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THIS MONTH ON PLANET **car**



Big fun in little cars

If, like editor Ben (and Gordon Murray), you wander around telling anyone who'll listen that cars have become needlessly, unhelpfully and unsustainably huge, there's nothing like a cheeky drive in a tiny Japanese kei car to prove the point. **Go online and search for 'CAR magazine 5 things Tokyo'**



Big fun in a big car

A coffee stop at Spiez, on Lake Thun in Switzerland, during the launch of the new Rolls-Royce Phantom. Straight after the croissants and cappuccino, our man Gavin Green dashed out to his car and tried unsuccessfully to start it. Momentarily baffled, he realised the car's peerless V12 was already idling... 'That's the second time I made that mistake,' admits Gavin. 'In my defence it is the quietest car I've ever driven.'

Rolls-Royce Phantom first drive, p30



The team works

Getting the right angle for a photo is key, particularly when you're shooting the new Kia Stinger, which has almost as many awkward angles as it has elegant ones. On the Giant Test, photographer Alex was precariously balanced on a box, on soggy ground, until designer Rebecca stepped in to shore things up. And the Kia was only in Wales because staff writer Jake flew out to Barcelona and drove it home across Spain and France. Work in Chris Chilton's fine words and you've quite the collaboration.

Kia Stinger Giant Test 2017, p92

FROM THE EDITOR.

The secret of happiness? Honda's success, apparently

I WORRY ABOUT Honda. Not in the sense that I think it's in trouble but in the sense that I care – to a curious, almost paternal extent. When Honda's feeling bullish and prompted to upgrade its profit forecast, as it did recently on the basis of strong motorcycle sales, it makes me happy, like watching your little one ride without stabilisers for the first time. Equally when Honda's on the ropes a little grey cloud hoves into view.

Why? It's simple. 'You can't beat a Honda, son.' That might sound like the most naïve of '50s ad slogans but my father uttered those actual words to me about 25 years ago. He practised what he preached too, with a Honda mower in the garage (a descendant of the '78 HR21, for which Honda R&D gathered grass samples from all over the world – fact) and a Concerto on the drive, the Honda/Austin Rover with which he replaced a V12 Daimler when fuel bills threatened to put us on the street.

This stuff has an effect; a name resonating years later where others do not. When my eyes were opened to F1 in the late '80s, the MP4/4, with its turbo V6, struck me as simply the most perfect Grand Prix car ever built. It still does. A decade or so later, when Grand Prix motorcycle racing went four-stroke, Honda's RC211V glowed with the same virtuoso engineering.

All of which means I left the recent Tokyo motor show feeling pretty positive. Honda's second EV Concept, the low-slung and lithe Sports EV, was met with the kind of rapturous response normally reserved for new iPhones. With luck an appalling Formula 1 season of painful humiliation will be countered with triumph in MotoGP. And a couple of days before the show I finally drove the sublime and very serious

Civic Type R on the kind of roads it was conceived for.

Rest easy, dad, there's no need to worry about Honda.

Enjoy the issue.



Ben Miller
Editor

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AROUND THE WORLD

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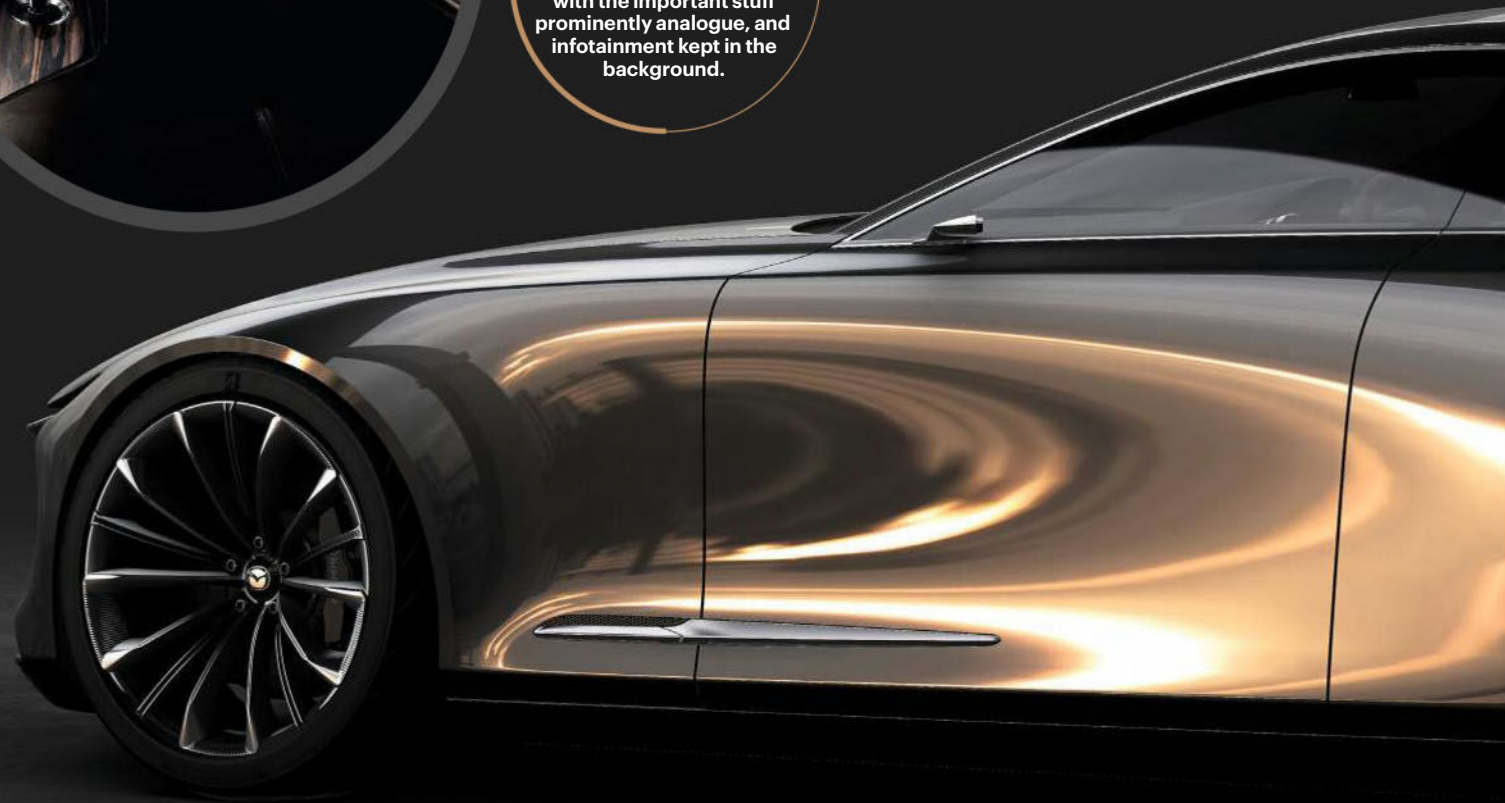
INSIDER.

Cars, people, scoops, motorsport, analysis: the month according to **CAR**



Superior interior
Nothing wrong with Mazda's current cabins, but this is several leagues higher: simple, clean, classy, with the important stuff prominently analogue, and infotainment kept in the background.

Shape of things to come
Clear, confident lines uncluttered by any fussy details: the Vision Coupe doesn't preview a specific future model, but vividly demonstrates Mazda's brimming design confidence.



STORM MAZDA

Two concept cars, the Holy Grail of engine breakthroughs and a tie-up with giant Toyota – Mazda is doing all it can to not become irrelevant or extinct. By **Guy Bird**

THE TYPHOON that threatened to take out Tokyo city only delayed Mazda's recent concept unveiling by 24 hours and soon passed. By comparison the winds of change blowing through the company's planning, design and engineering departments show no signs of abating.

Japan's fifth-biggest individual marque by annual sales – Mazda sold a relatively modest 1.6 million cars in 2016 – has just announced an important link with Japan's (and the globe's) biggest car maker, Toyota. Their first jointly developed electric and hybrid products will hit showrooms in 2020.

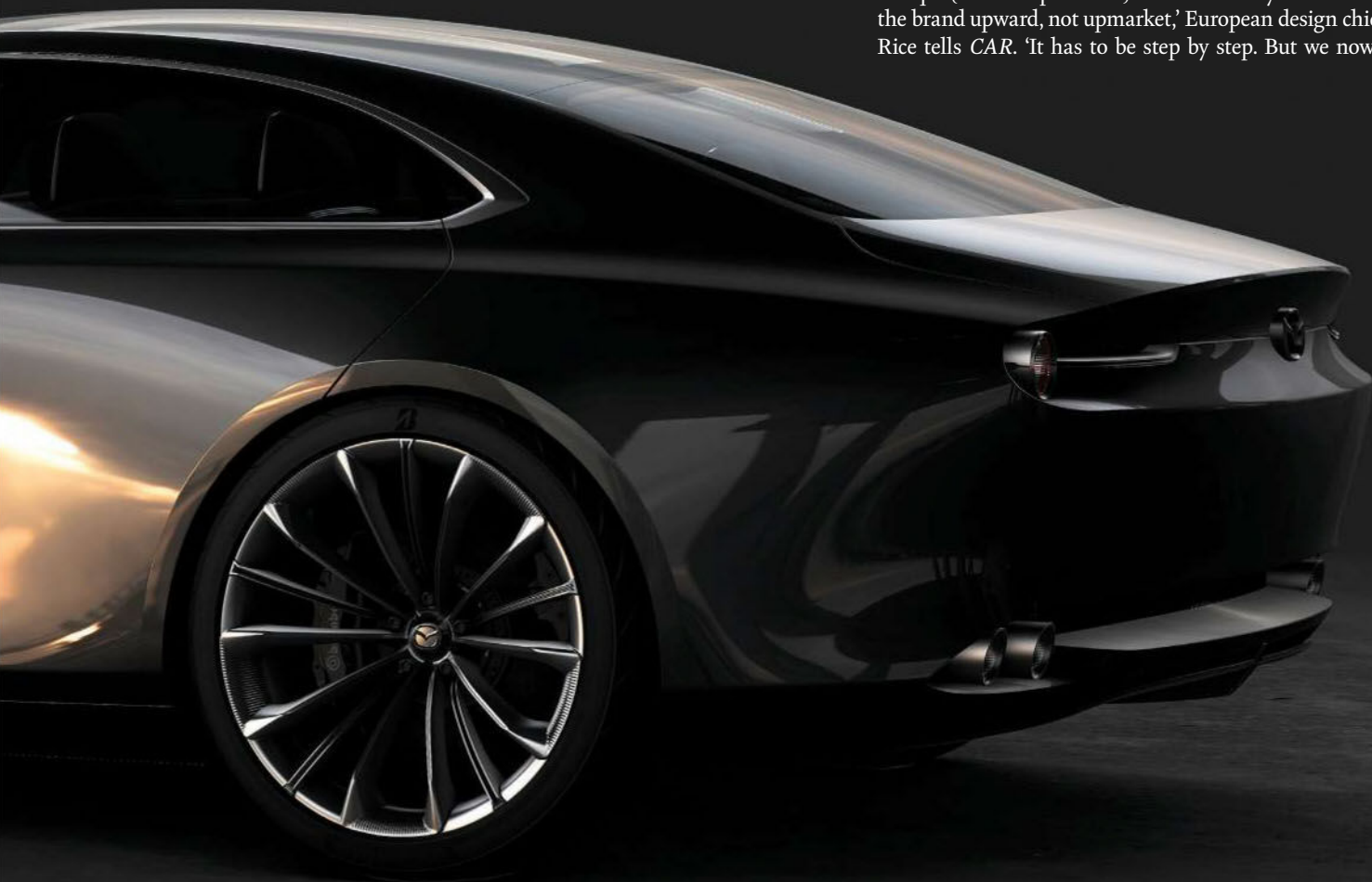
Meanwhile, Mazda has been busy independently honing the world's first commercial petrol engine to use compression ignition, promising a 30 per cent improvement over the firm's current 2.0 petrol engine – and on a par with its diesels – but with far fewer of the nasty local air pollutants.

At the Tokyo motor show, Mazda unleashed two concepts that herald short- and longer-term and aesthetic and technology advances. The most important of the two, according to Mazda Europe's president Jeff Guyton, is the exceedingly pretty and



artfully made Vision Coupe. Featuring a minimalist exterior with huge concave body sides that catch the light brilliantly before curving into a front and rear punctuated by crisply detailed lamps, the large four-door coupe's details add up to a highly cohesive whole. If you hid the badge and grille you'd have to conclude it was the work of a luxury manufacturer rather than a big-volume player.

But Mazda doesn't want to hide its badge (or invent a new premium one, like Nissan's Infiniti or Toyota's Lexus). Rather it wants to raise the image of its unashamedly mainstream marque (and raise prices too). How far exactly? 'We want to move the brand upward, not upmarket,' European design chief Kevin Rice tells *CAR*. 'It has to be step by step. But we now have ▶



If they hid the badge you'd think this was the work of a luxury manufacturer



Best of 3
A toned-down version of the Kai concept will be the next 3

BMW customers buying Mazdas as their second car.'

The Vision Coupe is not a thinly disguised production car – rather it's a marker in the sand. Rice explains: 'Alongside the 2015 RX Vision these two cars represent the bookends of what our production cars can be.'

Mazda's second Tokyo concept – the Kai – hints at what will come sooner. Its compact hatchback proportions and close-to-production interior preview the next 3. Mazda is promising that most of the svelte exterior, bereft of extraneous creases and lines, and with that distinctive and curvaceous C-pillar/tailgate section, will make it through to a production version in 2019.

The new 3 will house Mazda's aforementioned special petrol engine, dubbed SkyActiv-X, featuring its proprietary Spark Controlled Compression Ignition (SPCCI) technology. The naming may be clumsy, but the huge investment involved sends out the signal that Mazda sees considerable life left in internal combustion engines. The tech will be rolled out across the Mazda range.

What about electric cars? Guyton confirms there will be a battery-electric Mazda by 2019, 'but our first EV won't be part of our Toyota collaboration,' he clarifies. 'From 2020 onwards we'll see the fruits of that relationship. Are we late? I don't think so, as EVs don't really sell in big numbers right now without tax breaks, and for me

Mazda is promising that most of the svelte exterior will appear on the new 3

it's about a multi-solution world, measured "well to wheel". We should decommission fossil-fuel power stations first rather than create more demand for them.'

Does Mazda feel left out on a limb with no sister brands, or other industrial products (like Honda with its motorcycles, jets and mowers)? On the contrary: 'Mazda has a culture of wanting to find smarter ways to do things, like SkyActiv-X,' says Guyton. 'That independence is what appeals to our partners.'

It sounds great to have such freedom and time – design boss Ikuo Maeda's team took two years getting the Vision Coupe to look that good – but don't they at some point have to sell a few more cars? Guyton suggests it's genuinely not the main priority. 'Our business is not volume-led. There are brands out there doing an awful lot of self-registering but we don't do so much. Our cars today achieve 40 per cent more net revenue than they did seven to eight years ago. We're still selling a similar number, but the range has made a massive leap. Transaction prices are going up.'

What about Mazda's long history with rotary engines? Will gradual electrification finish that? Guyton says not: 'Rotary is part of the soul of the company, and we'll see a new small one as a range extender for our EV soon, but who knows? Everyone would like to see a rotary-powered sports car but there are no concrete plans...'



What's up at Subaru?

There's a new Impreza coming – but this isn't it...

Pride of place on Subaru's Tokyo motor show stand was taken by the Viziv Performance concept, a super-macho four-door saloon with a boxer engine and wheel arches so chunky they could have been stolen from a beach buggy.

It's all-wheel drive, and apparently inspired by the Legacy, Impreza and WRX, but is, according to one well-placed inside source, 'just to show and gain public feedback for now'.

Tokyo also saw the unveiling of high-performance Subaru special editions. The 207bhp BRZ STI Sport features a host of suspension, exterior and interior

upgrades, while the S208 edition of the WRX STI has been tuned to 329bhp and limited to 450 units worldwide.

Neither edition is destined for the UK, as the vast majority of Subaru's global sales go to the US, so that market gets priority.

Subaru UK boss Paul Tunnicliffe promises there will be plenty to interest British buyers. As he told CAR: 'Of much greater significance for me will be the all-new Impreza and XV, which will be in UK showrooms early in the New Year.'

So macho

Concept shows Subaru means business again. Let's hope some of that flair makes it through to the new production Impreza and XV.





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New A7 in Audi's own words

A8 tech in a sleeker, lower package, ready to do battle with the next Merc CLS and BMW 6-series. By **Colin Overland**

Make it stand out from the rest of the range

'From now on we would like to focus on differentiation,' says exterior design chief Andreas Mindt, acknowledging that successful efforts to establish the Audi brand worldwide may have come at the expense of a Xerox model line-up.

'Cars from the various model series need to be differentiated. The Prologue concept radiator grille appears on the A8, A7 and [next year's new] A6, but in different forms. All elements on the A8 need to be proud and upright, but the A7 is lower.'

'Technology and design need to go hand in hand together.'

Keep the classic coupe proportions

'The A8 sounded the starting gun. It's all about status and prestige,' says Audi design chief Marc Lichte. 'The A7 is all about sportiness and progressiveness. We're keeping the promise that we made with the Prologue concept.'

'The basis of good design is proportions. The A7 has great proportions, with huge wheels, a long wheelbase, short overhangs and low roof.'

Rethink the interior for the digital age

'The smartphone has changed the world,' says interior design chief Enzo Rothfuss. 'The Prologue interior was designed for touch operation. With the A8 we translated that concept into reality. It was important to integrate the screens, and not look like someone forgot their iPad.'

'The A7's interior orientation is towards the driver. The A8 has a democratic interior; A7 has all the screens tilted towards the driver.'

Use technology to enhance the driving experience

'We unify and merge digital with the highest level of craftsmanship. It's like the leap from mechanical to digital cameras. The A7's uncompromising in the sense of being fully focused on customer requests,' says engineering chief Peter Mertens.

'With all-wheel steering and a sport diff, it's sheer driving fun, and a very comfortable mobile lounge. The cabin is the largest in its class, and very quiet.'



And keep the new products coming

'We're rejuvenating our product line-up at a speed that's never been seen before,' says Audi CEO Rupert Stadler. 'By 2025 we'll have 20-plus fully or partly electric cars in our line-up.'

'And we're working on fuel cells. We're looking forward to the future, even though it might be a challenge.'

The A7 arrives in the UK in early 2018, with a 3.0-litre petrol V6 the first engine



NEW CAR DEBRIEF ASTON MARTIN DB11 VOLANTE



1 Looks familiar...

Aston's new convertible version of the DB11 doesn't make any radical departures visually, but the execution is very neat. The roof itself is a powered soft-top and is claimed to be super-quiet, thanks to the use of eight fabric layers. Choose from three roof colours.

2 Does it have that V8 you were raving about in the coupe last month?

Yes, that AMG-sourced 503bhp twin-turbo 4.0 V8 is in fact the only engine offered in the Volante. The V12 would be too heavy for the roofless Aston to use without compromising its handling.

3 So weight's a bit of an issue?

Yes and no. It clocks in at a hefty 1870kg, but that doesn't stop it hitting 62mph in a perky 4.1 seconds. The DB11 Volante is, in fact, lighter than its predecessor, the DB9 Volante, thanks to advances in the use of extruded and bonded aluminium for the chassis.

4 Could it be your only car?

At a stretch. Like the coupe it's a 2+2, but for the first time in any of Aston's Volantes it has Isofix mountings for child seats in the back. And a heated steering wheel. And the boot's bigger. All of this supposes you can rustle up £159,900 before next spring, mind.

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Fuel cells? Autonomous vehicles? Brexit? We ask three big hitters to reveal the contents of their crystal balls



Takahiro Hachigo Chief Executive Officer of Honda Motor Co



Vincent Cobee Corporate Vice President and Global Planning Head, Mitsubishi

Takao Asami Senior Vice President, Research and Advanced Engineering for Nissan and Renault

GETTYIMAGES

> PRODUCT What's the most important car you unveiled at Tokyo and why?

'This is an easy question to answer – it's the Nissan IMX concept (below), which signals our future strategy. It's a showcase for the three pillars of Nissan's Intelligent Mobility philosophy, as well as marking a new direction for our SUV strategy in Europe. But it's also an indicator of the confidence we have in the maturity of the self-driving car, which by 2030 will demonstrate a significant advance towards full autonomy.'

> CORPORATE What's your outlook for the European market, and how will your strategy mitigate against Brexit?

'Nissan continues to work with the UK Government to ensure the company's long-term success and investment in the UK. I repeat what I have said previously: we see there being no change in our European strategy. We anticipate that we can sell more and more EVs in Europe as a whole, but I think that it will take time for us to sell 100 per cent EVs in Europe for the sake of emissions reduction.'

> TECH Hydrogen fuel cell or pure EV – what's the best fit for your brand?

'We have been working on the fuel cell, but our priority is the battery EV... for now. There are many opportunities with EVs – even today's generation of lithium-ion batteries can be improved year-on-year. Compared with a few years ago energy densities are much higher. But we are researching the next step, the solid-state battery for instance.'

Takao Asami says fuel cells are on the back burner at Nissan and Renault. Their priorities lie with EV for now



> PRODUCT What's the most important car you unveiled at Tokyo and why?

'We have the Urban EV (below) and the new Sports EV Concepts, which use the same EV platform. The Sports EV takes the platform and maximises the joy of driving an EV model. We have no plan to make the Sports EV as a commercial sales proposition at this stage. We are going to look at the feedback we get in Europe and Japan before deciding whether or not we could launch it.'

> CORPORATE What's your outlook for the European market, and how will your strategy mitigate against Brexit?

'As Honda we would like to see clear rules and conditions for the situation once Brexit happens. However, we are not thinking about a drastic change in strategy in the UK. We have to see what rules and conditions might exist, and it might be necessary to make some partial adjustments, but there is no plan to drastically change Honda's strategy.'

> TECH Hydrogen fuel cell or pure EV – what's the best fit for your brand?

'We believe the fuel cell is the ultimate zero-emission vehicle technology, because a fuel cell vehicle produces power within the car and can be used in the same manner as a conventional petrol car. Cost and infrastructure are big challenges and we are not the only one in control of everything around these areas, so we will have parallel EV and fuel cell zero-emission programmes.'



> PRODUCT What's the most important car you unveiled at Tokyo and why?

'This is not easy. I'm a planning guy. So from that perspective I must tell you that the answer is the e-Evolution Concept – it's an inspiration. It's not a car we'll sell in the visible future but it has a lot of the genes of our future brand. And it dares to make a statement – that an EV can be fun. From a Mitsubishi point of view it's the Eclipse Cross (above) – proof that before Mitsubishi joined the [Renault-Nissan] alliance, the design was already changing, along with the ambition of our cars.'

> CORPORATE What's your outlook for the European market, and how will your strategy mitigate against Brexit?

'The next four years are going to be extremely tumultuous for Europe. You have Euro7 [emissions regulations] coming in 2023 and there are some safety regulation changes too. I don't know about car maker fatalities, but there will be a lot of injuries in this period. Put the whole situation together and it transforms Europe into a very tough market to play in.'

> TECH Hydrogen fuel cell or pure EV – what's the best fit for your brand?

'For me, vehicles powered by these technologies are vehicles with alternative powertrains, not different cars. An electric car is not an electric car; it's a car that happens to be powered by electricity. Today we can say Mitsubishi is in the camp of the plug-in hybrid. It answers many questions. But there will be a need for pure battery EVs, so we're going in that direction, with two EVs in four to six years' time – the discussion on fuel cells is not on that horizon.'



Two ultimate McLarens fuel growth spurt

£1.65m hyper-GT and extreme track car are set to keep McLaren growing at an indecent pace

THE NEXT MCLAREN off the rank – at high speed, obviously – will be its ‘ultimate track car’, a brutal, bewinged monster to make the 675 LT feel like an S-Class. Codenamed P15, the new supercar won’t make its show debut until March, but it’s already sold out.

As is the second ‘Ultimate Series’ McLaren, codenamed BP23, which is also in development. Ultimate Series cars are the daddies of the McLaren range, sitting above the 720S Super Series and 570 Sports Series, and available only in limited runs. And with BP23 due in late 2019, two of them will be released in the space of just 18 months.

That illustrates the pace of change at McLaren Automotive, which aims to grow 44 per cent to 5000 cars by 2020. McLaren will continue to account for almost 10 per cent of the British specialist car market, which the Society of Motor Manufactur-



ers and Traders expects to grow to 52,000 cars over the same period (see infographic below).

Not that BP23 and P15 will contribute much more than around 600 cars to the total – these are extremely rare hypercars priced well above other McLarens. BP23 stands for ‘Bespoke Project 2-3 seats’, and McLaren has released images of a prototype with the 1+2 central seating configuration, mirroring the seating of its 240mph F1 supercar from the ’90s. McLaren is honing the ergonomics of the bespoke dashboard, and toying with cameras instead of door mirrors to reduce aerodynamic drag (both are fitted at this stage).

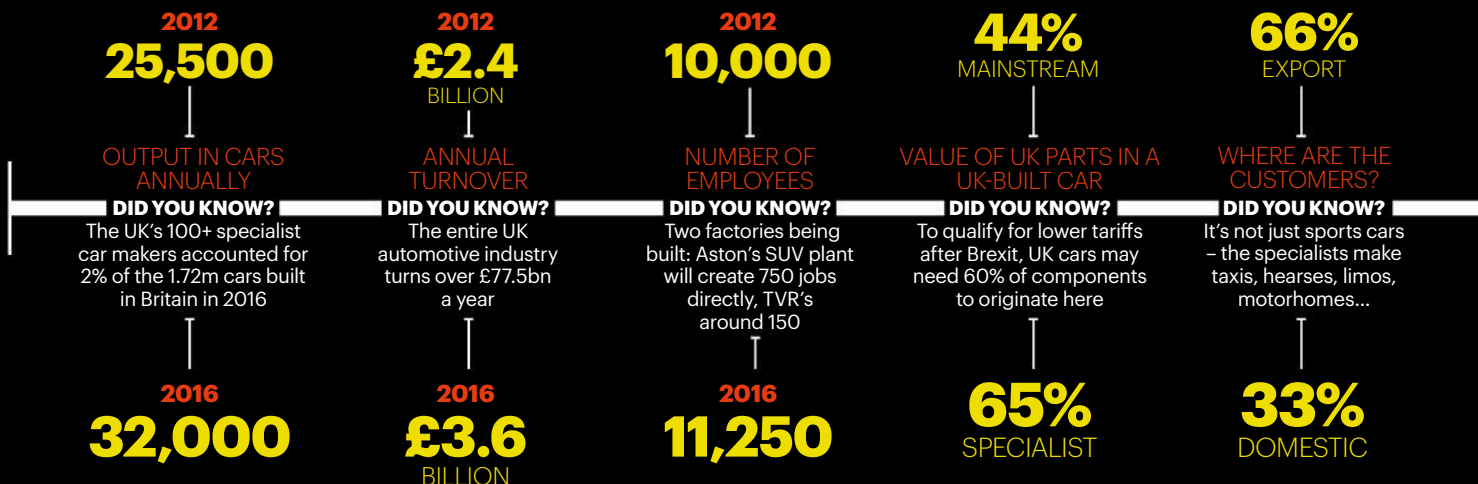
The luxurious hyper-GT will have a hybrid powertrain, something that’s unlikely for the P15. Although that car will be road legal, the firm describes it as ‘the most extreme, track-concentrated road car McLaren has yet designed’. Expect its performance to be enhanced by the engineers employing Long Tail principles – aerodynamic revisions to reduce drag and boost downforce – weight reduction, and a bucketload of extra performance. Customers get the first cars in summer ’18.

↑ Triple exhaust is the only P15 detail shown so far

← BP23’s central driving position being tested in a 720S by McLaren’s senior Mekan

Cottage industry seeks to become a mansion

The UK has the world’s largest number of specialist car makers – and they’re making serious money



Tomorrow's cars today

Behold – the near future, Tokyo style

Electric and autonomous cars have stopped looking like Early Learning Centre rejects and started looking like they belong outside your house. By **Jake Groves**



Honda Sports EV Concept

Honda pretty much stole the 2017 Frankfurt motor show with the Urban EV, and just weeks later it stole the Tokyo show with the electric city car's new sibling.

The Sports EV was designed in a flash to be a little electric bundle of joy; it's compact, has just the two

seats and rides low to the ground – so it's something for enthusiasts to get their teeth into.

There aren't any tech specs yet, but we do know that the Sports EV uses the same dedicated electric car platform as the Urban EV, currently in development.

NEED TO KNOW

> **What is it?** Honda's sweet follow-up to the allegedly impossible-to-follow Urban EV > **Tech specs** Sits on a dedicated EV platform, but even Honda doesn't know the rest yet > **Aimed at?** Driving enthusiasts of the next decade > **Chances of making production?** Awaiting feedback from Europe and Japan. We can help with that – we say BUILD IT (please)

Mitsubishi e-Evolution Concept

Don't be fooled by the Evo bit of the name – this isn't the next fire-breathing rally car, but instead a new crossover EV concept.

This rather pointy thing has three electric motors – one driving the front wheels and one for each of the rears – coupled with Mitsu's new Dual-Motor Active Yaw Control

torque vectoring system, high ground clearance and chunky tyres.

Hop through the suicide doors into a huge, airy cabin complete with massive screens, looking through a properly panoramic windscreen 'more akin to a jet fighter than a car.' It's rammed with self-driving and artificial intelligence tech.

NEED TO KNOW

> **What is it?** Chunky, angular, EV crossover bearing a name normally associated with hardcore rally reps > **Tech specs** Three electric motors, all-wheel drive and an AI assistant > **Aimed at?** Those who want a do-everything EV > **Chances of making production?** A watered-down production model will happen, but not for a few years



Nissan iMX concept

A new Leaf wasn't the only thing Nissan turned over at Tokyo. The show was the platform for the recently named Renault Nissan Mitsubishi Alliance to unveil publicly a new electric-car masterplan for the next few years.

A key component of that new plan is this iMX – a sort-of-Juke, sort-of-Qashqai crossover EV wearing a

Nissan badge and packed to the brim with technology.

Next-level ProPilot autonomy is fitted, so the car will drop you off somewhere then go and find a parking space on its own.

It also uses wireless induction charging pads that can even push power back to the grid to help reduce your home electricity bills.

NEED TO KNOW

> **What is it?** Jacked-up Leaf that points to new range of all-electric cars > **Tech specs** Bespoke EV platform, two electric motors capable of 429bhp and 516lb ft > **Aimed at?** The next generation of Qashqai buyers > **Chances of making production?** One of 12 new Nissan EVs to arrive by 2022



Lexus LS+ Concept

Lexus' latest concept is in part a new LS, but there's more to it than that. Underneath the long, striking body is a car cleverer than Stephen Hawking discussing string theory with Neil deGrasse Tyson.

The LS+ is essentially a demonstration of the autonomous

technology that will make its way on to all sorts of Lexus models from 2020. Autonomous functions include Highway Teammate, which will automate joining and exiting motorways. And it uses data from the cloud to inform you and your LS about congestion and hazards.

NEED TO KNOW

> **What is it?** A Lexus LS limousine that has a degree in astrophysics > **Tech specs** Artificial intelligence, use of big data, laser headlights > **Aimed at?** Showing off what Toyota and Lexus can do in the field of autonomous driving > **Chances of making production?** Fifth-gen LS due to hit showrooms imminently, autonomy tech will arrive from 2020

ALL-NEW FIESTA

Ford

TOGETHER WE GO FURTHER



Official fuel consumption figures in mpg (l/100km) for the All-New Ford Fiesta range: urban 40.9-80.7 (6.9-3.5), extra urban 67.3-94.2 (4.2-3.0), combined 54.3-88.3 (5.2-3.2). Official CO₂ emissions 118-82g/km.

The mpg figures quoted are sourced from official EU-regulated test results (EU Directive and Regulation 692/2008), are provided for comparability purposes and may not reflect your actual driving experience.

SEARCH: ALL-NEW FORD FIESTA



The CAR Inquisition

‘I have two passions: racing and investing’

His own career in F1 never got started, but everything else chief **Toto Wolff** touches turns to gold. Four years in charge at Mercedes F1, four constructors’ championships...

TAKEN AT FACE value, the 2014 Austrian Grand Prix was unremarkable. Mercedes dominated, coming home first and second – as they did on 11 other occasions that season. But in the context of Mercedes Formula 1 team boss Toto Wolff, the race was unique. His cars finished 1-2-3-4.

At the time Wolff was a shareholder in both Mercedes and Williams, whose cars finished third and fourth. His 30 per cent stake in the Silver Arrows came with the job – ‘Daimler wanted me to have skin in the game’ – but Williams was different. Williams demonstrated his vision as an investor. He’d bought 15 per cent of the team in 2009, when it was struggling, and he sold it in ‘14, when the team finished third in the constructors’ championship.

Wolff is a prime example of how F1 is changing. Unlike the sport’s founding team bosses, the guys whose names were above the door, Wolff is more worldly. He has business experience outside F1, as his self-made fortune would attest. The *Sunday Times* Rich List estimates his worth at £240 million, which isn’t bad for a guy who claims to have performed badly at school.

‘I wasn’t an ambitious kid,’ he says. ‘I was in the middle pack; I was average and didn’t have a particular interest. I didn’t play sport because I didn’t know there was a sport to play. My first true passion was motor racing.’

His interest in racing was triggered while on a road trip through Europe with some friends. They stopped at the Nürburgring to watch a Formula 3 race, and that was it. ‘When I stood on the grid,’ says Toto, ‘it just happened. It was like a lightning

CAR'S CURVEBALLS

6 questions only we would ask

Tell us about your first car...

'A VW Beetle. Ice blue, 1300cc, 55bhp. It wasn't a happy ending; I crashed it.'

Which achievement makes you most proud?

'It's not a business achievement; it's my family. I have three awesome kids – and the best wife (former racer Susie) you can imagine.'

What's the best thing you've ever done in a car?

'Fighting for the lead of Rallye Deutschland against Jari-Matti Latvala. It was many years ago, in Group N, and it was the best piece of driving I've ever done. I was in a Mitsubishi Evo and I nailed it!'

Supercar or classic car?

'Supercar.'

Tell us about a time when you screwed up...

'I screw up every day with some little things. I'm learning every day. We are in the unique position of building a legacy for Mercedes in Formula 1 if we're successful, or damaging the brand if we are not. That brings pressure and great motivation.'

Company curveball: how many F1 titles did Juan Manuel Fangio win for Mercedes?

'I know this: two, in 1954 and '55. He did a couple of races for Maserati in '54, but six of his eight races that year were with Mercedes, so that's definitely one for us!'



Hamilton has achieved plenty without Wolff, but they're a dynamite combination

strike; on the way home all I could think about was how to get myself in a race car.'

He attended a three-day driving course at the Österreichring's Walter Lechner Racing School, in which he finished second. A racing career of mixed success followed: he started out in the Seat Ibiza Cup and progressed to Formula Ford using money left to him by his grandmother.

However, any ambitions of racing in F1 ended as quickly as they'd started. 'I was following [future F1 driver] Alex Wurz in a Formula Ford practice session and I saw that he was doing something different to me,' says Toto. 'His level of car control was extraordinary and I knew then that I wouldn't make it to F1. A week later I was working in a bank in Poland.'

He carried on racing as an amateur, enjoying much success in sports cars and rallying, but his career would be elsewhere. As well as that stint in a bank he also worked for a steel company, then in March 1998 he founded an investment company called Marchfifteen ('yes, we started it on March 15').

He bought well during the dot-com boom and the profits made him unfathomably rich. Another company,

Marchsixteen ('yes, you know the date') made him even richer and led him towards Williams and, later on, to Mercedes – and the huge success that's continued with the 2018 drivers' and constructors' titles.

'Mercedes isn't just another investment opportunity,' says Toto. 'It's different because it closes the loop between my first real passion, motor racing, and my second real passion, which is investing. I have a deal with Daimler to run their F1 team until 2020, at which point I'll think about whether I stay where I am, do something else in F1 or call it a day and go back to my old world. I don't want to rule anything out but, at the moment, there is nothing better than doing what I do.'

Particularly when it's something he does so well. He's been in charge of Mercedes' F1 team for four years and they've won the constructors' championship every season. It's a remarkable record and one that suggests Daimler will move mountains to retain him in years to come.

TOM CLARKSON @TomClarksonF1

Connect 4

SUZUKI JIMNY

After barely touching it for decades they're gearing up to leapfrog into the future



The mad concept one

Suzuki e-Survivor concept (2017)

Suzuki went all *Mad Max* on us at the 2017 Tokyo show with the e-Survivor, a dune buggy that's prepared for the apocalypse. It's all-electric, has enormous wheels with knobby tyres and a nose that still looks familiarly Jimny-like. There's a screen in the steering wheel and another one on the dashboard, but rest assured the e-Survivor's interior can still be hosed down without anything breaking. Shame it's just a concept.

The one they still sell

Suzuki Jimny (1998-2017)

Most charming 4x4 out there? Quite possibly. Production of the current Jimny started in 1998 and will finish this year and, frankly, we'll miss the hilariously rubbish on-road driving dynamics, interior materials fashioned from the same plastics as wheelie bins and cutesy Tonka Truck styling. It's still one of the best off-roaders out there, so Suzuki has a lot on its shoulders if the next one due in 2019 is to carry the legendary name with pride.



The one with a proper roof

SJ410 (1981-1998)

This is the Euro-spec version of the second-generation Suzuki 4x4 and technically the first to properly carry the Jimny name. Still tiny, still severely underpowered but still a giant killer in the off-road stakes. Dealers in New Zealand even revived this generation in 2013, called it the Farm Worker 4x4, albeit without road registration 'cause of that pesky safety legislation.



The original one

Suzuki LJ10 (1970-1981)

Rufty-tufty 4x4 was the vehicle that put Suzuki four-wheelers properly on the map across the world. You could almost mistake it for a Land Cruiser looking at it from far enough away, but it was much smaller – in fact, it was the first ever four-wheel-drive kei car to enter series production in Japan. The plucky, flyweight LJ climbed mountains like an ibex, even if it had just a 359cc two-cylinder engine.



WATCHES

Tocking fillers

Watches affordable enough to give to people you don't even like that much for Christmas

CHRISTMAS IS NEARLY upon us, as some retailers have been warning since August. If you're planning to put a watch on your Santa list but lack the brass neck to ask him to spring for a Rolex, direct him to one of the following instead. Last month we looked at watches for around £500, but you can halve that and still find plenty of interesting, credible options, as this lot proves.

BEN OLIVER @thebenoliver



TW Steel Volante VS21

£189

Dutch watch firm TW Steel is barely a decade old but it behaves like one of the famous Swiss brands, sponsoring and making special editions for F1 teams. Its watches are often big and brash, but the new Volante range is more subtle and good-looking. The watches are available in a choice of sizes, although the smaller 45mm case is still pretty big. The quality is impressive for the price: the case is made of the same 316L steel as a Rolex, and there's a high-quality Japanese Miyota movement inside. twsteel.com

Pulsar PQ2055X1

£140

Pulsar is part of the Seiko group and follows the same principles: maximum quality at a sensible price. Awareness among petrolheads will have been raised by its eight years as sponsor of the M-Sport World Rally Team. If you don't fancy its brasher, motorsport-inspired chronographs, have a look at this snappily named model. Its deep, oval case is a tribute to 1970s Omegas and is also available in black or gold: choose the latter for the full retro effect. Or maybe don't. Inside there's a very modern digital module with a world timer function. pulsarwatches.com.au



Laco Helgoland Chronograph

£260

Despite a 92-year history of making professional pilots' watches and solid German engineering a Laco watch can be bought for as little as £215. This beautiful pilot's chronograph shrinks the size of the sub-dials to leave the main dial clean and super-legible. Those blue hands are a hallmark of a high-quality German watch (they're designed and made in Pforzheim), although this one is powered by a good-quality Citizen quartz movement from Japan. The fabric NATO strap in a striking matching blue is light, comfortable and secure. pageandcooper.com

NEW CAR DEBRIEF CITROËN C4 CACTUS



1 Something's up: new hairdo for the C4 Cactus?

Indeed, Citroën has revamped its small crossover, in a bid to differentiate it from its small crossover, the C3 Aircross. The first casualty of Citroën's attempt to redefine the Cactus as a regular hatch is the bodywork-protecting Airbump, gone from nose and tail and demoted to the side sills.

2 Errrm, okay, I think I understand...

C4 Cactus prices start around £2500 higher than the Aircross's, which requires an injection of extra posh. New LED lamps front and rear, and the elimination of roof bars and tailgate cladding complete the effect. New paint colours can be paired with gloss black or white, red or chrome detailing.

3 Any bigger changes under the skin?

Yup, Citroën's new comfort suspension with Progressive Hydraulic Cushions. Most cars have mechanical bump stops at the end of suspension travel which can cause a jolting rebound; the Cactus has hydraulic stops to absorb and dissipate energy, in a bid to create a magic carpet ride.

4 What else stops Cactus being prickly?

Soft, squidgy seats and thicker glass for sound-proofing help boost refinement. New engines include a 128bhp version of the 1.2-litre triple and a 119bhp 1.6-litre diesel, while safety gizmos include automated front braking and lane departure warning. Sales begin in January.



THE ABSOLUTE OPPOSITE
OF ORDINARY.

MASERATI GIBLI. YOURS. FROM £51,165

Introducing the New Maserati Ghibli, now also available in GranSport and GranLusso trims.

www.maserati.co.uk



Official fuel consumption figures for the New Maserati Ghibli range in mpg (l/100km): Urban 20.5 (13.8) – 36.7 (7.7), Extra Urban 39.8 (7.1) – 57.6 (4.9), Combined 29.4 (9.6) – 47.9 (5.9). CO₂ emissions 223 – 158 g/km. Fuel consumption and CO₂ figures are based on standard EU tests for comparative purposes and may not reflect real driving results. Models shown are: a New Maserati Ghibli Diesel GranSport MY18 at £71,400 On The Road including optional mica paint at £660, 20" GTS Anthracite alloy wheels at £3,325, Full exterior carbon pack at £2,500, Interior carbon pack at £2,880, Full premium perforated leather interior with ventilated and heated front seats at £3,900 and Headrest Trident stitching at £310. A Maserati Ghibli Diesel GranLusso MY18 at £65,765 On The Road including optional metallic paint at £660, 20" machine polished Urano alloy wheels at £1,200, Polished silver callipers at £1,615, Electric sunroof at £1,200 and Driver Assistance Pack Plus at £2,605.



PEUGEOT

NEW PEUGEOT SUV RANGE

NEVER HAVE SUVs GONE SO FAR



2008 SUV



3008 SUV



NEW 7-SEAT 5008 SUV



GRIP CONTROL®
PEUGEOT i-Cockpit®
CONNECTED 3D NAVIGATION*

ADVENTURES **BUILT IN**

PEUGEOT RECOMMENDS TOTAL Official Fuel Consumption in MPG (l/100km) and CO₂ emissions (g/km) for the 2008 SUV Range are: Urban 47.1 – 65.7 (6.0 – 4.3), Extra Urban 65.7 – 85.6 (4.3 – 3.3), Combined 57.6 – 76.3 (4.9 – 3.7) and CO₂ 114 – 96 (g/km). Official Fuel Consumption in MPG (l/100km) and CO₂ emissions (g/km) for the all-new 3008 SUV Range are: Urban 37.2 – 67.3 (7.6 – 4.2), Extra Urban 55.4 – 80.7 (5.1 – 3.5), Combined 47.1 – 70.6 (6.0 – 4.0), CO₂ 136 – 103 (g/km). Official Fuel Consumption in MPG (l/100km) and CO₂ emissions (g/km) for the all-new 5008 SUV Range are: Urban 36.2 – 62.8 (7.8- 4.5), Extra Urban 53.3 – 72.4 (5.3 – 3.9), Combined 46.3- 68.9 (6.1- 4.1) and CO₂ 140 – 106 (g/km). MPG figures are achieved under official EU test conditions, intended as a guide for comparative purposes only and may not reflect actual on-the-road driving conditions.

