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Ed speak



THE BEST DRIVER RACES THE BEST CAR. YOU MIGHT

have seen this quoted in press reports and across social media after Lewis Hamilton recorded the most Formula 1 race victories in history. Naturally it sparked the tiresome debate that Hamilton's achievement was down to the car rather than his ability behind the wheel.

Hamilton is undoubtedly in the best car, but he has also been instrumental in making the Mercedes an unbeatable car. Technology may dictate the motorsport rules but you still need a driver to work with an engineering team to determine what does and doesn't work. And to also make those split-second decisions when they are three

abreast heading into turn one.

But to denounce any driver's achievement and put it all down to the car they have negotiated their way to race is a level of naivety that's hard to comprehend. If winning in a Mercedes is so easy, why does Toto Wolff ask Daimler to send a cheque for \$54million to Hamilton each year? Surely you'd pluck a driver willing to pay you for the opportunity to be a six-time world champion, wouldn't you? After all, there are plenty out there who think they could match Hamilton's achievements given the same opportunities judging by the noise created each time he breaks another record.

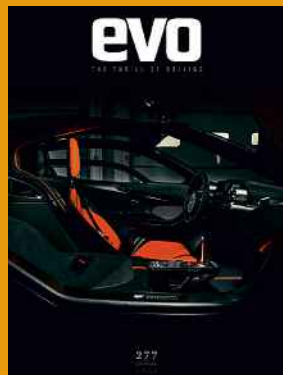
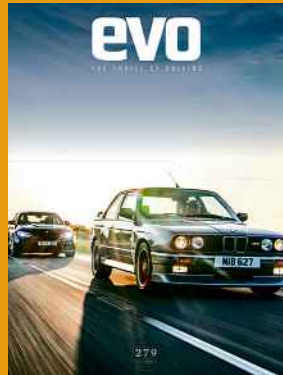
And that's the issue. Very few of us are in the position to know what it takes to be a professional sportsperson, even fewer will have the opportunity. Yet there are many who instantly dismiss some frankly staggering personal sporting achievements on the grounds it wasn't all down to them. But isn't that true of all successful athletes? They rise to the top of their chosen game because someone at sometime saw something special in them and invested time, money and resources in making them the best of the best.

From athletics to football, cycling to sailing, cricket to rugby, every person competing at the top level of any sport is doing so because they are part of a team, both on and off the field. Hamilton wasn't the only driver to have been given the opportunity he was by Mercedes and McLaren at the beginning of his career, but it's safe to say he grasped that opportunity tighter than any and has been instrumental in building a team that's enabled him to make history we are unlikely to witness again in F1.

Stuart Gallagher, Editor @stuartg917

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Driven

by ANTONY INGRAM PHOTOGRAPHY by MATT HOWELL

Cupra Leon e-Hybrid

The first Cupra Leon is here – and it's a plug-in hybrid.
Can it convince hot hatch fans to embrace the batteries?

REMEMBER THE HONDA CR-Z? SURE YOU do; it was the small coupe that looked like a sci-fi CRX and thrummed along courtesy of a 1.5-litre four-cylinder, with a manual gearbox and a snip of hybrid assistance. Sales were never particularly high and the reviews were gently positive rather than glowing, but it really seemed like the future for a bit.

Inevitably, Honda pulled the plug on the slow-selling hybrid in the UK in 2013, and the factory in Suzuka stopped building them for the domestic market in 2016. This was also the year that Bowie, Ali and Prince left this mortal plane, and if there's

any silver lining to losing so many of the greats that year it's that they've not had to endure the coronavirus pandemic, TikTok, and perhaps worst of all, the car industry's continuing inability to create a truly engaging, affordable hybrid.

Why is this still the case? The CR-Z was a perfectly good jumping-off point even if it didn't set the world alight itself. It looked neat, the electric motor sandwiched between the engine and gearbox put a spring in its step, the manual shift was typically Honda-snappy and it'd do 40mpg-plus even on a bad day. All it needed was a bit of development – less weight, even more





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pep, a little less cost. But pickings have not been rich, unless you are, in which case i8s, NSXs and hypercars are your oysters.

