's newly developed technologies were gradually implemented in other Volkswagen models.

Ross Cupples, a lifelong fanatic with dozens of Volkswagen cars in his personal collection, had heard of the O'ko-Polo — a rare 1988 prototype with a retro rainbow stripe across its doors — when he acquired the only known model in the United States.

At age 10, he fell in love with a yellow 1972 Beetle at his family's used car business in Belmont, NH. He purchased his first car, a 1985 Jetta GLI, at age 16 and slowly began acquiring and restoring Volkswagen models.



Have your say  @freecarmag1



# TRON TRACTOR



**S**TEYR's Good Design® Award was given in recognition of the creative yet practical thinking behind the Konzept, a striking study of the future of tractor development. The distinctive design brings real-world benefits in areas ranging from performance to visibility to sustainability. Examples include the minimalist cabin interior where information is projected on to transparent screens, enabling maximum visibility and enhancing operator comfort and productivity.

The award also acknowledges the Konzept's forward-thinking technology, including an innovative hybrid power system combining a conventional engine, a generator and electric drives. The concept tractor was designed in conjunction with sister CNH Industrial powertrain brand FPT Industrial. Its modular hybrid powertrain system is the perfect blend of compactness, efficiency and thought-through engineering. This allows different power sources to be used depending on application. As a result, the tractor can be operated with zero noise/exhaust emissions where possible/required.



For more of the latest news and press releases go to [freecarmag.com](http://freecarmag.com)

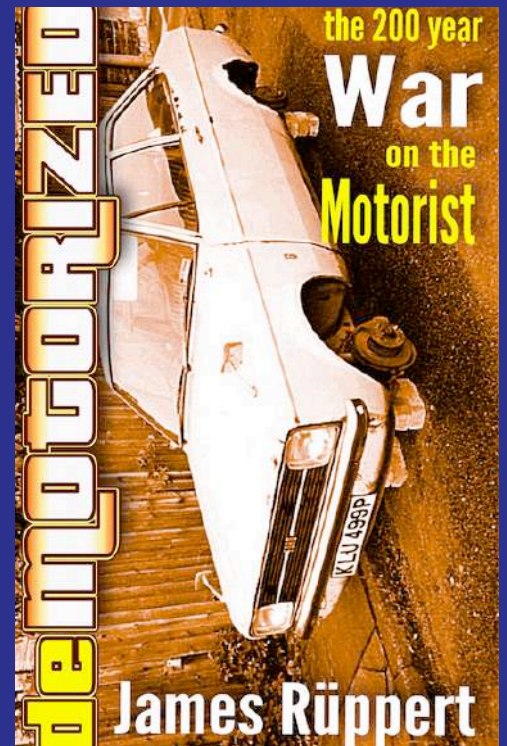


## T Shirts • Mugs • Books

Here are books written by some of our contributors and friends plus you can buy some T shirts and other stuff with logos on that helps keep us going as FCM, I mean a Free Car Mug will cheer up tea time no end. [www.bangernomics.com](http://www.bangernomics.com)



Old cars don't die, they simply become Bangers. Affordable, practical and reliable transportation for the people. They don't need to spend a fortune on a brand new motor, get into debt or trapped into a spiral of despair, better known as an easy payment scheme. Others may specifically want a Banger Van, LuxoBanger or Happy Shopper (see inside for details). This Bangerpedia contains 755 models on offer in the UK car market, with descriptions, basic specifications, brief buying tips and a ridiculous rating system. James Rüppert is best known for writing Bangernomics, Demotorized and telling the fine readers of Autocar which used cars to buy every week.



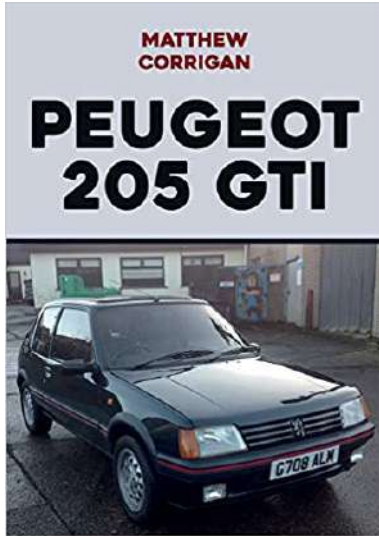
This is the not quite definitive history of how parking became an industry, governments overtaxed motorists, carmakers lied about how safe and environmentally friendly they were and tested their emissions on monkeys and humans. Also why robot cars are so dangerous and electric cars are not the answer. Also, who is behind the ongoing plan to Demotorize the world. Printed in 2020 it predicted the future with terrifying accuracy. Buy it before it gets banned. Now updated with a Chapter all about what happened recently in 2020 to screw the average motorist. **Bangernomics Books** available also as PDFs to download at [www.bangernomics.com](http://www.bangernomics.com)