Grip Control® is standard on 2008 SUV Allure and above, excluding 1.2L PureTech 82. Advanced Grip Control® is optional across the all-new 3008 SUV and all-new 5008 SUV ranges. *Connected 3D Navigation is standard on a 2008 SUV GT Line, all-new 3008 SUV Allure and above and all-new 5008 SUV Allure and above. Additional terms and conditions apply to connected services, including customer acceptance of location sharing prior to activation.

TECH.

The innovations transforming our driving world



Formula E ⚡ special

7 reasons Formula E is silently taking over the world

As the new season begins, we ask why the big manufacturers are getting on board – and what it means for future road cars

1 The big manufacturers are queueing up to join in

Jaguar has a head start on its premium rivals, but the imminent German influx puts the pressure on the Brits to do well this season

SHALL WE USE THE L WORD? Panasonic Jaguar Racing came last in the Formula E team standings for 2016-17, their first season in the booming electric single-seater race series. But looked at another way, they came 10th. Or, yet another way, they were the first of the premium manufacturers to commit fully to the series.

And that means they've had more chance to learn how to make electric cars go fast, reliably and economically. That could prove to be priceless as Jaguar readies its i-Pace race series, which kicks off at the end of 2018, and future electric and hybrid road cars. The new car, the i-Type 2, will be driven by Formula E's first champion, Nelson Piquet Jr, and 2012 GP3 champ Mitch Evans. Team director James Barclay is quietly optimistic about their chances of some decent results this season.

'We learnt a lot in our first year back in racing and we have been working really hard to put that knowledge and experience to the test,' he tells us. 'Testing has gone well but it won't be until we get to Hong Kong that we know if our hard work has paid off. We have made some improvements to the Jaguar i-Type 2, the driver line-up and technical team.'

It's the right series at the right time: 'Formula E continues to grow exponentially. As the first premium manufacturer to join the series we feel that decision has been vindicated with the likes of Mercedes-Benz, BMW and Porsche set to join.'

Whereas the previous car was put together in a hurry, i-Type 2 has had more considered input from Jaguar and technical partners Williams Advanced Engineering. 'The improvements have made the Jaguar i-Type 2 a more efficient overall package, allowing the drivers to extract maximum performance. Key areas of improvement are the weight of the car, which is now far lighter, and the car's centre of gravity has been lowered to improve its dynamic balance. We have also worked to improve the efficiency of our powertrain with a new design.'

The Jag's now far lighter and the centre of gravity is lower

And what works on the track will shape electrified road cars. 'The race programme provides Jaguar Land Rover with the opportunity to bring learnings from extreme performance conditions to the road – benefiting the range and performance of our product lines as we look ahead to the launch of further electrical vehicles,' says Barclay.

'One of the main challenges for Formula E is the use of street circuits. In other motorsports, races are completed on well-maintained tracks. In Formula E we are racing on temporary circuits. In addition, energy management is a key area during the race for the drivers and engineers to optimise.'

'It's important that the series uses street circuits. It opens up the sport to a whole new audience, and makes it more accessible for the fans. We get to go to places like Hong Kong, New York and Paris only because we are racing with electric cars.'

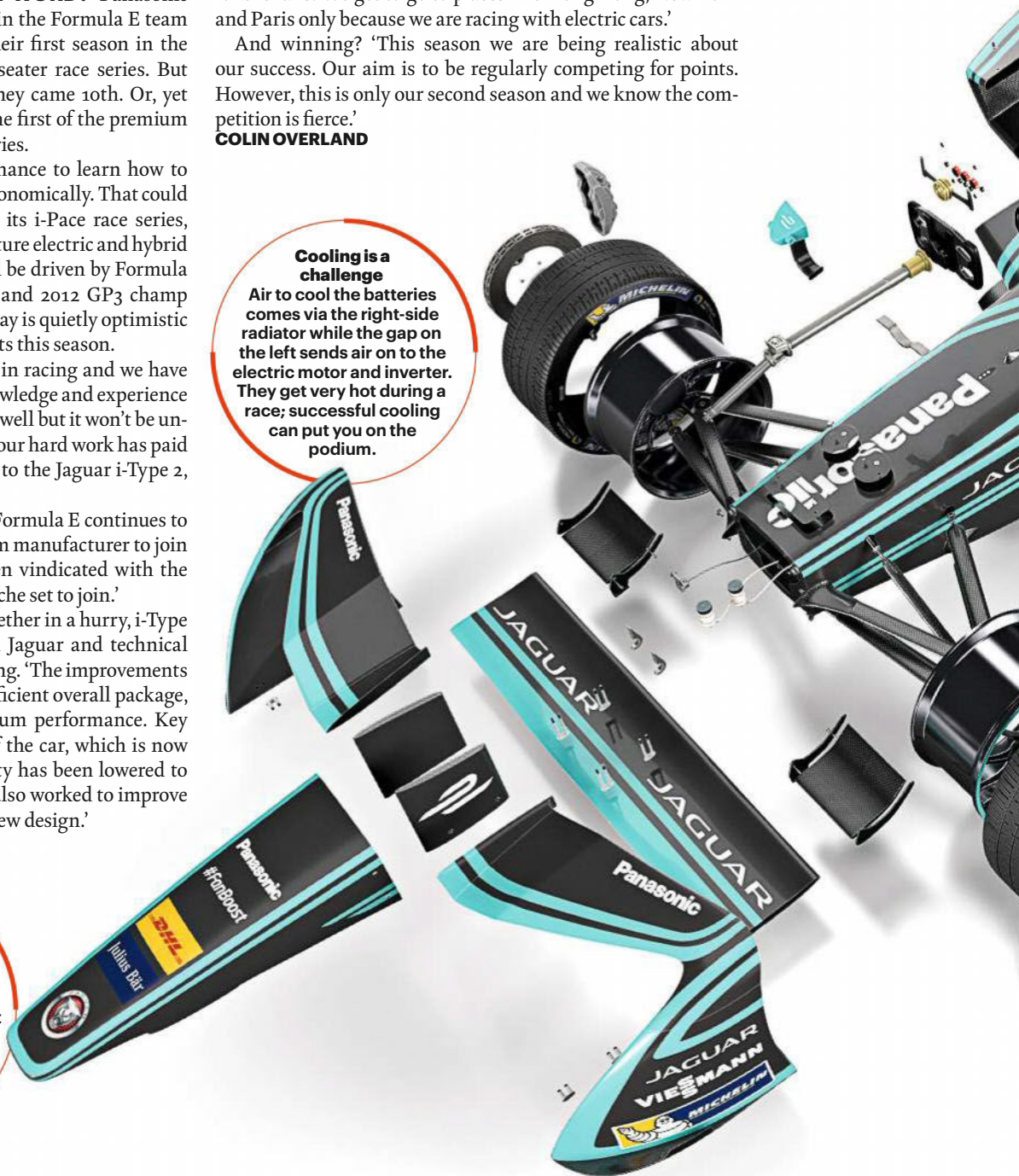
And winning? 'This season we are being realistic about our success. Our aim is to be regularly competing for points. However, this is only our second season and we know the competition is fierce.'

COLIN OVERLAND

Cooling is a challenge

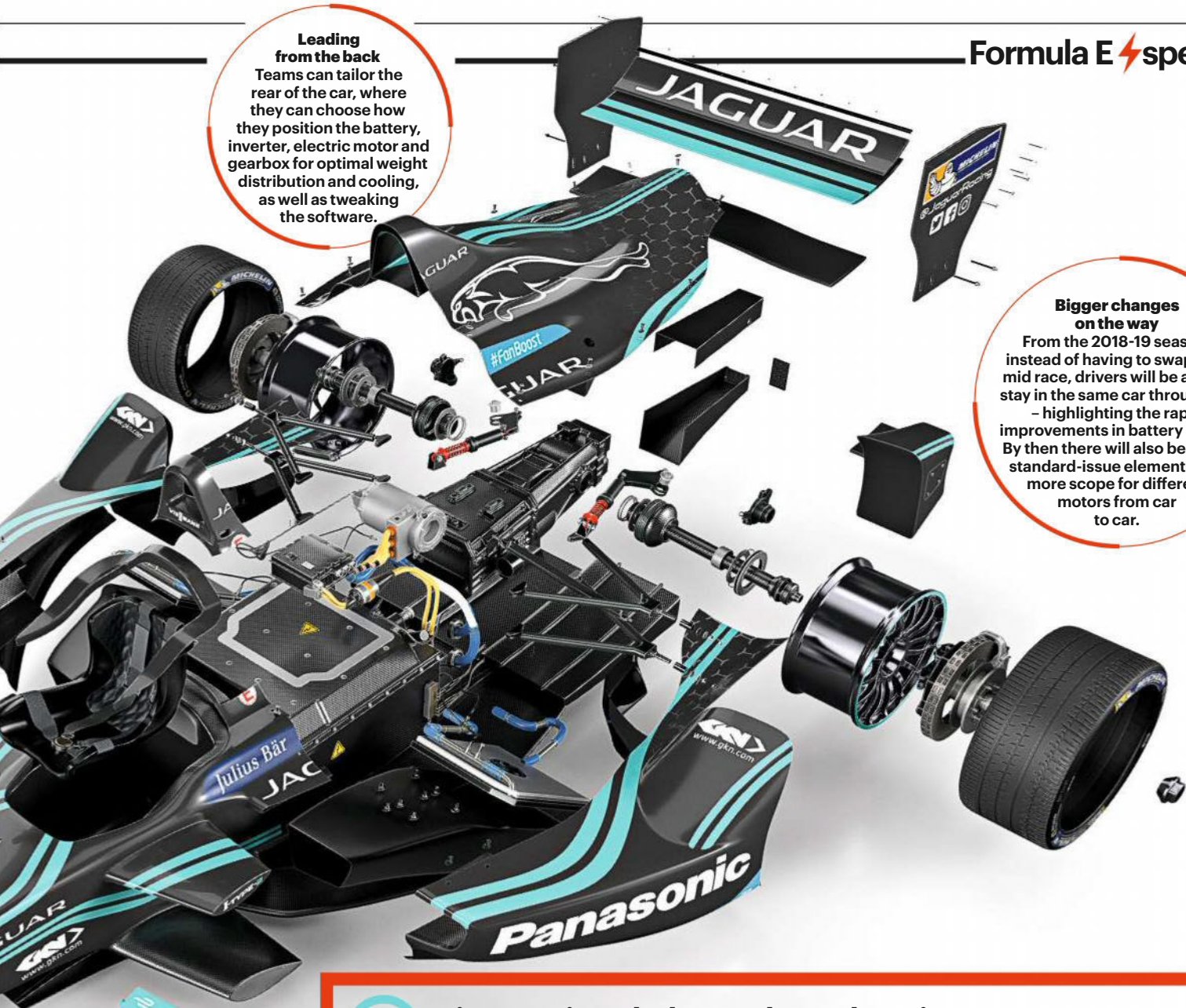
Air to cool the batteries comes via the right-side radiator while the gap on the left sends air on to the electric motor and inverter. They get very hot during a race; successful cooling can put you on the podium.

Fixed front
All cars run the same Dallara chassis with a shared aerodynamic package and identical front suspension. Minimum weight is 880kg, including driver – a challenge for engineers, given the 250kg weight of the batteries.



Leading from the back
Teams can tailor the rear of the car, where they can choose how they position the battery, inverter, electric motor and gearbox for optimal weight distribution and cooling, as well as tweaking the software.

Bigger changes on the way
From the 2018-19 season, instead of having to swap cars mid race, drivers will be able to stay in the same car throughout – highlighting the rapid improvements in battery range. By then there will also be fewer standard-issue elements and more scope for different motors from car to car.



2 Microscopic tech changes have a huge impact

Unseen boffins are the real stars of Formula E

APART FROM new livery the electric single-seaters will look and sound very much the same as in previous years when they line up for the new season. But appearances are deceptive, as there have been some subtle but telling changes to the cars' tech spec.

It might not seem much, but upping the power available during the race from 170kWh to 180 while reducing the car's weight by 35lb has proved a challenge for the teams' engineers and designers, as DS Virgin Racing's tech chief Sylvain Filippi explains: 'You can only find that sort of weight reduction in the powertrain and that's tricky because it's about shaving mass off the motor, inverter, transmission, the bell housing etc whilst increasing power for the

race. That's what Formula E is all about, improving the overall electrical efficiency. We're using less energy for every mile travelled – which, in racing, means more time spent on the throttle rather than lifting.'

Formula E currently makes extensive use of common components and rules: the same design of carbonfibre tub, front suspension and aerodynamics, and a common-spec battery pack supplied by Williams Advanced Engineering.

Teams have free rein to develop the electric motor, inverter, transmission and bell housing with rear suspension pick up-points, and the software strategy.

With an electric motor's ability to deliver maximum torque from the onset, the conventional wisdom is that



a single-ratio gearbox is the natural choice. It's what Audi has opted for with the new LMP1 e-tron, replacing the previous three-speed transmission. But DS Virgin has gone the other way, moving from a single- to a multi-speed 'box. Does a shorter first gear deliver a more aggressive launch with subsequent ratios maintaining the electric

motor at its peak efficiency? Or does that come at a cost, with peak power and torque dipping between changes? And how does that effect the regenerative braking?

Just a few examples of the challenges facing the teams venturing into a series where so much is still experimental, with everyone on the steepest of learning curves.

IAN ADCOCK



3

The champion now has the full might of Audi behind him

New champ Lucas di Grassi, who also won the first ever Formula E race at Beijing in 2014, describes what it means to wear the No1 plate for the 2017-18 campaign

MOTORSPORT IS supposed to be the last frontier or pinnacle of technology of the car industry and now we are going through a big change from combustion to electric.

Demand in the commercial market was not created because of Formula E, but more that it's a by-product of the world changing towards electric technology. The automotive industry needs to promote and create that technology, which is why the FIA created Formula E.

It would be almost impossible to turn hardcore motorsport fans into Formula E fans. The key point is to bring new fans. To catch the younger generation, to catch the millennials, to engage with fans that, when they buy their first car, it will be electric. The average age of a traditional motorsport fan is increasing a lot so if we target this new generation, it's perfect for us.

Because of the reduced noise, I think it's a really good event for families and there hasn't ever been a fan that's complained to me that they couldn't get close to the driver as they tried to get an autograph.

July 2017 will go down in motorsport history as the month when four of the main brands of motorsport announced Formula E entry in a row. When Audi, BMW, Mercedes and Porsche announced, that was history being written.

These big OEMs don't commit for the short term. We [Abt Schaeffler] had the Audi name for three seasons, but Audi have only decided to fully commit now.

Porsche, for example, have three years of preparation and development, so they want to enter it to win. Everyone is looking at Formula E long term, so it creates this status that Formula E is the motorsport championship of the future.

Nobody knows where DTM is going to go from here, or what LMP1 is going to do now. If you take a 25-year-old driver with 10 to 15 years ahead of them and they couldn't get into F1 for whatever reason, Formula E is the category to be in. The teams, the professionalism, the drivers' salaries... everything is already second best after F1.

Endurance racing will be the last to go full electric. What they have to focus on is to promote technologies that are still commercially relevant, but at the same time make it simple and cheap like using biofuels or even very small-capacity efficient engines.

Winning this season was great. Our performance was not as good as the first two seasons but in the end when it mattered, my rival Sebastien Buemi succumbed to pressure. He made a lot of mistakes and we managed to have a very good final weekend.

INTERVIEW BY JAKE GROVES



↑ Di Grassi reveals his secret weapon: levitation



4 The timing couldn't be better

Things move fast in Formula E. Maybe not so much on the road, where top speeds are around 140mph, but as a series it's done nothing but grow.

When FIA president Jean Todt announced the new series, as a way of demonstrating the potential of sustainable mobility, it sounded too worthy for some (and way, way too quiet). But with every manufacturer that signs up it makes more sense.

Season four is about to begin, with Audi now a team – not just a partner, as before – battling DS, Renault and the rest. In season five they'll be joined by BMW (and Renault will become Nissan), and in season six by Porsche and Mercedes. It's no coincidence that 2020 is for many manufacturers the turning point for road-car electrification.



5 It's the race series that comes to you

The London ePrix was the final round of the first two Formula E seasons and drew a big crowds to Battersea Park, but proved to be politically divisive. So if you need to travel, where's best to watch? You have a choice of tourist-friendly cities, many reachable by EasyJet, and four new venues: Rome, Santiago in Chile, Sao Paulo in Brazil and Zurich – it's the first big car race in Switzerland for decades.

Allan McNish is particularly excited by several rounds, for different reasons: 'Hong Kong is a really good place and it's the moment of truth for everybody. Racing in Switzerland will be pretty good – an experience the country hasn't had for a long time. And Rome will be good – the Italians love motorsport.'

The season starts in Hong Kong on December 2-3, then moves to Marrakech (January 13), Santiago (February 3), Mexico City (March 3), Sao Paulo (March 17), Rome (April 14), Paris (April 28), Berlin (May 19), Zurich (June 10) and New York City (July 14-15) before ending in Montreal on July 28-29.

6 The data is feeding directly into new road cars

ALLAN MCNISH is in limbo. We spoke to the endurance race legend in the gap between the final pre-season tests at Valencia and the start of the 2017-18 campaign in Hong Kong. So, Allan, are you ready?

'You're never ready. If you're a driver or an engineer, we always want more time. But racing is the best deadline date. Either you're good enough or you're not.'

'As a manufacturer you get 15 test days, and customer teams get an extra six days. So testing on your own is very, very limited. The Valencia test was three days for everybody together. Sitting down after the test, going through it all, however you look at the results there are two big question marks: Valencia isn't a street circuit – they're generally quite bumpy and cambered. And even places we've raced at before might not be the same when we race them this season – they're streets, so they've been worn down by trucks and the rest of it. You turn up and it's potentially different from 12 months previously, and you have to adapt fast.'

'We were quite competitive in Valencia. Both drivers looked to be competitive in both shorter and longer runs, in some quite hot conditions. But the runners and riders who were at the front last year are there again – we're not the only ones who are making progress. Renault e.dams were again competitive, and Mahindra looked very good.'

'Audi is stepping forward, beyond our hybrid understanding from Le Mans'

Audi has moved to a full works effort to help it prepare its first electric road cars, as team boss Allan McNish explains. By Colin Overland

'I'm positive that we've made some steps forward, but it will be a very tough season. It's a new challenge for Audi and for me. I love competition. It's great if you win, and that's what you're always hoping for, but if you don't win then that really fires you up for the next round.'

'Only software can be changed between now and Hong Kong. We've homologated the cars, so that's it for the season, aside from some permitted changes to the software, the dampers and the wheel rims.'

'There's always a strong link with Audi between the track and road, and here it's a strong technical link, not just a marketing one. The e-tron electric road car is coming in 2018, for sale in 2019, so it's very logical that Audi is stepping forward, beyond our hybrid understanding from Le Mans, into fully electric racers.'

McNish stresses the importance of the venues as well as the power source. 'Most initial buyers of electric cars will probably be city dwellers. And we're potentially reaching a different group of people. If I live in a city and I've got all sorts of sports and leisure spectating options on my doorstep, then driving out of the city for two hours to get to a race track is maybe not so attractive. But if it's just a bus ride away, more people will be inclined to give it a try. City circuits have a different vibe. It's good hard racing, and it's an event, something to look forward to.'

He's not always been so sure. 'I went to the race in Monaco in Formula E's first season, and I didn't think it would last. I've been surprised how quickly it's developed. The timing is right.'

'Just look at TDI in Le Mans racing – slowly but surely your opinion changes. Just because it hasn't been done before doesn't mean it's not good – you've got to take it for what it is. Walk in the door as if it's your first ever race.'



Big wheels, grooved rubber
18in wheels wear grooved, road car-style Michelins as part of Formula E's drive for road-relevance. The same tyres must work in wet and dry. As the sidewalls are far slimmer than those on most single-seaters' tyres, the suspension has to do more work than a car with a smaller wheel and deeper sidewall.



Driver-led regeneration
Brakes play no role in recharging the battery, but the driver pulls a paddle on the steering wheel to add negative torque through the electric motor of up to 150kW.

7 The cars are amazing to drive

Does a Formula E race car offer any reasons to look forward to our electric future? The petrolhead's verdict by **Ben Barry**

THE FIRST TIME I accelerate hard in the DS Virgin Racing DSV-02 Formula E electric race car, I don't quite know what to expect. There's no vibration, very little noise – none of the cues, in other words, that tell our brains to expect a huge burst of acceleration – but I know that an electric motor delivers maximum torque from a standstill, so I feed in the throttle with a little apprehension, wondering how much of the force the heavily worn rear tyres will soak up. What happens next is pretty extraordinary: the rear tyres grip, g-forces push me back hard in my seat, and I fast-forward down the straight in near-silence. It feels far quicker than the 170kW (228bhp) currently at my disposal suggests.

The sensation of instant torque and seemingly endless thrust is similar to a high-powered electric road car, but you're just inches off the ground and your head is stuck out in the airflow, so you hear the almost ghostly whistle of the wind, the light whine of transmission and futuristic fizz of the electric motor, none of which quite computes with the rapidly building speed. It's perhaps closest to riding a rollercoaster that goes from zero to full speed in seconds.

Formula E is a testbed for EV technology that's directly relevant to road cars, and things are moving fast: while drivers must currently pit and use two cars per race because the batteries don't hold enough charge, they'll be able to go the full race distance in one car in the 2018-19 season. The benefits for EV drivers struggling with range anxiety are clear.

To learn more, we've come to a racetrack



There was a lot to learn before DS would let Ben Barry loose in Sam Bird's 2016-17 car – although, as Bird says, driving's the easy bit compared to the intricacies of race strategy

near Paris with DS Performance; part of their job is to ensure the learnings from Formula E are filtering down right now into 2019's full-electric production road car from the French brand.

We're with Sam Bird, who has won races in all of the first three seasons. He explains that driving it fast isn't really the hard part if you're a professional race driver, it's the strategy – of conserving the electric battery and harvesting energy while racing wheel-to-wheel – that's the challenge. Get your head round that and you'll have a chance of standing on the podium.

'There was a lot to learn initially,' says Bird. 'We have 28kW of energy per car, and you have to use it wisely. We don't drive flat out, but we're within one second per lap of that and saving around 20 per cent of the energy – down from 1.4kW to 1kW. But then we don't get full re-gen until the

battery is at 80 per cent charge, then you have to remember to put the brake-bias further forwards to compensate for the extra braking that re-gen puts through the electric motor at the back.

To keep costs down, all cars use a common carbonfibre chassis supplied by Dallara, and an identical front suspension and aero package. The 18-inch wheels and tyres are also common, and more comparable to road-car technology than the 13-inch diameter used in Formula 1. They're treaded, and used in both wet or dry conditions.

At the rear, the engineers have far greater freedom – the electric motor, three-speed gearbox and inverter are all the work of DS Performance. So too the rear suspension. Only the lithium-ion battery is universal. It produces 700V compared with 300V for a typical EV road car, and takes no more than



People power
Drivers don't normally get a push-to-pass function, but there is Fanboost – fans vote on social media up to six minutes into the race, giving the top-rated driver an extra boost of energy.

From Hong Kong to Montreal
The DS's three-speed gearbox must use the same ratios throughout the entire season; engineers have to compromise.



It's like riding a rollercoaster that goes from zero to full speed in seconds

50 minutes to fully charge.

While the hardware is rigorously controlled by the FIA, Formula E is unique in giving teams carte blanche to manipulate software. There are valuable lessons to be learnt in tweaking the algorithms to extract more energy, the principles easily transferable to road cars.

'We are two years in advance of road cars,' says technical director Thomas Chevaucher. 'We might not share the technology directly,

but the understanding is important. We are working a lot with our research department on the architecture of a future road car.'

Chevaucher describes how Formula E teams are continually making huge strides in development, because the technology is quite new and they're learning fast. In Formula 1, tiny increments make the difference.

Today, the team is working on software refinements during one of its 15 development days. It's a slightly more relaxed schedule than a race, where practice, qualifying and the race itself all take place on the same day. That means the drivers and engineers all have to be up to speed before they arrive at the circuit, which is where simulator training comes in.

Back in the real world, I'm strapped into what feels like a slightly ill-fitting canoe, rolling out onto the circuit after being told to



The middle paddles on the steering wheel control the gears. The top right paddle is for Fanboost, the bottom right for regen. Mysteriously, the purpose of the top and bottom left paddles is secret

get some heat into the carbon brakes before I push harder. Despite the huge torque on tap, the acceleration is progressive and easy to manage, and when I arrive at the first fast right-hander, the turn-in is wonderfully direct, the steering light and communicative.

The brakes, in comparison, are incredibly firm; they need a really hard push to generate some pressure and then you have to press deep into them to wipe off speed.

The massive torque means you can stay in the same gear the whole time, and tech director Chevaucher says the gears are really there to help energy conservation, but it also feels natural to use them for performance. There's a clunk and shimmy as you pull back the right-hand paddleshifter, the familiarity of mechanical engagement amid all the strange whizzing and whirring noises that dominate the experience.

Exiting slower corners, I can feel the front tyres balanced on the edge of grip and starting to scrub slightly. The tyres are worn, but a Formula E car does have a higher percentage of its weight at the rear than a typical single seater, and maintains that balance because it isn't burning fuel; perhaps that contributes some understeer, 911-style. And yet it's quite traction-limited at the rear with all its torque: if you're just a little too early with the throttle, it'll oversteer dramatically, especially in second gear – it's like a light-switch turbo effect and you have to be quick to catch any slides, but squeezing so much enjoyment from an electric car feels hilariously contradictory – and bodes well for future performance road cars.

FIRST DRIVES.

Starring Rolls-Royce Phantom, Jaguar XJR575, VW T-Roc, Seat Arona, Lotus Evora GT430, BMW X3 and 640i GT

ROLLS-ROYCE PHANTOM

Welcome to the stratosphere

The old Phantom was unquestionably the finest luxury saloon on the planet. The new one takes extravagance to an entirely new level

THE OILY BITS are made and designed in Germany, the engineers and designers mostly work in Munich, the chairman is called Schwarzenbauer and the CEO has three umlauts in this name. Even the leather – 12 hides per car – comes from Bavarian bulls.

Yet there is still a wonderfully grand Englishness about the new Rolls-Royce Phantom, just as there was with its BMW-engineered predecessor. It's made on Lord March's green and pleasant Goodwood estate, the carpentry and leathersmithery owe much to the time-honoured boat building and saddlery skills of the Sussex coast and, when you climb

on board, you're inside a stately home's sitting room on wheels. (You can almost smell the log fire). There's now even a gallery for specially commissioned art on this, the latest and greatest Phantom, generation VIII. (Note the official use of Roman numerals, just to reinforce the pomp and heritage).

BMW has done a marvellous job of mixing tradition and technology with Rolls-Royce.

I asked Torsten Müller-Ötvös, the CEO with all the umlauts, how they'd managed to infuse the car with such luxury Englishness. He said BMW, and he personally, had learnt a lot from the '90s Rover debacle. Plus, Müller-Ötvös is an Anglophile. He clearly loves the place. ▶



A Phantom owner lapping his garden pond yesterday. New grille is faired into the bonnet



White panel is for works of art (or you could stick your shopping list there)

And loads of their engineers and designers are English, most notably design director Giles Taylor, who's ex-Jaguar.

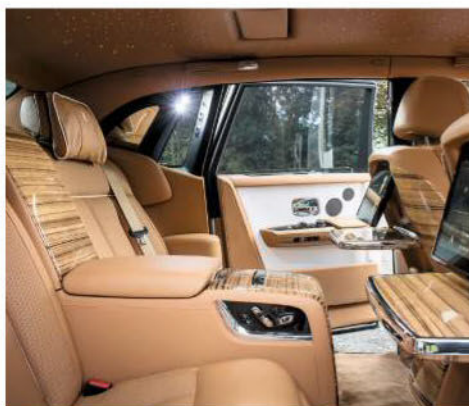
The goal, clearly, was to design and engineer the finest luxury saloon car in the world. Mind you, it's made easier when you start with the Phantom VII, which is already a cut above any Bentley or Mercedes-Benz for sheer luxury.

It looks very like the old one. Taylor regards the Phantom as a classic, like the Porsche 911, so no styling revolution was called for. Instead, we see a smoother style, faired-in Pantheon grille (now slightly higher, and reclined) and a more raked rear screen.

Other than that you'd be hard pressed to spot the difference. As with the old Phantom, it's dominated by its cliff-like grille (in hand-polished stainless steel), its long bonnet, those big front wings, a long wheelbase (bigger on the VIII, all the better for rear legroom), and that pert little tail.

The new one is a touch shorter than its predecessor. This is partly to let the Extended Wheelbase version – 22cm longer – sneak under six metres in overall length. Any longer and Chinese 'patrons' – as Rolls quaintly refers to its customers – would need a bus licence.

Technically, much has changed. Let's start with the new Architecture of Luxury, Rolls' lofty name for its new platform, which will



Rolls-Royce views the Phantom's styling as classic and not to be meddled with

underpin all upcoming Rollers. The marketing folk describe it as a 'spaceframe' but it's really a massive aluminium box section, of industrial style. It's lighter than the old Phantom's aluminium spaceframe, and 30 per cent stiffer overall – though much better than that in certain key areas.

The major beneficiary of this is improved comfort and refinement, but noble supporting roles are played by bigger self-levelling air springs, softer sidewall tyres (complete with foam filling and special seals), adaptive dampers and 130kg of sound deadening, to stifle any unwanted squeaks, groans or whines.

A new 6.75-litre V12 also plays its part, especially in reducing noise. The engine block is essentially carried over from the Ghost, but pretty much everything else is new. Unlike the old naturally aspirated Phantom, the generation VIII V12 has twin turbochargers. This inflates torque, and makes more of it accessible at lower revs. The Phantom's key performance quality is effortless waftability, and with a massive 664lb

ft of torque at 1700rpm it can punch hard from just above idle.

The throttle and brake pedals have an unusually long travel, for smoother driving. Patron, after all, doesn't want to be inconvenienced by a jerky journey. The brakes never grab. Acceleration is never fitful. It's all just so smooth, as the Phantom VIII glides over the road, like the QE2 on a calm sea.

The body rigidity and big air springs – and active anti-roll bars that disengage when not quelling body sway – all serve up the smoothest of rides. I regularly lambast modern cars for their rubbish ride comfort. Not the Phantom. Never has a car ridden more majestically. It doesn't pitch and lose composure at speed, unlike most big SUVs, which tend to be awful, and equally weighty.

Nor have I ever driven a more silent car. In fact, it's eerily quiet. The V12 is so noiseless that you'll sometimes think it's stalled (I did, twice). It's as quiet as an electric motor, and as smooth. Only under hard acceleration does the induction

UP AGAINST

BETTER THAN Bentley Mulsanne

The Rolls-Royce is more luxurious

WORSE THAN Sunseeker 155 Yacht

More bedrooms, better at oceans

WE'D BUY This one

If you want the world's best luxury car, this is it

Rolls-Royce Phantom

- > **Price** £360,000 (standard wheelbase)
- > **Engine** 6749cc 48v twin-turbo V12, 563bhp @ 5000rpm, 664lb ft @ 1700rpm
- > **Transmission** 8-speed auto, rear-wheel drive
- > **Performance** 5.3sec 0-62mph, 155mph, 20.3mpg, 318g/km CO2
- > **Weight** 2560kg > **On sale** Now



suck betray its internal combustion.

Back-seat space is astonishing, even in the standard wheelbase car. The seats are exceptional, including pillow-soft head restraints. Rear picnic tables of fine marquetry pop down, while handsome screens of high resolution pop up. Plus you'll enjoy the rear-hinged doors, which always make departure that little bit more of an event. It's all part of the marvellous theatre of Phantom ownership. The doors close, from the inside, by push button (just as well, because you can't reach the leading edge when they're open). So, now, do the front doors.

And what is life like up front, where patron's chauffeur will surely reside? Most Chinese and Middle Eastern buyers use professional drivers, but we Europeans (and Americans) mostly do it ourselves. So, driving enjoyment is important.

Here, perhaps, is the Phantom's most surprising quality: it's fun to drive. Yes, it's big and heavy, and never feels anything else. But the steering is precise, body roll minimal, throttle response sharp, the brakes strong. It's also

amazingly agile for a car so big, helped by the new four-wheel steering.

The rears countersteer below 37mph by up to three degrees, to help parking and low-speed manoeuvrability. They steer in the same direction as the fronts at higher speeds, boosting stability. On a challenging drive route, over Swiss mountains, the Flying Lady could lift her skirts and power ahead, almost like a big sports car.

You can throw a Phantom around (honest), and when you charge hard that V12 really comes out to play, complete with (muted) musical accompaniment. Acceleration is quicker than many sports saloons, 0-62mph in just over five seconds. Only the throne-like front seats, which are short of lateral support, spoil the fun. Of course the Phantom is not designed for such puerility, but it can do it all the same.

With a base price of £360,000

the Phantom is the world's priciest production saloon, and by some margin. And that's before personalisation – according to Müller-Ötvös, all Phantoms will be customised to some extent, some selling for more than £1 million. So it operates in a loftier stratosphere than any mere Bentley or Mercedes, which are far more conventional in their design and in their driving demeanour.

By some margin, the new Phantom is the most astonishing luxury saloon in the world – the most cossetting, most comfortable, most stately, most individualistic, most beautifully appointed, most extravagant and, of course, the most expensive.

And if we must thank our Munich friends for this new English king of luxury cars, then that's fine by me. After all, our own noble House of Windsor was once German.

LOVE

The silence, luxury, engineering finesse... and it's fast

HATE

Too cheap and small. Relative to a ship

VERDICT

Extravagant and exceptional. Still the definitive luxury saloon

★★★★★

JAGUAR XJR575

Old cat learns new tricks

The XJ has purred along since 2009, largely ignoring its ever-changing German rivals. Time for a 567bhp shot in the arm

IT'S PROBABLY pretty easy to think of the Jaguar XJ as old hat – if indeed you think of it at all. Jag's flagship has been around since 2009, after all. The sleek *Heart of Gold* exterior gives any sighting a certain sense of occasion, of course, but the interior, with its double-bubble central ventilation binnacle and chintzy analogue clock, comes across as quaint, regardless of the update to the infotainment system.

Still, in a sea of constantly churning German metal – note the recent S-Class facelift and all-new A8 – it at least offers something positively different, so it behoves Jaguar to make some noise about it occasionally. And if it's noise you want, a Velocity Blue XJR575 is a promising option, flattening any ageing metaphorical hat with the 567bhp 5.0-litre supercharged V8 from the F-Type SVR and a new electronic active differential.

Just in case you forget what you're dealing with once the door's shut there's a 575 badge in the middle of the dashboard, red stitching, diamond quilted seats and carbonfibre door trimmings.

Jaguar XJR575

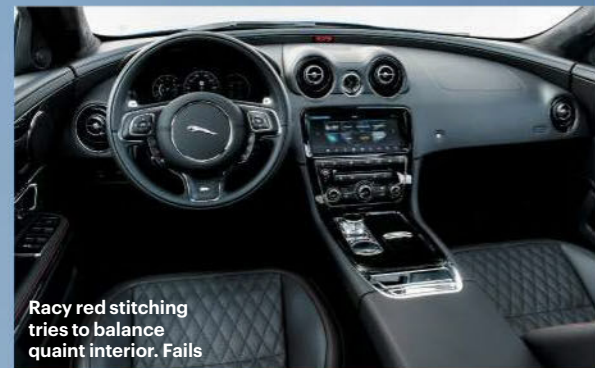
► **Price** £93,710 ► **Engine** 5000cc 32v supercharged V8, 567bhp @ 6250rpm, 516lb ft @ 3500rpm ► **Transmission** 8-speed auto, rear-wheel drive ► **Performance** 4.4sec 0-62mph, 186mph, 25.5mpg, 264g/km CO2
► **Weight** 1875kg ► **On sale** Now

There's also a weirdly fluffy headlining. You'd think such amnesia unlikely, though, what with 0-62mph in 4.4sec being little more than a committed foot twitch away.

But actually, once you acclimatise to the SVO tinsel, this XJ remains fully capable of lulling you (and your passengers) into its luxurious embrace. Keep the windows up, and the V8 woofle is remarkably demure, fading into the background motorway hum more in the manner of a Merc S560 than an S63 AMG – none of the F-Type's histrionics have been carried over. So if you were wanting a barrage of artillery fire every time you back off the throttle you'll be disappointed. Mercedes will happily take your money.

It rides properly, too – adaptive dampers and air suspension cushily swallowing nasty surface intrusions. The louche limo function that makes these such a favourite of recent Bond baddies remains present and correct. You can even get a long-wheelbase version. It's a shame some of the buttons are cheap and clicky, and that the updated infotainment crashed as soon as we started poking at it.

But still we remind ourselves: at least it's different to the churning Germans. And what's more, when you finally decide this twisting



Racy red stitching tries to balance quaint interior. Fails

Portuguese mountain road deserves a merciless thrashing, the XJR575 enthusiastically rises to the occasion. Though the engine's not brutally rapid, it's urgent enough that your companions will be left in no doubt they should now be reaching for the grab handles. Better yet is the chassis.

No AMG S-Class ever shrinks around you quite like this. The steering doesn't give you depth, but the weighting is superb and the agility it serves up seems scarcely believable, that active differential extracting enormous amounts of traction while the complex blend of variable damping and air springs combine to deliver deliciously authentic-feeling response.

Cornering lean is sweetly checked, but with a kind of progressive positivity versus the eerie physics-bending of active anti-roll rivals, boosting your confidence in the XJR's ability to go even faster. It's a slightly incongruous experience – especially for anyone else on board – but nevertheless an exceptionally beguiling one.

CJ HUBBARD

LOVE

Peachy chassis, punchy engine, positively different

HATE

FFS Jaguar, sort out your infotainment

VERDICT

Ageing XJ gets new lease of life. Nice

★★★★★







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VOLKSWAGEN T-ROC

Calling all Millennials

Bigger than a Juke, smaller than a Qashqai and funkier than both, VW's new SUV is aimed squarely at Generation Y. By **Jake Groves**

HAVE WE REACHED peak crossover yet? Volkswagen certainly doesn't think so. Wolfsburg says that one in three cars sold globally are now SUVs and the segment will grow in the coming years – a point emphasised by the T-Roc you see here effectively taking over the ageing Scirocco coupe's production line at the Portuguese production facility.

The funky T-Roc is of course just one small part of VW's massive SUV product offensive that's been on the boil since 2016 when the new Tiguan came out. Since then, we've seen a seven-seat Tiguan Allspace, the massive Atlas in the US and Teramont in China, plus there are plans for an even smaller T-Cross (VW's answer to the Seat Arona driven in this issue) next year and a fresh Touareg too. The T-Roc crosses over established soft-roader sizes – it's larger than a Nissan Juke, but smaller than a Qashqai, for example.

The T-Roc's main headline is the huge scope for customisation. There are 24 different exterior colour combos to choose from – everything from dishwasher white to baby-sick yellow metallic (pictured) and sky blue – that you can then match to a few roof colour options.

It's a pick 'n' mix story for your powertrain configuration options, too. UK-spec cars have a choice of five engines (three petrol, two diesel), a six-speed manual or seven-speed DSG 'box and either front- or all-wheel drive.

Before handing out the keys at the launch, VW made big claims about how the T-Roc handles. 'A sport utility vehicle the likes of which only the inventor of the GTI could develop,' they said. So, is it sporty? Not really – it drives just like a Golf, only you sit a bit higher.

This is far from a bad thing. The T-Roc has light but direct steering, a compliant ride that's only unsettled by heavily rutted roads arguing with its big wheels, and it resorts to safe and soft understeer if you're eager with your cornering

speed. Wind and road noise are kept to an exceptionally low level, too, while the all-wheel-drive system means grip is plentiful, and the DSG auto is super slick. All well and good, but it's not the driving nirvana you'd expect from the 'SUV GTI' claims thrown at it.

Our T-Roc test cars came with the Dynamic Chassis Control system that's available through a dial switch below the gearlever on the centre console. Sport mode adds weight but no extra feel to the steering and sharpens up the throttle response and suspension damping, while the Off-road mode holds gears longer and automatically brakes for you on steep descents.

Volkswagen T-Roc 2.0 TSI DSG 4MOTION SEL

- > **Price** £31,485 > **Engine** 1984cc 16v turbo 4-cyl, 187bhp @ 4180rpm, 236lb ft @ 1500rpm
- > **Transmission** 7-speed DCT auto, all-wheel drive > **Performance** 7.2sec 0-62mph, 134mph, 42.2mpg, 152g/km CO2 > **Weight** 1495kg
- > **Onsale** December

UP AGAINST

BETTER THAN
Vauxhall Mokka X

T-Roc is a less boring prospect

WORSE THAN
Mini Countryman

Fattest Mini a better drive, posher

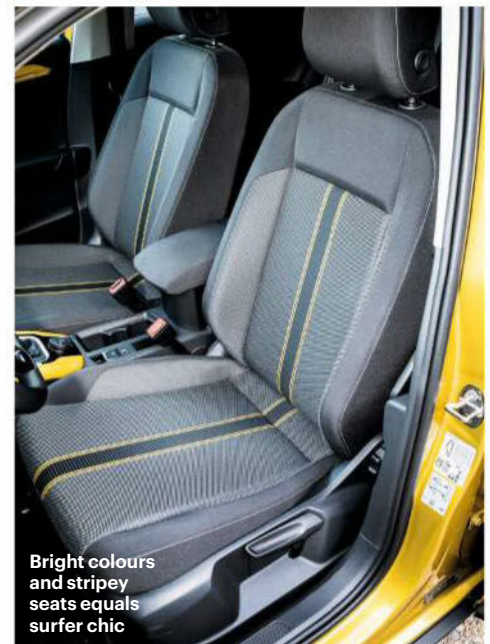
WE'D BUY
Citroën C3 Aircross

Frenchie is funkier and much cheaper

T-Roc is choice-tastic - 24 colours, 5 engines, 3 models...



Latest-gen VW interior kit is given a funky twist in T-Roc



Bright colours and stripey seats equals surfer chic

VW expects the 1.0-litre TSI SE manual to be the best-seller in Blighty rather than the 187bhp 2.0-litre turbocharged petrol driven here in plush SEL spec. That's a shame: the most powerful TSI on offer is super-quiet at a cruise, yet feels eager if you head down a country road, even if you have to tolerate a coarse din when you rev it out.

The interior continues the young, hip feel of the exterior. Depending on which model you go for, more splashes of colour can be found on the dashboard and seat trims but the cockpit still looks familiarly Volkswagen. The steering wheel, column stalks and climate control

dials, for example, are lifted straight off any number of VW Group products, while the crisp infotainment system is pleasingly easy to use and has connectivity options by the skipload.

In fact, the list of available gadgets for the T-Roc is enough to make any techie weak at the knees. It's geared towards the younger end of the market, you see, so you can spec everything from the Active Info Display to the aforementioned Dynamic Chassis Control, plus wireless charging for your smartphone and a huge glut of safety tech.

Shame about the rubbish

dashboard material quality, though. You'd be right to say that few will touch the main dashboard panels or centre console housing, but they even *look* hollow. We'd probably let that pass, but the door pulls have rough edging and feel like they'll fall off after one too many strong yanks. Not very VW at all.

Few buyers will care about the tinny plastics. VW's T-Roc is arguably easier on the eye than its Audi Q2 sibling, has loads of space in the back and a massive boot for its class. But when the high-end models like this SEL chime in at around £30k, and you're expected to pay more for the bright colours and extra tech, the case for VW's latest crossover SUV starts to unravel a smidge.

@_jakegroves

LOVE
Customisable looks, tech overload, practicality

HATE
Naff interior quality, expensive

VERDICT
Funkiest VW on sale
★★★★★

SEAT ARONA

It was all going so well

Seat is making money again and building appealing cars like this mini-SUV. But it has three factories in Catalonia...

S **EAT PRESIDENT** Luca de Meo is late for dinner at the Arona launch: he's hunkered down in front of a TV watching the latest pronouncement from Catalan president Carles Puigdemont. Just days earlier, the launch hotel was switched from Barcelona to the beach resort of Sitges to avoid independence demonstrations.

Seat employs 14,500 people in the divided region. It has three production centres in Catalonia and will be affected if the region breaks away from Spain. All the uncertainty surrounding the British car industry post-Brexit – the origin of car parts, import/export duties –

could engulf the Catalan car maker too. Or should that be 'Spanish car maker'? Seat is currently examining whether its registered office should be relocated to protect its EU status.