Volkswagen tried to redress the balance in 2014 with the Golf GTE. Styled like a bluescale GTI and motivated by a 1.4 TSI and electric motor combo it had the right look and feel. Until you drove it, when you couldn't really get away from the 1524kg kerb weight (248kg more than the GTI) and its effect on every aspect of the way the GTE behaved. It was lovely to knock around in day-to-day – what Mk7 Golf wasn't? – but the reality was more of a Volkswagen Prius than a truly sporty hybrid.

Only VW and Audi offered their group's plug-in set-up in its first generation, but this time around Skoda and SEAT are in on the act too. Well, Skoda and Cupra, now that SEAT's sporty badge has been spun off into its own bronze-tinted brand. And in the Leon e-Hybrid you see here you'll find the latest iteration of the drivetrain that powered those GTEs.

It comprises a 1.4-litre direct-injected and turbocharged four-cylinder capable of 148bhp and 184lb ft of torque, snuggled up to a 113bhp, 243lb ft electric motor fed by a 12.8kWh lithium-ion battery pack. As ever, you can't just tot up the individual outputs to arrive at peak figures, as internal combustion engines and electric motors work in



‘The chassis is fundamentally good, with echoes of the previous Leon’s’



Above left: e-Hybrid has an ungainly amount of air in its wheelarches for a hot hatch. **Left:** interior favours touchscreens over physical buttons. **Right:** bronze details abound, including the faux tailpipe finishers

very different ways, so Cupra quotes combined maximums of 242bhp and 295lb ft, with no specified engine or motor speed for either.

Incidentally, that power output will be equalled by the conventional 2-litre, EA888-powered Leon also joining the range, which gets a seven-speed dual-clutch transmission while the e-Hybrid's is a six-speed. Both cars are front-wheel drive, as will be the punchier 297bhp variant due soon, while Leon ST (estate) buyers will have the option of a 306bhp motor and Haldex all-wheel drive, much like last time around.

It's the hybrid you see here though, whose tax-friendly CO2 rating of around 32g/km (an exact figure is yet to be confirmed) and GTI-matching performance will no doubt be appealing to customers squeezed out of more conventional hot hatches by ever-escalating costs. With a claimed EV-mode range of 32 miles there's also enough juice to cover the average commute, provided you have somewhere to charge it each day. Cupra quotes a 1596kg kerb weight, so if you want to make the