Despite appearances it isn't a fact and stat based history of the boxy Bertone designed version of the British Leyland Mini. The author, Frank Kirtley, does know his cars, but not to the extent that it would bore someone who wasn't into vehicles. The book itself looks great on your bedside table, not least because the cover features a period (1980s) Dutch registered Innocenti 120 with a moon roof and added wing damage, pictured on a dusty European mountain pass. This suggests, as you read a few chapters in, that the story inside may well be 'based on a fairly true story'. Driving around Spain and France in a boxy mini whilst involved in a cold war spy plot is a massive plus point. It is straightforward, there are some twists, but it is delightful to be able to get into the back seat of the Inni and go along for the wild ride.

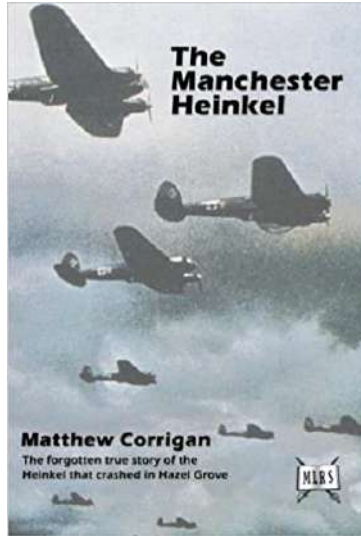
<https://www.smashwords.com/books/>





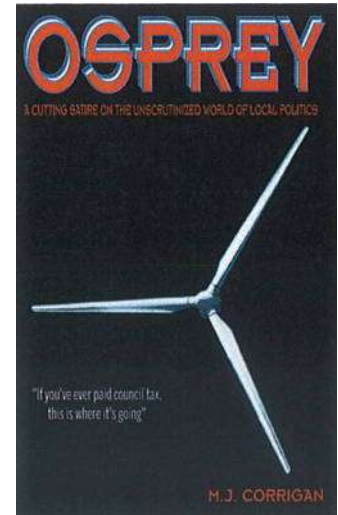
**PEUGEOT 205 GTI - CORRIGAN**  
**AMBERLEY PUBLISHING £14.99**

Covers the engineering and design features that made the 205 so special. Within a stylish design, it offered a variety of lively petrol and diesel engines while the suspension, with MacPherson struts at the front and torsion arms with trailing arms at the back, offered excellent ride and handling. Soon the first GTI version was produced with an eager free-revving 1600 engine. In 1986 a 1900 version was introduced. Drawing on his personal experience of driving a renovated Peugeot 205 GTI, Matthew Corrigan also provides advice on restoration, parts, and other ownership tips.



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## PORSCHE 928

Brian Long







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## GR SUPRA 2.0

The existing 3.0-litre six-cylinder turbocharged engine is joined by a new 2.0-litre four-cylinder turbo. The GR Supra 2.0 weighs 100kg less than its 3.0-litre equivalent. The engine's shorter length means its mass is located closer to the centre of the car, supporting an ideal front/rear balance and better inertia characteristics. Although power is less – 254bhp/190kW – the engine's performance is considerable with a whopping 400Nm of torque available across a wide range of engine speeds, working through an eight-speed, rapid-shifting ZF automatic transmission. Nought to 62mph takes 5.2 seconds with GR Supra's launch control system, and top speed matches the 3.0-litre model at an electronically governed 155mph. Take a test drive at a dealer now.





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More hot Skodas as the 2.0 joins 1.4

## SKODA OCTAVIA vRS RANGE

The Octavia vRS 2.0 TDI features the most powerful diesel engine ever offered in a vRS model with a peak power output of 200PS – a 16PS increase over the outgoing model. The engine is one of the latest generation of ŠKODA EVO power units, and features an aluminium cylinder block with aluminium pistons with low-friction piston rings. The turbocharger is water-cooled for improved temperature regulation, and its compression ratio is higher than on other EVO diesel engines. Power is delivered to the wheels via a seven-speed DSG gearbox. In terms of design, the diesel-powered Octavia vRS models are identical to their petrol and iV plug-in hybrid siblings. Both hatch and estate models feature unique front and rear bumper designs that incorporate a host of black details.