All this disruption masks the turnaround at Seat, with three cars in two years – Ateca, facelifted Leon, Ibiza – delivering a return to profitability. And that's before the fourth, the new Arona, gains traction.

What is the Arona, exactly? It's a strictly front-wheel-drive crossover, with a marginally elevated ride height over its Ibiza sibling. The five-door Arona has decent cabin space, though: six-foot adults will sit happily in the rear seats.

The dashboard is lifted largely from the Ibiza, including a high-resolution eight-inch screen with Android/Apple smartphone mirroring on every car bar the base model, but the quality is disappointing in places. Every time you grab the door handle you'll sigh at the brittle plastic, a hollow feeling which extends to the dashtop and fascia strip.

This lack of polish extends to the questionable refinement of the 1.0-litre turbocharged three-cylinder engine, producing 113bhp here. The triple pulls hard from just over 1500 revs, punching through a strong mid-range. But engine noise is intrusive under high throttle load. And cruising at motorway speeds, pulling 2400rpm, you're aware of the engine's thrummy vibrations



and some all too obvious wind noise.

That's a shame because dynamically the Arona is good to drive. The steering feels light and accurate, the six-speed manual gearbox is precise and slick, chassis and tyres summon heaps of grip and the ride delivers a good compromise of comfort and composure.

In the UK, Seat won't offer a single option: customers will be encouraged to find the price/equipment ratio that suits them from a choice of seven trims. The base SE costs £16,555 and includes 17-inch rims, air-con, automated Front Assist braking, a five-inch colour touchscreen and a Driver Pack comprising cruise control, hill holder and a driver tiredness monitor. Metallic paint and a different colour roof (orange, black or grey) is included.

Seat is posting its highest sales for 16 years, part of the success stemming from VW allowing Seat to be first with the MQB-Ao platform for the Ibiza and its small-SUV sister – there are upsides to being in a powerful union. Whether Catalonia's people agree remains to be seen.

PHIL McNAMARA
@CARPhilMc

Seat Arona 1.0 SE Technology

- > **Price** £18,945 > **Engine** 999cc 12v turbo 3-cyl, 113bhp @ 5000rpm, 148lb ft @ 2000rpm
- > **Transmission** 6-speed manual, front-wheel drive > **Performance** 9.8sec 0-62mph, 113mph, 57.6mpg, 113g/km CO2 > **Weight** 1187kg
- > **On sale** Now



Dashboards and eight-inch screen shared with Ibiza. Apple CarPlay and Android Auto widely available

LOVE
Driving dynamics, democracy

HATE
Lack of polish, political instability

VERDICT
The end of the beginning, or the beginning of the end?
★★★★☆



Running low on facts? Recharge here.

Got questions about owning an electric car?
Get the answers at GoUltraLow.com
You can find out how easy it is to charge your
car at home, as well as how much you can
save by switching from a traditional car.
Our journey range calculator can even tell you
how far you can travel on a full charge.
Any more questions? You know where to go.



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LOTUS EVORA GT430

911 GT3 beater?

The latest, fastest Lotus costs £112k and has exotic prey in its sights. By **James Taylor**

DRIVING THE LOTUS Evora GT430 on a track is a bit, I imagine, like going for a jog with Mo Farah. No matter how fast you are, he's faster. His limits are much higher than yours. And so it is with the GT430.

That's because its DNA is more race than road: the GT430 takes its inspiration, and many components, from the Evora S campaigned in the British GT championship by Lotus chassis engineer Gavan Kershaw. As a result, it has the distinction of being the fastest Lotus road car ever, and the more dubious honour of being the most expensive.

It's significantly faster than both the Evora 400 base model and the more hardcore Evora Sport 410, a car which had seemingly squeezed every last gram of weight and every last drop of potential from the Evora. But the GT430 (named after its power output) is faster still. In fact, if you bolt on a set of slicks it can lap Lotus's test

Lotus Evora GT430

- > **Price** £112,500 (or £104,500 for Sport)
- > **Engine** 3456cc 24v supercharged V6, 430bhp @ 7000rpm, 325lb ft @ 2600rpm
- > **Transmission** 6-speed manual or auto, limited-slip diff, rear-wheel drive
- > **Performance** 3.8sec 0-62mph (3.7sec for auto), 190mph (196mph for wingless Sport), 234g/km CO2
- > **Weight** 1299kg (auto 1310kg)
- > **Onsale** Now

circuit faster than the race car it's based on thanks to more power and torque, greater grip and less weight and drag.

Two versions are being made, each limited to 60 cars: the bewinged GT430 and the GT430 Sport – same car, but without the wing and front splitter. The wing isn't just for show – at 190mph it develops 250kg of downforce. Mind you, the Sport musters 100kg thanks to front and rear carbonfibre bumpers with ducts to direct airflow.

Gaping outlets in the rear bumper reveal an enormous set of rear tyres – 295/30 Michelin Cup 2s – 'the widest we could physically fit,' says Lotus boss Jean-Marc Gales. They envelop giant AP Racing brakes.

The GT430 is 106kg lighter than the Evora 400. How? Try this for an example of the obsessiveness involved: even the washer bottle has been made smaller, to make it lighter and to shift the centre of mass a fraction.

'This car was born as a project,' Gales explains. 'We had the Sport 410 and we thought that's how fast we can go. But then we said, well... we have a racing car, why don't we take that technology and put it into the road car? We took the adjustable dampers from the GT4, found 20bhp through different cam and injection timings, and worked on the exhaust and aero. It took us about a year.'

Also inherited from the race car is a five-stage traction control system, but if you can get those giant rear boots to break loose, you'll be going



Cabin is remarkably civilised for what is essentially a race car

some. Similarly, the fully adjustable Eibach and Öhlins springs and dampers are straight from the racing car ('They cost a fortune,' Gales says).

Out on the A11 in the identically set-up Sport, you feel the higher spring rates – up by 47 per cent compared with the Evora 410 at the front, and 20 per cent at the rear – but it's still surprisingly compliant. There is so much grip and the chassis is so communicative that it's a joyous drive.

'We really took some time to hone this car, because price-wise we've positioned it against the [Porsche 911] GT3,' Gales says, 'so it needs to be good.'

It is as much fun to drive as the GT3, but of course it is also less usable, and won't hold its value in the same way. But in terms of pure handling ability and immersion, this is one of the best driver's cars available today. Certainly my imaginary house near the Route Napoleon, or maybe down the road from the Nürburgring, would have a GT430 in the garage.

©@JamesTaylorCAR

LOVE
Fastest Lotus ever, and feels it

HATE
First Lotus with a six-figure price tag

VERDICT
One of the world's best-handling road cars

★★★★★

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BMW X3

No longer the runt

From being BMW's weakest link, the X3 has matured into a superb SUV that 11,000 of us are predicted to buy in the next year. By **Ben Barry**

THE BMW X3 has come a long way, and not just from the Spartanburg, South Carolina manufacturing plant where it's built. In 14 years, it's reinvented itself from runt of the litter to a mid-size SUV that genuinely makes you question if you need an X5. Or if a 3-series Touring would be that much more involving to drive.

This new model is the third generation, and key stats include a 51mm stretch to the wheelbase, 55kg less mass to lug, and a choice of SE, xLine or M Sport trim levels – the latter predicted to garner 60 per cent of sales. BMW UK hopes to shift around 11,000 X3s each year

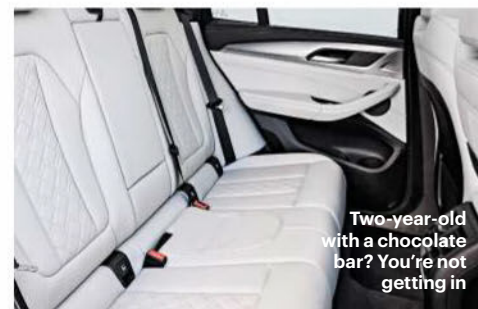
BMW X3 30d M Sport

> **Price** £45,900 > **Engine** 2993cc 24v turbodiesel 6-cyl, 261bhp @ 4000rpm, 457lb ft @ 2000rpm > **Transmission** 8-speed auto, all-wheel drive > **Performance** 5.8sec 0-62mph, 155mph, 49.6mpg, 149g/km CO2 > **Weight** 1820kg > **On sale** Now

as it does battle with the Audi Q5, Mercedes GLC, Volvo XC60 and Land Rover Discovery Sport. As demand has grown, it'll also be built in South Africa and China.

You can choose from two turbodiesels and three turbo petrol X3s, ranging from the 20d that 80 per cent of UK buyers are likely to pick – lured by its promise of 187bhp, 56.5mpg, 132g/km – to the M40i that hardly anyone will. The latter matches the Porsche Macan GTS for ponies (355bhp), beats it by 0.4sec to 0-62mph (in 4.8sec!), and kicks it in the mudflaps with an £8k discount (at £50,530), though the unshabby Macan S is £2k cheaper than the BMW.

We're driving the 30d first, the top-spec turbodiesel that's expected to tempt 15 per cent of buyers. It promises 261bhp, 49.6mpg and 149g/km. Our Portuguese press-launch car was lavished with kit, but all X3s get leather and sat-nav, and the fundamentals are spot on: great driving position, good view out, a hushed



Two-year-old with a chocolate bar? You're not getting in

cabin on the go. The fish-scaly trim inserts in our car could've looked more authentic, but the fit and finish, the electroplated switches, the dash plastics... it all helps banish the first-generation's barrel-scraping to the fuggy past.

Jump in the back and there's ample knee-room with four six-footers aboard, good head-room too, and more places to stuff stuff than Ikea. Behind row two, you'll find 550 litres of luggage space with the 40/20/40 rear seats up, or 1600 litres with them folded flat – comparable to those Merc and Audi rivals, better than the XC60, worse than the Disco Sport. It also translates to a useful 55 litres (or 100 litres, seats folded) more luggage space than a 3-series Touring, which helps justify some of the £3600



This is the pick-of-the-bunch 30d: sweet engine, precise handling, decent comfort, fine interior



premium commanded by an X3 30d M Sport versus a 330d xDrive M Sport Touring.

The 30d is very good to drive. The steering is light, quick and precise, and helps shrug off the 30d's not inconsiderable 1820kg. Body roll is nicely controlled, and the all-wheel-drive system balances rear-drive dynamics with trustworthy composure when you push on. On optional adaptive dampers, our car rode quite firmly, if far from uncomfortably, though we'll need a stint on UK roads to be sure.

The turbodiesel engine is smooth, flexible down low with a muscular 369lb ft available at 1500rpm, and it's plenty powerful enough to let you work the well-balanced chassis when you take the long, twisty way home. It's a sweet engine that delivers all the performance you need, fuel economy that's close enough to the 20d with far superior refinement. The eight-speed auto shares similar characteristics, with smooth but swift responses.

BMW let us loose off-road, albeit on a course that was more Centre Parcs than Central Africa. Still,

there were ruts that'd rip the diffs from some cars, dusty inclines that'd have a rear-drive 3-series going backwards in a forwards gear, and drops you could probably sandboard down. With 204mm ground clearance, xDrive (standard on all models) that you can feel intelligently sniffing out grip, and hill-descent control that lets you pre-select your speed for those downhill plummets without touching the brakes, the X3 managed it all. This is clearly no Land Rover – we had to tip-toe through some sections – but buyers won't need it to be.

Especially not buyers of the M40i. The hot X3 growls purposefully at a standstill, pops like you've kidnapped a bongo player if you select Sport mode, and hauls so fiercely out of low-speed corners that it's hard to tell if you're steering or simply hanging onto the safety bar.

It's certainly dynamic, but the M40i's crushing speed trades some of the 30d's fluidity. Its steering is firmer, its ride choppier (even on smooth roads with the, yes, still-optional adaptive dampers), and as a result it feels less happy doing the mid-paced day-to-day work that the 30d shrugs off so well.

The M40i's a good car and likeably mental with it, but it makes us pine for a more laid back big petrol six – sadly the 3.0i is a four these days.

Without that option, it's a nicely spec'd 30d M Sport that gets our cash.

LOVE
Refinement, space, versatility, handling, performance

HATE
Fish-scale trim inserts let down interior; wot no 35i?

VERDICT
The SUV as diplomatic mission to SUV haters

★★★★★

BMW 640i GRAN TURISMO

Lovely. Until the corners

T'SNOT AS dumpy, there's no dual-tailgate trickery any more, and it's got a new name, but the BMW 6-series Gran Turismo continues where the 5-series Gran Turismo left off. That means a hybrid of 5- and 7-series underpinnings: 7-series front, 5 in the middle, 5 Touring out back. It's as wide as a 7 and has the same wheelbase, so there's acres of interior space, and air springs are optional up front, unlike a 5 – they're fitted to our test car. It also means the 5 Touring-sourced rear axle (more air springs) sits lower, giving you 610 litres of space beneath the tailgate, or 1800 with rear seats folded – both better than the Touring.

At launch, the 6GT is yours in 630i (four-cylinder, rwd), 640i xDrive (six-cylinder, awd) or 630d specification (six-cylinder with either rwd or awd). UK buyers get either SE or M Sport trims. We're testing the 640i xDrive M Sport.

That this is the only BMW to ditch the Sport Plus setting and add Comfort Plus reveals much about the 6GT driving experience. Although the 640i engine is smooth, strong and satisfying to rev, this is no ultimate driving machine, with lifeless if spritely steering, body lean that persists even in Sport mode, and the tendency of our xDrive all-wheel-drive model to grip hard and then understeer when pushed. But on full air suspension, it's supple as a Russian gymnast, hushed as a library and – with optional rear reclining seats and pillowy headrests – like being chauffeured on a cumulonimbus.

Buyers might not care that there's little driver engagement (the 6GT is heavier than a 7), but few could call the GT attractive. Yes, it's longer, lower and sleeker than before – partly because the rear seats are no longer elevated above the fronts – but in our test car's white, it looked much like an Airbus that'd lost its wings.

BEN BARRY @lamBenBarry



It's no beauty but the Gran Turismo is fabulously comfy and the 640i motor rocks

BMW 640i Gran Turismo xDrive M Sport
> Price £57,570 **> Engine** 2998cc 24v turbo 6-cyl, 335bhp @ 5500rpm, 332lb ft @ 1380rpm **> Transmission** 8-speed auto, rear-wheel drive **> Performance** 5.3sec 0-62mph, 155mph, 36.7mpg, 177g/km CO2 **> Weight** 1835kg **> On sale** Now

VERDICT Not a great drive, but massive and fast, loads of useful room for passengers and luggage. American market success awaits

Gavin Green

THE VOICE OF EXPERIENCE

‘Lotus’s fortunes dipped when Chapman moved upmarket, deserting the small, simple, lightweight sports cars that were his signature’



JUST OCCASIONALLY, journalists can enlighten the car industry. Walter Hayes did. This former Fleet Street editor joined Ford in 1962 and persuaded them to bankroll the Cosworth DFV racing engine. It was one of Ford’s cleverest decisions since old Henry’s moving assembly line.

The Ford Cosworth DFV V8 became the most successful engine in Formula 1, powering nine drivers – including Jackie Stewart (three), Emerson Fittipaldi (two), Graham Hill, James Hunt and Mario Andretti – to 12 world titles. It won at Le Mans. Its DFX derivative won the Indianapolis 500 10 times.

Hayes’ motor sport initiatives, from the Lotus Cortina to Le Mans, from rallying Escorts to Formula Ford, sprinkled magic dust on the Blue Oval. He gave Ford the richest motor sporting heritage of any mass car maker. Here, too, we can see the roots of Ford’s excellence in driving dynamics, as nobly demonstrated by the latest Fiesta.

He also persuaded Henry Ford II to buy Aston Martin, and became chairman aged 68. He was a key figure in the DB7. In its first 12 months on sale, Aston Martin sold more cars than in any previous year of its 82-year history.

He also became a mentor to Lotus founder Colin Chapman, whose Formula 1 cars first ran (and won with) the Ford Cosworth engine. When I interviewed Hayes in 1993 for *CAR*, we discussed Chapman. He said: ‘I know where Lotus went wrong. I used to tell Colin he was getting out of his market. He should never have got out of the Elan into Esprits. He used to tell me how big the mark-up was on pricier cars. But I retorted, “Colin, how can you have anything better than the Elan? It’s cheap to make, simple, everybody loves them and no-one gives a bugger if they leak. Stick with them and the market will be yours for ever.” But, oh no.’

Hayes was right. Lotus’s fortunes dipped when Chapman moved upmarket, deserting the small, simple, lightweight sports cars that

were his signature. Now, after more than 40 years of red ink, some glitz, much gloom, the death of Chapman, the theatricality of Dany Bahar and a string of different owners, Lotus is still in a delicate state.

But there is hope. Lotus has just been sold to China’s Geely, which transformed Volvo. Geely is rich, has a clever entrepreneur at its helm (self-made billionaire Li Shufu) and has gold-card access to the world’s biggest car market, China. I just hope it takes a moment to study Hayes’s advice to Chapman. While nearly every other sporting car maker – from Alfa to Bentley, from Jaguar to Maserati, from Porsche to Lamborghini – jumps

on the SUV bandwagon and makes ever more convergent and expansive cars, Lotus should ‘think different’.

Stick with small premium sports cars and own that market! There is a gaping hole between the minimalist and masochistic machines of Caterham, Ariel, Radical and Elemental, and Porsche. Show young affluent Chinese enthusiasts that driving joy is to be had in a lightweight Lotus, not behind the wheel of a two-tonne turbo demi-truck.

For years, Lotus has understood great driving dynamics better than any rival. Lotus engineering training has long been the Oxbridge of car chassis education. McLaren’s ride/handling brilliance today is partly due to its ex-Lotus engineers.

The Elise (the more basic, the better) is a driving delicacy. No car is sweeter to steer, more joyfully communicative, so poetically intuitive to drive, so adept at gliding over challenging roads.

Expand the company’s range of small sportsters, stretching from an improved (easier entry, more power, better cabin, more refined) £30,000 Elise, up to a new £60,000 rival to the 718 Boxster/Cayman (the Lotus would need to be lighter and more fleet of foot). They should mostly be everyday usable, not weekend hardcore. Think old Elan. Or new MX-5.

A decade or so after I saw Walter Hayes, I interviewed Bernd Pischetsrieder, then boss of the Volkswagen group. I asked about his favourite cars. Pischetsrieder had a big collection and was a keen driver. He mentioned two. His Ferrari Enzo for its technology and speed. And his Lotus Elise for pure driving joy. That’s some legacy to build on.

📍 @greenofrichmond

Former *CAR* editor Gavin Green is one of the world’s most influential motoring commentators. Since he started writing for *CAR* in 1985, Lotus has had five different owners



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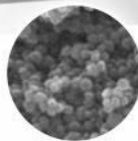
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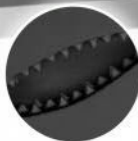


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DRIVING ON

Mark Walton

THE INCURABLE ENTHUSIAST

‘The TVR Cerbera had the same kind of raging energy as a firework let off inside a phone box’



SEEING THE NEW TVR Griffith unveiled at the Goodwood Revival – and featured in our October issue – brought a lot of memories flooding back. Starting my career at *Performance Car* magazine in the mid-1990s meant TVR was as much a part of my daily life as hand-brake-turning Subaru Imprezas

(which we used to do for breakfast back in those days).

The first time I drove a TVR was the summer of 1994 at the annual SMMT day, a kind of school fete organised by the Society of Motor Manufacturers and Traders, held at the Millbrook Proving Ground. All the UK car brands came to spread out their wares like fruitcakes on a stall for journalists to nibble.

I was new and green and in awe. I remember seeing a dark blue Griffith on the TVR stand, and I couldn't believe I was allowed to just get in and go for a drive! (Actually, it's conceivable I wasn't allowed to do that, but I did.) So I set off across the open paddock, determined to look cool in front of all the other journalists, but as I put my foot down the torque welled up like crude oil from a hole in the ground, and the car surged forward so unexpectedly my head rocked back on my shoulders and my right leg was momentarily lifted by the force.

As my foot came off the gas, the engine-braking in first gear caused such a sudden deceleration my head rocked forward and my foot flopped back down onto the pedal. That caused a new jerk of acceleration, causing my foot to lift involuntarily, causing a sudden deceleration... on, off, on, off, on, off, I was trapped in a nightmare loop that saw me jerk across the paddock like a wounded kangaroo looking for somewhere to die. I travelled about half a mile before I remembered to press the clutch. I still cringe, thinking about it.

Years later I drove the Cerbera, the 2+2 coupe launched in 1996 with TVR's own 4.2-litre

V8. With around 350bhp and weighing just 1100kg, this was a 180mph car made in Blackpool that could pick a fight with a V12 Ferrari and win.

I collected the car in London on a Friday night and had to drive home up the A1, bogged down in traffic and coasting at a miserable 40mph. Bah! The frustration! I couldn't wait to turn off and unleash it. After about two hours the moment finally came and I could actually hear the drum roll as I entered an empty country road. At last, I nailed the accelerator – and Christ, it was awful. The car rocketed off, but the steering was writhing, the whole thing started bucking and twisting like an old soapbox careering down a cobbled hill.

Yes, it was exhilarating, but it had the same kind of raging energy as a firework let off inside a phone box (with all the associated health and safety issues, too). After all that anticipation I think I backed off after a hundred yards and drove home at 40mph, feeling like a kicked dog.

The last time I drove a TVR was in 2005 at *CAR* magazine's big performance car test at Silverstone. It was a metallic orange Sagaris – bonkers – and despite everything I think it was my favourite TVR of all time. Despite everything? Well, in the blazing sunshine the interior got so hot the trim began to peel away. Every time you climbed in there was a powerful odour of epoxy resin and carpet underlay. And on one of my quicker laps I barrelled into Copse Corner, probably in fourth or fifth gear at well over 100mph, and lifted a fraction, just a teeny slackening of my right foot, but still, really, really inadvisable.

The rear end swung round like a baseball bat, my eyes practically fell out of their sockets I opened them so wide, and like a man clinging to a cliff by the fingernails I held on to (what remains to this day) the biggest oversteer moment of my life. The whole while (I remember this) I was saying 'Aaaaaaaaaaaaaaaaaah' like I was in a dentist's chair. It would have been heroic if I'd meant to do it – instead, the smell of sweat and fear almost drowned out the epoxy resin.

Funny, come to think of it, all of my TVR memories have a common theme – can you spot it?

I was always terrified.

Editor-at-large Mark Walton has been enthusing on these pages for years. Since he first wrote for *CAR* in 1998, TVR has had just the three owners (and a long dormant spell)



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720S slides into place

► VIA EMAIL

The photos illustrating the Sports Car Giant Test in your November issue helped me finally see the appeal of the McLaren 720S. Maybe it's the context provided by the other cars, maybe it's that some of those roads are familiar to me – but something clicked, and now the McLaren looks great to me, as well as clearly being a very impressive bit of kit. For me it emphasises the importance of getting cars out of the photo studio, out of show halls, and on to the road and track, where they belong. Some lovely writing too.

John Cliff

←
McLaren seen in its natural habitat, slightly obscured by tyre smoke

No room to park a big car

► VIA EMAIL

My wife is on her third VW Polo, having also owned the previous two iterations of the model. Each new model was larger than the previous one and now Georg Kacher (First Drives, October) reports the next one will be larger still. Unfortunately, our garage hasn't increased in size and keeping the car in the garage is important to her. In the winter, for instance, she can just get in and drive off without scraping ice off the screen etc. Looks like we will keep this Polo until it breaks.

Phil Taylor

No room to drive a big car

► VIA EMAIL

Why is it that car manufacturers are now obsessed with making formerly small cars longer and more importantly wider?

Has anyone on your magazine tried taking these cars on narrow roads? It can be difficult if not impossible for two of them to pass each other.

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you'll quickly see what I mean. Not everyone lives in the south.

Richard Gunn

Black magic

► VIA EMAIL

May I just add some thoughts to those expressed by Geoff Hall in his letter *Who turned the lights off?* in your October issue. I respect Mr Hall's right to his own point of view, and I suspect that he would regard the interior of my M Sport BMW as medieval. It is certainly all black and mostly leather. Even the headlining is a sort of anthracite. The only non-black items are the chromed door handles and speaker trim, the clear and precise instrument markings and switch symbols.

Nevertheless, it lifts my spirit every time I sit in the just-right leather sports seat and hold the black leather-rimmed wheel. It does so because of the obvious quality, fit and finish. The design is sort of timeless. No pretentious styling or fashion statements have been allowed to interfere with proper function. All controls, switches and

instruments are positioned in the right place and work with a consistent quality feel. The driving position accommodates fully grown adults like myself without compromise, visibility is excellent and the black interior does not reflect in the screen or dazzle the driver like some bright, light, eye-grabbing finishes may do. At night my spirits are lifted by the red glow from the real analogue instruments, but I am not distracted by a vast touchscreen and infotainment system and my car does not speak to me, attempt to change lanes for me or park itself, or connect to anyone or anything but me. Best of all my spirits are lifted when I turn the key and the three-litre straight-six bursts into life with an enthusiasm that is contagious.

I am not going to say it has always started on the button and performed strongly and smoothly, as that might be tempting fate.* It is a great car, not a piece of furniture or a fashion statement, and driving it anywhere makes my day.

Mike Digby

* But it has

Keep it simple

► VIA EMAIL

As a man who has never paid more than £6000 for a car, I nearly fell off the sofa when I saw the prices of some of the cars tested in the October issue.

The Range Rover Velar at £86,175. They must be joking – it makes even the Macan with £10,000 worth of extras look value for money.

The Ford Fiesta as spec'd by Ford – yours for £21,500? It's a bloody Ford Fiesta for heaven's sake. Even the Clio in your Giant Test was only a few hundred shy of £20,000. A Clio! These are crazy prices – so much so that the Suzuki Swift at a smidge under £15,000 is being trumpeted as a bit of a bargain. Who pays these prices?

Now I know that, firstly, I am past it and completely out of touch and, secondly, it is all about the monthly repayments these days on the PCP/lease deal. But these are some astonishing prices. Of course, it is possible to get cheaper versions – just choose your engine wisely and hold off on the options.

Both my VWs are in modest S spec and the only equipment seems to be four wheels and a steering wheel. But what more do you need? Sat-nav? The phone works perfectly. Wireless charging? What is wrong with a bloody wire? Gesture control? You must be kidding.

Meanwhile, I loved the Lamborghini camping article. We live in France and I know those roads well – we were there this summer. I don't suppose I will ever get to drive them in anything like a Huracan – but, you know what, those roads were great fun in the Jetta with the wife and two kids on board and a trailer out the back.

David Cowx



Flame on

► VIA FACEBOOK

Your recent list of bad designs by good designers (*Top 10 designer low points*, July issue) included the BMW Z4. As per any Bangle-designed BMW, the Z4 was simply well before its time. Just look at the



There's more to BMW than just M

LETTER OF THE MONTH

Having owned both an M4 (two trips to Poland, one to Germany and one

to Slovenia) and currently a 440i (one trip to Poland, one to Biarritz and one to Applecross on the west coast of Scotland) the 440i is a truly great long-distance car – 120mph at 3000rpm in eighth gear in Germany and 34mpg. It's everything the M4 should be but isn't. It has a great eight-speed ZF auto 'box with paddles rather than the clunkomatic DCT box; much less tyre noise; just as comfortable and nearly as quick; excellent roadholding too and £20,000 cheaper. Choice between the two to buy and own?

The 440i without a doubt!

Charles Bennie

Letter of the month wins £25 worth of tickets for the Dream Car competition held by botb.com



E60 5-series, now 15 years old, and at the time derided as ugly, yet today it's stunning. The guy's just two decades in front of what people realise they actually want.

Matt Wheeler

Fun comes in many forms

► VIA FACEBOOK

Like it or not, cars such as the new Nissan Nismo Leaf concept are our future. I'm lucky to be part of a generation that has seen a great variety of cars, old, new, good, bad. Now it looks like I'll be driving electric cars, and maybe enjoying them too.

Vedran Kapov

You're welcome

► VIA EMAIL

I am much impressed by Mr Miller's original and entertaining observations relating to mankind's tenure of planet Earth and relationship with the motor car (*From the editor*, September 2017). Terrific journalism! Also, I thank Mr Green for his comments about over-tech'd, complicated and obese modern cars.

It seems that the magazine currently contains more relevant journalism and comment about usable cars than has been the case these past decades.

Peter D Gallagher



Off the grid

► VIA EMAIL

I live in a flat above a shop on a main road. No chance of running a charging lead or installing a charge point. Also none of the umpteen blocks of flats being built are required to install charge points in their parking spaces. There's no way I could buy an electric car in the foreseeable future.

Further, last year I travelled through Europe and Morocco down to Marrakech in a 45-year-old VW T2 camper van. I could not do that in the forthcoming ID Buzz even if its design lends itself to camper van conversion (elevating roof, kitchen etc). To guard against running out of petrol I had a gallon can. If you run out of charge in an electric car the only option is to be towed somewhere to charge it up.

Alan Froy

You knobs

► VIA EMAIL

I have a very different view of the Mercedes E-Class Estate's controls that came in for some criticism in November's Giant Test. Having driven a variety of cars with touchscreens, knobs, switches etc over the last 40 years, I think the touch pads on my E220d Estate are great. Combined with the other options they make controlling the systems and equipment on the car very easy. The touch pads are simple and effective, allowing you to control the screens without moving your hands while driving. I prefer them to the previous buttons on the wheel. The central control units allow easy input when at a standstill, or the passenger can make adjustments. The row of buttons on the centre console allows an instant short cut to the relevant part of the system.



E-Class Estate's touch pads have a fan in Frank Bell

The worst controls I have experienced are touchscreens, where you have to take your eyes off the road to find your way around, then leave fingerprint marks that gradually make the screen more difficult to use. I can understand why manufacturers are using them – they are cheaper than the multi-faceted Mercedes approach, but far worse in practical day-to-day use.

Frank Bell

Diminishing returns

► VIA EMAIL

Your opinion in GBU that 'the Mondeo is a great family car' echoes with me. Having been an owner of a Titanium X Estate for 18 months I decided maybe a change would be in order. Looking at the secondhand market I found the Jaguar XF – especially the four-cylinder engines – disappointing. An E-Class Coupe was nice but anodyne. The cost of changing to a Merc or a BMW 5-series made me think when returning to the Ford that it's actually a very good car.

I concede that the interiors are slightly better on the premium execs but it matches or beats them on space, dynamics, efficiency, looks and power delivery.

So I'm keeping the Mondeo with the low-rent badge, happy to thumb my nose at convention.

Bryn Owen

You know it makes sense

► VIA EMAIL

The letter from Ole Martin Hoel (CAR Interactive, November) saddened me, talking about the way Jante law in Norway appears to stifle aspiration and individuality. Not to own an item because 'they'd hate me' is worrying. Could it happen in the UK? It already is but we call it being 'on trend'. Buy the Velar.

Phil Taylor

car

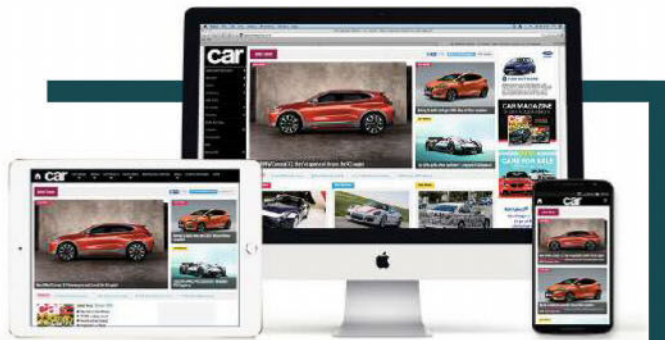
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Your month

The place where you let us peek into your weird and wonderful automotive lives

1 VOLVO MOJO
Immaculate cool-looking Volvo PV444 in Tolo, Greece. From a time when Volvos had real character!
ERIC NICOL

2 LA DOLCE VITA
A couple of McLarens in front of the Sanremo Casino made for a perfect start of the day before going to the beach. Thanks to my girlfriend Letizia for waiting for me while I was snapping pictures!
ALBERTO VALTORTA

3 THERE'S THE RUB
Some Trabants actually had a happy ending...
JOHN CLUCAS

4 RARING TO GO
My copies of CAR never go to waste - as soon as I finish reading one, my five-year-old nephew eagerly snatches it from me for his collection. Car mad even at this age, he has an amazing ability to recognise almost any car from just a glimpse.
ANGUS GRANT

5 TOP OF THE WORLD
If you are taking a red Range Rover to Norway, go the whole way. This is mine at its northern tip - 3300 miles from home, the last 1000 miles driven inside the Arctic Circle. Sensational!
NICK DAWSON

6 HIGH IQ
Climbing the Timmelsjoch in Austria the intelligent way.
PAUL OOIJEVAAR

7 FRESH ARIEL
Our Ariel.Club tour of Spain and Portugal involved some amazing roads through the Picos, superb weather and great company. CAR was there every step of the way!
ALEX BRANDON-SMITH

8 HEAL AND TOE
While driving from San Francisco to LA in our hired Ford Mustang GT we came across this works Healey in our Monterey hotel car park. This and several other Healeys had been brought all the way from Australia for the Monterey International Healey Week.
DAVID WOOLFENDEN

9 ALL ABOARD!
Thinking of a Stelvio? Been there, done that. The petrolhead's camper, 1970s style: an Alfa Romeo F12.
DAVID SELWOOD



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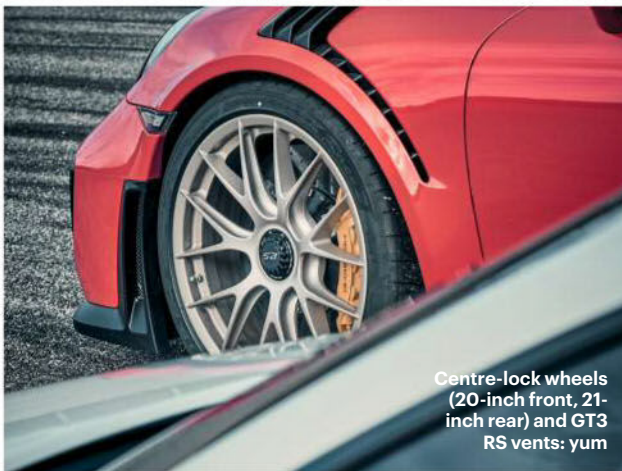
THE FUTURE ACCORDING TO PORSCHE. **ARE YOU IN?**

In the white corner is Porsche's achingly desirable all-electric Mission E coupe. In red we have the all-petrol 911 GT2 RS (all 691bhp of it). Is Porsche's future in safe hands? Oh yes...

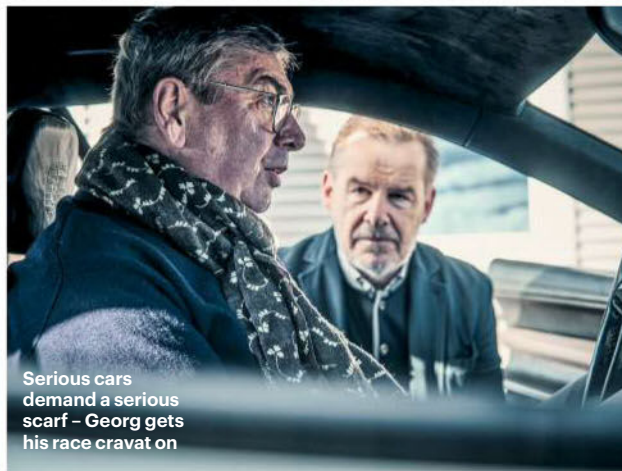
Words Georg Kacher | Photography Steffen Jahn



The internal combustion engine – you don't know how much space it takes up until it's gone



Centre-lock wheels (20-inch front, 21-inch rear) and GT3 RS vents: yum



Serious cars demand a serious scarf – Georg gets his race cravat on



W

ITH PORSCHE'S electric future, what you see is what you'll get, and that's a promise. When the Mission E – aka project J1 – goes into production in 2019, it will look like a pragmatic metamorphosis of the stunning concept here, first unveiled at the 2015 Frankfurt show. So it will have conventional B-posts instead of those eye-catching suicide doors, enough headroom front and rear for you to wear a helmet, and a more manageable width that won't lead to quite so many precious wheels being kerbed in tight car parks. The basic shape, however, is pretty much cast in stone. Among the items due to reappear on the real thing are the four-eyed headlamps, the wrap-around tail lights, the striking proportions and the space-age interior.

With the 911 GT2 RS what you see is also what you get, but only if you happen to be among the chosen few. Pictured here is production model number 0001, which may end up with a lucky owner after its first life as a pampered test car – like its predecessors, the latest top-flight RS sold out long before the order books opened. While the ultimate 911 is particularly scarce in Germany and the UK, insiders suggest that a handful of the

600 units destined for North America may still be up for grabs. The red and black weapon featured here is the rarest of a rare breed because it is equipped with the optional Weissach pack, which takes out 30kg while adding £21,042 (£18,770 if you can do without the roll cage) to a grand total of £228,548 (the base car is a trifling £207,506).

Although GT2 RS and Mission E are absolute opposites in character and content, their DNA is fused by the same desire to deliver maximum driving pleasure. Volt vs octane? Kind of. Except that this time there is no loser. Electric drive may one day replace the petrol-fed flat-six, but for the next couple of decades the two propulsion concepts will live side-by-side or hand-in-hand, in the form of plug-in hybrids.

In terms of performance, the combustion engine narrowly trumps the two e-motors (2.8sec plays 3.4sec to 62mph, the Mission E hampered by its estimated 2200kg kerb weight). On top speed the 1545kg, 211mph 911 effortlessly eclipses the silent spaceship, handicapped as the latter is by its battery-protecting 155mph limit. But here's a surprise: the production model Mission E will be almost a third of the price of the RS.

Weissach's R&D boffins are understandably protective of their electric baby. To drive it, you need permission from the board of directors and the goodwill of the highly specialised crew trained to deal with the bytes and bugs that tend to haunt such one-off, ▶



**ALTHOUGH THE GT2 RS AND MISSION E ARE
ABSOLUTE OPPOSITES IN CHARACTER AND
CONTENT, THEIR DNA IS SHARED**



**LIKE ITS PREDECESSORS,
THE LATEST TOP-FLIGHT RS
SOLD OUT LONG BEFORE THE
ORDER BOOKS OPENED**

Just two of these must transmit the GT2's full 691bhp. They cope remarkably well

high-voltage prima donnas. As I approach the Mission E one bright Saturday morning there is tension in the air. The track is still damp in places and the marbles on both sides of the racing line reinforce the need for caution. Only three people have so far driven this car without a watchdog in the passenger seat. I'm number four; the one person in the makeshift paddock who can't stop smiling in anticipation. Everyone else, not so much.

In the course of the last 24 months, the hand-built metallic-white coupe has clocked less than 200 miles, most of them on the Portimao circuit in Portugal. A battery electric vehicle (BEV) with a lap timer? 'Why not?', replies the project engineer Michael Behr. 'This car is smog-free, but it is also great to drive thanks to the low centre of gravity, the dedicated air suspension and the precise steering. Make no mistake – this is a proper Porsche.'

No need for any reassurance on the credentials of the GT2 RS. One look at the massive single-plane rear wing, the flared carbonfibre arches and the protruding horizontal front spoiler is all it takes to understand that this is definitely not a run-of-the-mill 911 – if there is such a thing. The wing creates 340kg of downforce flat-out, Porsche says, but more relevant on the road are the black-over-red paint scheme and the three gaping front air intakes – their visual impact clears slower traffic from your path like a snowplough.

Dawdling drivers will hear you coming, too. In Sport Plus, the two tailpipes would seem to be almost entirely silenced. Lift off at night and you can see the flames behind you in the mirrors. This widest-bodied of 911s doesn't want for drama, though it's all here for a reason: the louvres, ducts, splitters, aprons, skirts and air blades that scatter the muscular body like a rash all work to befriend the wind and placate the heat.

By contrast the all-electric four-seater looks almost understated. It sits on 245/35 ZR21 P Zeros at the front and Popeye-sized 285/30 ZR22s barrels on the rear. The 691bhp rear-wheel-drive RS uses even wider footwear, but the wheel diameter is an inch less extreme. The Mission E has electric doors, windows and seats along with an electronic cockpit featuring five animated round instruments and a centre stack tiled with a single large touchscreen. The classy and glossy all-black electronic altar – non-functional at the time of our encounter – is seamless, curved and conveniently arranged.

In the concept car's cabin the only systems currently functioning are the push-button parking brake and the tiny three-step R-N-D drive selector. The ambience is more iPad than trad sports car but there are classic luxury traits here; supple leather with matching wood and subtle metal accents.

Out of the four-seater, into the RS. It's goodbye to space created by electrification and hello to a sparse, totally focused driver environment. This RS doesn't have a radio or air conditioning. The manual seat adjustment doesn't even extend to the backrest, and there's no sat-nav and no Sport Chrono bubble on the dashboard either. But that's okay because the fragile-looking bucket seat feels tailor made in the way it grips me like a newborn chick in carefully cupped hands. So fine are the 911's ergonomics, so perfectly judged are the secondary controls, that you feel you could drive it blind. The shift paddles made of warm carbonfibre rather than cold metal are part of the Weissach pack, the fully-adjustable alcantara-rimmed steering wheel (thankfully with just a single function: steering) leaves enough clearance for the longest legs, the PDK gearbox leaves you with just two pedals to contend with and while the dashboard layout may be ancient, you know exactly where everything is.

The ultimate 911 has no rear seats but comes with a roll cage ▶



Just three before us have driven Mission E without a minder



Only one can do doughnuts – the parking lots of the future will be unspoiled



Three seat options are offered; 18-way adjustable sports, sports buckets and full-race buckets



Oliver Blume

Porsche's chairman walks you round the Mission E



PORSCHE'S ELECTRIFICATION STRATEGY

'Our strategy is threefold: we will obviously continue to build purists' sports cars like the 911. This is core to our DNA. We will also build more plug-in hybrids, like we have with the Panamera and Cayenne. And we will do more pure battery electric vehicles like the Mission E. The world is changing and we cannot stand still.'

EXPECT DIFFERENT BODY STYLES

'Could there be different versions of the Mission E? The opportunity is to use everything from the Mission E - the slim battery, the electric controls and steering systems - for another body style, yes. There are plenty of options. But for now we are in a thinking phase.'

WILL THE PRODUCTION CAR REALLY LOOK LIKE THIS?

'We want a design very close to what you saw two years ago at Frankfurt. It will be different in some details, but the overall effect is still very exciting. The design is now fixed. You won't mistake it for anything else. It will compete in the segment below the Panamera, but will be priced very similar to the Panamera.'

FAMILIAR PORSCHE MODEL BADGES WILL FEATURE

'We will offer different power outputs on the Mission E electric car. Does that mean you'll see badges like S, GTS and so forth? It's too early to say exactly, but it should wear typical Porsche branding.'

WHAT WILL THE NEXT ELECTRIC PORSCHE BE?

'We wanted to launch our PPE (Premium Platform Electric) on a four-door sports car. Why? So we can test how our customers react to a Porsche way of doing electromobility. What next? We haven't decided yet, but the SUV segment is one possibility - something like an electric Macan.'



as standard (made of titanium on the lightweight model). The Mission E has no rollcage but two very comfortable rear seats. Despite the EV coupe's sloping roofline, the seating position is surprisingly relaxed thanks to the so-called 'feet garages' – Porsche-speak for the deep recesses in the floorpan that splits the battery tray.

'The production version is in essence a C-segment saloon with an almost D-size interior,' explains project leader Stefan Weckbach. 'Visually, the car combines 911 overtones with fresh proportions and very good space utilisation – even though the Mission E is notably more compact than the Panamera.' Unlike our prototype, the version signed off for production in an extension of the Zuffenhausen factory is loosely based on the new MSB platform (also used by Cayenne Mk3 and the new Bentley Continental). The interim J1 matrix has a lifecycle of just seven years, with a major facelift and battery update expected in 2023. In the wake of the first e-Porsche, we are also going to see versions offered by Audi and Bentley. Come 2026 or 2027, J1 will be superseded by the completely new, fully scalable all-electric PPE (premium electric platform) architecture, the cost of which is shared between Porsche and Audi.