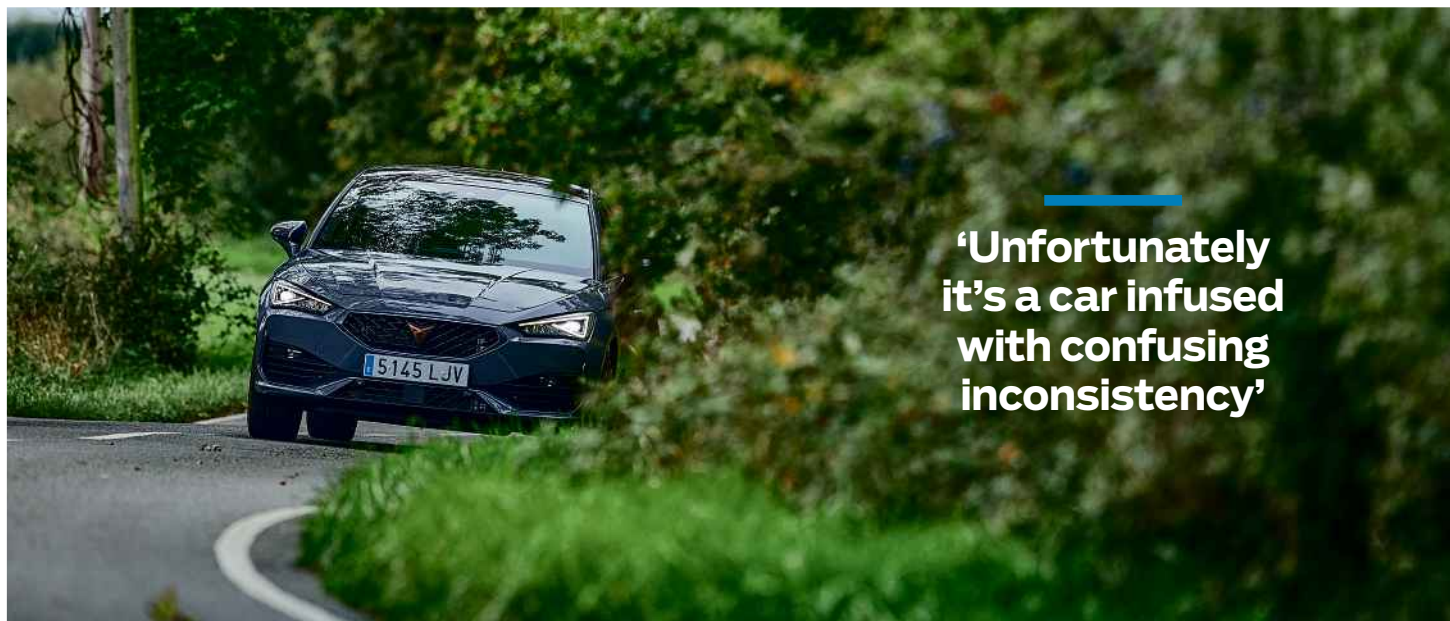
most of the car and give that weight a purpose, you really should try to plug it in.

The need to stash a battery has had an unfortunate effect on the car's styling too. The latest Leon isn't unattractive, and the combination of grey paintwork ('It looks like a binbag,' says **evo** art editor Rich Browne) and copper detailing is down to personal taste. But it also looks like someone at Cupra specified the springs from the Formentor crossover, because the Leon sits a good couple of inches too high for a proper hot hatch stance, while its conventionally powered counterparts look much more hunkered-down. No doubt companies like Abt will make plenty of

money from lowering kits over the next few years.

They might struggle to apply their touch to the cabin, which has more copper/bronze accents, and a vaguely Lamborghini look to the shape of certain surfaces, with hexagonal vents and an appealing LED-lit sweep from the door cards around the dashboard at the base of the windscreen. Like its MQB stablemates there's an emphasis on digital information, with a TFT instrument cluster and a touchscreen atop the dash, but with minimal physical controls Cupra has gone with Golf-style flash over Audi and Skoda's more usable, slightly more button-heavy interpretation.

The seats and wheel are both good to use, but other elements not so much. Exhibit A is the Porsche 992-style gearshift nub in the centre console, fashioned from even nastier plastic. The gearshift paddles behind the wheel are formed from a similar substance and are no better on the fingertips. That's if your fingertips can even reach them, as they're set far enough around to be a stretch for mine, as if Cupra would rather you didn't bother changing gears yourself (prescient, as it turns out). Maybe that's something for those tuners to fix. The wheel itself is where all the buttons from the centre console seem to have ended up, though happily these include dedicated plastic peninsulas



‘Unfortunately it’s a car infused with confusing inconsistency’



for the starter and driving mode buttons, both of which can require a bit of hunting for these days.

Switching on the car doesn't necessarily mean starting the engine in a hybrid, and even without a full charge your first few movements will likely be silent. The sensation never really gets old, and compared to the rowdy cold-start procedures of some rivals there's less to irritate the neighbours too. With a full box of electrons there's enough juice for a real-world 20 miles in EV mode alone, but predictably I'm one of those people who has no choice but to park on a street nowhere near any kind of power outlet. Since I also didn't fancy going to a motorway services just to occupy a charger space that someone with a full battery electric vehicle might actually need to use to continue their journey, the car functioned as a regular hybrid for most of its week with us, lugging around an empty battery underneath it like a pregnant cat.