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Revised big saloon

## KIA STINGER GT S

A new design for the 19-inch alloy wheels is also introduced, with intricate, geometric designs which enhances the sporty, grand tourer nature of the car. 'Electric Blue' exterior paint is also introduced to the 'GT S' for the first time. Inside, new additions include a metallic finish to sections of the flat-bottomed steering wheel and a chrome bezel around the instrument cluster. The rear-view mirror is now frameless, creating a classy, modern look and also has the benefit of enhancing rearward visibility. The dashboard features Kia's upgraded 10.25-inch touchscreen infotainment and navigation system and is further accentuated by new gloss black trim. New mood lighting allows the driver to select from one of 64 colours to subtly alter the character of the cabin.



Photography Kiran Parmar



# The Great Wall







Photography Kiran Parmar

technology the '100' was able to deliver competitive performance from much smaller engines than were typically used in its class, achieving superior fuel consumption.

If you are building a concept car and not restricted by any road-car regulations, you can construct some truly slippery shapes such as the 'ARVV' concept car that was built by Volkswagen at the end of the 1970's. This project was specifically an object of aerodynamic research by the company to trace the correlation between vehicle body shape and fuel consumption at high speed. This special vehicle featured a tuned 6-cylinder turbo diesel engine and a body made from aluminium and composite materials. In 1980, it was the fastest diesel car in the world reaching a top speed of 224.9 mph and boasting an impressive Cd figure of 0.15!

What about modern cars? As we have already mentioned, all car makers are doing their very best to come up with the smoothest and slickest air cutting shapes, none more so than Mercedes-Benz. The new A-Class saloon has the lowest drag coefficient figure of any production vehicle worldwide and defends the original world record of the CLA coupé. For three decades the aerodynamic engineers at Mercedes-Benz have been repeatedly setting new records. The A-Class saloon holds the extremely impressive world record Cd figure of 0.22 with its hatchback sibling not far behind with a figure of 0.25.

There is no doubt aerodynamics are important and save you money at the pump, so the next time you buy a new car, don't forget to find out how well it cuts through that 'wall of air'.





## Ban on New Petrol + Diesel Car Sales

This was written by the Alliance of British Drivers before the official announcement.



An arbitrary target date for banning new petrol/diesel cars and vans is based on costly virtue signalling.

It is widely reported that Boris Johnson is planning to announce a ban on the sale of new petrol/diesel cars and vans by 2030 followed by banning plug-in hybrids in 2035. Only Battery Electric Vehicles (EVs) would be permitted.

ABD Environment spokesman Paul Biggs said: "The ABD believes that the government should allow free market forces to decide when and how internal combustion engine vehicles should be replaced rather than dictating a single preferred option. We are also concerned that existing petrol/diesel vehicles will face a regime of increasing taxation in order to remove them from the roads sooner rather than later. This risks devaluing vehicles years ahead of 2030 or 2035. Battery EVs are not a panacea for emission reductions or a total like-for-like replacement. It's not clear how the likes of the caravan and van-based motorhome industry will survive with heavier, short range electric vehicles."

There are many legitimate concerns about government policies aimed at achieving Net Zero CO2 emissions by 2050. The absence of any cost/benefit analyses, a lack of debate and the bypassing of a proper democratic process mean that Net Zero is Vote Zero for the UK's electorate of 46 million people. Ultimately there is likely to be a backlash against the imposition of lifestyle changes, restrictions on private car use/ownership, higher electricity bills, the banning of gas appliances etc, none of which will have any discernible impact on weather, climate or atmospheric CO2. The way is open for a new national political party that doesn't bypass democracy by labelling everything an 'emergency' or 'crisis' and does not use narrow unchallenged perspectives to provide 'solutions'.

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# Peugeot 2008 SUV



WATCH MY VIDEO REVIEW OF PEUGEOT 2008 SUV

The Peugeot 2008 is the SUV companion to the 208 hatchback range. Taller, more upright, it nonetheless retains Peugeot's family styling cues including the aggressive front. Neat touches persist along the rest of the car, culminating in subtle strakes in the c-pillar and the intricately detailed taillights.

Move into the front cockpit though and the only giveaway that you're not sitting in the hatchback is that you're perched a little higher, more upright, and for someone with my 6ft 2in frame and lanky legs, there's slightly less manspreading as you seek to counter the intrusion of the rectangular helm. Behind which is that extraordinary 3D holographic-style digital display.

The soft-touch carbon-effect trim, the Lamborghini-esque dashboard, touch-sensitive buttons and the overall ambiance equals the 208's deal-clinching cabin. This latest generation of Peugeots feel less rattly, threaten less fragility and appear to promise more durability than any of their predecessors.