While the man with the laptop is still running the final tests on the Mission, can I please go play with the GT2 RS? The dashboard is pure 911, albeit with a twist. When you start the engine, a GT2 RS pictogram briefly flashes up to the right of the rev counter. The steering wheel has a much thicker rim along with a yellow don't-overdrive-me marker at the 12 o'clock

position. The two red stripes on the polished shifter gate have been used before on the 911R. And there is a silver Weissach plaque on the glovebox door.

The drama starts with the starter katchouming like an exploding shell, and continues with a cacophony that accompanies the GT2 RS's every move. At idle the engine sounds like Sebastian Vettel's tense, rapid-fire breathing on the grid for his home GP. And the gear selector tack-tacks from Park through Neutral into Drive. That's the prelude. At first, I plan to take it very, very easy – at least until the tyres reach their working temperature. Treading lightly for three laps provides a welcome opportunity to reacquaint myself with the Weissach track, which dates back to 1972. Even the long variant is a short circuit with only 13 corners, but because of the great variety of crests, climbs, descents and surfaces, the rollercoaster drive invariably lifts your resting pulse.

I know all the numbers, yet flooring the accelerator for the first time in the most powerful 911 still shocks. Its turbocharged powerhouse growls, roars, shrieks and yells beneath that carbonfibre lid, itself corrupted by the tallest and widest type-approved wing as well as a pair of gaping air intake scoops. The new 3.8-litre engine is very, very special, delivering 691bhp at 7000rpm, thereby eclipsing the previous 3.6-litre unit by 79bhp. At the same time, peak torque is increased from 516 to 553lb ft, on standby from 2500rpm. The engine's sweet spot is vast – more of a sweet area, 4500rpm wide. Despite the phenomenal midrange punch, the explosive full-throttle acceleration in fourth and ▶

ON THE ROAD, THE GT2 RS FEARS NOTHING. THE CHIRON IS FASTER BUT NOT THROUGH TIGHT CORNERS, WHILE THE FERRARI 812 SUPERFAST HAS A TAD TOO MUCH WEIGHT



fifth gear, and the ability to out-gallop almost anything else, the real hell-breaks-loose moment is to be found in the final 1200rpm. To get a feel for how explosive this narrow and most powerful of powerbands is, just check out the onboard video of the RS's recent Nürburgring record lap.

Early on in the game the tyres drum, the brakes chafe and the engine drones hoarsely, but as temperatures increase with speed everything changes for the better. Howls, roars and hisses

batter you – the RS really can't abide mere progress, it sounds pained while I test the mid-range waters, cornering at 70 per cent and braking before things gets interesting. It begs to be whipped hard. It's been built to plot a performance curve that runs way above normal life and doesn't sound happy doing otherwise.

Inevitably, much new technology is employed to plot this curve. It boasts rear-wheel steering, active dampers (PASM) and carbon-ceramic brakes. It also has the first

Porsche road car engine equipped with water-injection to cool the heat exchangers. Whenever the intake air temperature exceeds 50°C and the driver buries the throttle in the firewall, the system – fed by a five-litre tank – kicks into action. Further trickery includes a PDK transmission that blips the throttle during downshifts – in Sport Plus mode it indulges in one aural orgy after another.

You can also pull back on both paddles to briefly disconnect engine and transmission, thereby triggering a momentary front-to-rear weight transfer which can reduce understeer and may save you from kissing that guardrail. It can also be used to destabilise the rear end so that you can forget about those rally-inspired, left-right-left turn-in antics once and for all. The suspension is almost totally devoid of rubber mounts, buffers and bushings, all replaced by steel ball joints for enhanced poise and quicker responses.

On the road, the GT2 RS fears nothing and no one. The Bugatti Chiron is considerably faster but not through tight corners. The Lamborghini Huracan Performante is easier to drive but not quite as fast, while the Ferrari 812 Superfast carries a tad too much weight. The Corvette Z06 lacks traction. The Paganis and Koenigsegg of this world can do some things better but on aggregate the Porsche still wins. For most of us a 500bhp GT3 would do, thank you very much. Or the upcoming GT3 RS. But

LEDs free up designers to drop old thinking about headlight shapes





Don't be misled by the Mission E's sci-fi aura – Porsche intends it to sell. The base model will cost around £68k, under a third of the price of this GT2 RS



Mission E's drive select lever looks to have come from a Raleigh Chopper. Cabin is otherwise luxurious

they lack the RS's sheer excess. In this car, you must recalibrate your inner speedometer, your judgement of absolute and relative distances, your memory of braking points and your belief in the limit of adhesion. Why? Because the ultimate 911 ups the ante in all these departments. In terms of fuel economy, it even beats the GT3 by an official 23.9mpg against 22.2mpg. On a good day, in dry weather with little traffic, this is the real McCoy.

The nature of Weissach – a kind of miniature Nordschleife – makes it easy to warm up all four Dunlop UHP (ultra high-performance) tyres almost simultaneously. Early on the front end likes to snap-understeer when entering the two tightest kinks, and the ABS software feels compelled to step in early. Since it takes braver men than me to deactivate the electronic safety net, the rear end contributes only the odd exit wriggle to the temperature building process. Eventually maximum grip arrives and with it a handling balance so sweet and sensitive to subtle tweaks that it's uncanny. Car and driver may be different instruments but they play the same tune. Input and response happen simultaneously, feedback is plentiful, and you can't help but become outrageously confident – thrashing a 691bhp rear-wheel drive 911 seeming like a perfectly natural course of action.

I am braking later and later now, moving closer to the apex in five-inch tranches, stepping back on the throttle earlier and then earlier still. Speeds rise, tyres and brakes work a little harder

and, with experience, I gain the confidence to give the impact-absorbing styrofoam in front of the steel armco an increasingly narrow berth. The secret of super-fast progress is to let the torque do its job. Unwind the lock early, keep the revs high and trust the PSM electronics to sort out the fishtailing exit, even if the turbo hammer comes down with a bang.

At the same time you have to keep a firm grip on the wheel because every transverse ridge, every painted kerb, every expansion joint is liable to make the GT2 RS wriggle its rear wing off. The biggest challenge is to keep your hoof firmly planted from the exit of the last bend to the point of no return prior to the first right-hander. Wide-eyed, I briefly see 270km/h – 169mph – before dropping all four anchors. Next thing I see is a flag and three stern faces.

With my heart-rate back down and a coronary averted, I wander back to the Mission E. 'It's simple. If you like our sports cars, you will love the way Mission E drives,' says Stefan Weckbach. I'm tempted to believe him – already the Mission E concept shows promise. Porsche has just started road testing the first two Panamera-based prototypes. Although the chassis of the concept bears little resemblance to the finished product, all essential functions are already working. The steering is sharp, the suspension control and poise are confidence-inspiring, the tyres stick, the brakes are more than merely competent and this show car's solitary e-motor kicks butt up to 75mph. There is no doubt about it: Porsche's first BEV does not compromise driving pleasure – no surprise given that Porsche aimed at making it more rewarding to drive than the 105kWh Tesla Model S but also to have unconditional repeatability. This means that the batteries and motors must not overheat, that the cell and complex cooling circuit must cope with repeated full discharge cycles and that hour-long high-speed driving ▶

Exhausts aren't big on repressing either noise or flame



PORSCHE GT2 RS

- > **Price** £207,506
- > **Engine** 3800cc 24v twin-turbo flat-six, 691bhp @ 7000rpm, 553lb ft @ 2500rpm
- > **Transmission** 7-speed PDK auto, rear-wheel drive
- > **Suspension** MacPherson strut front, multi-link rear, adaptive
- > **Performance** 2.8sec 0-62mph, 211mph, 23.9mpg, 269g/km CO2
- > **Weight** 1545kg
- > **On sale** Now

PORSCHE MISSION E

- > **Price** £68,000 (est)
- > **Engine** Twin e-motors, 396bhp (Carrera), 529bhp (Carrera S) or 661bhp (Turbo) (all est)
- > **Transmission** Twin-speed, all-wheel drive
- > **Suspension** Active, air springs
- > **Performance** Sub-3.5sec 0-62mph, 155mph+, 310-mile range, 0g/km CO2, 15-minute charge for 250 miles of range
- > **Weight** 2200kg (est)
- > **On sale** September 2019



GT2 RS wins on numbers. But in this company it feels like very rapid history

must not decimate the range. 'This is the Porsche among BEVs,' continues Weckbach. 'It complies with our philosophy, fusing intuitive controls with a rear-bias torque split for emotional dynamics. Add to this the lower centre of gravity and available features like rear-wheel steering and active anti-roll bars, and it should not be difficult to imagine the result.'

According to those in the know, Porsche is considering three different models badged to tie in with the rest of the range: Carrera, with 300kW (or 396bhp); Carrera S, with 400kW (529bhp); and a 500kW (661bhp) Turbo. All-wheel drive will initially be standard equipment, but later we may also see an entry-level, rear-drive version. The front-drive module delivers more than 200bhp and peak torque in excess of 220lb ft. On boost, it can briefly claim 325lb ft.


There are two different specifications in the works for the rear-drive unit. While the base motor is rated at 317bhp and 251lb ft, the performance version should be good for nearer 450bhp and 405lb ft, sources say. The two-speed transmission

permits full-throttle upshifts. An electronically controlled limited-slip rear diff will be offered as an option. The Mission E will never be a top-speed hero. Instead, it aspires to blend speed and effortlessness, comfort and charisma, minimum noise and maximum response, a real-life range of up to 275 miles (310 on paper) and an 80% charge time of about 10 minutes.

To meet this brief, the energy cells need to be pumped with 800 volts (400 volts minimum). Sadly the pan-European network, which should comprise 400 charge points by 2020, is still in its infancy. Unlike the 2019 Audi e-tron C-BEV, the Mission E relies on synchronous motors with permanent magnets for superior continuous performance and repeatability as well as reduced weight and dimensions.

Just about the sole downside is the greater expense, one which Porsche customers are typically willing to absorb. Speaking of cost, it is worth noting that the Mission E is going to be priced between Cayenne and Panamera and only slightly above the least expensive Tesla Model S (£65k). While Porsche's original goal was to build around 20,000 per year, the unusually upbeat marketing department recently suggested adding another 10,000 units to the tally.

There may never be another day like this but there's much more to come from Weissach. After the production version of the Mission E there's a proposed electric 929-style two-door coupe and an all-electric Macan replacement.

From the house of 911 we'll get the GT3 RS and the Speedster as the last 991 derivatives before the all-new 992 arrives late next year, complete with a hybrid powerpack to be added as soon as the market is ready for it. Be in no doubt: the future of Porsche is now. 

When you make 691bhp, every surface needs a NACA duct





Is a GT2 RS worth two GT3s?

By Chris Chilton

SILVERSTONE, October. Cold. Damp. And that's just my palms. 691bhp in a rear-drive 911 wearing tyres slicker than Brylcreem. What did I do with that St Christopher?

You drop way down into the subterranean carbon bucket with two numbers swirling around inside your head: one is the 6m 47sec Nürburgring Nordschleife lap time, and the other is the stiff £208,000 price.

How much has the GT3's driveability been compromised to achieve that time? And can the GT2 feel different enough to be worth twice as much?

It certainly does feel different. I've spent a lot of time in the GT3 lately, but the RS has proper rose-jointed suspension and the clarity of its communication and immediacy of response make the GT3 feel like a Series 1

Land Rover with a knackered steering box.

And of course it's ludicrously, laugh-out-loud fast. Wide and flat, Silverstone can make even quick cars feel slow. But not this one.

There are some leftover trackday cones jutting into Chapel corner that means we don't get a clear run onto the Hangar Straight. But still I hit almost 160mph before braking for Stowe.

The speed isn't the real surprise here, though. It's how friendly the RS is. The GT2 badge has always carried widowmaker connotations, and maybe that was the case back in the days of the 996; all big-boost and no traction control. But this GT2 is entirely predictable. Push too hard on the slower corners and there's a little understeer. But even with all that weight out back you can still

go in deep on a trailing throttle without being bitten. The traction is immense and even when the rubber does let go the ESP subtly smooths away your rough edges.

On the road the pay-off for that increase in feel and response is all too apparent. There's more noise, more vibration, less compliance. You could still drive it anywhere: it's smartly trimmed and the classic 911 strengths of relatively small footprint, relatively large glasshouse and a big boot are as evident here as in a genteel 911 Carrera.

But this is a car best enjoyed in short bursts. You'd have second thoughts about tackling an epic road trip in this in the way you wouldn't if you owned its little brother, the more tuneful, more versatile – and bargain-priced – GT3.

THE SPEED ISN'T THE REAL SURPRISE HERE THOUGH. IT'S HOW FRIENDLY THE RS IS



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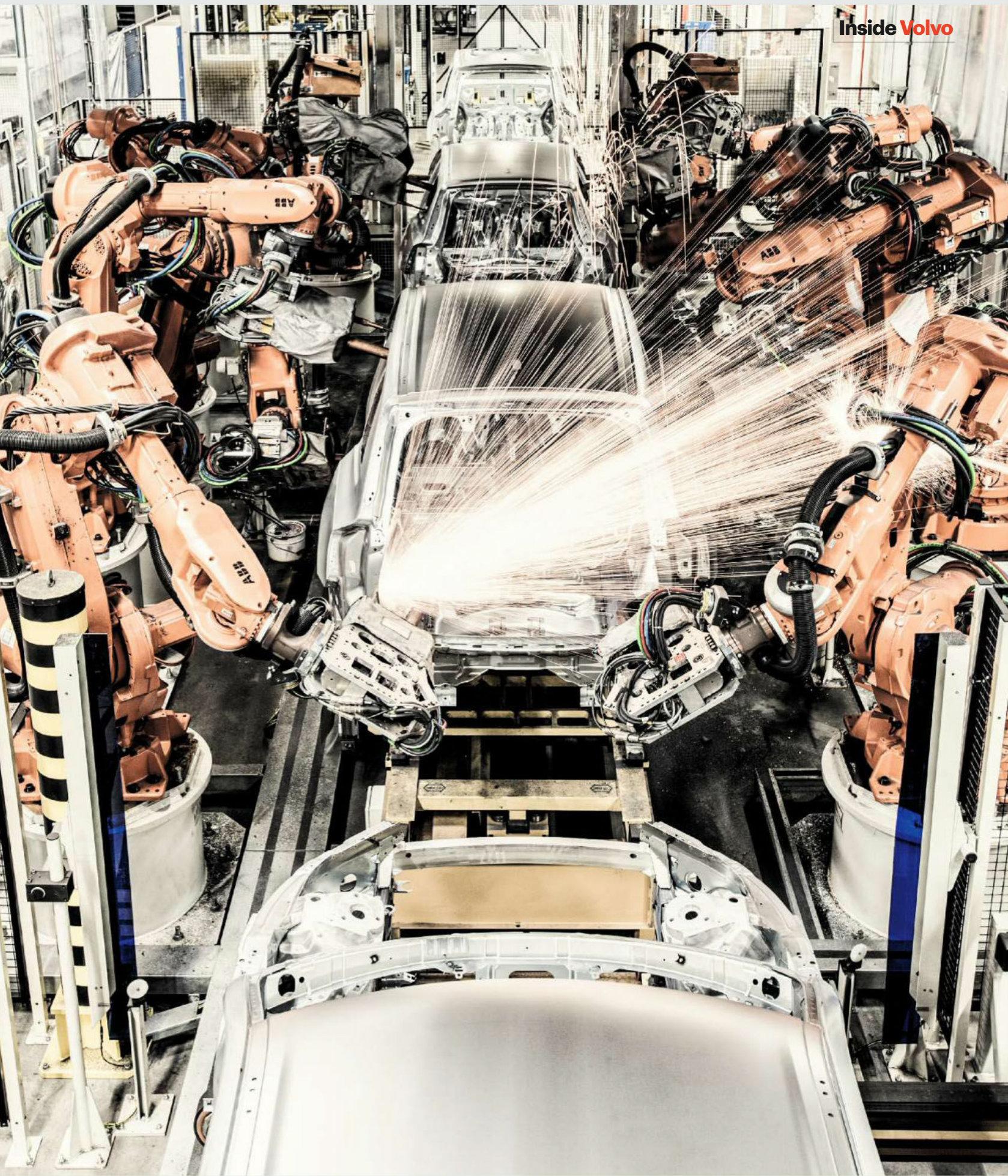


car INSIDE VOLVO

THE MIGHTY THAW

Old Volvo was a leftfield maker of safe, solid cars. New Volvo is savvy, stylish, successful and ambitious. We go inside a very Swedish revolution

Words Tim Pollard | Photography Tom Salt





Forward looking:
Robin Page (right)
tells Tim Pollard
about stepping up
to the top design job

TALK ABOUT THINKING outside the box. The good Gothenburghers of Volvo long ago shattered the set squares that wrought the upright estate cars of yore. Those lumbering 240s and 740s have softened, like bars of soap, into the more zeitgeisty sculpture of crossoverkind, while the wagons and saloons made by Volvo are now laden with Scandinavian chic, not bulging federalised bumpers and window-clean scaffolding on each headlamp.

Make no mistake, we're witnessing seismic change at Volvo, whose Chinese owners are funding a quiet, very Nordic revolution. Remember this summer's gushing front-page headlines garnered by Volvo's decision to electrify every new car launched from 2019? The bold plan to spin Polestar into a progressive electric performance brand to challenge Tesla? The pioneering new

XC40, unveiled this autumn not at the fusty Frankfurt motor show – a shrine to the Old World Order – but among the bright young things of Milan Fashion Week?

Here is a shrunken SUV that couldn't be further removed from an '80s Volvo if it tried. We see angles and stylistic indentations and two-tone roofs, shark-nose grilles and cool, ornate lights dubbed Thor's Hammer. Design for design's sake. It's not very Home Counties, on the face of it – although maybe that's the point. Society has moved on: Surrey's all hooked on Apple products and digital chic, and Volvo is desperate to keep up.

A company once known for safety and stout, middle-class values is reinventing itself once again. Like the P1800 or 480 ES before it, the XC40 is designed to disrupt our very notion of Volviness. Twinned with the hardware of start-up Lynk & Co cars built in China, it's primed for electrification in whichever flavour and intensity the market demands; you can buy it on a monthly contract that covers everything (even tyres and insurance bills); and the style inside and out is modern, attractive and designed to break with tradition.

There's something in the water, alright. So *CAR* decamped to the Swedish source for a couple of days, for a meeting of minds. We toured the factory floors, met the workers (and crash test dummies), saw the cars being built and probed the technology under development for the next generation. Volvo's president and CEO, Håkan Samuelsson, spelled out the strategy, while his lieutenants of engineering, styling and safety explained how they're modernising Volvo Cars to prepare for the revolution ripping apart all strata of the motor industry.

Our mission: to find out what exactly the hell is going on at modern Volvo.

First, a declaration of interest. When faced with a gold 760 in the middle of the luggage carousel at Gothenburg's Landvetter Airport, it's hard to disentangle my emotions as an offspring of serial Volvo owners. As the youngest of four, I was the one reversed into the boot of 145, 240 and 940 estates in the '70s and '80s, strapped into the rear-facing pop-up bench.

As a schoolboy I was endlessly fascinated by the safety tech and attention to detail that went into sturdy, squared-off Volvos, with their ribbed see-through head restraints and daytime running lights decades before such ideas fell in to fashion. They were wilfully different from the Audis and Jaguars, Rovers and Mercedes of their time, with a pleasing individuality – maybe not as cool as cars made by neighbouring Saab, but with an honest, distinctive vibe all of their own.

The last 240 rolled off the Torslanda production line in 1993 and a quarter century later we step back inside to witness the alchemy of modern car manufacturing. A swarm of 6500 staff build the largest (and most lucrative) 90-series models at the rate of one a minute. Too many companies follow the push mentality, forcing out unwanted cars from under-used production facilities onto rental fleets and low-margin distress channels. Volvo's Torslanda plant operates three shifts and runs flat-out 22 hours a day to keep up with demand. It's impressively busy.

There's a calm atmosphere as we wander around the giant halls stretching as far as the eye can see (the total footprint covers over 450,000 square metres). Some staff get around ▶

VOLVO FOLK #1: HENRIK GREEN, SENIOR VICE PRESIDENT R&D

> In the Ford years we learned that scale isn't everything; it's vastly overrated. The Volvos that came out in the Ford years were not competitive in the premium segment against Audi, BMW and Mercedes.

> Survival instinct kicked in when we were put up for sale. Ford removed the safety net – they said early on they would not help us. That led to our four-cylinder engine strategy.

> We are no longer asking 'Where are the Germans or Tesla?' and 'How do we close the gap?' We now talk about 'Where will we lead?' and 'What can we do before others?' We're trying to do new things.

> We have prepared all our platforms to accept plug-in hybrids as a stepping stone to full electric.

> You can't ask customers what they want. They don't know. You need to spend time with the customers and see what they do and how their lives work.

> Electrification will come to the 40, 60 and 90 ranges in a very short space of time. In the smaller 40 cars you'll see a smaller battery with less power and an affordable price for daily use. In the 90, you will see a very, very long-range battery.

> We have worked with Lotus Engineering in the past – they have helped us a couple of times over the years. There is no collaboration at present, but now they've become part of the Geely group, we shall see.



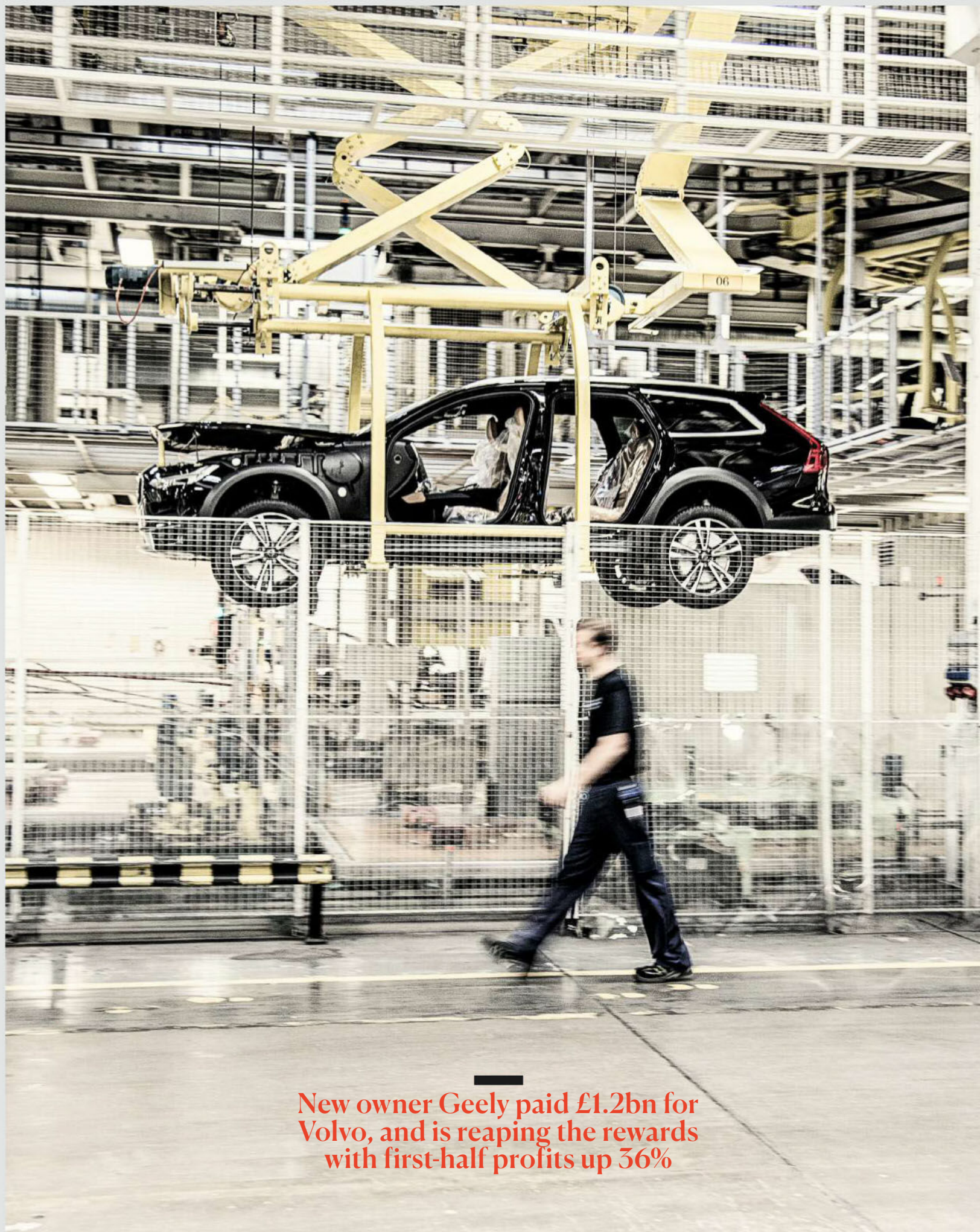


Torslanda factory runs three shifts to meet demand



Tellingly, a third of the workforce are women – a rate far higher than in most European car factories

You don't need the badges to know it's a Volvo, but 40 has more zest than 60 and 90



New owner Geely paid £1.2bn for Volvo, and is reaping the rewards with first-half profits up 36%

on company bicycles to save their legs, criss-crossing long snaking lines of S, V and XC90s inching along the production tracks from bare shell to finished product. The polite culture and even-handedness of Swedish archetype percolate the shop floor, and there's no sign of aggression or annoyance, even as I stray into forbidden territories and the path of the odd oncoming forklift truck. Tellingly, a third of the workforce are women – a rate far higher than in most European car factories.

A few residual reminders of past owners remain: the crates delivering engines from Volvo's Skövde powertrain factory bear the Blue Oval badge, but Volvo is standing on its own two feet now. Ford sold up in 2010, as the Premier Automotive Group premium dream faded and Dearborn jettisoned its British crown jewels, Jaguar, Land Rover and Aston Martin, to the highest bidder. New owner Geely paid £1.2 billion for the Swedish satellite, and appears now to be reaping the rewards. Profits in the first nine months of 2017 jumped 36 per cent to £946 million.

The XC40 is the latest product of the upbeat new mindset reshaping modern Volvo. Based on the oily bits dubbed Compact Modular Architecture (or CMA for short), it's the first in a series of smaller models and will be followed by a V40 hatch and maybe one other body style. People often think of Volkswagen as being the masters of platform sharing strategy, but relative minnow Volvo has caught up: every new model will be spun off either the full-sized Scalable Product Architecture (SPA) or this smaller, cheaper CMA. And don't go thinking the compact component set is a Chinese knock-off – it was developed here in Gothenburg by a new Geely subsidiary called China Euro Vehicle Technology (CEVT) and staffed by local Swedish expertise, many of them ex-Saab. Maybe they'll sneak in torque-steering Aero options and fighter-jet black-out modes...

After a tour of the factory we visit the design studios, where we clap eyes on the new crossover for the first time. You won't mistake it for anything but a Volvo. There are echoes of the bigger SUVs, for sure, but they've deliberately gone for a fresher aesthetic. 'It's a cousin, not a sibling of the 60 and 90 clusters,' design chief Robin Page tells us. 'We've aimed it at two sets of customers: the first is traditional Volvo owners, the second is millennials. It's got a very specific role to play.'

This explains the younger, edgier style, which could cause worried looks among the producers of more conservative GLA, Q3 and X1 rivals. Page says the expression of the XC40 is 'a British bulldog look to the XC90's lion face.' Younger, livelier, bolder. Inside, surprise-and-delight features range from the world's

VOLVO FOLK #2: ROBIN PAGE, SENIOR VICE PRESIDENT OF DESIGN

> Volvo is a human-centric brand that should fit into our busy modern lifestyles. Our customers don't come from a particular age bracket; it's a mindset thing.

> We think of the XC40 as a cousin – not a sibling – of the 60 and 90 clusters. The P1800 was a big inspiration for the grille and the architecture of the XC40.

> My mission at Volvo design? To continue the good work that Thomas Ingenlath has started [Page's predecessor has now switched to head up Polestar]. We will embrace new technology: cameras will replace mirrors, and door handles that open out when you approach. There will be plenty of exciting change in the future.

> Our vision? It's about looking over our shoulder a little, but looking forwards more. That's where Volvo design is going.



biggest door bins, lined with felt made from recycled plastic bottles, through to the standard-fit nine-inch digital touchscreen and 12.3-inch instruments shared with the larger cars. It's a feel-good interior with brilliant seats (long a Volvo staple) – usefully practical yet modern, with a twist of otherness to inject interest in a world of identikit Germanic operating theatres.

Is it a bit too different for difference's sake? Trying a bit too hard, maybe? From some angles, the XC40 looks mildly contrived and blocky, but there's no denying its presence or stance. And it's entirely consistent with the brand's modern design language, insists Page. 'It is very much a Volvo,' he argues. 'Swedish culture is not about being brash, it's about being humble.' He knows what he's talking about, having spent 12 years as head of interior design at king-of-bling Bentley. ▶

Blocky styling of the past has now largely gone, but pioneering attitude to safety remains



Police have used Volvos for decades – but when did the cars ever look this good?





↑
 'You don't say...'
 Analysis of
 dummies during
 and after crashes
 nets rich data

How the XC40 drives may be of lesser interest to many of the younger buyers who'll doubtless be drawn in by the whizz-bang style, the connectivity and the new ownership options. (Volvo calls it the world's first all-inclusive subscription service; think posh PCP cleverly rearranged with no deposit into monthly fees from £629). Most will be front-wheel drive and all are powered by the familiar range of 2.0-litre petrol and diesel engines, though downsized three-pots will come in time.

That it'll be safe is a given, of course, although it has yet to be independently ratified. You should seek comfort in the fact that the three safest cars ever tested by Euro NCAP are Volvos. And when we drop in on the safety laboratory, you can see why. A dozen or so crash test dummies are being prepared for the next big bang theory lesson under the close supervision of Brit Graeme McNally, director of crash analytics. He's a high-impact kinda guy.

CAR is introduced to the life-size dummies made by Humatics: the latest Hybrid 3 model looks rightly pensive – it's about to be pummelled in a pendulum test where it'll face a 23kg smash in the chest to represent an accident. A crash test like this will produce 128 data sets, measuring force distribution across the body. With manikin prices spiralling into six figures and around 110 dummies in the Volvo safety lab, developing crashworthiness ain't cheap.

Safety might be an assumed quality nowadays, but with the dawn of autonomous cars, I ask McNally about the driverless future. 'It's a challenge for us – we think we will have to take ▶



XC40 will compete head on with premium German rivals

POLESTAR: MEET THE TESLA FROM SWEDEN

This is the moonshot from a strident Volvo: the new Polestar 1, a 600bhp plug-in hybrid GT coupe coming to a digital showroom near you in mid 2019. Polestar is being repositioned as the Swedes' answer to Tesla – an electrified progressive performance brand. It's something of a U-turn from being a race-bred go-faster sub-brand along the lines of AMG.

Polestars will be built in China and sold online through subscription only, although there will be standalone showrooms too. Unlike PCPs, there will be no hefty deposit up front. Pay-monthly deals will stretch over two or three years, including the cost of maintenance and the ability to rent other Volvo or Polestar models if you need something different for a weekend away or a holiday. 'By 2025 a fifth of our cars will be owned through our subscription service,' predicts CEO Samuelsson.

And if the racy-looking, carbonfibre-bodied

Polestar 1 with its mammoth 737lb ft of twist and 90-mile all-electric range in silent EV mode isn't right for you, wait until later in 2019 for the pure battery electric Polestar 2 (unashamedly aimed slap bang at the Tesla Model 3 or BMW 3-series) and the inevitable SUV, badged Polestar 3, due soon afterwards.





There was uproar recently in Sweden when the VW Golf became the nation's bestseller

into account new scenarios. Passengers might be leaning back and relaxing, for instance... And while your own vehicle may be driving itself faultlessly, who's to stop Aunt Doris in her battered Defender getting her spaniel stuck under the pedals and spearing into you? A zero-accident future will surely remain a Utopian dream for decades to come.


Tellingly, Volvo is skipping Level 3 autonomy altogether to flip straight from today's Level 2 (Pilot Assist, clever cruise control that steers, brakes and accelerates for you for short periods of time) to full-fat, hands-off Level 4 due by 2021. 'We believe there's too much complexity in the handover from car to driver in Level 3,' McNally notes wistfully. Those pesky humans just can't keep up with runaway speed of technological advance...

Volvo Cars remains a relatively small player on the world stage, building 534,000 cars in 2016 (around a quarter of the volume of the BMW group). Yet it's on a steep upward trajectory, fuelled by a confident, appealing line-up and especially those modish new crossovers. President Samuelsson is gunning for 800,000 annual sales by 2020, helped by a new factory opening in the US next year and *three* in China to spearhead growth in the world's two biggest car markets.

What can stop him getting his way? Buyers have become more fickle and the old certainties are crumbling away. There was uproar recently in Sweden when the VW Golf became the nation's bestseller, ahead of a Volvo, and sales in American showrooms now outstrip the home market for the first time. Analysts worry that those expensive new factories are an extra fixed asset risk and must be kept busy or there'll be trouble, while the brand's biggest bankers – the strikingly similar XC60 and XC90 – were launched too close together. What will happen to sales over their lifecycle as they grow old together?



The new 40-series range is proof that Volvo is far from a two-trick pony, however, while the repositioning of Polestar as a rival to Tesla will provide further impetus. Volvo has a spring in its step and a nimbleness of decision-making under Geely ownership that's allowed it to have plausible answers for every macro trend disrupting the motor industry: creeping electrification as internal combustion loses its spark; producing body styles the market demands; exploring new ownership models; connecting cars and users in an increasingly digital, and driverless, age.

Pulling off this revolution while staying true to the calm, responsible Swedish principles of Volvo may not be easy. But as we wander the corridors of power in Gothenburg, we're struck by how right the new direction feels. Even that distinctive Volvo Broad typeface has changed little on the company's literature and dials – providing a modern take on an old font. These details matter to those who care about modern Volvo. There's an awful lot going right in the company's 90th year. Looks like the new XC40 is in the box seat. 



Future crashes will involve occupants doing all sorts of things, freed up by autonomous cars

VOLVO FOLK #3: HÅKAN SAMUELSSON, CEO AND PRESIDENT

> Our ambition is not to sell two to three per cent of our output as electric cars; we want to be the fastest to transform in the entire business – to have everything hybrid or electric. These will be mass-produced cars. We have an ambition to have sold one million electric cars by 2025.

> The demise of Saab was negative for Sweden. Suppliers were working with two car makers, now there's only one left. It was a drawback for us. Many talented ex-Saab people now work for us, though.

> We have been working with Polestar for many years, a bit like AMG with Mercedes or M for BMW. We bought them in 2015 and the idea was to use them as the springboard for our electric ideas. There was a connection with Volvo, but it was a transformational opportunity too.

> The EV powertrains in Polestars will be carried back into Volvo. We will have five all-electric cars coming up after 2019: two will be Polestars, three will be Volvos.

> This will be another record year. We will be significantly above last year's volume [534,000].

> With Brexit, I'm glad we have no factories in the UK exporting to continental Europe. I would be very nervous if that were the case. Will there be trade barriers? God forbid. And the pound is weakening so our UK revenues are falling.

> All new models released after 2019 will be either hybrid or electric. The hybrids will be based on petrol engines. We are not developing any new diesel engines. But we will continue selling diesel engines, of course, as long as customers are buying

them. We won't stop selling diesels in the XC90 or XC60 for the whole of their lifecycle. But anything new released after 2019 will not have a diesel engine.

> Stable ownership helps. We don't need to worry about whether we're going to be bought or sold; we have been able to concentrate on the company. Geely wants to make Volvo stronger – and it's given us access to the fastest-growing market in the world: China.

> We have done convertibles like the C70 in the past; it's not in our plans right now. We are taking Volvo back into the heartland, modular, high-volume sector without too much complexity. Polestar will allow us to do new body shapes instead. Don't exclude exciting cars in the future!

> In market research on the XC40 customers told us they really wanted a lot of storage. We didn't ask them; we watched them. That's why it's the only car with a wastepaper basket.

> Our premium models will have autopilot functionality; you will be able to drive hands-off for hours. It opens up a lot of time and we can offer something to make that time valuable – a new market for in-car experiences and infotainment systems. That's why we're launching a flexible system based on the Android operating system – it's a platform that could be filled with applications as yet undreamed of.

> I remember going to the UK when I was an engineering student visiting a carburettor supplier near London. 'What about electronic injection?' we asked. And he said there would always be a good market for carburettors. And I always remember that as a warning in business.

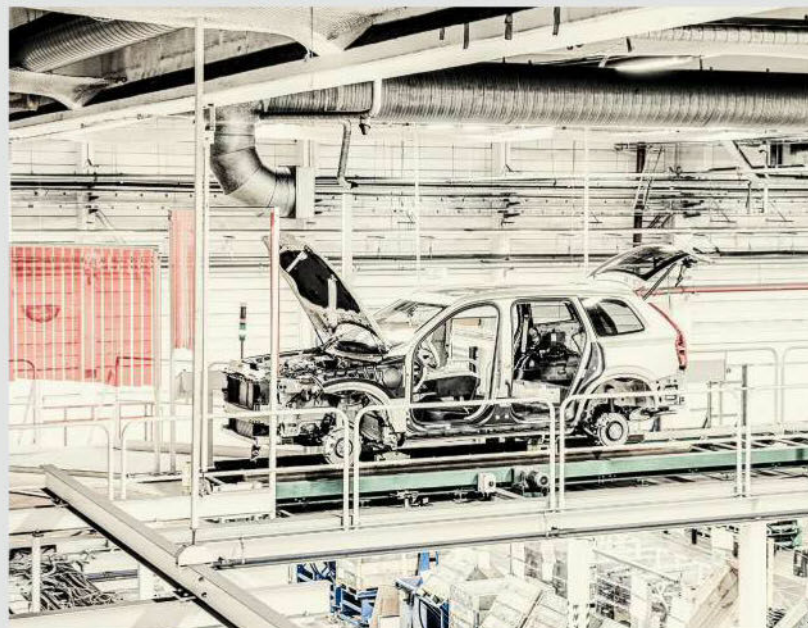


Those German rivals' interiors suddenly look very last year



Volvo XC40

- **Price** From £27,905, or £629 per month under Care by Volvo lease/service/insurance/breakdown scheme
- **Engines** Three 2.0 petrol fours (154, 187, 244bhp), two 2.0 diesel fours (148, 187bhp); triples to follow
- **Transmission** Front- or all-wheel drive, manual or auto gearbox
- **Standard equipment** 9in touchscreen, 12.3in TFT instruments, LED lights, dual-zone climate control, automatic emergency braking
- **On sale** Now (first UK deliveries early 2018)



Well, as simple as a collection of 30,000 parts can be...



KEEP IT SIMPLE





FILTHY RICH



The standard Range Rover is too wafty to be an enemy of Bentley's startling SUV. But the SVA Dynamic Range? That's aimed squarely at the Bentaygaga

Words Chris Chilton | Photography Richard Pardon

F

ROM RICH PIG farmer to boss of Big Pharma, the audience for luxury SUVs has shifted radically since the first Range Rover crested a muddy brow and loomed imperiously into view in 1970. These days everyone wants an SUV, and why should the hyper-rich be any different? Having been slow to latch on to the concept, the world's most exclusive car brands are about to flood the market with 4x4s that are every bit as expensive and eye-catching as any supercar. And a world away from the clunky manual-shift and plastic hose-out interiors of the original Rangie.

Lamborghini is poised to launch the Urus. Aston has a crossover in development. Even Ferrari, after years of asserting it would never build an SUV, is now investigating the genre.

But until any of those arrive, the Bentley Bentayga or full-size Range Rover is as good as it gets – and about as expensive, if you discount the often taste-free world of aftermarket modification. In 2003 when the previous Range Rover was making waves, the most expensive cost £59,995, only fractionally pricier than the cheapest 911. Now an entry-level Range Rover costs £76,795, and this SVAutobiography Dynamic weighs in at £132,800, or twice the price of a bottom-rung 911. The 2018 facelift, (see www.carmagazine.co.uk), brings many changes, but they don't include a price cut.

This kind of money gets you into a V8 diesel Bentayga, but you'd need to step up to the even more luxury-infused (and less dynamic) long-wheelbase SVAutobiography Rangie to level with the £162,700 W12 Bentley we've got here. And that price is before options. Yes, even a £167k Bentley doesn't come with everything you want. Our car has £1600 of veneered picnic tables, a rear entertainment system that costs £5635, £6615 of Naim hi-fi and both the All Terrain and Touring packages (adaptive cruise, collision detection, night vision, head-up display). Those, plus a smattering of other options, inflate the price by £47k to £210,205. Can that £60k halo Rangie we reminisced about really have been only 14 years ago?

But is it any more outrageous to charge £200k for a luxury

car than asking the same money for a supercar? Plenty of manufacturers do, and then some, for supercars less worthy than this. There has never been an SUV, a Bentley, perhaps even a car at all with such a wide remit as this.

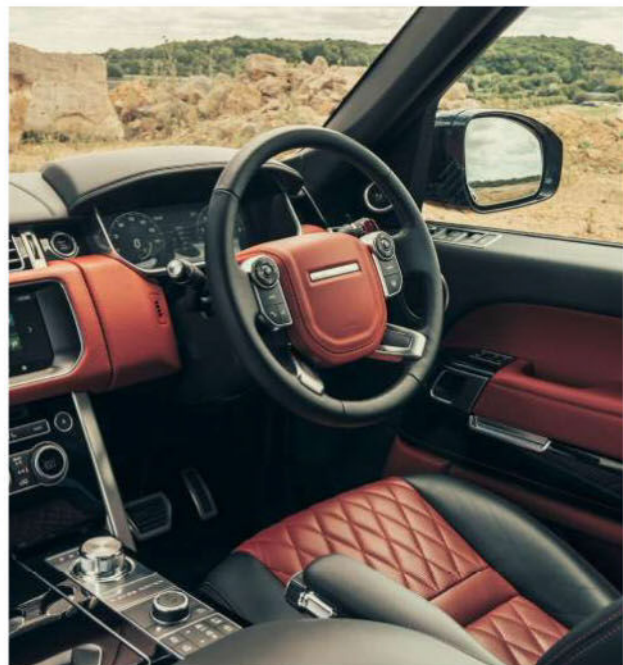
Not only does the Bentayga marry limo-like luxury with proper four-wheel-drive ability, it throws near-supercar performance into the mix. At 187mph this 600bhp Bentley is the world's fastest, most powerful production SUV. At least until they come up with a Speed or Super Sports version and top 200mph. The idea of a 200mph SUV might be ridiculous but the concept of a Bentley SUV isn't. In fact, it's a perfect fit for a British brand that doesn't have to worry about corrupting handling purity the way some of its rivals have had to. Still, it took a German to make it happen, CEO Wolfgang Dürheimer, who'd previously overseen the development of the Cayenne at Porsche – a much trickier task and at a time when SUVs were judged with far more suspicion.

It wouldn't have happened at all if Bentley wasn't part of the mighty VW empire. Under the Bentayga's skin lies a platform (and smart 48v electrical system) shared with sister company Audi's Q7. Not that anyone's worried about that as we roll into Uppingham, 20 miles west of the CAR office, having demolished the back roads there in a time a decent hot hatch would be hard pressed to beat. Not the old dear in the Corsa who oohs when we glide past. Not the immaculately turned-out kids whose parents have parted with £12k a term to send their budding Rees-Moggs to board at the town's school and might well have one of our duo in their six-car garage.

Both cars look perfectly at ease here, though in detail and proportion they're wildly different. The current Rangie initially seemed impossibly elegant after its Metrocab-like ▶

There has never been an SUV, a Bentley, a car with such a wide remit as this

True to its badge and heritage, the Range Rover is the most imperious when the road ends





The big questions Range Rover SVA Dynamic



Should I sell my Lambo to make space for it?

The Range Rover is fast, and comfortable enough to go fast all day long, but only the Lambo has that supercar ability to emboss your spine in the seatback.



Is there any danger I won't look obscenely rich?

Hmm, you may be mistaken for someone merely wealthy, so similar does the SVA look to a prole's £80k Range Rover Vogue diesel.



Will it get me out of a muddy car park at Glasto next year?

The Range Rover is so good off road you could effortlessly expedition through Borneo's unmapped interior – Glasto-mud will be a piece of cake.



If it were a football team, which one would it be?

Arsenal: a storied team that's a joy to watch and has some of the best moves on the turf but is in danger of finishing well outside the top four.

predecessor, the perfect combination of sleek and statesman-like. The kind of car you could slap a fluted grille on and convincingly sell as a Rolls-Royce.

But today it's the Bentley that wears the flash grille. The Range Rover needs all 1.9mm of its height to come close to drawing your attention away from the Crewe car. And height is the only stat battle the SVAutobiography wins: the Bentley rides on a bigger wheelbase, it's longer and it's wider.

This Range Rover is the product of JLR's SVO (Special Vehicle Operations) team, whose work includes limited-edition specials, armour-plated cars and line-built special cars designed to match anything AMG or Bentley can turn out.

We've seen the SV badge before on Jag's F-type, and also on the Range Rover Sport. In both cases SV prefixed the letter R, denoting that these were serious performance machines. But that wouldn't have been exactly right for a Range Rover proper. This SVAutobiography still has a definite performance slant that's reinforced by its use of the 542bhp engine from its Range Sport SVR little brother and suspension that's stiffer and 8mm lower. But this RR is predominantly about the luxury. And by the standards of ordinary cars the interior would seem to define luxury. There's quilted leather, Bentley-ish knurling to the controls and expensive veneers. But often the quality isn't

as good as a glance suggests. The column stalks feel nasty, and Lexus wouldn't send out a £35k car with a glovebox this reluctant to close, never mind one that costs £135k.

The coming switch to the Velar's twin-screen dash set-up will add some wow and it's up to the buyer to pick wisely from the colour palette to avoid something that looks like it was built to mark Hugh Hefner's passing. Examples on the Land Rover website show how elegant the SVA can look.

If, that is, you're prepared to look past the crass detailing. The quad tailpipes (with hangers all too visible) look like a bad aftermarket job, their round shape jarring awkwardly with the lantern-jaw lines of the body itself. And the handsome 22in wheels are spoiled by the red calipers begging for your attention between their spokes. But nastiest of all are the red anodised shift paddles located behind the steering wheel.

Obviously there's a huge market for SUV bling, and this is Land Rover's attempt to court it. Trouble is, people like Overfinch do it better. The Bentley is free of any such faux pas. It looks and feels every inch the consummate British luxury express, without ever tipping into some awful Rover 75-esque parody. The low roofline makes for a surprisingly cosy driving environment that's saved from being cramped by generous legroom, and everything in here from the presentation of the dials to the fit and finish of the switches shouts luxury. But unlike the SVA, there's little in here that shouts about the car's performance – not even the induction noise of that W12.

The SVA's volume has been dialled back compared to the Sport SVR, but there's the same richly textured V8 growl that backs up what the 542bhp on the spec sheet suggests. Yup, this SVAutobiography is one bad-ass-UV.

The big questions **Bentley Bentayga**



Should I sell my Lambo to make space for it?

You might have to, just to fit it in the garage, but you won't be left wanting for performance: the W12 does 187mph and 0-62mph in 4.1sec.



Is there any danger I won't look obscenely rich?

No-one who sees you in the Bentley will doubt your wealth – but your eyesight, humility and moral fibre... we're not so sure.



Will it get me out of a muddy car park at Glasto next year?

The Rangie is better off-road but the Bentley is very capable. Bigger issue is why you're wasting precious B-road time.



If it were a football team it would be...

Manchester City: flashy, self-important northerners who only perform well thanks to a huge cash injection from foreign enterprise.

The Bentley has the torque to suck the Range Rover's skin off like a magician whipping away a tablecloth





Or so I think until staff writer Jake Groves in the Bentayga wafts past my right-hand window, past my flattened right foot, and past the two cars beyond me on the long pull uphill that runs alongside Rutland Water. If you've already geeked out on the technical specs of our two cars, you'll know how and why.

Both weigh around 2450kg give or take the odd case of Dom, but the Bentley's 6.0-litre W12 serves up 600bhp and enough torque to suck the Range's aluminium skin off like a magician whipping away a tablecloth. We're talking 682lb ft of twist versus 502lb ft in the SVA Dynamic, and only the faintest hint of turbo lag to contend with between opening the taps in the Bentayga and the dam being breached.

The Bentley doesn't sound that special, but it does special things to the laws of physics, reaching 62mph in 4.0sec compared with 5.4sec for the Range Rover. Both are fast, but it's like taking on an F1 car in a Formula Ford.

Technically, there are quicker cars around. But in that stomp from the lights on Park Lane the combination of hypercar torque and all-wheel-drive traction means you'll rarely be beaten to the next red in either.

Around town it's the supple Range Rover that's marginally the more comfortable, despite being hobbled compared to lesser Range Rovers by the 22in wheels and uprated suspension fitted to make it credibly sporty, and less comfortable seats than the Bentayga. A towering driving position makes you feel like you're riding an elephant with a roof as you peer down at lesser traffic, and the tall glasshouse and upright screen creates a real sense of space that you just don't get in the Bentley.

But away from the crawl of Uppingham it's the Bentayga that plays the performance car role more convincingly. You ▶

Bentayga is longer and slightly lower than the Range Rover. Ploughs a slightly wider furrow through crops, too





BENTLEY BENTAYGA

- > Price £162,700
- > As tested £210,205
- > Engine 5950cc 48v W12, 600bhp @ 5000rpm, 682lb ft @ 1350rpm
- > Transmission 8-speed auto, all-wheel drive
- > Performance 4.0sec 0-62mph, 187mph, 21.6mpg, 296g/km CO2
- > Weight 2440kg
- > On sale Now

Rating ★★★★★

RANGE ROVER 5.0 V8 SVAUTOBIOGRAPHY DYNAMIC

- > Price £133,680
- > As tested £133,680
- > Engine 5000cc 32v V8, 542bhp @ 6000rpm, 502lb ft @ 3500rpm
- > Transmission 8-speed auto, all-wheel drive
- > Performance 5.4sec 0-62mph, 155mph, 22.1mpg, 299g/km CO2
- > Weight 2457kg
- > On sale Now

> Rating ★★★★★



All Terrain kit adds more options to the Bentley's set-up tuning selector



SVA treatment adds plenty of scope for personalisation/ making it awful



Most owners will have a man to do this. Chris has Chris

Despite its huge mass, the Bentayga's dynamic superiority is never in doubt

Special and without muddying your shoes, this is your car.

The Bentayga is more than capable enough, particularly if you've splashed £4955 for the All Terrain package. It includes a luggage management system to stop your posh cases flying around, underfloor protection and a top-view camera to help you navigate trails. But its main sell is the expanded choice of driving modes on the rotary selector, tailoring the running gear's operation to suit the terrain and weather. It's a dead ringer for LR's Terrain Response system – and probably equally wasted on 99 per cent of the people who'll buy it.


There's a valid argument that says cars like this, and the Bentley in particular, sum up everything that's wrong with a wasteful world. Almost no-one needs a car that can drive off-road, is this opulent, or can do 187mph, let alone one that marries all three, and compromises its ability to do each to achieve it. They cost as much as a house and still emit almost 300g/km of CO₂ when all around them ordinary cars have worked their backsides off to close in on 100.

But experience them and it's hard not to fall for them. Since this generation of Range Rover emerged in 2012 we've always considered it one of the few seriously expensive cars we'd spend money on. We love the way it looks, the imperious driving position, that it celebrates the joy of driving not that quickly in the way a Rolls-Royce does. Even five years on it's hugely likeable. More handsome than the Bentley, better off road, less claustrophobic and offering more luggage space for those ski trips to Chamonix, a Range Rover is a fabulous machine.

But it's fabulous at £80,000 or £90,000, less so when it costs almost £140,000 and has a slew of no-holds-barred rivals on the horizon. At that money, the Range Rover doesn't feel special enough. It might be the best in extreme off-road situations, but that's even less relevant than the Bentayga's 187mph top speed. Enjoyable as it is, the SVA is not distinct enough from other Range Rovers, and not luxurious enough, fast enough or agile enough to go toe to toe with the Bentley. It feels like it's stretching itself a little too thin, and cracks have opened up in the process.

If the tacky world of obscenely expensive cars was a nightclub, the SVA'd be standing awkwardly at the bar shouting about money to get your attention. The Bentayga would be sitting in the roped-off VIP area looking like it owns the joint. This isn't only the best luxury SUV; it's one of the most appealing luxury vehicles of any type.

Bentley's only mistake was taking so long to green-light this project. Well, that and the guinea-pig styling. But if you like the way it looks, you'll like everything else about the Bentayga and won't quibble about the extra cost if you've got the money to spend. Few cars at any price leave you feeling so contented behind the wheel. Or is that just what smug feels like?

For now, the W12's only real threat is its diesel little brother, which is a —better buy if you live in one of the few markets where both engines are offered. But that could all change next year when Rolls-Royce and Lamborghini enter the fray. The big boys are coming and if Land Rover really wants to play, it's going to need to do more than throw a few bits of shiny metal trim at a Range Rover. 



Two entrants in the Biggest Thing Ever contest suddenly not feeling so smug



sense the huge mass travelling with you at every attempt to turn or slow it. But its dynamic superiority over its rival is never in doubt.

Having swapped to the Bentley at our last stop, I'm perched on the Bentayga's quilted leather chair, peering down towards the winged badge at the leading edge of the bonnet, seriously impressed by how flat that false horizon stays through the corners. With the chassis dial in Sport the adaptive air suspension is doing a good job of checking unwanted body movements, and we're leaving the Range Rover behind.

You'll normally see these cars looking immaculate, but we wondered what they would look like in brown, so we headed to one of the few places where the vehicles can make a Bentayga seem small. Make that small and cheap. Even a used example of the Komatsu HD785 trucks at Rutland's Hanson Cement plant will set you back as much as a new Bentayga and the combination of 1200bhp, 2m-tall wheels and a 70-tonne kerb weight means they could crush our preening pair in a snap.

Of our duo, it's the Range Rover that offers the most off-road ability. It'll wade to 900mm versus 500mm for the Bentley, and with its air suspension hiked up it's got the approach, departure and breakover stats sewn up too. If you want to discover a new tribe in the Congo while listening to *Test Match*



THE
PRANCING
HORSE
AND
THE
BULL
THE
ELEPHANT
AND THE
ANT



Born and raised at Ferrari, Maranello man Domenicali now runs Lamborghini. The Italian in Winkelmann's old chair talks Urus, Audi in F1 and the importance of being fast if you're small

Words Ben Oliver | Illustration Peter Strain | Photography Charlie Magee

“
I was really born at Ferrari.
I had half of my life with
them, knowing one way
of working: Ferrari’s”

FOR A MOMENT I wonder whether Stefano Domenicali is the right guy to be leading Lamborghini, one of the world’s most extrovert car makers.

If you’ve ever daydreamed of returning to your old school in triumph and finally exorcising the long-buried hurt of being passed over for sports teams, ignored by the opposite sex and told you’ll never amount to much with a display of your subsequent success (please say it’s not just me) – well, this arrival would do nicely. Stefano arrives at his old school in Imola in a yellow Lamborghini Huracan Performante with a police escort.

The school is having a road-safety day and Stefano is the guest of honour. As he follows the police car into the grounds, the crowd of kids and parents presses forward, keen to see one of the town’s most famous sons. For seven years he led what is effectively the Italian national Formula 1 team and was a constant presence on their televisions, on the pit wall or in his typically humble post-race interviews.

He leans towards me in the passenger seat, and touches my knee. ‘You know, I’m not comfortable with being the centre of attention. I don’t like it when the focus is so much on me. This is really their day. And I don’t want to run over a child’s foot. Especially today.’

He starts to relax once we park. And then, to mark his arrival, the town band strikes up.

But once he’s out of the car, you see that he’s exactly the right person to be leading Lamborghini. This is not a stiff personal appearance by a suited CEO obliged to do his bit in the local community. Stefano knows the mayor and the chief of police and some of the parents because he went to school with them. He knows how to talk to these kids because he was one. He is probably the only person other than Enzo to have led both a storied F1 team and a major global car brand without having to move more than 60 miles from where he was born.

We do most of our talking back at the circuit, where he is launching the Performante to the world’s motor press, in a quiet room overlooking the pit lane. ‘I was born here. I remember as a child coming to see bike and car races here because the circuit is in the centre of town. I had the enthusiasm of all the kids that were born here. I didn’t miss a single race.’

‘In high school, on race days, I worked here. I was the guy who went between the organisers and the teams. I was there in the



middle of the trucks and I knew everyone. I lived a lot of moments here. I remember all the racing. I remember incredible 200-mile motorcycle races with Kenny Roberts and Barry Sheene. And then I remember all the Formula 1 races. I remember seeing Villeneuve and Pironi, and unfortunately I was here when Ayrton Senna died. All the memories are here. But I never expected to change sides from being one of the passionate guys cheering and asking for autographs to being the guy leading the Ferrari team.’

Domenicali speaks in accented but rapid English, pivoted towards me and on the edge of his seat. He is fully engaged. There is no sense of the interview autopilot you sometimes get from senior executives. *CAR*’s F1 correspondent Tom Clarkson ran the circuits with Domenicali and reports that he never stopped talking and asking questions, even at a jog.

But those childhood memories don’t include the extraordinary road cars that have long come from his region, and which he now makes. ‘Sometimes when you are inside the hurricane – and I don’t mean the Huracan, I mean a real tornado – you don’t think about it. I have to be honest: in that moment, I was not thinking about it. I thought it was normal. Then the more I was living around the world, the more I had this appreciation, but during my teenage period I was not really perceiving that as something incredible.’

His office might have been close to home but he certainly travelled, to every part of the world that F1 attempted to colonise in his 23 years with Ferrari. The last seven were as team principal and were not Ferrari’s finest, with only one championship win, but he was immensely popular and clearly able. Then in October 2014,



Corporate uniform and no Winkelmann-esque suits, yet this Stefano is the true Italian

'If I would have jumped immediately from one side to the other, it would have been very difficult. I was really born at Ferrari. I had half of my life knowing one way of working: Ferrari's. I might have made the mistake of thinking that everything would have been easy to do, copy and paste. Thank God, I had this experience of working at Audi first.

'From an F1 team to super-sports cars, for sure you have to know more elements that were natural in my previous experience. So I need to be humble. I always try to apply my maximum approach in the areas that are out of my comfort zone. It would be wrong to work on things that I already know since my life would be much easier because I can do it with one eye closed or one eye open. These things I try to delegate even more. I try to focus on the things that I need to learn. You have to remember you are not the king. You do not know everything. That would be the killer.'

Audi plainly has faith in his ability to learn on the job. Lamborghini's turnover will soon exceed a billion euros. Its 3500-car output will double with the launch in December of the Urus SUV. Eventually, Stefano thinks it will treble. He hasn't been asked just to caretake a stable business. He has to guide Lamborghini through a period of steroidal expansion, with all the attendant risks to its image and the quality of its cars.

His instinctive connection with his staff will help. 'Every day I'm at the factory, I go down to the shop. I walk around. First, because I want to be seen as one of them. If there is a problem, there is no filter. We have the privilege of being a small company. Communication is direct. When you have no filter, and when you know the people, you can judge for yourself what needs to be improved.'

The first new Lamborghini he could influence was the Performante, and he tells me he did make some changes. But it's a sideshow compared to the transformative Urus. The first pre-production cars are about to roll out of Sant'Agata.

'I wish I could show it to you now. It will be very sporty, with a good sound, very great at driving, with a cool design. In a segment where everyone is present, we need to be different, so we have made something with all the values of our super-sports cars. ▶

Rabid and rapid Performante Huracan was finished before Domenicali's tenure

Audi put out a smokescreen of a press release saying that they had recruited Domenicali to 'work in the areas of service and mobility', as if he was building call centres or driverless pods. He throws up a similar smokescreen when asked about that time now but of course he was examining an Audi F1 entry, with an engine supply deal for Red Bull as the first step. When it became clear that the cost of winning the championship would be too great and the emissions crisis hit, he was made CEO of Lamborghini, starting in March 2016.

Italian Stefano replaced German Stephan, and the two couldn't be more different. Stephan Winkelmann was one of those expatriate German car bosses who go native. He cultivated the look and manner of an Italian business prince like Agnelli or di Montezemolo. His trouser cuffs were always cut to brush the tops of his shoes, in the Italian fashion. He out-Italianed the Italians and was not universally popular but he left Lamborghini in sensational shape, with record sales, profits and turnover.

Italian Stefano is a slight figure wearing the staff uniform of white polo shirt, black trousers and Lamborghini trainers as he darts between the assembled Performantes, as if checking them over. You could mistake the CEO for one of the valet crew. His hair has been cut, not styled. He hasn't been near a sunbed. Like Mark Zuckerberg with his permanent grey T-shirt, you sense that Domenicali's attention is focused solely on his work and not his personal image. He spent most of his working life in a uniform as part of a team and plainly doesn't see the need to change that now he's a CEO. But aren't running an F1 team and a car maker utterly different activities?





“
In a segment where everyone is present, Urus will be different – something with all the values of our super-sports cars
 ”

‘Honestly, when I tested the Ferrari F1 car I was only this far off Alonso’s best lap time...’

This is fundamental. We are going to give a push to the extreme part of the segment. I’m expecting that our competitors will react to it, and look at how this market can grow. There is a lot of potential.’

Domenicali remains attached to natural aspiration and the V12 engine in particular. There’s life in it yet, he believes, and it provides both a reference point for the brand and a key point of difference to its rivals. But hybrids and electrification will come to Lamborghini. The Urus will be the first, with the option of a plug-in hybrid drivetrain. Later, Lamborghini will use one-off or limited-run models like the Veneno to introduce new propulsion technology and prepare us for its introduction on its standard cars.

By 2025 or 2030, Lamborghini could be making 10,000 cars a year, but growth will come from additional models: first the Urus, then maybe a luxurious 2+2 of the kind that started the Lamborghini story. Domenicali says the whole portfolio will only

grow at the same rate as the segments it is present in, so Huracans and Aventadors and whatever replace them will not suddenly become commonplace. This is vitally important to Domenicali; the preservation of the rarity of seeing a Lamborghini on the road, in the wild (outside of some areas of London).

‘We need to be different. If we are different, we will be successful. The risk is to be diluted, and we are small. An ant who wants to fight against the elephant, either it’s quick or it has a problem.’

Unprompted, he denies again that his move to Lamborghini indicates that Volkswagen still plans to enter Formula 1. The costs still don’t stack up, a conclusion previously reached by the man who masterminded Audi’s Le Mans dominance, Wolfgang Ullrich. But Domenicali remains the head of the FIA’s single-seater commission, and if he encourages changes to the formula to make it more affordable he might yet find himself competing with his old employer on road and track. I wonder how it feels to be back at Imola with a bull rather than a horse over his heart...

‘I spent half of my life with Ferrari. I have been here just a year and a couple of months. It seems like yesterday, it seems like life, I don’t know. I am very proud of my time with Ferrari. I have a fantastic relationship with the people at Ferrari still, because it’s stupid not to do it like that. It’s not my character. We need to have the inspiration of them, but only to make sure we are different. The biggest mistake would be to copy.’

We walk outside to the paddock. The yellow Huracan Performante is mine now, ready for a drive into the hills in the evening light. There are clouds to the east and I want to avoid the rain. Then I remember I’m standing with a guy who loves cars and knows this place. So I ask the CEO for directions.

‘Actually, it’s super-easy to reach great roads.’

You get out from the circuit at Rivazza. Get straight over there into the hills. Then you go back on the other side to Dozza, a little village, have a coffee. With this car, with its super handling, I would suggest that. Don’t worry about the clouds. If they are on that side, it will not rain.’

📍@thebenoliver

Jobs in sport come no tougher (except perhaps managing the England team)



Lamborghini goes supernova: the next four years

> URUS SUV (2018)

Loosely based on Porsche Cayenne III and the latest Audi Q7, Urus will be offered with a choice of engines ranging from a V6 plug-in hybrid to a high-performance 4.0-litre V8 Performante with more than 600bhp. Urus is expected to almost double Lamborghini sales to more than 6000 a year.



> HURACAN SV, SAFARI (2018/2019)

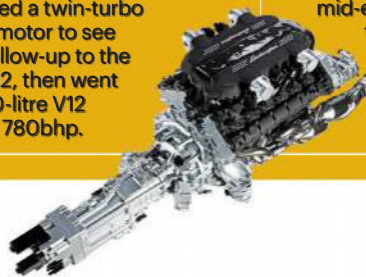
Further Huracan derivatives could include a Speedster, a Barchetta, a hardcore SV and an even hotter GT3 Stradale. A targa in addition to the roadster is also possible, and a Superleggera nailed on. Most audacious is the Huracan Safari featuring height-adjustable suspension, bigger wheelarch cut-outs, all-terrain body panels, all-wheel drive and four-wheel steering.

> NEXT AVENTADOR (2020)

First all-new product under Domenicali’s regime. LB634/635 (coupe/roadster) will be extensive evolutions of the current concept, so fears of a Huracan on steroids are unfounded – the classic V12 soldiers on. The strategists considered a twin-turbo 6.0-litre motor to see off the follow-up to the Ferrari 812, then went with a 7.0-litre V12 tested at 780bhp.

> NEXT HURACAN (2021)

Unlike the current model, which is twinned with the Audi R8 using the so-called MSS platform, the replacement moves closer in concept to its V12 stablemate. Since the V10 engine goes together with MSS, the smaller mid-engined Lambo switches to the Porsche-sourced 4.0-litre V8 rated at 640bhp, which can be boosted by e-motors to 880bhp.



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BMW 440i
M Sport
Gran Coupe



Audi S5
Sportback



THE KIA OF WISHFUL THINKING

Can Kia's first seriously hot car really live with the benchmark BMW and Audi? *Really?* Maybe it can...

Words Chris Chilton | Photography Alex Tapley



Kia Stinger
GT-S
↓



GB LF67 UUV
KIA MOTORS (UK) LTD

K

IA HAS TRANSFORMED itself from a company selling other people's cast-offs to one that's looking to go toe-to-toe with the very best. The current Sorento has already pushed Kia into £40k territory, but the Stinger faces an even tougher battle. Will notoriously badge-conscious BMW and Audi buyers really be prepared to drive a car whose logo still carries more 'budget' baggage than Lidl's travel section?

Kia knows the Stinger has an uphill struggle so is winching it to the top with the help of a bigger body, smaller price and, at least with the GT-S version tested here, top speed and power figures that eclipse all of its rivals.

The majority of Stingers bought will be four-cylinder cars powered by a 197bhp 2.2 turbodiesel, with most of the remaining customers opting for a 2.0-litre petrol packing 252bhp. First to arrive, though, is this halo version, the GT-S. Well, we say halo, but it's more of a horns, flames and pitchfork version really, because with 365bhp driving



the rear wheels all the way to 168mph, this 3.3-litre twin-turbo Stinger is Kia as killer.

Those numbers stick it to both of the cars we've brought along today, the 349bhp Audi S5 Sportback and 322bhp BMW 440i Gran Coupe M Sport, each of which is stymied by a 155mph limiter. And at £40,495, the Kia naturally undercuts the BMW by £4995 and the Audi by £7680. The Koreans aren't stupid: they know they still need to offer more for less to be taken seriously.

Some of that 'more' comes in the form of pure real estate. At 4830mm from toe to tail the Stinger is nearly 200mm longer than the BMW and rides on a 2.9m wheelbase that's much closer to that of an A7 than an A5.

And though Kia says the design was inspired by big, powerful front-engined early '70s GTs from the likes of Maserati, the overall styling of a car that can trace its roots to 2011's GT concept has something of the A7 about it. Only something, mind.

Despite being styled by ex-Audi man Gregory Guillaume, who works under another ex-Audi man, Peter Schreyer – two men responsible for some admirably clean designs – the finished

Stinger is saddled with too many fussy details, on this car picked out in a dirty smoke-coloured chrome. If someone told you this was the new Dodge Charger, you wouldn't bat an eyelid, and it's clearly been designed with the American market in mind. But next to the elegance of the S5 it's trying way too hard.

The cleanly styled S5's a masterclass in how to get detailing right. The horizontal strip of rear lights emphasises the width across the back and makes the tail appear sleek and low. And the quad pipes below it paired with the S-specific grille at the opposite end leave you in no doubt that this is an S5, and not just a humble A5 Sportback.

The BMW, relatively handsome when viewed individually, seems a touch frumpy in comparison. Short on sex appeal, its styling is too close to a regular 3-series rather than a special coupe offshoot, and offers too few M Sport cues: a tiny M badge on the nose and two ▶

KEY TECH: AUDI Turbo V6

Audi's 3.0-litre V6 is turbocharged, not supercharged, these days. Power is delivered to a beefy conventional eight-speed auto rather than the less torque-tolerant dual-clutch in slower A5s. The clever £1200 rear Sport Differential helps rotate the car in corners.





Ugly nav system has Android Auto and Apple CarPlay as standard. Some functions are touchscreen, others use rotary controller.

Dials are nondescript; no trick virtual instruments to wow your friends with.



And you call this a coupe? Four doors is pushing it anyway, but at least ditch the door frames. Audi and BMW did.



KEY TECH: BMW Turbo straight six

BMW's B58 straight six is a 3.0-litre all-aluminium engine that uses just one twin-scroll turbocharger, the charge now being cooled by water, whereas the older N55 used air. A stronger closed-deck block and a forged, rather than cast, crank mean the 440i's 322bhp is well within the engine's potential.

circular wheelbarrow-handle exhaust pipes at the back that look a bit weedy next to Audi's quads, and oddly shaped next to the 4's own squared-off bumpers.

The BMW (along with the Audi) does get one important detail right: frameless door glass. The Kia hasn't got it, and that means a big chunk of the coupe magic evaporates when you open the Stinger's door. That said, the cabin is for the most part a very pleasant surprise. The instrument dials may be boringly plain and the Moroccan-lamp-style drilled metal covers for the Harman stereo's speakers are a bad copy of the gorgeous ones you get in a Benz fitted with the optional Burmester hi-fi. But the swathe of leather covering the dash, punctuated by those three large

air vents, gives it a distinct character – something sorely lacking in, say, a Jaguar XE.

It takes a moment to realise that the artlessly housed touchscreen can also be controlled by a dial on the console itself – though not the one close to the gear selector, which is actually a driving mode controller. That's another reminder of what Kia is up against. We're so familiar with the layout of the opposition's infotainment systems that they've defined how we think these things should be done, and anything different feels wrong.

Not that the German set-ups are perfect. We know exactly how Audi's MMI works, but that doesn't stop us wishing occasionally that its control of the media screen could be augmented by a touch of functionality like the Kia's, for instance when trying

to drag a cursor across a map. Similarly, we know exactly where the temperature control on the 4-series is because BMW standardised the layout yonks ago, but that doesn't stop us hoping the next generation can add a bit more flair, and a much-needed step-up in material quality.

That won't happen any time soon, though. The 4-series has only recently been facelifted with LED lamps and new bumpers, and some new trim on the inside, plus a tile layout for the posh nav system and an optional digital instrument pack that feels more gimmicky and less versatile than Audi's equivalent.

Once again, when it comes to the interiors, the Audi shows its rivals how to get the details right. The Kia's rear-view mirror has a huge, chunky black frame like a decade-old TV. The Audi's elegant unit feels like an almost-frameless 2017 version in comparison. While the BMW's and Kia's seats are comfortable and supportive, the S5's are beautifully shaped at the back and covered in a Bentley-esque quilted leather. In terms of showroom appeal, the Audi's got it all sewn up.

And one significant technical fact might seal the deal for you: only the Audi comes with four-wheel drive. Lesser Stinger and 4-series models come with a choice of rear- or four-wheel drive, but both the GT-S and 440i range toppers are rear-drive only, while the Audi delivers to all four tyres whether you like it or not. Which goes some way to explaining the Audi's higher price, and the disparity in the three cars' performance figures.

The Audi rips to 62mph in 4.7 seconds, almost half a second ahead of its rivals, but that's not how it feels in give-and-take situations. Tip into the Kia's throttle at the close of a 30mph section and the Stinger absolutely erupts down the road. There's a brawny 370Z-like muscularity to it. The old-school growl. The burly mid-range wallop. The 17mpg on the trip computer... ▶



Virtual Cockpit a £250 option or £750 with matrix LED headlights as part of Light and Vision Pack.

Super Sports Seats look like fancy optional kit but are standard on S5. Heated, but no electric memory function as standard.

Multifunction-button wheel is standard, but it's another £100 to square the bottom.



Standard nav on 440i is widescreen Professional. Functions arrange in tile form but there's no 5/7-series-style gesture control.

Digital Cockpit a £295 option, spoiled by fixed dial rings, not as good as Audi's equivalent.

Woah! Long time no see. Anyone still remember how to use one of these?

The BMW never
leaves you feeling
short-changed,
despite giving away
20bhp per tonne



For a big car, this thing really moves, and the standard-fit adaptive dampers ensure it does so only in the desired direction. You can sense the extra mass it's carrying next to its rivals, but it feels so composed that it never seems to hold you back. The steering is quick, but entirely natural in feel, the grip strong, and the traction too, thanks to a standard-fit mechanical limited-slip differential that really lets you lean on the power when exiting low- and medium-speed corners.

It's the kind of car whose rhythm you click into straight away, a testament to the no doubt large cheque waved in front of former BMW M division man Albert Biermann to persuade him to put Korea on his own map, and Kia on ours. It's capable, immersive and entertaining, but there's nothing frenetic about it. You can devour tarmac and really throw yourself into the experience without ever needing to break sweat.

Which leaves you plenty in reserve to curse the Kia's eight-speed auto. There's no dedicated sports transmission setting beyond the Comfort, Sport and Sport Plus driving modes. However much mode juggling you do, the Stinger prefers to languish in higher gears than you'd choose yourself. We couldn't seem to lock it in a manual mode either, despite Biermann assuring us at the Nürburgring launch earlier in the year that it was possible. Okay, so you might not want to do that often in real driving, but it's nice to have the choice.

Choice isn't something you get much of in the A5. You can go slow and you can go fast. And you can tweak the driving modes to make going fast slightly more interesting. But it always feels more GT than sports saloon. Maybe those Bentley-style seats have infiltrated the handling too?

Which isn't to say the Audi's not impressive in its own way. You never think twice about stomping the right pedal in the Audi, because you always know what you're going to get when you do: traction you swear would drive you up a dam wall, and the prospect of a gentle pillow of understeer in the unlikely event of you breaching the tyres' limits.

But while the steering feels pleasingly accurate, it also feels a little tardy in this company, and just a bit cold. You admire it, you're impressed by it. But you don't want to grab it by the scruff of the neck and keep throttling for mile after mile until one of you is spent.

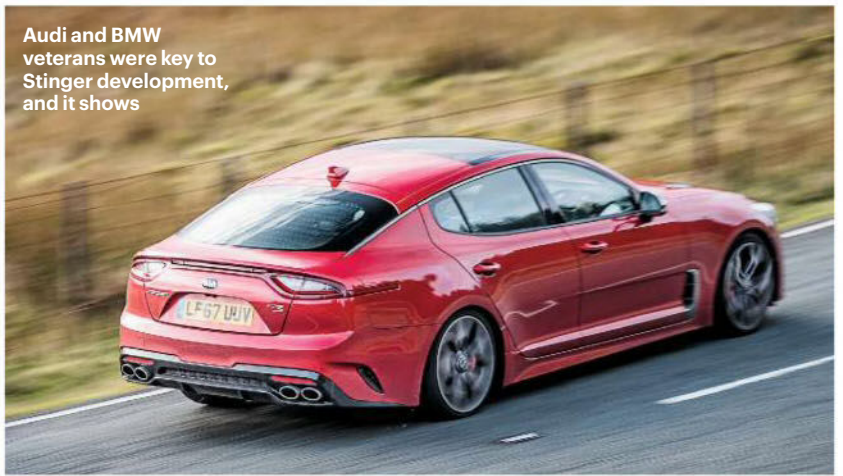
The 440i feels shockingly different. Remember the build-up to the chase in *Bullitt*, just before Bill Hickman fastens his seatbelt and it all goes postal? How the in-car camera shot shifts from the bass-heavy calmness of the Charger to the same shot from the Mustang, all ear-bleeding, highly-strung restrained rage? That's what it feels like jumping from S5 to 440i.

First, there's the 3.0 turbocharged straight-six engine, which feels like it picks up revs so much faster than the Audi's stronger V6, and doesn't ever leave you feeling short-changed for pace despite giving away almost 20bhp per tonne. It even sounds urgent, with less of the whiny whizz of the S5 and more six-cylinder grit.

The chassis is cut from the same cloth. BMW steering used to feel oppressively heavy, but this modern electric rack is almost disarmingly light the first time you tuck the nose into a corner at speed. But it suits the nature of a car that's as up for a direction change as a windsurfer's sail, and as you relax your grip, you notice that a lack of weight doesn't mean a lack of communication.

Neither does a lack of a limited-slip differential mean a lack

Audi and BMW veterans were key to Stinger development, and it shows



of traction, except in extreme situations when you try to give the throttle a clog coming out of the tightest corners.

'If you'd told me this was a 2-series, I'd have believed you,' noted fellow tester Colin Overland, after driving it, referring to the 4's bring-it-on enthusiasm for corners, though if he'd been referring to its refinement and it would have been an equally valid observation. Think that *Bullitt* scene again. The BMW's not great for road noise, and while that might not seem much of a problem when you're grinning through a five-mile snake of Welsh B-roads, it's far less fun on the way there and back, trying to stay patient on a clogged motorway.

You could apply a similar caveat to BMW's decision not to offer xDrive all-wheel drive on the 440i M Sport. The day our pictures were taken in Wales was unusually dry. Fine weather ▶



440i's relish for Welsh roads had us longing for more daylight

Audi S5 Sportback

Price | £48,175
As tested | £54,620
Engine | 2995cc 24v turbo V6
Transmission | 8-speed auto, all-wheel drive
Suspension | Multilink front and rear
Made of | Steel



BMW 440i M Sport Gran Coupe

Price | £45,490
As tested | £49,000 (est)
Engine | 2998cc 24v turbo 6-cyl
Transmission | 8-speed auto, rear-wheel drive
Suspension | Strut front, multilink rear
Made of | Steel



Kia Stinger GT-S

Price | £40,495
As tested | £40,495
Engine | 3342cc 24v turbo V6
Transmission | 8-speed auto, rear-wheel drive
Suspension | Strut front, multilink rear
Made of | Steel



Power and torque

We say | Kia and Audi square up, BMW spectates

Audi 349bhp @ 5400rpm
 369lb ft @ 1370rpm

BMW 322bhp @ 5500rpm
 332lb ft @ 1380rpm

Kia 365bhp @ 6000rpm
 376lb ft @ 1300-4500rpm

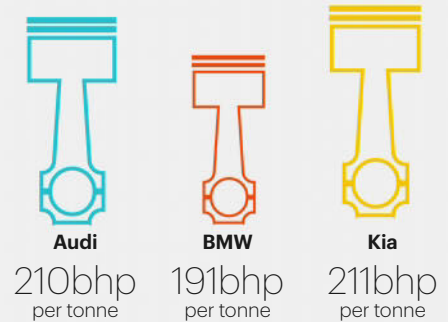
Weight

We say | Stinger pays price for extra interior space



Power to weight

We say | BMW trails, but you'd never know it



0-62mph

We say | S5's 4wd gives it the jump from the lights

Audi 4.7sec

BMW 5.1sec

Kia 5.1sec



Official and test mpg

We say | Kia's mpg would have been competitive - in 1997



Top speed

We say | No 155 limiter means bragging rights for Kia

Audi 155mph

BMW 155mph

Kia 168mph



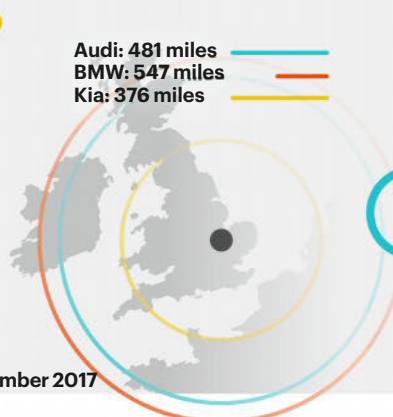
Fuel tank

We say | Stinger's fuel tank is stingy for something with such poor mpg



Range

We say | BMW the sternest test of bladder



CO2

We say | Kia miles off the pace again



Lease rates

We say | Kia's too new, but Audi and BMW neck and neck

Audi £452
 36 months, £4070 deposit

BMW £458
 36 months, £4124 deposit

Kia N/A

and competent modern rubber meant that we rarely saw a wink out of the ESP lights on our rear-drive pair when driving with the systems engaged. But our journey across England the day before must have aged our wiper motors by three years. Modern high-performance rear-drive cars are so finely honed these days that even someone coming from a lifetime of front-wheel-drive metal has no reason to be afraid. But in a country where we get excited about just seeing the sun, never mind seeing it eclipsed by the moon, the four-wheel-drive Audi's advantages, both perceived and real, can't be dismissed.

Lack of a four-wheel-drive option probably won't harm the Stinger GT-S's chances; this version is not going to make much of a dent in BMW and Audi sales figures. But it deserves your attention. It's a distinctive design, if not perfectly executed, it has the most space, is loaded with kit like heated and cooled seats, adaptive dampers and a high-end stereo. It's also a strong performer and a properly sorted car to drive.

In the detail, though, the Stinger is less convincing. The fuel


consumption figures are way off what's now expected of the class, the transmission isn't as good as that in either of its rivals, the visual detailing has all the class of a Swarovski Crystal shop window, and things like the lack of frameless doors leave you with the suspicion that the Stinger is actually just a big, expensive mass-market hatchback.

In a sense that's exactly what the S5 is, or at least the A5 on which it's based. But it's so good at convincing you otherwise. At £47k this is an expensive car, but it feels it at every turn. It's handsome, it gets the details right. It gets the refinement right. It's the most rounded car and the one you want to own.

But less frequently the one you want to drive. And these being performance flagships, we feel entirely justified in putting more weight behind that than if these were journeymen rep cars.

The BMW doesn't feel the most special inside, and the packaging isn't as strong, particularly in the back. But it can still play the sensible man. It's significantly cheaper to buy than the Audi and its lower CO2 figures mean you could save almost £1000 a year by choosing it as a company car.

But it's also the most fun to wind up and let go, the one that fizzes with enough energy to kid you into believing that these are actually real coupes and not merely a marketing creation designed to rinse more money from you.

As for the Kia, it's not game over. The GT-S is only a sideshow really. A different sort of challenge will come when we compare diesel-fuelled versions of these cars. Think the competition is tough at this top-end of the market? It's like a tankful of piranhas down at the other end. 

[@chrischiltoncar](#)

KEY TECH: KIA V6 turbo

The 3.3-litre V6 is new to Brits but Americans know it from Hyundai's upscale brand Genesis, where it's offered in the G90 limo and G80 Sport. In the UK the Stinger is rear-drive only,



with a limited-slip diff, though an active diff is in development.

1st

Its shortcomings all pale next to its brilliance on the road.

3rd

A lot of fun to be had, and a lot of car for your money, but it's not there yet.

2nd

Superb all-round package that's a joy to live with.

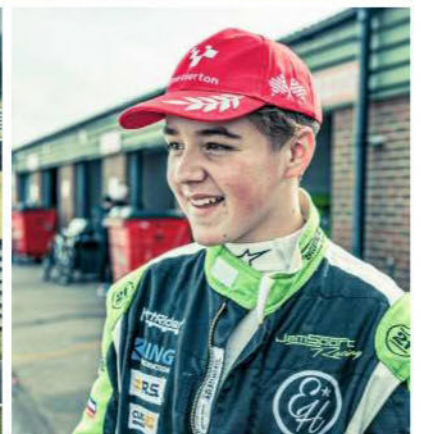


Too young to vote, drink or legally drive on the road, this lot are at least old enough to race in a new Renault Clio series for future BTCC stars

Words James Taylor | Photography Alex Tapley

CAN I SEE SOME ID?





Y

OU HEAR THEM before you see them: 28 hard-worked cylinders, powering a train of Clio Cup race cars that appears as one. They tip into Snetterton's fast Riches corner on a touch of opposite lock, seven cars jostling for the same few inches of tarmac, then in a multi-coloured flash they're gone from view.

To the banks of spectators, the drivers look like seasoned pros. But for many of them, this is the first time they've raced a car. And some of them have barely started their GCSEs.

This is day one, term one, season one of Renault's Clio Cup Junior championship: a training ground for drivers aged 14 to 17, in virtually identical cars to those raced in the long-established senior Clio Cup. The only differences are an ECU tweak that limits top speed to 100mph and instructs the paddleshift gearbox to use only five gears, rather than six, and treaded road-spec tyres in place of slicks; otherwise they're the exact same machines.

The idea is similar to the highly successful Ginetta Junior championship, although Renault says the Clio's faster, more affordable, and offers a more apt education for front-wheel-drive Touring Cars. In a prize fund worth around £18,000, the Clio Cup Junior champion will win free registration into the grown-up Clio Cup, a fixture of the BTCC support bill and an established feeder series into full-fat Touring Car racing; current BTCC champ Ash Sutton won the Clio Cup in 2015, and numerous other Clio campus alumni have also progressed to the BTCC, including 2016 Cup champ Ant Whorton-Eales.

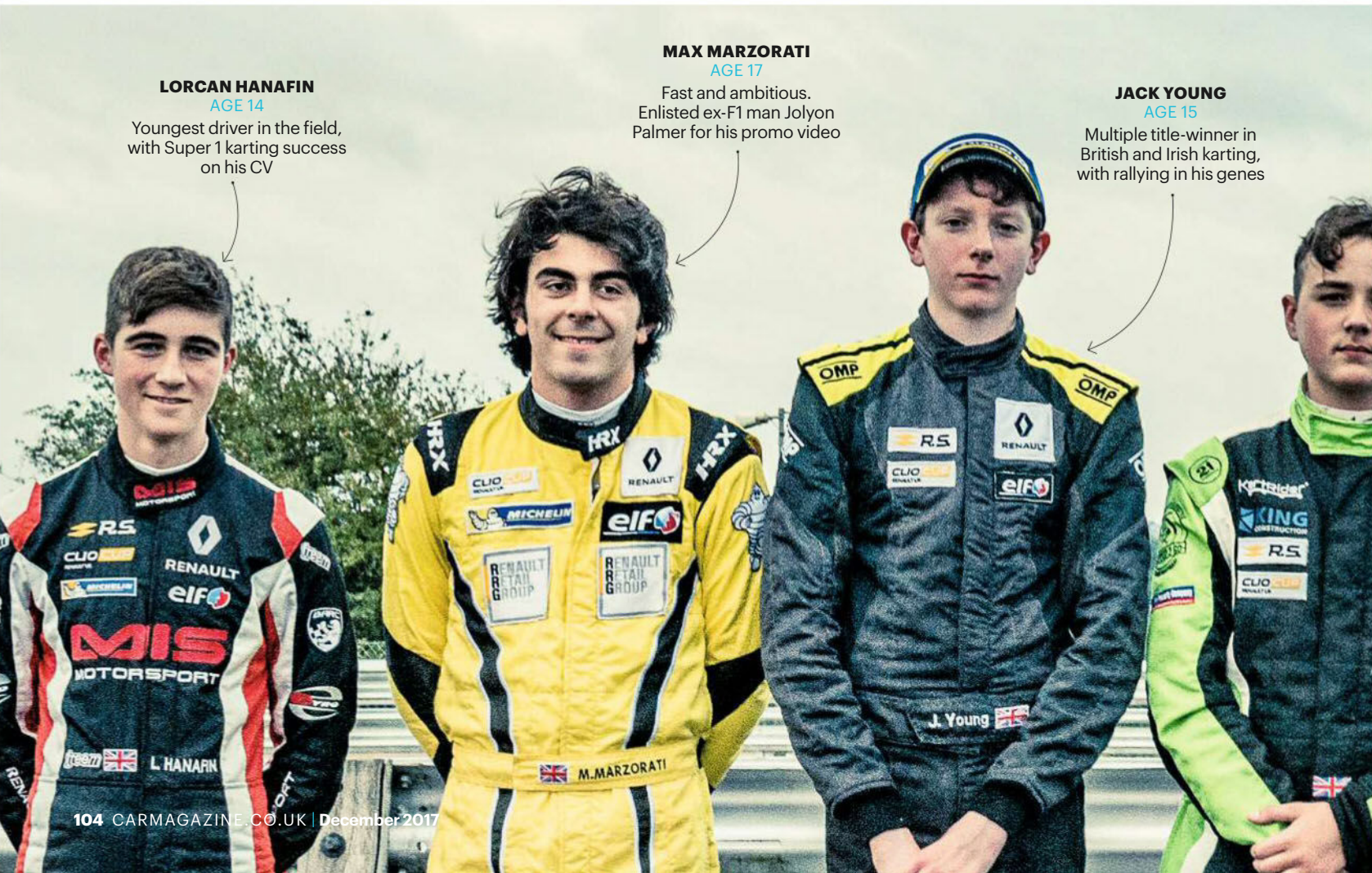
Out on track, the juniors are already driving like a miniature replica of the BTCC. Although there are only seven cars on the grid at Snetterton (with more joining for subsequent rounds) the

racing's so close it hardly matters. Only a second covered all the drivers in qualifying, and they run bumper-to-bumper in the race until the train's derailed by a multi-car collision: a botched overtaking manoeuvre leaves one Clio out on the spot, its rear wheel cocked like an incontinent puppy, and two hobbling around at the rear, just trying to make the finish and pick up points. That leaves a four-car battle for the lead, crossing the line with a virtual blanket thrown over them. It's great racing, and other than the faint *screee* of tyre squeal on the breeze from the treaded tyres, just like watching a senior Clio Cup race.