Move into the back and the quality feel continues with the sweet trim on this GT Line PureTech level car with far better space for four six-footers than the 208. There's generous space in the cargo area too with its adjustable floor for increased room and load capacity despite the space-saver residing in the bottom.

This is the 2008 GT Line 1.2l PureTech 130 S&S with the 132bhp edition of the



1.2-litre three-cylinder engine fitted with a 6-speed manual (though an 8-speed auto is also available). There is a little notchiness in the change, but overall it slips in and out of ratios easily.

The driving experience may be a little less rewarding than the 208, but it's more comfortable, long-legged and economical, yet remains competent and agile, easily managed around town and, best of all, boasts a superb well-damped ride. There is certainly sufficient performance with 0-62mph in 8.9 seconds and a top speed of 122mph. Fuel

consumption is quoted as up to 50mpg and CO2 emissions is 132g/km.

Prices start from £20k for the base 101bhp edition, rising to over £32k for the 155bhp GT version. There's also a 102bhp diesel and a full electric 136bhp version. The car tested starts at £26k.

The Peugeot 208 and 2008 are both brilliant cars serving up style and panache not usually found in rivals. So which should you get? Simple. Love driving? Get the 208. Got a family? It's the 2008 for you. Either way, neither will disappoint.

## BROWN CARGUY SAYS...

Don't make them all the same!

28 freecarmag.com

**S**tellantis - no that's not a Sreboot of the 'Man from Atlantis' except this time it's a woman called Stella (actually I should pitch that!) - it is in fact the new name for the now combined entities that used to be PSA and FCA groups.

That means the following (deep breath): Abarth, Alfa Romeo, Chrysler, Citroen, Dodge, DS, Fiat, Jeep, Lancia, Ram,



Maserati, Opel, Peugeot and Vauxhall spanning across the UK, France, Italy and America, are all one group now - the world's fourth biggest car company.

Such amalgamations are

not unusual and not always unhealthy. But there is a danger that you end up with one car having loads of different badges on it. Many of these marques are much-loved, highly storied and with very distinctive personalities.

Stella must make sure these are preserved, or she'll start sliding down from fourth place pretty quickly!



# Honda Jazz

The Honda Jazz loves to riff, innovating with magic seats that mixed ample cargo height into the capacious cabin, through the simple idea of lifting its rear seat base for more room. For the latest fourth generation edition it's playing a new hybrid tune – the only flavour you can have it in. A 1.5-litre petrol e:HEV which is like a hybrid of hybrids.

Eh? Well full hybrids either have an electric motor to assist the petrol/diesel ICE unit in driving the car, or are 'range extenders' where the engine is there simply to charge the batteries – like carrying a portable generator around.

The Jazz e:HEV kinda does both. At higher speeds the engine is driving the front wheels,



WATCH MY VIDEO REVIEW OF HONDA JAZZ

at lower speeds a clutch disconnects it and an electric motor drives the wheels instead. Somehow it manages to do this through a single-ratio gearbox. All this and it still retains the magic seats – the batteries are under the front pews.

That clenched-fist face is symbolic of its punching ahead of the hybrid game. It achieves impressive fuel economy somewhere in the 70mpg range and emissions are around 100g/km CO<sub>2</sub>. The 0-62mph acceleration is dispatched in 9.4 seconds, top speed is 108mph and it's

yours for prices starting at below £20,000.

It remains fun to drive, if somewhat less engaging, but agile and easy to helm, with a comfy ride and plenty of kit. Jazz fans will not be disappointed – well it has a great stereo too.

# BMW Z4



WATCH MY VIDEO REVIEW OF BMW Z4

This BMW exists thanks to Toyota. Yep! BMW has had the Z1, the Z3 and even the Z8. Then they replaced the Z3 with the Z4, which got a successor. Then the Munich massive lost interest and were looking to send the Zs to sleep permanently – 'nobody buys roadsters anymore' came the edict from the bean-counter department.

Toyota called: 'we want to bring back the Supra, like we did the 86. And we want to cheat again – you up for a bit of collab?'

So the Toyota Supra is really a coupe-bodied Z4, and we have a third generation Z4. The new Beemer is a little slinkier and cleverer. As tested in sDrive30i guise it's a 2.0 four-cylinder putting out 258bhp good for 0-62mph

acceleration in 5.4 seconds – yours for £42k. You can get a 197bhp version for £38k, and a sweet 3.0 straight six with 340bhp for £50k.

Even as an sDrive30i it's a quick car and keeps a wheel in four different camps: sports-car, tourer, poseur and sex symbol – that elongated bulging bonnet is potently symbolic. It's cool, if not as headline-grabbing as the Supra.