It's only when the drivers step onto the podium that their extreme youth is revealed; especially when they have trouble uncorking the non-alcoholic champagne. On the top step is 17-year-old Max Marzorati, taking the win ahead of 14-year-olds Louis Doyle and Lorcan Hanafin, who'll later be disqualified for the earlier collision.

When I seek out the drivers for a chat after they're finished with the desiccated rostrum celebrations, winner Max already seems media-savvy; the first thing he does is thank his sponsors, before recounting the action: 'All race there was stuff going on, a different leader nearly every lap. Ash Sutton is my driving coach; I wouldn't have won if not for him. I've always wanted to race ▶

On the podium, they have trouble uncorking the non-alcoholic champagne



LORCAN HANAFIN
AGE 14

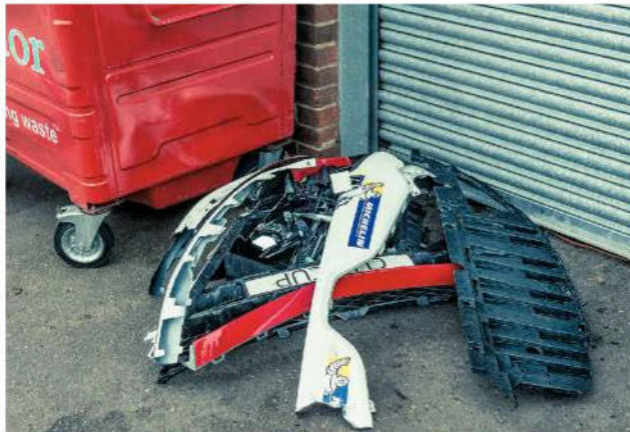
Youngest driver in the field, with Super 1 karting success on his CV

MAX MARZORATI
AGE 17

Fast and ambitious. Enlisted ex-F1 man Jolyon Palmer for his promo video

JACK YOUNG
AGE 15

Multiple title-winner in British and Irish karting, with rallying in his genes



YOUR CLIO JUNIOR ALTERNATIVES

Different cars, same hunger...

GINETTA JUNIOR CHAMPIONSHIP

The benchmark: incredibly exciting racing, live coverage on ITV, and a roster of drivers who've gone on to bright careers, including current McLaren F1 protégé Lando Norris.



BRSCC FIESTA JUNIOR CHAMPIONSHIP

Close and competitive racing for 14- to 17-year-olds at major circuits around the UK, with the Mk6 Ford Fiesta ST the weapon of choice. BTCC driver Aiden Moffat started here.



JUNIOR SALOON CAR CHAMPIONSHIP

Originally the SaxMax championship, now run by the British Automobile Racing Club. Drivers (including Clio Cup Junior Ethan Hammerton) do battle in race-modified Citroën Saxos.



→ Contact is inevitable, and puts huge pressure on teams to rebuild between races

ETHAN HAMMERTON
AGE 17

Title contender in Saxos, now a Clio winner too. Takes his driving test soon

GUS BURTON
AGE 14

Spends weekends either on the racetrack or the rugby field; cut his racing teeth in the Fiesta Jnr Championship

CONNOR GRADY
AGE 17

Mid-season transfer from Ginetta Juniors paid off with podiums

LOUIS DOYLE
AGE 15

Fast driver, fast talker: gained his race licence four weeks before season





CHILD'S PLAY: DRIVING THE CLIO JUNIOR RACER

Far too old to take part, that didn't stop us elbowing our way into the Clio Junior for a session at Rockingham

When every driver in the Junior field pulls away smoothly from the assembly area I'm hugely impressed. As I find out when I drive the car myself, the clutch action is so abrupt it might as well be a switch, and the plated diff winds up as soon as you put any lock on.

'Most drivers stall first time,' says my guide, former Clio Cup driver and now established BTCC racer Josh Cook. You sit behind an adjustable steering column, and the same digital instruments as a Carrera Cup car – 'Clio Cup cars are often described as a mini-Porsche,' he says – and your fingertips meet the shift paddles. It's a paddleshift gearbox, but with a clutch pedal for starts. Once you're moving you can forget about the clutch pedal, and the 'box chomps through the gears violently, taking only 100 milliseconds to grab the next ratio.

It doesn't take long for the Clio to

reach its 100mph limiter, and when it does it's a spooky sensation – it sits exactly on the ton, like someone's clicked the cruise control on, all the way down Rockingham's start-finish straight and around its banked turn one.

The road tyres hang on well, with decent feedback, and they warm up quicker than slicks, avoiding dreaded cold-rear-tyre slides – something that's caught out experienced adult drivers.

Using the diff to best effect is key to getting the most from the Clio. The trick is to brake late, Cook explains, let the rear end get a bit light and use that floatiness to rotate the Clio into a slightly late apex, then get on the power and unwind the steering lock early as you power out of the corner.

Get too greedy with the throttle and it's very easy to push the front into power understeer. But get it right and it feels great. Race one? I'd love to.

↑ Comprehensive safety gear means Clio Junior drivers can merrily bash away at each other



The road tyres hang on well, with decent feedback, and they warm up quicker than slicks





Out of bed, 10 laps on the simulator, a four-mile run, another 10 laps on the sim – all before breakfast

cars but didn't have the funds to do it before. I'm not sure about the future; I'm just focusing race by race.'

'I hadn't smoked for 14 years until this weekend,' Max's father Lee grins ruefully, umpteenth lit cigarette between his fingers. 'From a dad point of view, it's tremendously emotional. We qualified eighth – if I'm honest, I never in my wildest dreams... I've already phoned his grandmother, in tears, and his mother as well. It's a huge commitment for a family to enter into motorsport. We have backing from the Renault Retail Group, but obviously the main sponsor is the family.'

'Max has no experience of racing cars; he's previously raced corporate karts, and then a bit of national karting. Now he's on the MSA [Motor Sports Association] Academy programme, which gives him advice on nutrition, training, and fitness sessions at the Porsche Performance Centre. He's focused on racing. He was never going to be a doctor or an architect. It's all about motorsport for Max, and he's dead set on doing well.'

'He's been given a regime by the team,' Lee continues. 'He gets out of bed, straight onto the simulator and does 10 laps. Then he does a four-mile run. Then he does another 10 laps on the sim. And then he can have breakfast. It teaches him to get on the pace straight away.'

Second-placed Louis Doyle is still brim-full of adrenalin after the race, words tumbling breathlessly without pause as he recounts the action. 'It's my first ever race in cars. I only got my race licence four weeks ago. It's amazing how close the racing is. Everyone's really competitive.'

'I never used to be fond of racing when I was younger. I picked up on it when I went indoor karting and got the circuit's lap record; I was 13 then, and I'm 15 now, so it's all happened quite quick. I'm used to close racing – I've raced in 85-driver grids before in karting. We looked at doing British F4, but it's £250k a year. Too much money. I'm hoping to stay in Clio Juniors for year two, and then go up to the senior Cup.'

He too has an eye for sponsorship and promotion. 'My dad owns a company and makes introductions to other companies

for me, and I've approached other sponsors by email, telling them my achievements in karting and offering them stickers on the car and my suit, and free tickets to the races. Dad's not even that interested in racing; it's me that's got him into it.'

Dad Mark is even faster-talking, beaming with pride and clutching a celebratory pint. 'I'm not really into the sport, so he got into karting late. We went to an indoor track and he was so fast I couldn't believe what I was seeing – I went, "Is that you?" Experienced lads came to the track to try and beat him and couldn't. Then he had a lesson in a car on track and the instructor told me he was the best he'd ever had, particularly given he'd never driven a car before. He said his best advice was to get him into cars – he's too late for karting now.'

If Marzorati and Doyle are jubilant, 15-year-old Jack Young from Belfast is dejected – a multiple national karting champion in Ireland and Great Britain, he was one of the drivers caught up in the multi-car collision and limped over the line with a damaged car. 'I would have liked to have finished in the top group,' he says, with a shrug, 'but I'm hopeful for race two.'

'This is cheaper than karting – that's becoming crazy,' says Jack's dad Philip. 'I'd recommend anyone to come and do it. I used to rally for Ford in the '80s, and I've tried Jack's Clio myself – it's an amazing thing to drive.'

Jack's got his GCSEs next year, so needs to fit the racing around his schooling. 'My school is supportive – they let me go when I need to, and just want to know how I got on,' he says. Renault has been careful to arrange the calendar around national exam timings and school holidays where possible – something senior racing categories have the luxury of ignoring.

Gus Burton has a harder time convincing his school to give him time for racing: 'I'm 14 and just starting my GCSE year. My school has lessons until 6pm and on Saturday too, so they're not too happy about me missing them.' Burton's dad Mike says: 'He's co-ordinating his time himself – I just told him, "I don't want the school phoning me" [to ask where he is].' Gus is one of several drivers on the grid who've had some experience of car racing previously: 'I was mid-pack in karting at club level, and we started in the Fiesta Junior Championship as soon as we could. The Fiesta's handling is looser, more like a kart – this is a car you've really got to drive. I'd like to do Clios again next season, and build experience before moving into the senior Cup.'

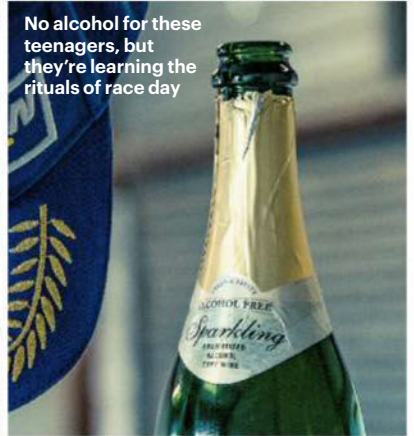
Ethan Hammerton also has some car racing experience, the 17-year-old juggling racing the Clios with a separate campaign in the Citroën Saxo-based Junior Saloon Car Championship. At the Clio Junior round at Brands Hatch he'll need to jump straight from one French hatch to another as both championships are racing at the same circuit on the same weekend. ▶



Race two winner Ethan Hammerton is juggling Clios, Saxos and mashed egg sarnies



Enjoy it while you can: Louis Doyle's race one success is followed by a shunt



No alcohol for these teenagers, but they're learning the rituals of race day

Engine
A 1618cc turbocharged four as per RS Clio. Junior-spec ECU limits top speed to 100mph by cutting boost and limiting throttle travel.

Differential
Aggressive limited-slip diff is key to the Clio's pace. An art to get the best from...

Gearbox
Racing paddle-shift gearbox by Sadev is electronically controlled and ferociously fast. It has six gears, but Junior ECU only selects five.

Suspension
Dampers are single-way adjustable; front toe and camber can be tweaked, as can front and rear ride height and rear toe via shims on the torsion bar.

Price
A new car is £46,800. Car arrives without interior mirror, data download cable, manual brake bias adjuster and rear axle shims.

Rubber
205/40 R17 Michelin Pilot Sport 3 road tyres are cheaper than slicks, and easier to handle. One set should last a weekend, maybe longer.





His Clio was the one stranded after the first-race bump. 'Mid-corner another driver lunged and sent me round,' he says, philosophically. 'We bought the car ourselves and the JamSport team help run it at the races. It's a lot more technical than the Saxo, where it's mostly tyre pressures you can change. We can't afford another shunt in race two...'

The crossover between the junior and senior-spec Clios – swapping the ECU is said to be a 20-minute job – means many of the teams running in the junior championship are the same ones you'll find in the senior pitlane, including multiple title winners Team Pyro. The JamSport team are the reigning senior champs; I watch them rapidly reviving Hammerton and Burton's wounded Clios ready for race two, with Hammerton's car's rear axle out of the car for a spot of emergency surgery on the paddock tarmac.

MRM Racing team principal Mike Ritchie has just finished patching up Jack Young's similarly bruised Clio, which will start the second race from the front row. 'You have to remember, they *are* kids', he says. 'They do get sad, or disheartened, when things aren't going well. Some of the drivers I work with in the senior championship aren't much older – they're kids too.'

'The cars are very reliable, mostly. Just general maintenance and levels. My spare car is from 2013 and it just keeps trucking. The parts are more expensive [than some cars], but it ensures the cars' performance is even.'

Brand new, a Clio Cup car currently costs £39,000 plus VAT, with secondhand cars around £25k-£30k. Registration for the championship is £1600 plus VAT and running costs for the eight-race season amount to around £14,000 for a privateer, and around £24,000 to run with a team. Senior seasons can cost nearly quadruple that...

BTCC champ Ash Sutton is in his former Clio team Pyro Motorsport's garage, working as a driver coach for the weekend. 'This is a perfect proving ground. The datalogging system is similar to that used in the BTCC – if drivers can start learning that at 14, they're already at an advantage. The car's giving them the right things they need. It's quite forgiving on the Michelins; with the road tyre there's only so much you can do with set-up, which narrows it down to driver ability and keeps the field close.'

Before they've taken a driving lesson they can handle trail braking and lift-off oversteer

Technical chief John Millett's R Sport operation looks after the UK parts supply, and helped mastermind the Junior Cup's creation.

'The cars aren't cheap – but they don't go wrong. They're specially built by Renault Sport in Dieppe – where they built the Renault Clio V6 and Formula Renault cars – from a bare shell up, using a mixture of road parts and bespoke race parts: wiring harness, brake lines, gearbox, driveshafts, Cosworth ECU. The engine is basically standard, and dyno'd by Oreca. Scrutineering is tough – which manifests in a close race.'

'MSA regulations for junior racing are based on horsepower per tonne – we had to work out how to do it, and the junior-spec ECU runs very little boost. It's taken 18 months to two years to get this championship off the ground; in the beginning the Twingo was mentioned, but we would have had to do a lot of development to create a racing version of that car. Using the Clio effectively means zero cost – it's the same car. Just a different ECU and a set of road tyres. You could do two years in juniors and then use the same car in seniors, with no cost involved.'

The drivers all clearly get on well, laughing and larking around between races, taking it in turns to perform stunts on a scooter. Then, as the second race approaches, it's as if someone's flicked a switch. The tension rises a notch, expressions become tense, parents pace, harried mechanics make last-minute tyre pressure adjustments and fuss over the cars as attentively as they would before a Touring Car race. This matters.

I wait at the tricky Nelson corner for them to appear, and when they do they're cornering on three wheels, inside rear tyres locked and trailing wisps of smoke. Six cars are running nose to tail, with Max Marzorati a distant seventh after a slow getaway. By race's end he's caught the pack, but too late to make a move. The victims of the first-race carnage have a change of fortune this time: Ethan Hammerton takes a dominant win from Jack Young, with Ginetta Junior transfer Connor Grady third. Marzorati appears despondently disappointed post-race, while Doyle is quietly seething after some contact. 'I got hit twice, put on the grass, my door won't even close properly. It's best for me not to say anything.'

Some drivers might be leaving Snetterton happier than others, but all of them have exhibited car control most adults can only dream of. Before any of them have even taken a driving lesson they can already handle delicate trail braking and the art of lift-off oversteer. Hill starts should be a doddle...

It's taken a lot of work behind the scenes for Renault to get the series off the ground, but they're buoyant after two action-packed races that have been a perfect showcase. 'We just need a few more cars on the grid now,' John Millett says. 'Still, we started Formula Renault with five cars.'

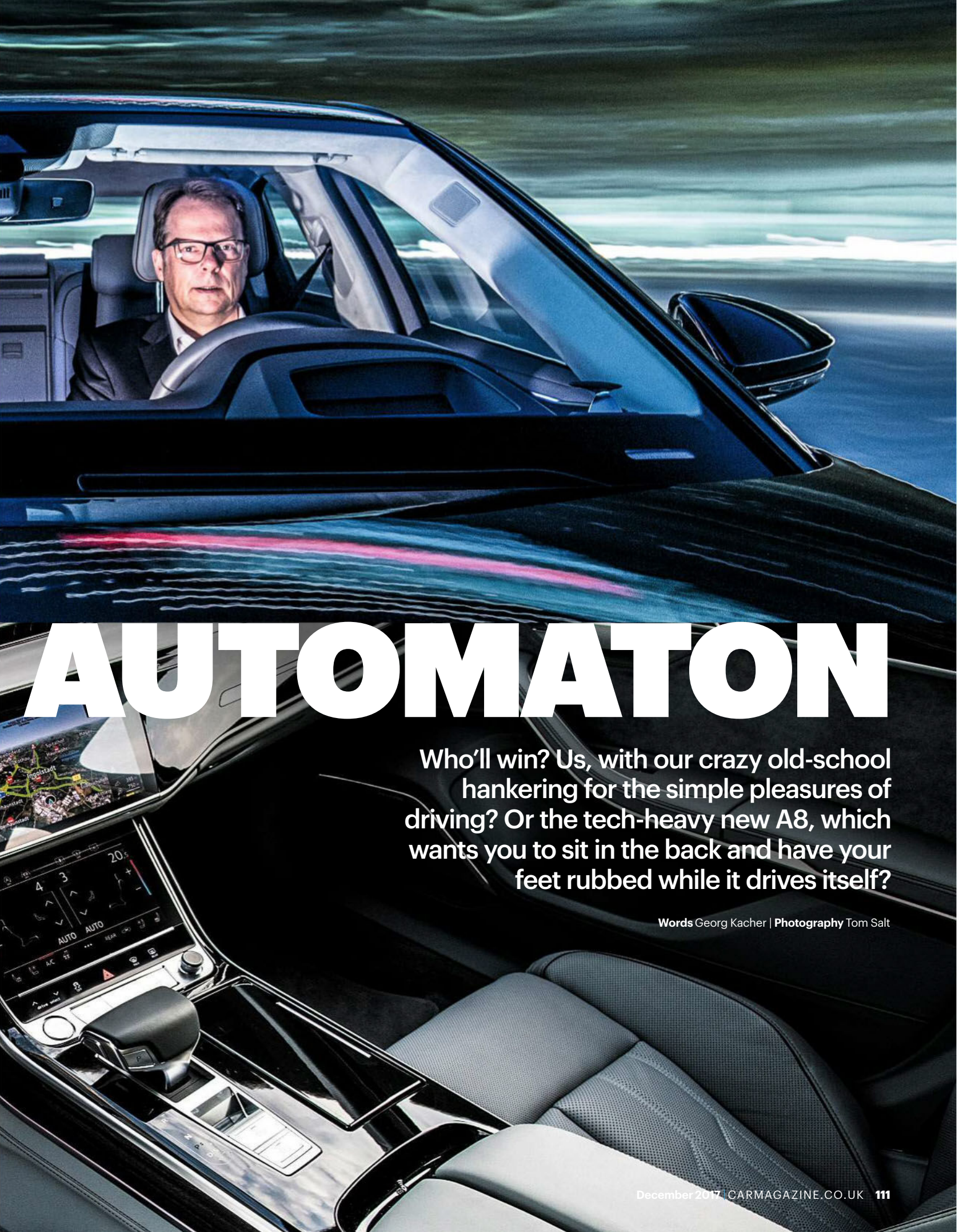
He'd like to see father and son teams; dad to race the car one weekend in the senior championship, lad to race in juniors the next, after a swift ECU swap. It's an admirable vision, but professional teams running ambitious drivers with an eye on a career in Touring Cars seems to be the championship's destiny. Watch it grow with interest, and spare a thought for the unsuspecting examiner who gets a Clio Cup Junior series graduate taking his driving test. They'll be in for quite a shock... [CE](#)

@JamesTaylorCAR



MAN VERSUS





AUTOMATON

Who'll win? Us, with our crazy old-school hankering for the simple pleasures of driving? Or the tech-heavy new A8, which wants you to sit in the back and have your feet rubbed while it drives itself?

Words Georg Kacher | Photography Tom Salt

We went for 20in wheels and didn't regret it; 17 and 18in also available



Steering is accurate and progressive, although you don't get much feedback

New look includes full-width rear light, like an early-'00s Seat Toledo





Unlike old Audi petrol V6s, it will spin close to 7000rpm and remain hush-quiet

YOU'RE CRUISING along a motorway when the traffic starts to slow. Soon you're doing the familiar stop-crawl-stop-accelerate-stop routine that will continue until you pass the roadworks or lose your mind. In the new A8 there is an alternative: engage Traffic Jam Pilot and the Audi will accelerate, brake and steer all by itself while you sit back and write a strongly worded letter to the Minister of Transport.

There are some restrictions on the technology, however. Firstly, the practical limits: the A8 can only self-drive on multi-lane freeways with a centre divider, will only go up to 38mph, and can only operate in the lane it's already travelling in. And secondly, there's the law. Audi classes the Traffic Jam Pilot as a Level 3 autonomous driving system (hands off the wheel and eyes off the road), and there is no clear indication as to who will be legally at fault if there's an accident while in that mode. It's a grey area.

In fact, the law hasn't really caught up with Level 1 autonomy (hands on, but the car will assist with lane keeping or active cruise control), or Level 2 (hands off, with the car steering, accelerating or braking). So although the new A8 and its 41 sensors, scanners and cameras is a technological tour de force, it's not clear if we're allowed to use it.

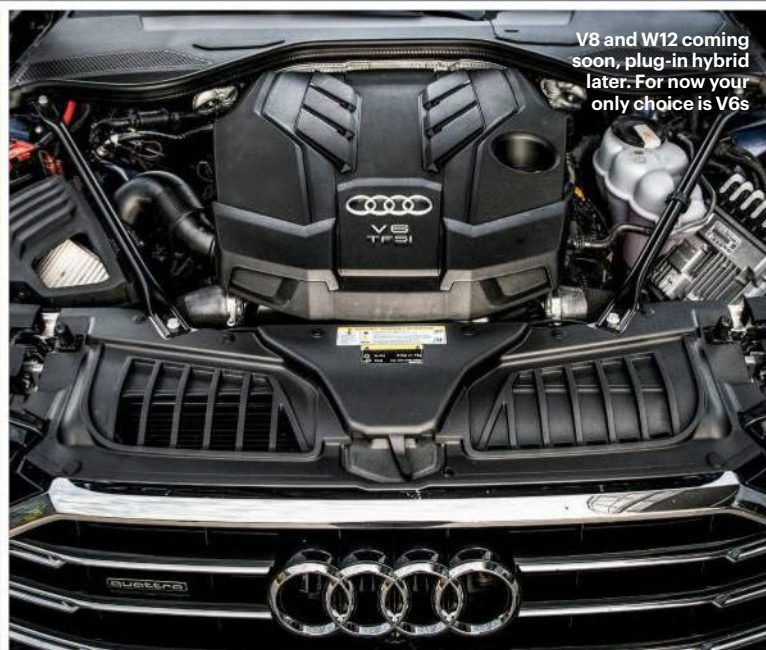
Two other autonomous features are, thankfully, instantly street-legal: Parking Pilot and Garage Pilot. Hopping out of the vehicle and watching it manoeuvre into and out of tight spaces is an eerie experience. It's useful too, saving the indignity of squeezing out of a partially open door.

But what about the car itself? Visually there's nothing radically different going on, and for the first six months the only engines available are updates of familiar petrol and diesel V6s. And yet this is, says Audi, a template for the 50 new or refreshed Audis due in the next couple of years.

The chassis is an ingenious marriage of mechanical and electronic engineering, and inside – beside the autonomous driving technology – there's an all new infotainment system. It all needs to be exceptionally good, because it's soon going to have to face the heavily revised Mercedes S-Class, the new Lexus LS and the BMW 7-series.

It's a little longer and taller than its predecessor, with a marginally roomier cabin that has a contemporary feel despite olde worlde materials: leather, chrome, timber. The cabin is dominated by the new MMI Touch Response infotainment system. It takes some explaining, but after a 45-minute total-immersion pep talk even this analogue mind got to grips with the smartphone-inspired digital interface.

In essence, MMI Touch Response has a bigger choice of icons, a wider variety of content and a reassuring level of feedback. The four metal keys previously grouped round the central controller are now in a vertical toolbar on the main screen, and climate control no longer has knobs or switches. The only relic from previous A8s is the rotary volume ▶



V8 and W12 coming soon, plug-in hybrid later. For now your only choice is V6s



Detachable tablet lets rear passengers control their own environment



The two central screens are both touch-operated; few knobs remain



WHY DOES THE BADGE SAY 55?

The A8 is the first Audi to be adorned with a confusing new badging system. The 335bhp car we've driven here has a 55 badge, but you'll search in vain for a relevant '55' anywhere on the spec sheet. It's based on the power output, but only loosely. A 30 badge goes on everything with a power output between 109 and 129bhp, 45 is for everything between 227 and 248bhp, and so on. The lowest at the moment is the A1 25 TFSI (94bhp) and the highest is the A8 55 TFSI. The other launch A8, the 282bhp TDI, is a 50; the petrol V8 will be a 60.

Cars will still keep a model series name (A1, Q7 etc), but won't have 3.0 or V6 badges. The new names will span model series and will apply to battery, hybrid and combustion-engined cars. They will also keep a badge that indicates whether it's petrol (TFSI), diesel (TDI), CNG (g-tron) or electric (e-tron).

There are exceptions, though: S and RS models, and the R8, will keep their old names. By next summer, everything else rolling out of Audi factories will use the new system.

control. Techies will love its freshness, but the new MMI can be slower and less intuitive than the previous arrangement, and any touchscreen command needs you to take your eyes off the road. That said, many functions can now be addressed directly from the steering wheel.

We're in what's potentially the most driver-friendly 3.0-litre V6, the short-wheelbase TFSI. If you remember early Audi petrol V6s as lumpy things that dread high revs, you're in for a shock. This 335bhp unit will spin close to 7000rpm, spread 367lb ft from 1370 to 4500rpm, and remain hush-quiet. Mated to an eight-speed automatic, it propels 1920kg from 0-62mph in 5.6sec and on to 155mph. Fuel consumption is a claimed 36.2mpg, although it's not hard to get it below 20.

Engage D and the gearing is so focused on emissions and economy that you soon find yourself selecting S and leaving it there. The throttle action is more responsive, the gearchanges faster, and it's set up to hold on to a low gear for longer for smarter acceleration. All good, then? Not quite. When you floor the throttle for a borderline overtaking manoeuvre, the downshift feels hesitant. This torque-converter auto takes notably longer than the dual-clutch S-tronic to pull off full-throttle low-gear upshifts.

But if you're prepared to spend time on choosing the optimum settings, it can still offer a pleasingly sporty drive. A good start is to zoom in on Drive Select, which offers settings labelled Comfort, Balance and Dynamic, all tweaking the steering, suspension and driveline. Balance is a new name

This is the first Audi with a 48v mild hybrid, and you really don't notice it at all

for Auto, and it's a decent compromise. Comfort works well on ironing-board German blacktop, but it permits a touch too much lean, squat and dive when you're in a hurry. In Dynamic, even with 20in tyres, the car stays composed on all but the worst surfaces. The good-looking big wheels make a useful difference to grip, traction and roadholding.

Drive Select has a similarly big effect on the steering. Comfort feels like it's designed for beginners – and how many beginners drive A8s? Balance is lifeless. Dynamic is good, if not the most communicative of set-ups. Reasonably direct and progressive, the front-wheel steering is assisted by an actuator which turns the rear wheels, be it in sync for enhanced stability at speed or in the opposite direction for enhanced manoeuvrability in town. It's a system that sets the car up for corners with remarkable accuracy. The engine and transmission are also at the height of their game in Dynamic.

The brakes give instant response and timewarp deceleration. However, modulation is tricky when a car automatically increases stopping power in an act of anticipatory obedience.

This is the first Audi equipped with a mild hybrid, and it is impossible to tell the difference. When the car is coasting in the designated speed window, a lithium-ion battery provides the electricity needed for the power steering, air-con and brake servo. In combination with a 48-volt electrical system, the mild hybrid can recuperate up to 12kW, and it allows start-stop to kick in much earlier. Although this part-time electrification is claimed to reduce fuel consumption by 10 per cent, the A8 55 TFSI is on paper still 10 per cent thirstier than the no-frills BMW 740i.

By the end of our day in the A8, the screens were covered in fingerprint smears, and I'd run out of patience with the ▶

THE TECHNOLOGY & THE PROGRESS

48-VOLT MILD HYBRID

Similar to the system built into some versions of the new Mercedes S-Class, the A8 has the ability to coast with the engine off, plus a revised start-stop system that doesn't need the car to be stationary in order to cut the engine, and some brake-energy regeneration. A full plug-in hybrid A8 is coming later, along with distinctly less green V8s and W12s.



ACTIVE AIR SUSPENSION

The new A8's front camera detects bumps and adjusts the suspension before the car gets there. It's electro-mechanical, using power from the 48v electrical system; springing is by air. As well as the benefits to ride quality, the system can also raise the car if it senses an impending collision, thus potentially reducing the harm to the occupants.

HORIZONTAL STYLING

You'll be forgiven for failing to spot that the A8 pioneers Audi's new design language. There's more of a horizontal emphasis. Externally, it's most obvious at the rear, where the full-width light runs parallel to a little spoiler on the bootlid and a crease across the top of the bumper. Inside, the top central screen is now below the vents rather than above, giving the horizontal lines of the dash greater prominence.



REAR-WHEEL STEERING

The A8 joins a small but growing band of new cars using rear-wheel steering. The rears move (slightly) in the opposite direction to the fronts at low speeds to tighten the turning circle (remarkably, it's actually better than an A4's) but go (slightly) in the same direction as the fronts at higher speeds to improve cornering stability.





Composed and comfortable, and it should be able to handle a lot more power



A8's version of Virtual Cockpit is disappointingly straightforward

AUDI A8 55 TFSI

- > **Price** tbc
- > **Engine** 2995cc 24v turbo V6, 335bhp @ 5000rpm, 367lb ft @ 1370rpm
- > **Transmission** 8-speed auto, all-wheel drive
- > **Suspension** Multi-link front and rear, adaptive, air springs
- > **Performance** 5.6sec 0-62mph, 155mph (limited), 36.2mpg, 178g/km CO2
- > **Weight** 1920kg
- > **On sale** Early 2018

synthetic female voice which tried in vain to make calls, select a destination or play music, infuriatingly ending each aborted effort with the question 'What else can I do for you?'

In the back, this car has the optional relaxation seat, which adjusts to four positions and has a footrest, plus a foot massage pad built into the back of the front passenger seat. And you can watch a movie on the bespoke tablet.

Some time soon, users may be more interested in en-route entertainment, or setting up an office on wheels. But on this sunny autumn Tuesday, I'm keen to get back behind the wheel. After all, the standard-wheelbase A8 is more of an owner-driver car than a chauffeured limo. It goes its own dynamic way rather than trying to combine the ride comfort of the S-Class and the agility of the 7-series. It boasts the most advanced chassis in the class, the most advanced infotainment in the shape of MMI touch response, and the most advanced array of driver assistance systems.

It's a charmingly over-engineered piece of kit that in many ways raises the bar, and promises to make a fight of it when it goes up against its rivals in what could well be the last big luxury saloon class shootout where driving pleasure is still the top priority. [car](#)



'YOU COULD NOT BE MORE WRONG' PETER MERTENS

Audi's huge engineering teams are just twiddling their thumbs, aren't they? VW will provide the e-matrix for the group's smaller cars; work on PPE, the premium electric architecture, is being split between Audi and Porsche; all future sports cars are to be hatched in Weissach. What's left for your guys to do?

'You could not be more wrong. Starting with the A8, we are about to renew all core products from A1 to A7. Then there is PPE, which brings a lot of hard work to realise the targeted 30 per cent saving for all brands involved. And Audi is the group's centre of excellence for autonomous driving, fuel cells and electronic architectures.'

What's your view on plug-in hybrids?

'An Audi PHEV should be performance-orientated, not merely CO2-focused. Of course, we must further extend the zero-emission driving range, but at the same time I want adrenalin via that extra take-off kick in the butt, that mid-range torque boost. By 2025, about one-third of all new Audis will be PHEVs and BEVs - that's roughly 600,000 units in total.'

Diesel has taken a big hit, and Audi must take part of the blame for it. Next year, the particulate filter for petrol engines will almost certainly affect resale values once more. Is the internal combustion engine on its way out?

'No. There's constant evolution on both fronts, TDI and TFSI. With every improvement, the outgoing technology suffers - think smartphones or computers. But bringing upset customers back into the fold is a tough challenge which requires innovative confidence-building user models.'

How long will it be before we can buy a Tesla rival from Audi?

'Next year, we are going to show the production e-tron (a battery SUV). In 2019, the more coupe-like e-tron Sportback will follow. Both e-SUVs should do very well in a market where demand is bound to outstrip supply as soon as the opinion leaders embrace the e-message and the social acceptance that goes with it.'



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Words Georg Kacher | Photography Tom Salt

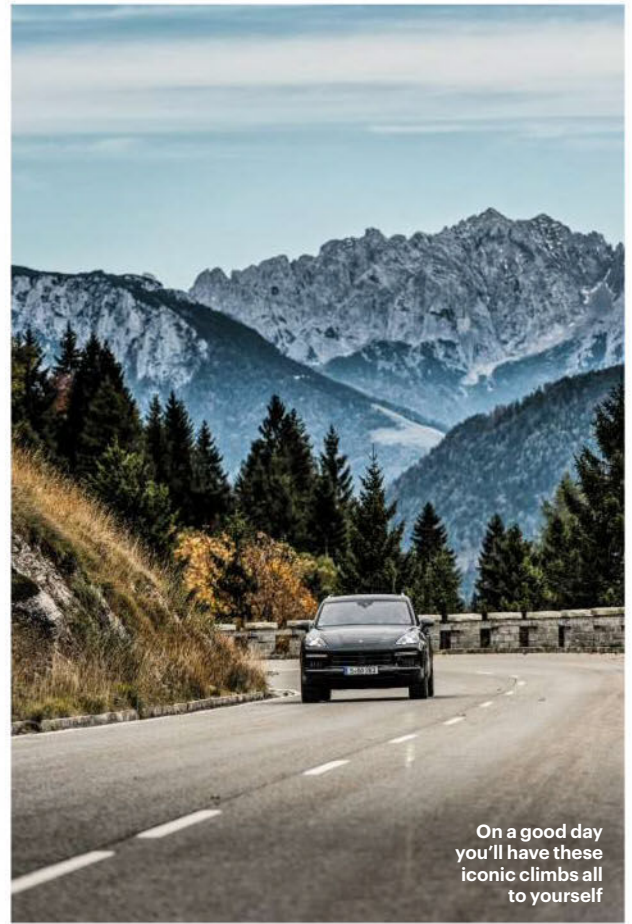
KING OF THE HILL

On the trail of Porsche's hillclimb legends
in the astonishing new Cayenne Turbo





Slimy leaves are powerless against combined might of Pirelli and Porsche



On a good day you'll have these iconic climbs all to yourself

F

OUR EUROS is all it costs for the drive of your life. But today at least, four euros would seem to be too much to pay for access to this stunning toll road – we have it to ourselves. We've come to the Wallberg hillclimb in south Germany as the first stop of a frenzied trip tackling three of the climbs that formed part of the European hillclimb championship.

Held on more than a dozen cordoned-off mountain passes, the championship was hugely popular in the late '50s, '60s and '70s. It was the making of sports car heroes such as Richard von Frankenberg, and the undoing of many others. For 10 years it was dominated by Gerhard Mitter and Sepp Greger, who competed in a variety of Porsches from the 718 RS60 to the 910, clinching three trophies each. What better place to start our tour de force in the 2018 Cayenne Turbo than this poorly paved 4000-metre squiggle?

The past half-century has done little to alter the Wallberg, but Porsche has expanded and evolved in ways that were unimaginable back then; sales of the Cayenne and Macan dwarf those of the 911 and 718, today's successors to the small, light, agile hillclimb cars.

The hill's 50km/h legal limit seems ridiculously slow until you actually drop the hammer and hit the road, which is narrow and uneven, rock face to the left and the odd wooden cross to the right. It gives you the creeps thinking about how difficult it must have been to keep an overpowered and under-engineered neo-kit car on the narrow path between death and glory. In stark contrast, our 542bhp crackerjack is of course equipped with all the latest active and passive safety wizardry.

Immediately the Porsche feels at home on this zigzag sprinkled with wet leaves. As soon as the imaginary flag drops, it takes off like a cartoon character being fired from a cannon. The first stretch is merely two seconds long, but that's long enough for one

whiplash upshift from first into second, followed immediately by a hard stab on the brakes. The unlikely eventuality of oncoming traffic determines the racing line, making a tight space even tighter. Although the Cayenne Mk3 has shed up to 65kg (depending on version and spec level), the scales still indicate a massive 2.2 tonnes without extras, which makes the momentum versus trajectory conflict rather delicate. It's worth noting that the Porsche 909 Bergspyder that won the goblet in 1976 was a totally uncompromising featherweight at 430kg.

It takes at least two runs to familiarise yourself with this perilous stage. But once the tricky sequence of corners, crests and climbs is safely stored on the memory chip inside your head, nothing should stop you from putting in a performance strong enough to make the old kerbside fir trees bow and applaud, as they have many times over the decades, or recoil in horror as another driver with more power than talent comes a cropper. As ever it's the little things that trip you up, although the 2018 car's assistance systems reduce the risk massively. You still need to keep an eye out for that wet patch in the shade, a sudden spell of dazzling sunlight on the approach to the aptly named Sun Corner, or a section of sagging blacktop broken up at the edges.

The electronic helpers tend to leave it late on the Cayenne Turbo, but when they do intervene it's with reassuring vigour and determination. Dial in PSM Sport, and the broad barge will even perform an occasional four-wheel slide, clipping apexes as if they were buoys, allowing the odd dash of weight transfer to bring the rear end back in line. Nice.

The drive from Wallberg to the Sudelfeld pass contains a mixed bag of challenges from no-holds-barred autobahn to slo-mo rush-hour traffic. Given half a chance, the Cayenne Turbo will max out at 178mph; it's odd to think that the 909 dressed in its frail plastic body was only 7mph slower. Responsible for all the grunt is a ▶

The new V8 is a remarkably well balanced high-performance engine that can flatten any gradient



Signs have seen better days, but the old hillclimb courses are all still there

No brake dust? That's the magic of tungsten carbide



From a standstill to 125mph takes less than 15sec. Whooooooosh



Porsche Cayenne Turbo

- > **Price** From £99,291
- > **Engine** 3996cc 32v biturbo V8, 542bhp @ 5750rpm, 568lb ft @ 1960rpm
- > **Transmission** 8-speed auto, all-wheel drive
- > **Suspension** Adaptive three-chamber air suspension, multilink front, independent rear
- > **Performance** 3.9sec 0-62mph, 178mph, 24.1mpg, 267g/km CO2
- > **Weight** 2175kg
- > **On sale** Now

TECH SECRETS OF THE NEW CAYENNE

CHASSIS AND BODY KNOW-HOW LEAPS FROM THE NEW PANAMERA TO PORSCHE'S BIG SUV



PORSCHE SURFACE COATED BRAKES

Standard on all Turbo models (the ceramics are about £4k extra), this new brake set-up uses tungsten carbide-coated cast discs to provide more braking power. The super-durable layer reduces fade under hard braking, making sure the pedal doesn't go soft the more you use them. The layer also reduces brake dust, letting Porsche paint the calipers white.



ACTIVE AERO

The new Cayenne is the first SUV with an adaptive roof spoiler. So, along with massive adaptive air dams regulating airflow through the front gills, the big Porsche can raise and lower the rear spoiler depending which mode (or indeed mood) it's in. In emergency braking, the spoiler fully deploys to act as an airbrake, which could make a life-saving difference.



WHEEL RIM PROTECTION

Not the best at parking? The Cayenne is there to help. From 2018, the Cayenne will be available with Surround View 3D parking assistance, which animates the car in an augmented reality version of your surroundings. If one of the 360° cameras or sensors notices that you're about to ding a wheel on a kerb, the wheels glow red on the 3D image.



UNDER THE SKIN

Cayenne Mk3 is more complicated than ever. The shell is 22kg lighter than before thanks to a much richer use of aluminium, but that multi-material mix means a more complicated building process. The old Cayenne needed 99 robots to put together one body shell, while the new one would need 680 robots to do the same job in the same time.



INNODRIVE, INNIT?

Porsche's InnoDrive takes adaptive cruise control to the next level as it not only keeps you in line in traffic without rear-ending anyone, but adjusts the speed to get you safely and comfortably around corners, and responds to speed limit changes. It even uses the nav to predict gear selection, how much shove to use or whether to let the engine coast.

4.0-litre V8 boosted by two counter-rotating turbochargers. While the all-new eight-speed automatic transmission will happily slip into coast under trailing throttle, it does not yet incorporate the componentry needed for a plug-in hybrid upgrade. In a car with the optional Sport Plus mode fitted, the 0-62mph stint takes a tarmac-scalding 3.9sec (4.1sec without) and the sprint from 0-100mph is over and done with in only 9.2sec (9.4sec without). Impressive numbers, but the most impressive and most useful acceleration is the 50-75mph overtaking time of just 2.7sec. The official average consumption is 24.1mpg; we averaged 18.2mpg.

Unlike the Wallberg, which we'd had to ourselves, the Sudelfeld climb—south-east of Munich, near the Austrian border—is crawling with bikers at nine in the morning. Sudelfeld starts in a dark forest dotted with slow bends, spirals in increasingly wide radii through to the treeless zone, then throws in a long straight before climbing in a *loooong* left-hander to the summit at 1122 metres. This was a particularly happy hunting ground for highly tuned mid-engined Porsches such as the 356, 904, 906, 908 and 910, until the marque's winning streak was ended by the Abarth 2000. Since then, taxpayers' money helped to widen and resurface the road, ironing out a couple of kinks in the process. Now this is a really fast stretch of tarmac, but traffic is often an issue, or more particularly the differences in speed between the fastest and slowest vehicles.

The Cayenne starts its first ascent with total calm, riding the torque in fourth, fifth and sixth gear, taking full advantage of the fact that the wave crests at a foamy 568lb ft all the way from 1960rpm to 4500rpm. It's this low- to mid-speed urge – and the sheer pleasure of spinning it up beyond 6000rpm – that makes the new V8 such a remarkably balanced high-performance engine. Briefly massaging the throttle is all it takes to flatten any gradient. Move the gearlever from Drive into Sport, and the cogs will instantly increase the pace and ramp up the rhythm.

On the back roads to Austria, driver and passenger are wrestling with the state-of-the-art infotainment first introduced in the Panamera. Although the test car spares us one complexity by not being fitted with Porsche's InnoDrive adaptive cruise control system, it's still plenty complicated enough. Everything is touchy-slidey, the main screen is low, the multi-function steering wheel is too busy, and the menus and submenus often take you on a journey that feels several steps too long. It takes a long straight road or better still a parking place to come to grips with it all.

On the three-lane Munich-Salzburg autobahn, the Cayenne Turbo is in its element; a rather big fish in a relatively small aquarium. There is a lot of it, and whenever you speed up or slow down or take a corner fast there's plenty to remind you how tall, long, wide and heavy it is. You buy a Porsche rather than any other SUV because you want to drive fast, but driving fast in the Cayenne Turbo – or rather, filling it up afterwards – could bring out green sympathies you didn't know you had. If, however, you can keep that conscience in check, there's a black button in the middle of the drive mode selector: hit it and relish a 20-second overboost fest, again and again. Between 125 and 150mph, we're in the zone that sifts the would-be heroes from the real super-achievers.

Here, the Cayenne Turbo corners almost as flat as a Panamera, brakes almost as urgently as a Macan, handles with almost the same precision as a Cayman. Almost...

Our test car was fitted with 21in wheels and tyres, and various dynamic chassis options including rear-wheel steering and torque vectoring. What does come as standard is the triple-chamber air suspension, which provides a wide spectrum of damper tuning and ride height. Dynamic Chassis Control is Porsche-speak for active anti-roll bars, which can twist or even decouple when the

The Cayenne Turbo makes a spirited attempt at matching race pace, helped by four-wheel drive and rear-wheel steering



off-road going gets tough. Another novelty is the self-adjusting roof spoiler which keeps increasing the downforce up to the point when it becomes an airbrake. These elements contribute to a high-speed composure that's second to none. Since each wheel is individually masterminded, unsettling chain reactions are a thing of the past. Body control is exemplary, and the roadholding is untouchable even when the g-force meter slides past the 1.0g mark.

As we arrive at the foot of the Gaisberg, just east of Salzburg, the sun has already begun casting long, sharp shadows. Dating back to 1929, this is one of Europe's oldest hillclimbs and every year about 150 classic cars line up for a seriously quick shootout. Gerhard Mitter's 1968 course record of 3min 41.54sec for 5.4 miles of uninterrupted excitement still stands today. No way an SUV could come close to this time, which must have been the result of big balls, awesome talent and a bunch of guardian angels. But the Cayenne Turbo has a spirited attempt, helped by today's sticky rubber, four-wheel drive and rear-wheel steering (which cuts the turning circle by one foot).

Aided by torque vectoring and the limited-slip rear diff, our brawny behemoth accelerates out of tight uphill corners with the unreal verve of a monorail on steroids. With all safety nets rolled up, the 315/35 R21 Pirellis paint two black stripes on the bottom of the solitary straight. On this tricky terrain, you want the suspension in Sport for sufficient compliance and the transmission in Sport Plus for aggressively late upshifts. On the approach to the three skull-and-crossbone hairpins, however, changing gears is a job for the driver, who must synchronise the ▶





It took three generations, but they've sorted the rear end



Even without the hillclimb heritage, these roads are stunning

downshifts and braking points. Using all the grip those tyres could offer, we were grinning from ear to ear. No traffic and no speed limit signs (or maybe I was going too fast to see them). What a run!

Hillclimbs make for exciting driving, but so do hill descents, which ask a lot more of the handling and braking. The Porsche manages not to understeer excessively through the tight bends, and it does a fine job controlling its considerable bulk through the faster sweepers. The brakes are quite grabby and not easy to modulate, and when you hit the pedal hard they're liable to propel both eyeballs out of their sockets. Standard on the Turbo and optional on lesser models are XXL steel discs coated with tungsten-carbide for reduced pad dust and longer wear. Wheels, rotors and the white calipers were indeed still super-clean at the end of our two-day trip.




Up in the wooded hills, with the PSM stability control system deactivated, we're ready to play some more. The Porsche delivers all the way to the silly limit of adhesion. Press on, and the rear end will duly step out, but you really want to be on a racetrack to make this attitude stick. Today, however, is strictly about the unforgiving hills, so we leave it at that and reluctantly head home.

The Cayenne Turbo is expensive, especially once you've finished ticking the options boxes, but your money bags

Hill descents ask a lot more of the handling and braking – the new Cayenne does a fine job of controlling its bulk

you a formidable combination of hardware and software. The 2018 Cayenne is permanently online, not just for 24/7 reception of your favourite radio stations no matter where you are but also for gathering information about congestion, roadworks, accidents and changing weather. Also new are five different off-road modes including Gravel, Mud and Rock.

The Cayenne Turbo's thirst – greed, even – puts it at odds with the mood of the times; the imminent V6 TDI, for Dieselgate-related reasons, may not get the warmest of receptions either. The V8 plug-in hybrid, all 680bhp of it, is an intriguing prospect. But whatever our reservations, the new Cayenne does a lot of things extraordinarily well, as we discovered over two days and several hundred miles – some of them very twisty miles.

Like the smaller Macan, the Cayenne Turbo is an incredibly accomplished and complete go-anywhere sports car. It juggles bulk and weight like a circus artist, finding ways to thunder down the autobahn after breakfast and climb up a rutted track to a snowed-in ski chalet before lunch. 



It won't match a Bergspyder on the stopwatch, but will keep up this pace all day

A MATTER OF LIFE AND DEATH AND SALES

WHY THE EUROPEAN HILLCLIMB CHAMPIONSHIP MEANS SO MUCH TO PORSCHE

The drivers were from Austria, Germany and Switzerland, but the winning cars were nearly always from Porsche, which dominated the series for 20 years.

With the exception of the Ferrari Dino (1962 and '65) and the Abarth 2000 (1969 to '71), Porsche won every championship in both the GT and sports car categories – and, when racing cars were permitted from 1967 onwards, it dominated that class too.

These wins helped Porsche further its image as a manufacturer of cars capable of extraordinary feats, but there was a high cost. The series didn't just look dangerous, it was. Herbert Müller burnt to death, Gerhard Mitter was killed when his

steering rack broke and Ludovico Scarfiotti had a fatal crash in the fragile 909 Bergspyder.

The marque's success began when Wolfgang Graf Berghe von Trips snatched the trophy in his 718 RSK in 1957. For the next seven years, the 718 owned the sports car class, while the GT category was controlled by the 356 Carrera, followed by the 904 GTS and the 906 Carrera 6. When racing cars joined the mix, the vehicle to beat

was the 910 Bergspyder.

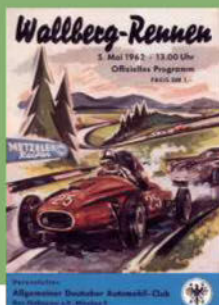
The 904 – nicknamed kangaroo because of its choppy ride and unpredictable stability – was notoriously difficult to master. The 906 featured a tubular spaceframe, a composite body and an air-cooled 260bhp 2.0-litre flat-eight for a 162mph top speed described by works driver Rudi Lins as downright scary.

The 907, 908, 909 and 910 became more and more powerful,

but also lighter. The ultimate 270bhp Bergspyder developed for the 1968 season tipped the scales at a bony 450kg, helped by brake discs made of beryllium, titanium knuckles, oil lines running inside chassis tubes, a tiny 15-litre tank, a high-performance battery that made the heavy alternator redundant, and magnesium wheels.

Apart from seatbelts and token rollover protection, passive safety was practically non-existent. Even dual-circuit brakes and collapsible steering columns were late additions, and there was no power steering or anti-lock brakes.

Survival was thus a fine balance of courage, material strength and exceptional car control.



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Words Ross Alkureishi | Photography Simon Thompson



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**AN M3 IN
ALL BUT NAME
(AND PRICE)**

B **MW'S MOTORSPORT DIVISION** was a slow burner. There was no lack of engineering brilliance or race success – just think of the CSL Batmobile racers rampaging through the '70s European Touring Car Championship. But with the benefit of hindsight, we can now see that BMW was oddly slow in milking the commercial benefits of having so much in-house excellence.

Like its CSL big brother, the 2002 Turbo didn't feature any mention of the letter M, and even the original roadgoing M car, the M1, had just a single discreet badge on its rump.

Since then, the Munich sub-division has more than made up for lost time by churning out generation after generation of iconic high-performance machine – Ms such as the 3, 5, 6, Z3 and Z4 Coupe, as well as the awkwardly named 1-series M Coupe.

As a result there are many who think that if it doesn't wear an M badge then it simply isn't worth a second look. But backtrack a little: the fact of the matter is that BMW made some superb high-performance road cars before the M era, and not all of its best cars of recent years have been M-badged.

If you can shed your badge snobbery and embrace the best

non-M cars you'll find a great choice of excellent saloons, coupes and estates, often at much lower prices than M equivalents.

We've gathered three non-M BMWs that make cracking secondhand buys, starting with the mid-'00s 525d Touring in all its practical glory. Today you'll pay as little as £3000 for one.

The late-'00s E92 335i Coupes signified a return to turbo-charging for BMW, with a fine straight-six engine that paved the way for the turbo-tastic current line-up. Prices now begin at £5k.

The most recent car here is the mid-'10s M135i. That 'M' doesn't signify Motorsport status, but it's a great example of a non-M that works superbly well as a usable driver's car. And now, having been succeeded by the M140i, it's a bargain high-performance car. ▶

**There are great estates,
coupes and saloons at lower
prices than M equivalents**

525d (E61) TOURING: CHOOSE LIFE

Embodying so much of what was controversial about the then design chief Chris Bangle's work, the 525's lines caused a stir on release in 2003, but its driving dynamics ensured BMW's new car went straight to the top of the executive express wish list.

More aggressive than its E39 predecessor, today it retains a striking visual presence, and as numbers naturally dwindle it will most likely gain even more appeal. In Touring guise its looks are arguably better resolved than those of its awkwardly tailed saloon sibling.

There was a Touring version of the E61 M5, but that was a significantly different beast, with a V10 engine. This 525d is in M Sport trim, which involved bigger wheels, sports suspension and an assertive bodykit, as well as an M-branded steering wheel.

The well-constructed cabin is pure Noughties BMW: an offer-



← Exec express that's more than happy on back roads too

M Sport spec brings fuller bodywork and bigger wheels ↓

NEED TO KNOW

▶ The estate version is only 3mm longer than the saloon.

▶ Regenerative braking technology arrived in 2007, at the same time as an exterior facelift.

Most models received a modest power hike at the same time.

▶ Earlier M47/57 (4-cyl/6-cyl) engines are more robust than later N47/57 equivalents, which have a habit of snapping their lower timing chains.

▶ If the car has a panoramic sunroof check the drain plugs. If blocked, the spare wheel well (no actual wheel due to waterflats) fills with water, destroying the various electronic modules housed there.

ing to the gods of black leather and brushed aluminium, in other words. In front it feels quite compact and intimate and you sit low enough to start thinking you're in a coupe, until you glance around and recall the usefully roomy rear passenger space and well shaped boot.

The 3.0-litre straight six fires up and settles into a dull rattle-can diesel tickover – if it's theatre you're after, then this isn't the one for you. On the go, though, there's fantastic torque from lowdown and the smooth inline six ensures the car is a consummate motorway blaster. It's mated to first-class brakes and a six-speed automatic gearbox that shifts slickly and quickly.

It saves the real magic for B-roads. When things get seriously twisty this big beast proves itself to be pretty agile. Turn-in is sharp, and tossing it hard into a corner brings minimal body roll and plenty of feedback through the steering wheel. It's satisfyingly physical, with effective traction control there to help out when needed.

Aside from the V10 reserved for the M5, there's a big choice of engines available in the E61, petrol and diesel. The twin-turbo 535d is particularly sought after thanks to its combination of high performance and frugality, although it can't match the non-turbo 525d for value.



BMW 525d TOURING (E61)

- ▶ On sale 2003-2010
- ▶ Price then £34,615
- ▶ Value now £3k-£10k
- ▶ Engine 2993cc 24v 6-cyl, 197bhp, 295lb ft
- ▶ Transmission 6-speed auto, rear-wheel drive
- ▶ Performance 7.1sec 0-60mph, 144mph

BMW 335i COUPE (E92)

- ▶ **On sale** 2006-2012
- ▶ **Price then** £31,550
- ▶ **Value now** £5k-£19k
- ▶ **Engine** 2979cc 24v twin-turbo 6-cyl, 302bhp, 295lb ft
- ▶ **Transmission** 6-speed auto, rear-wheel drive
- ▶ **Performance** 5.5sec 0-62mph, 155mph



335i COUPE (E92): PACE AND GRACE

The Coupe version of the E90 platform was a very elegant bit of kit, but it was also the car that was the first to use a fantastic new engine. Just shy of £35k bought you the UK's first turbocharged petrol BMW since the 2002 of the mid '70s.

Outside it's undergone a distinct de-Bangleisation with smoother lines than our 5-series representative, although there remain enough razor-sharp creases to accurately anchor its age.

The sports seats offer excellent lumbar and lateral support, and there's an electric arm that passes your seatbelt to you on start-up. Up front the sports steering wheel feels pleasantly chunky, but the aesthetic is upset slightly by the gearshift paddles having a regrettable resemblance to dental amalgam.

And that engine? The worry that artificial aspiration might muffle some of the meaty sound you'd expect from a 3.0-litre six disappears the moment you fire it up: there's a lovely deep exhaust note, rising to a growl as you drive harder. Boost comes on early, around 1300rpm, with the two small turbochargers working in unison to overcome lag. And my does it pull; even

⬇️ **Low-key looks barely hint at the joys within; sportier facelift came later**

➡️ **Fast in a straight line, fast around corners. Win win**



NEED TO KNOW

▶ The 335i Coupe was the first BMW with the new twin-turbo straight-six.

▶ A 2010 facelift brought mild styling updates including chrome-edged kidney grilles, re-jigged lights and a new front air dam. Fresh wheels

and a new bumper gave a sportier air. A revised engine made the same power and torque, but cut fuel use by 8% and emissions by 10%.

▶ E90/E91/E92 models are prone to wear and tear to front control arm bushes, manifesting as juddering under braking.

▶ Some high-mileage cars have differential issues; an intense whirring noise means it's on the way out.

▶ Timing chains stretch. It requires a complete cassette replacement, with the adjuster units upgraded – check the service history.

today this remains one seriously rapid coupe. The 0-62mph sprint takes just 5.5 seconds, but the beauty of the 335i is that it does smooth cruising just as well; ease off the power and it's as easy to pilot as any other classy day-to-day transport.

Of our gathered cars it has the best weighted steering and this lends the driver a great feel for what the chassis is doing, or thinking of doing. Through rapid switchbacks it remains well balanced. Continue to push on, and – as with the other cars here – the lack of a limited-slip diff makes itself known as the rear inside tyre scrabbles for traction. Even charging hard it remains a consummate and refined grand tourer, more usable than an M3, but almost equally engaging.

With prices now starting as low as £5k, today it's an enticing prospect. In twin-turbo diesel form it'll add 0.4 seconds to your sprint, but return 9mpg more. However, we'd recommend seeking out a low-mileage petrol version that's been lovingly mollycoddled with a BMW service history. ▶

M135i (F21): BMW'S GTI BEATER

BMW's M Performance Programme filled the niche just below the full-on M cars for those enthusiasts wanting a higher level of performance than its regular offerings provided.

In the case of the M135i, it's less ferocious than the 1M, and is the work of the mainstream BMW team rather than M division. Some prominent bumper cut-outs and fancy brake calipers provide a little visual flair, but this wasn't an attempt to make a fake M. And at £10,000 less when new, its near-M performance was excellent value.

Step inside and not much has changed since our 5-series. You get the same high-quality dashboard plastics and identical automatic gearbox lever, but you now have access to a wider range of electronic toys. The brushed aluminium has undergone a metamorphosis from decidedly straight lines to artistic twists – the door pulls being particular things of beauty.

But this car is all about the driving. Spark up the 3.0-litre straight six and there's nothing discreet about it. Even at tick-

NEED TO KNOW

▶ The 3.0-litre straight six had a single twin-scroll turbocharger and produced 316bhp and 332lb ft of torque. Cars were available with an 8-speed automatic or six-speed manual gearbox. Adaptive dampers were an optional extra.

▶ £530 bought you access to another two doors in the shape of the five-door model. M Performance Kit (£3995 at the time) added a front lip, branded M Performance side skirts, a rear diffuser, rear spoiler and 19in multi-spoke alloy wheels.

▶ 2015 facelift mildly refreshed the exterior, and saw twin turbochargers replace the original twin-scroll single turbo; power rose by 7bhp, to 322bhp. Some older cars now suffer with oil leaking from the single turbo. Some electronic water pumps overheat.



← 1-series has never worked very well as a practical hatch, but focus on fun and it's a winner

over; blipping the throttle gives an immediate insight into its fizzy character.

There's no perceptible lag, with power coming on at 2500rpm and pulling hard through to 6000rpm. The auto 'box zips imperceptibly through the gears, with a good action if you choose to shift yourself, and that initially boomy exhaust note hardens to a sonorous snarl. It's nowhere near as stiff as a 1M, the chassis remaining more compliant at all times. But through bends there's huge levels of grip.

If that's what you want, engage Sport+ driving mode, which shuts off the traction control. At the other extreme there's also an Eco mode, which dulls engine responses and helps you towards a 38mpg combined fuel return, but why on Earth would you?

'We can't think of a more desirable, more exciting top-drawer hot hatch on the planet than this M135i,' said CAR in 2012; high praise indeed, and as used prices continue to fall, that still holds true for this recent example of a long, fine tradition. **CT**

■ With thanks to Imperial Cars (imperialcarsupermarket.co.uk) where this M135i is for sale, Fairfields of Werrington (fairfieldcarspeterborough.com) where the 335i Coupe is for sale, Richard Edwards (richardsautos.co.uk), Julian Moore and Daniel Masih



BMW M135i (F21)

- ▶ On sale 2012-2016
- ▶ Price then £31,500
- ▶ Value now £17k-£22k
- ▶ Engine 2979cc 24v turbo 6-cyl, 316bhp, 332lb ft
- ▶ Transmission 8-speed auto, rear-wheel drive
- ▶ Performance 4.9sec 0-62mph, 155mph



INITIALS INITIALS INITIALS INITIALS

- * NEW *
I GE
I HAW
I LRP
I ACN
9II BV
9II EP
25 AU
60 FY
75 US
65 DY
82 EE
68 EN
400 GA
KSS 68
8 SWD
222 GJ
78E ES
75 FR
2 WLB
444 ER

Grid of initials and numbers for various categories, including AAW, I BFM, I CPO, 9 DV, I ET, I GH, I LGG, MEO 16, NMP 1, 10 PLM, 2 RH, 26 SPD, I VCS, etc.



Great number Great investment

Grid of initials and numbers for various categories, including HLB 1, JCG 88, 5 JMO, JWC 74, KJE 52, KSS 68, etc.

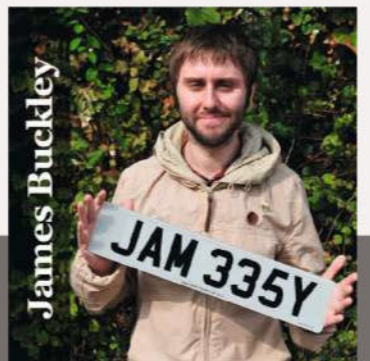
Grid of initials and numbers for various categories, including I LGG, MEO 16, NMP 1, 10 PLM, 2 RH, 26 SPD, I VCS, etc.

NAMES WORDS NAMES WORDS NAMES WORDS

- * NEW *
K422 REN
MUR 244Y
K32 RRY
B22 YAN
HUG 9H
VER 4A
C44I LUM
KI33 RON
M42 RCO
USH 32R
MAR 15S
GLO 22IA
C422 MEN
KAM 422A
HYS 5IOP
MEI4 DOW
BEN 60X
BAX 773R
82 00M
747 LER

Large grid of names and words for various categories, including A82 AMS, BET 55Y, CAII DLE, DAL I14S, EME I2Y, GLO 22IA, H32 RON, K31 RON, LUC 6A, MCE I20Y, N47 LOR, PII ONO, RUC 6K, TAN IIG, VEG 6E, etc.

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OUR CARS.

A month in the life of 16 cars – starring the AMG C43, Alfa Giulia and GT86 vs MX-5

Has this man just made a terrible error?

The fear is that the C43 is an AMG in name only when compared to the full fruitbat C63. But maybe, just maybe, it actually makes more sense as a car to live with. We'll see. By **Steve Moody**



HELLO
MONTH 1
MERCEDES-AMG
C43

AMG: WHEN I think of those three little letters, I think of 50 years of noise and power, and a plenty of very un-Germanic daftness.

To me, AMG cars should be shamelessly extreme, the pinnacle of how a Mercedes-Benz can be brutalised, and I shudder at the dilution of the brand with some wobbly and garish SUVs, while recently there has been more bastardising of the badge with AMG-Line diesel mile-munchers pretending to sport 400bhp but delivering a steady 60mpg instead.

So when the opportunity came up to drive an AMG car for an extended period of time, we could have gone for some sort of 63, and the end result of the test would be that we went sideways a lot, got scared a lot, made a lot of noise and had a lot of fun, and spent a lot. I think we know how the story would flesh out.

Instead, I was intrigued by the 43 range. I'd driven an E43 AMG Estate to Le Mans this year and found it to be a marvellous everyday balance of power and practicality, but felt in the end it was ever so slightly clinical, and I longed for the 63, which I utterly adore.

So the C43 AMG Coupe became the subject of interest. For a start, while it might make nearly 40bhp less than the E43, it's much lighter and more nimble, and the noisy bits are nowhere near as far away. My hope is that this will make it feel a less vanilla alternative to its bonkers brother, the C63, than the E43 does to the E63.

It gives up more than 100bhp to the C63, but there are some crucial elements that I hope will make it a better long term bet. For a start it has four-wheel drive, and I've got this car over a winter in the countryside. I've driven the rear-drive C63 in heavy rain and you've more chance of teaching Shakespeare to a tantruming toddler than making the 63 behave. Also, it has a claimed combined fuel consumption of 35mpg, and as my kids

are on gruel rations for the foreseeable due to the debt I incurred running a Bentley, this feels like an eco special in comparison.

With an on-the-road price of £47,650, the C43 AMG Coupe is not cheap, but it does sit in that middle ground that Audi has pretty successfully fenced off for itself in recent years with S cars. The question is: will it feel like an AMG at the end of it?

The issue may coalesce around the engine, which only sports six cylinders, and has a displacement of less than three litres! Once, not long ago, this would have seemed an utter abomination for an AMG, but such is the pace of downsizing that a twin-turbo six seems positively gluttonous these days, so let's hope it delivers a suitably AMG-ish experience. So far, even while gently running it in, the bark of the sports exhaust is suitably fruity.

This car is also fitted with the Premium Package (£2995), which has a Burmester surround sound system, panoramic glass roof, memory seats and keyless entry, and well as a Driving Assistance package (£1695) which will employ radar, cameras and computers in a bid to stop me crashing, and a head-up display (£825).

There's also privacy glass (£385), 19-inch bi-colour alloys (£595), cranberry red leather (£795) and the rather lovely and sparkly Selenite grey metallic paint (£685). They combine to make the C43 look a very attractive car. It's nowhere near as muscular as the 63, lacking the width, aero flim-flammery and steroidal bonnet ducting, but it is handsome nevertheless.

But this will be the big thing: will I grow to love this car for itself, or will it prove to be mid-table mediocrity, not-a-63 – and thus not a real AMG?

LOGBOOK MERCEDES-AMG
C43 COUPE

- **Engine** 2996cc 32v twin-turbo V6, 360bhp @ 5500rpm, 378lb ft @ 2000rpm
- **Gearbox** 9-speed auto, all-wheel drive
- **Stats** 4.7sec 0-62mph, 155mph (limited), 183g/km CO2
- **Price** £47,650
- **As tested** £56,870
- **Miles this month** 245
- **Total** 245
- **Our mpg** 27.9
- **Official mpg** 26.7
- **Fuel this month** £47.43
- **Extra costs** None



Don't fancy yours much

With the GT86 on loan to Mark Walton, how does the MX-5 fare as a substitute? By **Ben Barry**

↑
Folding hard top creates expectations the MX-5 fails to meet; GT86 is the real deal

MONTH 6
MAZDA
MX-5 RF

'HI BEN, ARE you coming to Rockingham for the Ferrari shoot? I thought we could swap cars, see what we think.' So went Mark Walton's email pitch. To be honest, I wasn't massively keen. I'd driven the MX-5 before, thought I preferred driving the GT86, and wondered how I'd manage with two kids but without the Toyota's rear seats. But Mark exudes a kind of calm persuasion with a glinty madness in his eyes, and the next thing he's pulling a huge slide past me in the GT86. The swap is on.

I have a look round the Mazda and first impressions are good. The design is tauter and crisper than the Toyota's, giving it a more premium feel, though I still rate the GT86's looks. The MX-5's alloy wheels underline this impression, making the Toyota's look aftermarket and cheap. I'm just glad I deleted the Toyota's rear wing, which cheapens it further.

With a day's work ahead of me in Wales, I drive there in the MX-5 late the night before. I like the driving position, so too the auto high-beam function, but I prefer the Toyota's seats and extra space, and at times I struggle to actually read the Mazda's sat-nav. I make my way over towards the M69 on a network of back roads. The 2.0-litre Mazda engine is smoother – if perhaps less characterfully rowdy – than the Toyota's, and so much more satisfying than the rather flaccid 1.5 MX-5. The gearchange is better than the Toyota's, and it's certainly a very agile little thing. But I remember a 1.5 I

drove having very responsive steering and extremely soft rear springs – the nose would dart at corners, and the rear kind of tumble over. Mark's 2.0-litre feels similar, giving the impression that any slide will come on quickly. The balance feels further forward in the GT86, more forgiving. However, you can work the weight transfer induced by the MX-5's soft rear springs, and despite the initial apprehension, it feels nicely balanced when I chuck it through a couple of roundabouts. It's a car that won't tolerate half-hearted attempts to get it out of shape – you need to take it by the scruff of the neck.

I find the damping hard to endure on the motorway. It constantly tremors up and down – the GT86 is firm, but it's more compliant in similar conditions. Then there's the wind noise. The MX-5 soft top has you reaching to close the roof when it's already closed; the hard top is an improvement, but there's still a heck of a lot of wind noise. I turn up the radio, but I need so much volume it feels like some kind of Guantanamo torture cell. So I drive to Wales without tunes, suspension bumping about, wind noise like a haunted castle.

The MX-5 is not without appeal, but the GT86 is the better drive whether you're flat out or cruising the motorway. Can I get my keys back now please?

LOGBOOK MAZDA MX-5 RF

► **Engine** 1998cc 16v 4-cyl, 158bhp @ 6000rpm, 148lb ft @ 4600rpm
 ► **Gearbox** 6-speed manual, rear-wheel drive ► **Stats** 7.4 sec 0-62mph, 134mph, 161 g/km CO2 ► **Price** £25,695 ► **As tested** £27,165 ► **Miles this month** 524 ► **Total** 6119
 ► **Our mpg** 34.8 ► **Official mpg** 40.9 ► **Fuel this month** £70 ► **Extra costs** None



LOGBOOK TOYOTA GT86

- > **Engine** 1998cc 16v 4-cyl, 197bhp @ 7000rpm, 151lb ft @ 6400rpm
- > **Gearbox** 6-speed manual, rear-wheel drive
- > **Stats** 7.6sec 0-62mph, 140mph, 36.2mpg, 180g/km CO2 > **Price** £28,005 > **As tested** £29,550 > **Miles this month** 1215 > **Total** 6002 > **Our mpg** 33.9 > **Official mpg** 36.2 > **Fuel this month** £194 > **Extra costs** None

This is more like it

Ben Barry was reluctant to surrender the GT86 – and now he'll be lucky to get it back. By **Mark Walton**

MONTH 5
TOYOTA GT86

THE FIRST THING I notice, climbing into the GT86, is its heft. True, the Toyota is hardly a lardball at around 1250kg, but after you've skipped around in a Mazda – a featherweight at just 1070kg – anything this side of a crisp packet is going to feel plump. The Toyota immediately feels softer and more cushioned than the Mazda.

It's also bigger – I know that sounds obvious, as the Toyota is clearly a 2+2 coupé rather than a teeny-tiny sports car, but at 6ft tall I only just fit the RF, so the Toyota's more open cabin is a relief. It's like changing out of a tight suit and tie and flopping in front of the telly in a pair of baggy old Y-fronts.

The Toyota may be more generous in the legroom, but of course where it falls short is the legs – its strangely weak engine. Yes, as anyone who's read a GT86 road test over the last five years will know, the Subaru-sourced flat-four has a leaden response, a lack of midrange grunt and a strangely tinny engine note. After the fruity, fizzy MX-5, it's a bit of a shocker.

But my first drive home is a reminder of why the GT86 is so

great, despite the engine. After the edginess of the Mazda at speed – the feeling that it might just spit you off if you make a wrong move – the Toyota feels wonderfully benign. If the MX-5 is like stroking a fluffy cat that might turn and scratch you, the Toyota is a slobbery St Bernard dog that just wants to be your loyal friend. Drive the Toyota cleanly and its perfectly weighted steering is a joy, matching the MX-5 in its accuracy and feedback; but turn off the traction control and play around, and boy, it's a wonder. Pitch it into a wet roundabout with an exaggerated steering input, stomp on the gas and it'll start to slide, but somehow in slow motion. It communicates its intentions with such clarity, and responds to your ham-fisted attempts to save it with such moderation, you feel you're given extra time compared to other cars. And it's rewarding – the more you drive it, the more you learn of the method needed to unsettle and balance it. The magic is beneath the surface, and if you live with the Toyota for a week, then you're sworn into the GT86 fan club.

For me, the Toyota clearly wins this comparison, but I keep wondering if the soft top MX-5 would have had more of a chance. By making the RF, Mazda has plonked its two-seater sports car right next to the GT86 and invited comparison. Dynamically the roadster is the same as the RF, but in character the soft top stands further away from the GT86, offering a more distinct flavour. If it's a sub-£30k sports coupé you're looking for, the GT86 is one of the best you can buy.



When in Rome, do as the Romeons do

You couldn't ask for a better weekend: great racing, a family gathering and sunshine. By **Phil McNamara**



SUMMER SUN, FAMILY, classic racing and a 2017 Alfa Romeo Giulia Quadrifoglio: it was one of those days that leaves you blissfully satisfied, like simultaneously devouring a box set and a box of Lindor Milk Truffles. Castle Combe wasn't just hosting

the West Country Cracker Race Meeting, but also a gathering of my motorsport-bred in-laws, including the introduction of two-month-old nephew Ioan and my daughters to motorsport.

The Oakhams welcomed the Giulia into the fold. 'This is the first car of yours I've liked,' said father-in-law Chris, creakily lowering himself into the subterranean driver's seat and fiddling with paddles that combine a tactile springiness and a percussive click. Then, laden with camping chairs and children, we left the Alfa in the Castle Combe car park/field and headed for the action, leaving a gathering of Wiltshire Alfisti to snap selfies while decoding the QV's air vents and carbonfibre details.

Camp corner gives a great view down the straight to the Bobbies chicane, then a swivel to watch the racers negotiate our wide, fast right-hander before gunning it to the start/finish line, all within striking distance of the essential ice

cream van and toilets. And the racing got better as the sun grew hotter and the clutches of 99s got digested.

The Mini driven by Julian and Matthew Howell utterly dominated the first race, leaving me plenty of time to marvel at the '60s Alfa Giulia Sprint and GT, their twin-cam fours buzzing them around the track. They looked like the Matchbox saloons I

played with as a kid, and weren't much bigger up close, a good half a metre and perhaps 400bhp down on my car.

Next was the Jaguar Saloon and GT championship, which had me reminiscing about Tom Walkinshaw racers and my cousin Mark, who always looked cool smoking around in various XJs. By now the kids were really getting into it, backing the cars with the most eye-catching paint, as a Marcos diced with some Triumphs and Lotus Elans in race three.

The Formula Ford championship, taking my father-in-law back to his days piloting Mallock race cars, was interrupted after a big shunt at Quarry. Out came the safety car, appropriately a Civic Type R from the nearby Honda plant, before Josh Fisher charged from sixth to win.

Then it was time for the 25-mile drive home. For a cross-country trip like this, the pre-flight checks are simple: pull hollow transmission selector back and to the left to lock in manual mode, and ensure the drive mode selector is in Dynamic to put the exhaust into Pavarotti bellow, the suspension into lock-down and the biturbo V6 into supersonic.

Everyone who drives the Quadrifoglio comes back muttering about how fast it is, but it's also captivatingly mechanical and incredibly sensual. The V6 idles with



Welcome to motorsport's heady blend of sunshine, ice cream and lively racing. (Other weather is available.)

grumbles and vibrations that rock the driving seat, more akin to the racers we were watching than the sanitised engines that are more commonplace today. Pin the throttle and let the revs climb in every gear, waiting, waiting to pull the paddle. Then there's what feels like a moment of inertia, of calm, before the cogs mesh and drive is catapulted rearwards again. And, when you do have to back off, there's the wonderfully evocative chatter of over-run often accompanied by a bang-bang salvo of exhaust gas being dumped.

Late afternoon and the B3109 is deserted, so I straddle the white lines approaching corners, every nuance of the road transmitted by the firmed-up dampers, feeling the outboard suspension brace the car and the tyres grip as we swoop into the bends. The hyper-sensitive controls heighten the Giulia's sense of alertness: the throttle is hair-trigger (a little too much), the effortless steering responds like a sprinter to the gun. If it all sounds near spiritual for me, and damn enjoyable for my game wife too, the kids are deeply ambivalent and fall asleep.

Home and there's nothing better to do but park up and head to the village local. It was the kind of day that would have got Lou Reed composing.

LOGBOOK ALFA ROMEO GIULIA QUADRIFOGLIO

- > **Engine** 2891cc 24v turbo V6, 503bhp @ 6500rpm, 442lb ft @ 2500rpm > **Transmission** 8-speed auto, rear-wheel drive > **Stats** 3.9sec 0-62mph, 191mph, 189g/km CO2
- > **Price** £61,595 > **As tested** £72,550 > **Miles this month** 1592
- > **Total** 7615 > **Our mpg** 23.9 > **Official mpg** 34.4
- > **Fuel this month** £382.04 > **Extra costs** None

Home advantage

MONTH 9
RENAULT GRAND
SCENIC

A WHITWORTH SUMMER holiday isn't complete without a jaunt to France for a fortnight of wandering around deserted villages waiting for the blasted bakeries and coffee shops to open. This month I'll cover what made the big Scenic the ideal travelling companion. Next month we'll roll up our sleeves and look at what irked us.

Enhanced with a sleek Thule roof box and towbar-mounted bike rack, the Renault easily swallowed everything we threw at it. This was impressive, considering the must-have list included rollerblades, cricket bat and barbecue.

After a wonderfully smooth cross-

ing on Brittany Ferries' *Normadie*, we headed south for Vienne. A midway overnight stay meant we were in no rush, and with the adaptive cruise control set to 70mph, the Renault returned an excellent 47.1mpg. The sat-nav guided us without drama to our destinations, the DAB radio picked up every cheesy pop station it could find, and everyone found the journey *très confortable*.

Key to this was the languid manner in which the Scenic wafted along the smooth autoroutes and nationales. Over Britain's crappy, craggy roads the Scenic's ride quality becomes fidgety and brittle, but on its home turf it proved to be hushed and relaxed. So then, the perfect vacation vehicle? *Oui... et non*. Find out why next month.

LOGBOOK RENAULT GRAND SCENIC, DYNAMIQUE S NAV

- > **Engine** 1600cc 16v turbodiesel 4-cyl, 130bhp @ 4000rpm, 236lb ft @ 1750rpm
- > **Transmission** 6-speed manual, front-wheel drive > **Stats** 11.4sec 0-62mph, 118mph 119g/km CO2 > **Price** £28,445 > **As tested** £31,080 > **Miles this month** 995
- > **Total** 11,111 > **Our mpg** 47.1 > **Official mpg** 61.4 > **Fuel this month** £105.60
- > **Extra costs** None



←
Junk the roof box and bike rack to lighten the load and make better use of the sunroof...

↓
... and clip them back on for the return journey. An already versatile car made even more so





COUNT THE COST

Cost new £28,300 (including £545 of options)
Dealer sale price £20,470
Private sale price £19,485
Part-exchange price £18,505
Cost per mile 8.9p
Cost per mile including depreciation £54.3p

ALEX TAPLEY

There's nothing to be scared of here

Hallowe'en-mask styling aside, the Prius has convinced us hybrids can be economical and fun. By **Jake Groves**

GOODBYE MONTH 12 TOYOTA PRIUS

'I MUST GO, my people need me,' I imagined our space-age fuel-sipper thinking as it silently floated out of *CAR's* office car park for the last time, returning to its home planet of... Epsom, Surrey. After a year and more than 17,000 miles, we're happy the Hypersonic Red Toyota Prius was part of our fleet.

Walk towards it in a car park and it never looked particularly inviting. Even after a year, that aerodynamic 'melted Joker' face could still make small children wince.

But once you'd parked your backside on the soft leather armchair, that big swooping dashboard always raised a smile, while the Elysium-esque white surfaces put you in a calm place, and the large glass area let in a lot of light and gave a good view out. Simply getting into the Prius usually brought a great sense of relief.

I regularly took the wheel of the Prius when I lived in London. With its soft suspension, adaptive cruise control and economical powertrain, the Prius was perfect for the boring schlep down the M11, while its whizzy electric motor got me darting through the Big Smoke like a pro, doubtless helped on some level by its app-based taxi service image. We're talking about dull motorway journeys and dull stop-start town work, but in both cases enlivened by the smug glow of a 70+mpg fuel consumption figure and a bassy JBL sound system able

to get the most from my corny '90s Spotify megamix. An unlikely car for audiophiles, but it's true: I've been fortunate enough to drive Bentleys with premium Naim equipment and Mercs with intricate Burmester speakers, but the Toyota's less costly kit does the job every bit as well.

Before I got my claws into the Prius, it was always in use, principally as a long-distance

commuter tool. We've tended to push it hard, but an overall average of better than 60mpg is impressive. The no-cost option of swapping the five-spoke starfish alloy wheels for the simpler (and more fuel-efficient) 15s helped us to achieve such respectable fuel economy figures.

Matt Joy got almost 94mpg out of one tankful by driving with the lightest of right feet, showing that the official mpg figure isn't as ludicrous as some, although you need a lot of self-restraint to resist the pleasures of the rapid drag starts made possible by having all the torque available immediately.

Despite the smaller than average fuel tank, the benefits of battery assistance meant you weren't filling up any more often than in most cars. If nothing else, our year-long test has proved that driving a hybrid as a regular car really can save you money. Look at that cost per mile figure including depreciation – that's one of the lowest figures we've had recently, beating even the much cheaper, much smaller Renault Twingo city car we ran up until the middle of summer 2016.

So yes, we're hard-wired to look upon eco cars with suspicion, but the Prius has won us over.

@_jakegroves

↑ Our Prius with first-gen grandparent, a key driver of the hybrid's journey from fringe to mainstream

LOGBOOK TOYOTA PRIUS EXCEL

> **Engine** 1798cc 16v 4-cyl, 97bhp @ 5200rpm, 105lb ft @ 3600rpm, e-motor 71bhp, 120lb ft > **Gearbox** CVT, front drive
 > **Stats** 10.6sec 0-62mph, 112mph, 94.2mpg, 76g/km CO2 > **Price** £27,755 > **As tested** £28,300 > **Miles this month** 633 > **Total** 17,218 > **Our mpg** 62.07 > **Official mpg** 94.2
 > **Fuel this month** £57.41 > **Extra costs** None

Christmas cracker hi-tech

MONTH 3 **SUZUKI SWIFT**



Dim view

The auto headlights have a mind of their own. Even driving under a tiny bridge in broad daylight is enough for the system to panic and flip the beams on for a few seconds. I just switch them on manually now (heaven forbid!), so what's the point in auto lights if they don't work without needing the driver to intervene?

Danger! Not really...

Like the headlights, the collision warning sensor is highly strung, warning of impending crashes when I'm already coming to a stop with room to spare. I'd switch it off, but there was one time it genuinely stopped me from rear-ending someone in traffic, so it's begrudgingly left on for me to be shouted at by the loud, high-pitched alarm.



Led astray

The touchscreen infotainment system has loads of connectivity and is much better than the slot-in system in the old Swift. But the navigation blindly directs you into jams, even if it warns of heavy traffic on the route it provides. M'learned colleague James Taylor says the graphics 'look like a student PowerPoint presentation.' Ouch.

Need to know? No

Do you want to know how much brake force you're applying? No? How about a g-force sensor that displays your pitch and yaw? Or power and torque meters as you accelerate? All of these unnecessary read-outs are a button press away, but a genuinely useful digital speedo? Don't be silly.

JAKE GROVES @jakegroves



LOGBOOK SUZUKI SWIFT SZ5 1.0 SHVS BOOSTERJET

> **Engine** 998cc 12v turbo 3-cyl, 109bhp @ 5500rpm, 125lb ft @ 2000-3500rpm > **Transmission** 5-speed manual, front-wheel drive > **Stats** 10.6sec 0-62mph, 121mph, 97g/km CO2 > **Price** £14,499 > **As tested** £14,984 > **Miles this month** 925 > **Total** 5275 > **Our mpg** 42.3 > **Official mpg** 65.7 > **Fuel this month** £123.67 > **Extra costs** None



When those clouds turn to rain again, it's the Q5 keys everyone wants

... and the real winner is...

MONTH 7 **AUDI Q5**

YOU WOULDN'T HAVE seen our Audi Q5 in last month's 2017 Sports Car Giant Test, but we couldn't have pulled the feature together without it.

Like the consummate roadie, the Audi worked tirelessly behind the scenes, ferrying photographers and their kit around and providing shelter from the occasionally inclement Welsh weather, while also operating as a mobile canteen and rubbish dump. The ability to slide and recline the rear seats proved handy (that's the £350 Rear Seat Plus option), and the way the seats lock down securely when folded is a nice touch.

We also made use of the panoramic sunroof (£1400) for some of the tracking shots you saw in the feature, while the pricey £2000 air suspension option proved it was worth every penny at literally every turn trying to keep up with the supercars between shooting locations.

It's easy to think that air suspension is an unnecessary, expensive gimmick, that adaptive dampers on steel springs can offer the same deal. But they can't, and I'm constantly amazed how different the Q5 feels when switched between Comfort or Auto and Dynamic (which you do using the badly positioned Drive Select controller).

At SCGT the Q5's Comfort mode delivered the supple ride needed to help Tom Salt nail those sharp tracking shots, and Dynamic the body control to keep up with the supercars as we flew from one location to the next. Whether or not you're carrying a bootful of photographer, this means comfort when you want it and pointy handling when you'd rather.

So the air is a big hit, with a couple of caveats. First, you're unlikely to get your money back at sale time, and second, if you plan on buying a Q5 to keep for a decade or so, you can probably expect it to flop on its belly like a clinically obese sausage dog at some point when the system wears out. You only have to look at the number of 'spares or repairs' Mk1 A6 Allroads (or any old car with air ride) needing a suspension overhaul – or conversion to old-tech coils – to see what's coming.

But let's not worry about life as an old nail down the road. Let's live for the moment, which, sadly, is about all we've got left before Audi takes the Q5 away.