And comfortable. Great seats, fast heating, quick-acting soft-top and gadgets galore.

It'll glide down motorways, cruise to your beach-front property, attack back roads with a rigid ride and swan up to five-star joints with class. It's not cheap, but is somehow better value than a Supra, and it's a roadster – so buy this instead and prove the bean-counters wrong!



# FCM 93

It can all change, but we do have an interesting letter from a fairly AngryDriver. There are several concerns and some of them are slightly Brexitity inspiring us to look more closely at the rules and regulations we are driving under. Look forward to seeing you then...



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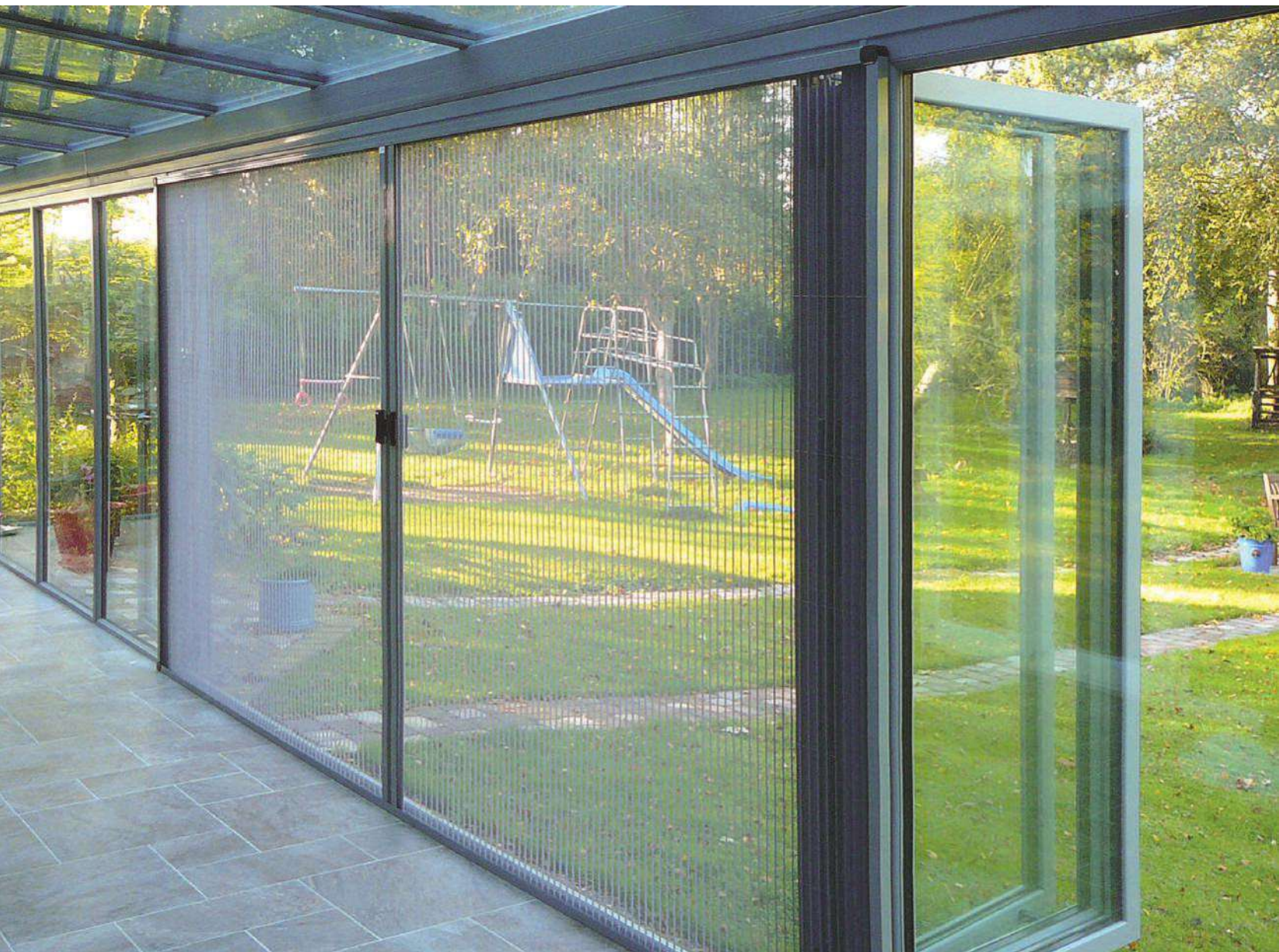
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