CHRIS CHILTON

LOGBOOK AUDI Q5 2.0 TFSI S LINE

> **Engine** 1984cc 16v turbo 4-cyl, 249bhp @ 5000-6000rpm, 273lb ft @ 1600-4500rpm > **Transmission** 7-speed auto, all-wheel drive > **Stats** 6.3sec 0-62mph, 147mph, 162g/km CO2 > **Price** £40,170 > **As tested** £51,085 > **Miles this month** 1955 > **Total** 12856 > **Our mpg** 30.9mpg > **Official mpg** 39.8mpg > **Fuel this month** £342.57 > **Extra costs** None

ALEX TAPLEY

THE REST OF THE FLEET



BMW i3

MONTH 11 By Tim Pollard

OUR STINT WITH the i3 is nearly at an end. It's facelift time, see, though you'd be hard pressed to tell from the car (above) unveiled in Frankfurt. Blacked-out A-pillars and roof lines, some fresh paint choices, reprofiled bumpers and a chrome strip running across the rear are about your lot. What is new is the i3 S, a warm hatch with 10mm lower suspension, 20mm wider tyres and 0-62mph in 6.9sec. Count us as interested...
 @TimPollardCars

LOGBOOK BMW i3 RANGE-EXTENDER

> **Engine** 125kW electric motor (equivalent to 168bhp, 184lb ft), with 647cc 2cyl petrol range-extender
 > **Gearbox** Single-speed auto, rear-wheel drive
 > **Stats** 8.1sec 0-62mph, 93mph, 13g/km CO2
 > **Price** £31,560 > **As tested** £37,009 (prices quoted after government Plug-in Grant) > **Miles this month** 854 > **Total** 9363 > **Our mpg** 113.9 > **Official mpg** 471
 > **Fuel this month** £42.53 > **Extra costs** None

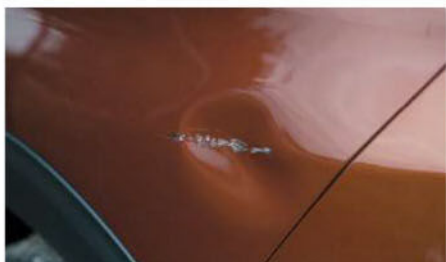
Peugeot 3008

MONTH 2 By Anthony French-Constant

THERE'S A NASTY little ding on the 3008's rear wheel arch. I was hunched over the keyboard in a cafe when it happened, but a kind coffee drinker took down the offender's particulars while the latter climbed out, had a look at the damage, then drove off to park elsewhere. The police took an equally dim view of this behaviour, found the lying toe-rag and threatened him with all sorts of horridness: leaving the scene of an accident, wearing a loud shirt in a built-up area, etc. So now I have diagrams to draw and forms to fill in...

LOGBOOK PEUGEOT 3008 GT LINE PURE TECH

> **Engine** 1199cc 12v turbo 3-cyl, 129bhp @ 5500rpm, 170lb ft @ 1750rpm > **Gearbox** 6-speed manual, front-wheel drive > **Stats** 10.8 sec 0-62mph, 117mph, 117g/km CO2 > **Price** £25,655 > **As tested** £27,290
 > **Miles this month** 982 > **Total** 2429 > **Our mpg** 36.8
 > **Official mpg** 55.4 > **Fuel this month** £154.39
 > **Extra costs** None



Volvo V90

MONTH 5 By Ben Oliver

MY ADVANCE INTO middle age has moved from crisis (red 911) to acceptance (Volvo). A friend of similar vintage recently rode down to see me for lunch on his Triumph Street Scrambler: wildly different but equally stereotypically middle-aged. Engaging Dynamic mode gives the Volvo's chassis an athleticism my own will now forever lack. For a mile or two I'm a twenty-something once again: until one of the kids in the back threatens to puke.
 @thebenoliver

LOGBOOK VOLVO V90 D5 POWERPULSE

> **Engine** 1969cc 16v turbodiesel 4-cyl, 232bhp @ 4000rpm, 354lb ft @ 1750-2250rpm
 > **Transmission** 8-speed auto, all-wheel drive > **Stats** 6.9sec 0-60mph, 145mph, 129 g/km CO2 > **Price** £43,955 > **As tested** £52,675 > **Miles this month** 793
 > **Total miles** 4572 > **Our mpg** 32.8 > **Official mpg** 57.6 > **Fuel cost** £133.08 > **Extra costs** £0



Citroën C3

MONTH 6 By James Taylor

SINCE OUR C3 is in top-spec Flair trim, it gets Citroën's ConnectedCAM as standard – an HD camera integrated with the interior mirror. It can take photos and videos, and auto-records 'events' such as heavy braking. When I tested it for a previous story I concluded that most of the time you'd forget it's there, but there might be one time you're very glad it is. The truth is, I have forgotten it's there – this fetching portrait of me with photographer Alex Tapley is more or less the only thing I've taken with it. Must try harder.

LOGBOOK CITROËN C3

> **Engine** 1199cc 12v turbo 3-cyl, 108bhp @ 5500rpm, 151lb ft @ 1500rpm > **Transmission** 5-speed manual, front-wheel drive > **Stats** 9.3sec 0-62mph, 117mph, 103g/km CO2 > **Price** £16,285 > **As tested** £18,330
 > **Miles this month** 1271 > **Total** 4173 > **Our mpg** 55.2
 > **Official mpg** 61.4 > **Fuel this month** £167.37
 > **Extra costs** None



Honda Civic

MONTH 5 By Colin Overland

IS THE UNIVERSE trying to tell me something? I was slinging some camping chairs into the ample boot of the Civic on a Saturday afternoon when an extremely wayward golf ball from a not-very-nearby golf course hit first the roof of the car, then the roof of the house, then my head. The damage was minimal. If you stand at just the right angle you can see there's a tiny dent, but you have to be looking. This speaks volumes about the quality of the paint, which continues to look showroom-fresh in all its shiny grey glory.

LOGBOOK HONDA CIVIC 1.5 VTEC SPORT PLUS

> **Engine** 1498cc 16v turbo 4-cyl, 180bhp @ 5500rpm, 177lb ft @ 1900-5000rpm > **Transmission** 6-speed manual, front-wheel drive > **Stats** 8.3sec 0-62mph, 137mph, 133g/km CO2 > **Price** £25,405
 > **As tested** £25,930 > **Miles this month** 591
 > **Total** 8352 > **Our mpg** 38.9 > **Official mpg** 48.7
 > **Fuel this month** £84.15 > **Extra costs** None

Ford Focus RS

MONTH 2 By Ben Pulman

IF THE FIRST 100 yards really do reveal much of a car's character, initial impressions of the Focus RS are entirely of its abrupt ride. On the same stretch of road, the latest 911 GT3 is more supple. 'Crude' springs to mind, as does a worry that the constant hustle and bustle from the Ford's suspension might sour this relationship. I hope not. The interior quality, the infotainment and the Recaro seats are good; the performance is more than good. Especially when it rains, and leaves that Cup tyre-shod Porsche for dead.

LOGBOOK FORD FOCUS RS

> **Engine** 2261cc 16v turbo 4-cyl, 345bhp @ 6000rpm, 347lb ft @ 2000rpm > **Transmission** 6-speed manual, all-wheel drive > **Stats** 4.7sec 0-62mph, 165mph, 175g/km CO2 > **Price** £32,265
 > **As tested** £35,390 > **Miles this month** 558
 > **Total** 3510 > **Our mpg** 28.8 > **Official mpg** 36.7
 > **Fuel this month** £110.30 > **Extra costs** None



Reigning when it pours MONTH 10 CATERHAM SEVEN

Horizontal rain? At Rockingham? On hopeless tyres? Sounds like fun. By **Ben Miller**

ROCKINGHAM'S International Sportscar Long layout uses the first of the circuit's four banked turns, adding a unique complexion to a circuit that often struggles for appeal with the likes of Silverstone, Donington and Snetterton all less than two hours away.

In an Academy-spec Caterham the banked corner is taken flat-out in fourth gear when it's not raining, the ideal line being just inside the white line that denotes the track limit. But throughout the qualifying session for our recent race at Rockingham, round six of

the championship, it was raining; hard. Wipers-going-full-bore-but-making-no-difference raining.

Turn one became a lift and a gentle re-application of a steady throttle once into the corner, with the ideal line a little higher on the banking to steer clear of the friction-free rubber on the normal racing line. Fine, until you pass over the dry line towards the end of the corner, revs flare, and the car kicks sideways at 90mph. Good times.

The 15-minute session was an all-consuming lesson in low-speed, zero-grip car control,

with more slides provoked and clumsily caught than in the rest of the season combined. Come the chequered flag I was tenth fastest, my best of the year, and the spread of times a reflection of just how tricky the conditions were. The pole time was a full 10 seconds faster than my best, while my best was 20 seconds faster than the back of the grid.

Back in the pits we were divided 50:50, with half of our group smiling like they'd had the time of their lives and the other half hoping to God they'd never have to drive in conditions like that again.

LOGBOOK CATERHAM SEVEN

> **Engine** 1595cc 16v 4-cyl, 125bhp @ 6100rpm, 119lb ft @ 5350rpm > **Transmission** 5-speed manual, open differential, rear-wheel drive > **Stats** 5.0sec 0-60mph, 122mph, n/a g/km CO2 > **As tested** £24,995 (includes race season) > **Miles this month** 163 > **Total miles** 1909 > **Fuel this month** n/a > **Extra costs** £0



It's all relative

MONTH 6 **BMW 5-SERIES**

M Y 530D M SPORT isn't a true sports saloon (the M5 will be along shortly to scratch that itch) but as it's a BMW wearing M Sport badging you'd expect a degree of enthusiasm. And to an extent that's what you get.

Configure the 5-series to Sport everything and the powertrain switches from smooth to jumpy while the body control tautens noticeably, ready for some more ambitious corner-entry speeds. But you still drive the 5-series like a traffic cop; fast, smooth, undramatic. Something about its size and heft makes you adopt this unsmiling style and it is satisfying, if not tinglingly thrilling.

For that you need a true sports saloon, like Phil's Alfa Giulia QV (page 136). I borrowed it for a week, failed to wash

it and went through whole oilfields of super unleaded. But I also had a blast. After the Giulia, with its B-road-friendly size, wildly fast steering, monumental engine and incredibly communicative chassis, the 5-series feels enormously grown-up. It feels pretty enormous too, an impression heightened by the 300kg weight difference. Not worse, just different. And roughly the same money...

Personally, I'd find it a really tough choice. Being a size smaller, the Alfa's obviously more cramped inside, particularly in the back, with a far less useful boot (480 Italian litres versus 570 German ones), but how often do you use all four seats? When they're back there, our two teenagers didn't grumble in the Alfa, though the dog was understandably reluctant to use its boot. Maybe the lesson here is to go one way or the other - full Alfa sports saloon or ten-tenths family car, otherwise known as the £52,305 530d M Sport Touring.

BEN MILLER @BenMillerWords

LOGBOOK BMW 530D M SPORT XDRIVE

> **Engine** 2993cc 24v turbodiesel 6-cyl, 261bhp @ 4000rpm, 457lb ft @ 2000rpm > **Transmission** 8-speed dual-clutch auto, all-wheel drive > **Stats** 5.4sec 0-62mph, 155mph, 138g/km CO2 > **Price** £50,105 > **As tested** £66,150 > **Miles this month** 782 > **Total miles** 6965 > **Our mpg** 36.3 > **Official mpg** 53.3 > **Fuel this month** £121.34 > **Extra costs** None



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- DMS 135i (BMW CAR MAY '09)** "THE STANDARD CAR IS GREAT BUT DMS HAVE SOMEHOW MANAGED TO TAKE IT TO THE NEXT LEVEL"
- DMS 997 TURBO 3.6 (EVO SEPTEMBER '08)** "IT'S EPIC, HILARIOUS AND ADDICTIVE IN EVERY GEAR, YET DOCILE WHEN CRUISING"
- DMS 997 TURBO 3.8 PDK (EVO JUNE '11)** "DELIVERY IS ALMOST UNCOMFORTABLY FORCEFUL"



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AUDI RS3/RSQ3 » 420+ BHP (+DE-LIMIT)
AUDI S3 / GOLF R » 373+ BHP (+DE-LIMIT)
AUDI 3.0TDi (ALL MODELS) » 315+ BHP
AUDI 3.0 Bi-TDi (ALL MODELS) » 380+ BHP
AUDI Q7/A8 4.2 TDi » 400+ BHP

BMW
M5 V10 » 548+ BHP (205 MPH)
X5M / X6M » 618+ BHP
1M » 411+ BHP
M3 E90/92 » 445 BHP (+DE-LIMIT)
M135i/ M235i » 402 BHP
M4/M3 3.0T » 520+ BHP
M5 F10/M6 (STAGE 1) » 680 BHP
M5 F10/M6 (STAGE 2) » 730 BHP
F10 520D » 240 BHP
F10 530D » 305 BHP
335i/135i/X6 » 370+ BHP (+DE-LIMIT)
123D » 252 BHP

316D/216D/116D » 160 BHP
318D/218D/118D » 225 BHP
330D E90 » 296+ BHP
320D E90 » 215 BHP
420i/320i/220i/120i » 275+ BHP
435i/ F30 335i » 390 BHP
428i/328i » 295 BHP
535D / 335D / X5 SD » 355+ BHP
640D/335D/535D/435D » 390 BHP
730D » 305+ BHP
X5 4.0D / 740D » 370 BHP
X5 3.0D » 305 BHP
X6 X5.0i 4.4 » 500+BHP
X6 M50D/X5M50D/550D » 450 BHP

MERCEDES-BENZ
A200CDi/C200CDi/E200CDi » 175 BHP
A250/C250 » 260 BHP
A45/CLA45 » 420 BHP
C300 HYBRID » 285 BHP
A220CDi/C220CDi/E220CDi » 215 BHP
C350/CLS350/E350/S350 » 315 BHP
E400 /C450 » 420+ BHP
C400 » 400 BHP
'63' 5.5 Bi-TURBO ALL MODELS » 690+BHP
'500' 4.7 Bi-TURBO ALL MODELS » 498+BHP
S65 (W222) » 780 BHP
SL65 BLACK » 720+ BHP (+DELIMIT)
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996 TURBO/GT2 » 600+ BHP
997 CARRERA S PDK » 400+ BHP
997 CARRERA S » 376+ BHP
997 CARRERA PDK » 368 BHP
997 CARRERA GTS » 435 BHP
997 GT3 UP » 436 BHP
BOXSTER 3.4S » 336+ BHP
CAYMAN S » 342 BHP
CAYMAN 3.0D » 315 BHP
CAYENNE GTS » 440 BHP

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

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LP560 » 608+BHP
LP640 » 707 BHP
HURACAN » 640+ BHP
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MCLAREN MP4-12C » 700 BHP
MCLAREN 650S » 720 BHP
MURCIELAGO LP640 » 707 BHP
MASERATI GHIBLI 3.0S PETROL » 470 BHP
MASERATI GHIBLI 3.0 PETROL » 400 BHP
MASERATI GHIBLI 3.0 DIESEL » 312 BHP
MASERATI GT/OPORT » 438 BHP
MASERATI GT S / MC » 479+ BHP
BENTLEY 4.0 T V8 » 690 BHP
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The Good, the Bad & the Ugly

ABARTH

500 ★★★★★

> Pricey pocket rockets, all powered by 1.4-litre turbos in various stages of steroidal over-compensation. Divine details, dodgy dynamics
> **VERDICT** Like a small yappy dog: noisy, excitable and likely to give you a headache

ALFA ROMEO

MITO ★★★★★

> Decent engines but generally rubbish to drive, Alfa's soggy-handling, hard-riding premium mini is crucified by the real thing and Audi's A1
> **VERDICT** At least it's got its looks. No, wait. It's an ugly Alfa. It's got nothing

GIULIETTA ★★★★★

> Looked like a credible Golf rival for a while but now the game has moved on. Keen prices, but rivals are roomier, classier and more fun to drive
> **VERDICT** Miles better than a Mito. Miles better than a 4C, even. Miles behind a Golf

4C/4C SPIDER ★★★★★

> Sexy carbon two-seater over-promises and under-delivers on a double-your-dong-length web-scam scale. Spider a step in right direction
> **VERDICT** Shoots for the moon, hits itself in the foot. Lotus Elise more fun, Porsche Cayman a better bet

GIULIA ★★★★★

> Good grief – an Alfa Romeo we can finally recommend that you buy. New, auto-only 3-series rival has sharp steering, sultry looks, great driving position. *Bellissimo!*
> **VERDICT** Note to dealers: don't cock it up

STELVIO ★★★★★

> Either we've collectively entered another dimension or Alfa has just built two excellent cars in a row. Now we just need everyone to start buying them again > **VERDICT** Worth the risk at least once in your life

GIULIA QUADRIFOGLIO ★★★★★

> Like a regular Giulia doped up by Lance Armstrong, this 191mph, 503bhp rocket is a quadruple shot of espresso for Alfa's long lamented soul. At last > **VERDICT** The closest you can get to a four-door Ferrari. Really. *That good*

ALPINA

D3/B3 ★★★★★

> Twin-turbo petrol and diesel stonk and smooth auto 'boxes mated to a quality chassis, but watch for some questionable OAP-spec interior finishes > **VERDICT** Try an xDrive D3 Touring – it's what the M3 wants to be when it grows up

NEW IN THIS MONTH



p155

Vauxhall Grandland X
'It's a Peugeot 3008 in disguise, but different enough to appeal in its own right'

Elemental RPI

'More refined than any Caterham and an absolute weapon on track'

p147



p148

Hyundai i30N
'Korea's first hot hatch is very good indeed'

D4/B4 ★★★★★

> Same blend of fast and frugal as above but slotted into slinkier 4-series shell. ZF auto not as snappy as M4's twin clutch, but much smoother > **VERDICT** 53mpg and 62mph in 4.6sec? And you're alright with this, BMW?

D5/B5 ★★★★★

> Twin-turbo B5 petrol V8's 590lb ft could de-forest the Amazon while planet-loving D5 doesn't let meagre 155g/km prevent 174mph max > **VERDICT** You can't have a real M5 Touring, but this comes close

B7 ★★★★★

> BMW doesn't make an M7, but Alpina does. Twin-blown petrol V8 delivers 'bahn-busting performance that's best enjoyed in Germany > **VERDICT** Niche Merc

S63 AMG alternative hamstrung by the ugliness of the raw materials

XD3 ★★★★★

> X3 35d-based high-rise hot-rod delivers 350bhp, 516lb ft, and the horizon through your windshield. Spoiled by a rock-hard ride
> **VERDICT** Another niche BMW that Munich leaves to Alpina, maybe because the Porsche Macan is better

ARIEL

ATOM ★★★★★

> Only the Pope's lips get more up close and personal with the tarmac than an Atom driver, but there's zero protection when the heavens open > **VERDICT** Spectacular toy. Great on track, barmy on road. Chassis doubles as a clothes airer, which is just as well...

NOMAD ★★★★★

> Not content with terrifying on tarmac, Ariel now offers the off-road Nomad. Gains a roll-over structure but still no doors
> **VERDICT** Don't forget to put the hot water on – you'll be needing a bath when you get home

ASTON MARTIN

VANTAGE V8/GT8 ★★★★★

> Ageing entry-level Aston has ace steering, but make sure you go manual: plodding semi-auto is as dynamic as a Ron Dennis interview
> **VERDICT** 'Monica Bellucci' on the desirability/age scale; madcap GT8 tactile but not as fast as it looks

VANTAGE V12/GT12 ★★★★★

> Cramming a huge V12 into the V8-sized engine bay was apparently the easy bit; it took years for Aston to add a manual gearbox. Worth the wait
> **VERDICT** Chassis finally has the stick shift it deserves. Buy it no other way

DB11 ★★★★★

> First genuinely new Martin in a decade gets slick aero slinkiness, belting V12 turbocharged charmer and, crucially, Merc help with the wiring > **VERDICT** Finally the right blend of much needed new stuff and classic Aston charm results in a cut-above GT. Eat your heart out, Europe!

VANQUISH S ★★★★★

> Not quite funeral parlour dressing but lipstick and sorted underpinnings come too near the end of the Vanquish. DB11 is both fresher and cheaper. Oops > **VERDICT** Instant respect, even though you've bought the wrong Aston

RAPIDE ★★★★★

> Take that, Panamera! Aston shows Porsche how to make a supercar/saloon cocktail. Forget limo pretensions, though: it's a four-door 2+2
> **VERDICT** Pretty, but interior more dated than a New York socialite and as hard on your wallet

AUDI

A1 HATCH/SPORTBACK ★★★★★

> Posh Polo does it all, from 1.0 miser to S1 micro rocket. Not cheap, even before you've splurged on options. £30k is a mouse click away
> **VERDICT** Classy Mini rival that doesn't turn into Quasimodo when you tick the 5dr option

A3 HATCH/S/BACK/SALOON ★★★★★

> Midlife update adds exterior angles, three-pot engine and optional digi-dash. Still king of quality in this sector, but adrenalin isn't among the standard kit > **VERDICT** Brilliant hatch and not much financial gulf to a Golf. Try sporty S-line on supple SE chassis

A3 CABRIOLET ★★★★★

> Premium sun-grabber without macho sports-car posturing. A bit tight in the back, but pretty tight in the bends too. Try a 1.8 TFSI with Sport trim > **VERDICT** Asexual drop-top for sensible-shoes types. Worth the £2k premium over Golf

RS3 ★★★★★

> The superhatch/saloon for those lacking in imagination and/or driving talent, RS3 struts its stuff best in a straight line. But 4.1 to 62mph is well weapon > **VERDICT** Only feel a little bit ashamed for wanting one

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A4 SALOON/AVANT/ALLROAD

★★★★★

> Captain Obvious in every way: lighter, smarter, better to drive – and only microscopically different to look at > **VERDICT** As you were, except inside, where tech obsession offs elegance. Rivals remaining calm

RS4

★★★★★

> Brutal RS treatment makes a monster of ho-hum A4. No 4dr, no manual and no turbos, this wicked wagon's V8 redlines higher than Ferrari's 488 GTB > **VERDICT** Pace and space, but rides like the tyres have a tic. No match for Merc C63

A5 SPORTBACK

★★★★★

> More tech and even better quality doesn't compensate for a lack of personality. Better looking, then so is Dorking after eight pints. You could buy worse but you'll definitely get bored > **VERDICT** It's better to live in than to drive

A5 COUPE/CABRIO

★★★★★

> Deceptive bunny boiler – looks normal until you realise it's killed a TT and is wearing its face. Cue B-road mayhem. Not really > **VERDICT** Even more of an A4 in a frock than the last one, but still better to drive

RS5

★★★★★

> Like a bouncer in a tailored suit, the hot A5's power bulges through the creases in its bodywork. Twin-turbo V6 has full-bodied soundtrack and quattro provides grip in spades > **VERDICT** A composed four-seat express that has power to spare, but it's not the most involving sports car

A6 SALOON/AVANT/ALLROAD

★★★★★

> Demure big Audi an unsung hero, refined and cheap to run. Allroad an SUV for agoraphobics; twin-blown 309bhp BITDi a proper mischief maker > **VERDICT** Base models short on wow, but a solid alternative to better-handling Jag XF

RS6

★★★★★

> For wealthy mentalists who think the S6's 444bhp isn't enough, RS6 delivers 25% more and gives the R8 V10 a hard time at the lights > **VERDICT** Beautifully finished all-weather family wagon that scares supercars silly

A7 SPORTBACK

★★★★★

> Slant-roof A6 takes styling cues from pretty '60s 100 coupe but can't out-cool Merc's CLS. More grippy than a sloth who's been sloppy with the superglue > **VERDICT** Stylish GT with sensible engines, but not quite a sports saloon

RS7

★★★★★

> Pricier, less practical RS6 with fastback rear, same guts but gets clever rear diff as standard for oversteer here, there and everywhere, given roph > **VERDICT** An Aston Rapide for the AA-goraphobic, but we'd have the naughtier RS6

A8

★★★★★

> Audi's elder statesman for elder statesmen has more tech than CES at Vegas – but who wants people to think they're being chauffeured in an A4? > **VERDICT** Gadgets galore, but Merc's incredible S-Class nails the luxury basics better

Q2

★★★★★

> Odd-looking small SUV is like a Countryman that's lost a battle with a set-square. Nice enough to drive but still a nerd to the Mini's prom queen > **VERDICT** The Q doesn't stand for Quasimodo. Probably

Q3

★★★★★

> Dumpy dinky faux field forager is a yummy mummy fave. Forget 4wd and the diesels and go for light, zippy, 1.4 TFSI > **VERDICT** So much better to drive than it looks. Which it'd have to be, right? Unless it was an Alfa

RSQ3

★★★★★

> Audi's first tall-boy RS model. Hearing of the £45k price or unleashing that 335bhp five-pot both elicit same incredulous gasp > **VERDICT** Who needs this stuff? Short people in a rush? Better than a GLA45 AMG

Q5

★★★★★

> A4-MLB2 in Barbour, Q5 ups the comfort, tech, looks similar to the old one... textbook

Audi v2.0 in other words, but still something you'd want on your drive > **VERDICT** Expect to be swearing at one soon

Q7

★★★★★

> German heavy metal turns techno as Mk2 Q7 sheds weight despite megaload of extra gizmos. High-performance SQ7 TDI mind-bendingly adept > **VERDICT** They thought of everything but the charm

TT COUPE/ROADSTER

★★★★★

> Brilliant coupe gets virtual dash and sharper handling. Try 2.0 FSI. Boot big, but the rear seat's for handbags only > **VERDICT** A proper real-world sports car – but the same money buys an early R8

TT RS

★★★★★

> At the outer limits of the TT's dynamic envelope, a 17% power hike ekes 395bhp from five pots and targets wounded Cayman > **VERDICT** Audi springs the offside trap, rounds the keeper, but hits the bar. So close!

R8 V10/V10 PLUS

★★★★★

> Friday-afternoon restyle meets Monday-morning mechanics. New R8 offers no V8 for now, but V10 is back with 533bhp or Lambo-equalling 602bhp > **VERDICT** A Lamborghini Huracan for £50k less. Friendly but ballistic; playful chassis a joy

BAC

★★★★★

MONO

★★★★★

> Single-seat racer that took a wrong turn out of the pits. Pushrod suspension, Cosworth-tuned 2.3 Duratec and bath-like driving position > **VERDICT** Sublime track tool with a six-figure price that'd net you a Cayman GT4 and an Atom

BENTLEY

★★★★★

BENTAYGA

★★★★★

> Cynics will say it's a Q7 in expensive jewellery, but The World's Fastest SUV matches 187mph top speed with superb chassis. We flambéed the brakes > **VERDICT** Super-lux options include £110k Breitling clock. Or spend the same on a two-bed semi in Crewe

BENTAYGA DIESEL

★★★★★

> They said it would never happen, but we knew it would. Still fast, still heavy, still thirsty but now you get to use the dirty pumps and only need to stop every other minute > **VERDICT** You might have to lie at the golf club or they'll make you use the tradesmen's entrance

CONTINENTAL GT COUPE/CABRIO

★★★★★

> The repmobile of millionaires. Reliable, well built and full of VW bits. Death Star-smooth W12 sounds more rebellious, while twin-turbo GT V8 S is joyful > **VERDICT** More of a sports car than hefty GT image suggests

CONTINENTAL GT3-R

★★★★★

> Bonkers road racer with Max Power styling, no rear seats and shouty exhaust. Surprisingly nimble using 4wd and torque vectoring, and epically fast thanks to tricked-up V8 > **VERDICT** Uncouth dragger for rich Russians

FLYING SPUR

★★★★★

> Current Spur is sharper to drive, sharper to look at, softer to sit in, and feels less like a stretched Conti. Fridge and iPads essential options for rear-seat recliners > **VERDICT** Think of it as a bargain Roller rather than a pricey A8

MULSANNE

★★★★★

> Huge, hand-built anachronism, with twin-turbo V8 born in the '50s, buffed to perfection, and a field of cows sacrificed for your arse's pleasure > **VERDICT** Buy the Speed – any less outrageous display of consumption is just poor form

BMW

★★★★★

1-SERIES

★★★★★

> Only rear-driver in its class. Good for handling, not for cabin space. Facelift made it 3% less grotesque. 118i petrol a brilliant all-rounder > **VERDICT** Want a roomy, well-appointed hatch that's great to drive and look at? Buy an A3

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Like being close to the road? Or just scared of heights? These are the cars for you...

**LOTUS ELISE** 1177mm

Lowest car on sale in the UK also the lightest. Take that, gravity! Hardtop Exige version is 12mm taller as a concession to hat wearers.

**LAMBORGHINI AVENTADOR S** 1136mm

Third month on the trot that Lambo's bruiser appears on this panel. A car full of superlatives, it seems...

**LAMBORGHINI HURACAN** 1165mm

Baby brother to the Avvo above manages to be taller. Obviously got the height gene from the taller parent.

**ALFA ROMEO 4C** 1184mm

Alfa's angry munchkin is 41mm lower than a Mazda MX-5. Over-compensates by being as wide as the Panama canal.

**MCLAREN 675LT** 1195mm




Shortest McLaren you can buy, but not by much. Rest of the Sports and Super Series ranges take up the next five rankings.



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JUKE ★★★★★

> Mould-breaking compact crossover; you think it would look like that if the mould hadn't broken? Cheap interior and so-so dynamics belie the hype > **VERDICT** Does it still count as 'different' if everybody's got one?

NOTE ★★★★★

> Like a Honda Jazz with middle-age spread, this is a small, practical MPV-hatch with limited aspirations of greatness > **VERDICT** An automotive cardigan: deeply uncool but good at what it does

LEAF ★★★★★

> Gawky looking EV pioneer now with 20% extra range. Updated interior even more like a Star Trek shuttle, and not in a good way > **VERDICT** BMW i3 far funkier, Renault Zoe far cheaper, internal combustion still superior. Beam us up

PULSAR ★★★★★

> So dull it can only be explained by a conspiracy theory claiming it owes its entire existence to a long-range Qashqai sales-boost strategy > **VERDICT** Buy a Focus. Or a Golf. Or a Ceed. Or an Auris. Okay, maybe not an Auris...

QASHQAI ★★★★★

> Crossover for the masses gets more luxury and a facelift > **VERDICT** It's no Volvo XC but still has huge family appeal

X-TRAIL ★★★★★

> The X-Trail used to be a rough-tough off-roader apparently designed on an Etch-a-Sketch. Now it's a Qashqai put through a photocopier at +10% > **VERDICT** It still ain't exciting. But it's probably going to sell a lot better

GT-R ★★★★★

> Now with a slightly thicker veneer of luxury (and another 20bhp) – but still basically a hardcase moments from rage > **VERDICT** Drivetrain sounds like a drum kit falling down the stairs; leaves your brain feeling much the same

PAGANI

HYUARA ★★★★★

> Spectacular cottage industry supercar with active aero, AMG-built 720bhp twin-turbo V12 and an interior more decadent than a Roman orgy > **VERDICT** Want one but they're all sold

PEUGEOT

108 ★★★★★

> Pug-faced city car. Go for 82bhp 1.2: the 68bhp 1.0 is so slow we were all monkeys when it set off and it still hasn't hit 60mph > **VERDICT** Reasonable no-frills city car but boot and rear space tight. Skoda Citigo is better

208 ★★★★★

> Refresh more than just a prettier face as dynamic update adds handling chops to 208's interior chic > **VERDICT** Pug's recovered that VaVaVoom from the back of the sofa. No, wait – that's the other lot

308 HATCH/SW ESTATE ★★★★★

> Hushed 308 at its best when eating motorway miles, or when you're watching it out of the window of your Golf. Fiddly touchscreen > **VERDICT** Hatch isn't up to scratch, but roomier SW wagon is worth a look

308 GTi ★★★★★

> Discreet styling hides playful proclivities; LSD keeps things tight up front while fantastic chassis delivers lively rear > **VERDICT** 250 and 270 variants both great, but 270 gets more kit

508 SALOON/ESTATE ★★★★★

> Little-seen XL Pug with unconvincing cod German accent. Hybrid4 gets 4wd via 37bhp 'leccy motor on rear wheels > **VERDICT** RXH is poor man's Audi Allroad. Rest of range is padding on your company car list

PARTNER TEPEE ★★★★★

> Spacious, versatile Tepee so useful it could almost be a van. Funny, that. More practical than a regular MPV, drives okay > **VERDICT** Make your own clothes? Live in a yurt? This is for you

2008 ★★★★★

> Welly-wearing 208 gets a facelift which hits on the idea of actually resembling an SUV, and

at a stroke makes a decent car more credible

> **VERDICT** Not so much leaping on the SUV bandwagon as hitching a ride... but it's an attractive hitchhiker

3008 ★★★★★

> Tell friends you've bought one and they'll laugh until they see it. Sharp to look at, surprisingly good fun to drive and not too weird > **VERDICT** Just make it absolutely clear you've not bought the old one

5008 ★★★★★

> Edgy design inside and out hides genuine practicality and, in the 5008, seven seats. Rejoice as Peugeot demonstrates it really has got its act together > **VERDICT** Annoy the Germans and buy French

PORSCHE

718 BOXSTER ★★★★★

> The turbo revolution continues as Boxster bins the six for a brace of faster forced-induction fours. Updated face now flatter than Brian Harvey's > **VERDICT** Whole lotta lag; chassis still a stairway to heaven

718 CAYMAN ★★★★★

> Efficiency march means sublime outgoing model ditches choral flat-six for punchy but industrial turbo four. Gets uglier in the process, still handles like you wish all cars would > **VERDICT** Better by the numbers but... know any nice 981s for sale?

CAYMAN GT4 ★★★★★

> Junior GT3 is first Cayman to get more power than current 911: 380bhp, manual 'box, LSD and a grin wider than a Glasgow smile > **VERDICT** Porsche finally admits that the Cayman and not the 911 is its real sports coupe

911 ★★★★★

> 991.2 may not look much different but under the skin lurks a whole new range of turbocharged engines. The most grown-up 911 yet > **VERDICT** Rear-engined appeal lives on. Proper Turbo now utterly ferocious, Turbo S untinged

911 GT3 ★★★★★

> Yes, another brilliant 911, but you didn't really think Porsche would get this one wrong, did you? Optional manual 'box makes car nerds everywhere weak at the knees > **VERDICT** More accessible, more fun and more GT3-ish

911R ★★★★★

> The 911 that Porsche secretly wants the 911 still to be. It's an anti-991.2: a non-turbo 4.0 bruiser in retro disguise, with 493bhp and manual 'box > **VERDICT** Supple, poised, supreme fun. But we'd still have a Cayman GT4

918 ★★★★★

> Epic 4wd hybrid can waste GTis with 6sec 0-62mph electric mode, then slay Lambos by adding 600bhp V8. Superb electric steering, too > **VERDICT** Almost overshadowed in the P1-LaFerrari posturing war, but easily as good

MACAN ★★★★★

BEST IN CLASS > Baby Cayenne is even better than dad – and better than the rival Evoque too. Base car with Golf GTI 2.0 makes no sense when S and S Diesel are pennies more > **VERDICT** GT3 RS for trackdays, Cayman GT4 for weekends, this for everything else. Sorted

CAYENNE ★★★★★

> Porsche's cash-cow is a prize German Angus now, handsome and the best SUV to drive. V6 S quick, too quiet, Diesel S dynamite > **VERDICT** A proper Porker? Turbo S's sub-8min Nürburgring lap time says yes

PANAMERA ★★★★★

> The Mk1 was just throat-clearing; this Mk2 is the opera. Drips with tech, innovation and better dynamics – and it looks perfect > **VERDICT** A lesson in making nonsensical niches make perfect sense

RADICAL

SR3 SL ★★★★★

> Properly type-approved (street legal) SR3 gets a 300bhp blown Ford 2.0 instead of a motorcycle engine, a heater and even a 12v

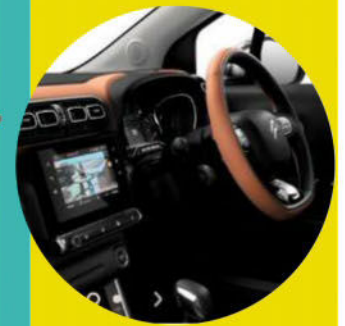
**SPEC EXPERT
BUILD THE PERFECT
CITROËN C3 AIRCROSS**

Citroën has found its funky mojo again, so we thought we'd challenge Citroën's product team to build us a definitive C3 Aircross

With over 80 colour combinations, we knew spec'ing a perfect Aircross would be tough, but the car's product manager, Daniel Bullimore, delivered. Our car is in top-shelf Flair spec, with the 1.2-litre PureTech 110 petrol engine and a five-speed manual gearbox. The punchy three-pot is capable of an 11.3sec 0-62mph time and a claimed economy figure of 56.5mpg combined. **Starting price: £18,000**

Every C3 Aircross comes with DAB radio, cruise control, automatic headlights and a slew of safety functions including lane departure warning. Stepping up to the top-shelf Flair, like our car, you're treated to 17-inch diamond-cut alloys, a seven-inch touchscreen with Citroën's emergency assistance system, all-round electric windows, dual-zone climate control, rear parking sensors and keyless entry/start. The latest Citroën Connect nav is standard, with TomTom live traffic services. **Running total: £18,520**

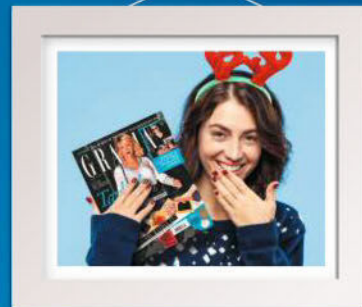
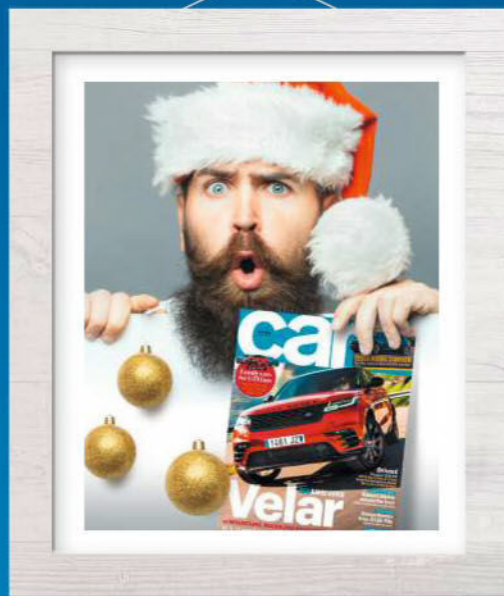
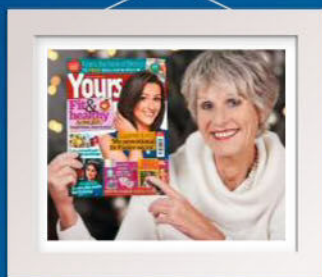
Our product expert almost went for the Soft Sand and orange pack combo, but instead threw us a curveball. Our Aircross is finished in Breathing Blue (£520) with a black contrasting roof. The look is then finished with the no-cost Silver colour pack, which paints the roof rails and door mirrors in a metallic finish and adds a silver Venetian blind effect on the C-pillar window. 'That's the great thing about the colour choices; it can match your personality by going as subtle or as loud as you like,' Daniel says. **Running total: £18,520**



The exterior styling may be neat, but it's with the cabin that the C3 Aircross really comes into its own. Citroën's expert chose to add the Hype Colorado upholstery upgrade (£750) which coats the seats, dashboard topper and steering wheel in tan leather. **Total price: £19,270**



TOTAL PRICE: £19,270



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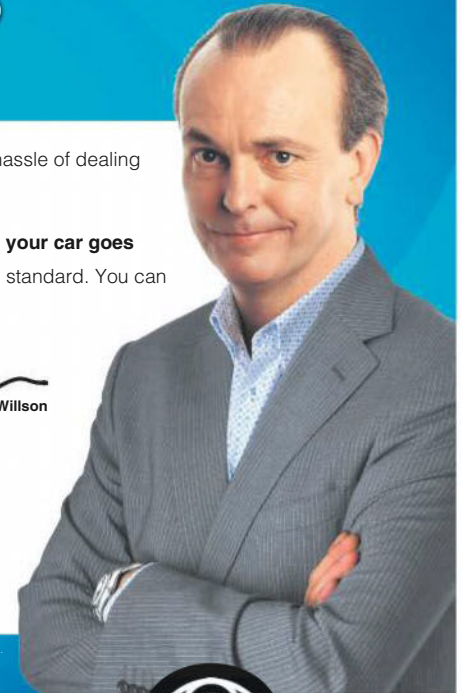


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The car TOP 10.

Sébastien Loeb landmarks

Even when he doesn't win, he loses in interesting ways. But mostly he does win, in a staggering variety of motorsport disciplines. By **Colin Overland**



1

THE FIRST WRC WIN

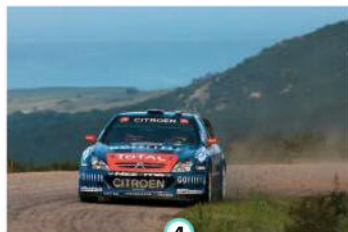
When he scored his first WRC win in 2002 in Germany, winning wasn't exactly a new experience for Loeb, a regional champion gymnast turned French Citroën Saxo Trophy holder turned Junior WRC victor. But who'd have guessed he'd go on to take nine successive WRC titles, 2004-2012?



2

THE WIN THAT PROVED HE WASN'T JUST A TARMAC GUY

Loeb made his reputation with a phenomenal degree of success on tarmac. But when the calendar also includes sand, gravel and snow, you need to be good on all surfaces. In 2004 he became the first non-Scandinavian to win the Rally Sweden.



4

THE YEAR 'OFF'

Citroën pulled out at the end of 2005, the idea being that Loeb would help develop the new C4 WRC during 2006 and return as Citroën's star driver in 2007. That all happened, except Loeb also competed in '06 as a Citroën privateer. He broke his leg and missed the last four rounds, but still won.



5

THE BONUS ROUND

Come the summer break in the 2007 season, Loeb was uncharacteristically not leading the championship. To keep his hand in, and prepare for the Irish round later in the season, he entered a relatively low-key rally in Donegal. Loeb rediscovered his groove and went on to take title number four.



3

THE WIN HE THREW AWAY

The records were tumbling in 2005: first to win six consecutive rallies, first to win seven in a season. He could have clinched the title in Wales, but deliberately got a time penalty so he didn't have enough points to nab the crown. Why? Because a co-driver had been killed, and Loeb didn't want to be popping champagne corks in the circumstances.



6

HIGH ACHIEVER

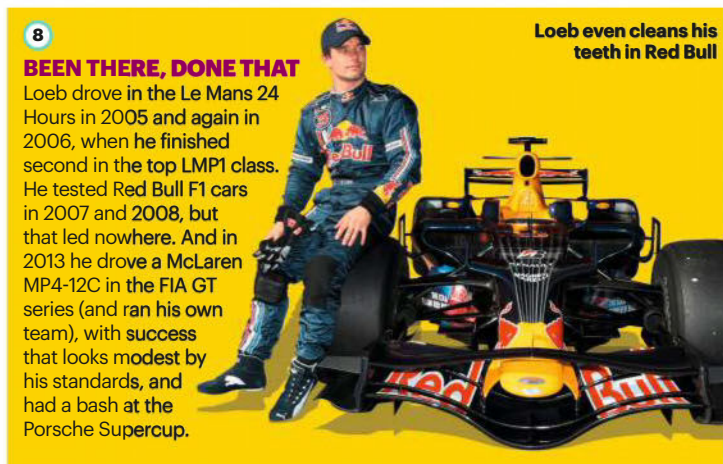
When the Citroën works car became the DS3 in 2011, Loeb kept on bagging the wins, but announced his retirement from full-time WRC at the end of 2012. In 2013 he competed in just the four rounds, winning two of them. And he raced in the 2013 Pikes Peak hillclimb, winning in a Peugeot.



7

THE WTC YEARS

Continuing his habit of making it look easy, Loeb drove a works Citroën C-Elysée in the World Touring Car Championship in 2014-'15. Against rivals including circuit racing pros such as Yvan Muller, Tom Chilton and Gabriele Tarquini, he finished both seasons third.



8

BEEN THERE, DONE THAT

Loeb drove in the Le Mans 24 Hours in 2005 and again in 2006, when he finished second in the top LMP1 class. He tested Red Bull F1 cars in 2007 and 2008, but that led nowhere. And in 2013 he drove a McLaren MP4-12C in the FIA GT series (and ran his own team), with success that looks modest by his standards, and had a bash at the Porsche Supercup.

Loeb even cleans his teeth in Red Bull



9

HIS NEW HOME

Last year and this, Loeb has been a works Peugeot driver in the FIA World Rallycross series. He is lined up to return in the 2018 season, while also looking likely to take part in a few WRC rounds in the new Citroën C3 WRC, although that may not happen until 2019.



10

THE WIN THAT HASN'T HAPPENED YET

The winningest WRC driver ever has set his sights on Dakar victory, and will have a third try this winter. He ran strongly in the summer's Silk Way Rally and October's Rally du Maroc, but desert glory has eluded him... so far.

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