The Cupra doesn't feel entirely happy with its combination of engine and motor. The latter generates plenty of twist, but its power figure is pretty puny for a 1.6-ton car, so EV-only sprints are relatively gentle. It also seems easily befuddled when asked to transition between electric and combustion power under harder acceleration, like there's an overworked switchboard operator under the bonnet attempting to cross half a dozen wires to make things go. In more powerful hybrids the brief wait for combustion to kick in is usually masked by quick-thinking electric step-off, but in the time it takes the Leon to wake up, the average dual-clutch hot hatch would already have covered several car lengths.

It's confusing in other ways too. In time you'd get used to the way regen cleverly kicks in to bring you down from the national speed limit to a 30mph zone at the perfect time, but the way you're not

always sure whether the car will drag or coast is an inconsistency that takes some adapting to. If you have the temerity to switch to Sport or Cupra mode in this hot hatchback, an action that puts the transmission in Sport, you'll also get regular visual warnings that occupy the entire instrument display suggesting you should maybe pop the gearbox back into Normal to save fuel.

The regen does weird things with brake feel, lane keep assist kicks in every time you restart the car (and after switching it off, it resets your instrument display, like one of those seats in three-door cars that never returns to the right place when you let someone in the back), and the EV torque tugs unpredictably at the steering out of junctions. It's all just bizarrely disjointed, like Cupra couldn't decide whether the car should be a hot hatch or a Prius rival.

Thankfully things improve if you start ignoring the

inconsistencies and adopt a regular hot hatch driving style. There's little notable difference between the car's behaviour in Normal, Sport and Cupra modes, so you might as well use Cupra all the time. This also gets the most audible piped-in sounds – a curious but not unappealing five-cylinder-style growl that actually continues under throttle even if the engine is off – and regeneration when lifting off that is stronger and applied more predictably.

Slowing down is spoiled somewhat by a complete absence of engine or exhaust noise on the overrun. This also means there's no audible clue to whether you're attempting a tight turn in second or fourth gear, which can lead to an awkward moment when you try to accelerate out the other side. Given the current gear is represented by a tiny number hidden in the busy instrument cluster, you either have to memorise gearchanges or just leave it in auto.

A saving grace is that, much like the Golf GTI and Audi S3 we've recently tried, the Cupra has a fundamentally good chassis. Planted without being inert, it's blessed with smooth and consistent steering, good traction once the engine's calling the shots rather than the electric element muddying things, and brakes that feel better when they're operating under friction rather than regeneration.

It's nicely balanced too. While never quite hiding its bulk, there are echoes of the previous Leon here in the strong front-end bite and the manageable way in which the rear end arcs around to help you place the nose. The wide, 235-section Goodyear Eagle F1 SuperSport tyres are thankfully more performance than economy orientated and generate good grip, and the lofty ride height seems to benefit a generally pliant ride – albeit one occasionally spoiled by side-to-side rocking over certain surfaces, or thumps from

a 19-inch wheel troubling the suspension's limits.

However, the chassis, unfortunately, is not enough to recommend the Cupra Leon e-Hybrid. It's a car infused with the confusing inconsistency that seems to stem from the Cupra brand itself: whether to be sporty and youthful like Cupras of old, or sophisticated and environmentally conscious to reflect the way the industry as a whole is moving. In the meantime, buy a Prius if you want an excellent hybrid car, and maybe stick around for the conventionally motivated Cupra Leons if you fancy a proper hot hatch.

Engine In-line 4-cyl, 1395cc, turbocharged, plus 85kW electric motor
Power 242bhp **Torque** 295lb ft **Weight** 1596kg (154bhp/ton)
0-62mph 6.7sec **Top speed** 140mph **Price** TBC

- + Steers and handles neatly; tax-friendly
- Doesn't seem sure what it wants to be

evo rating ★★★★★





Rolls-Royce Ghost

Latest Ghost gets a new platform, four-wheel steering and fresh looks, and continues to set the luxury saloon bar

THIS IS NOT A DRIVER'S CAR, DESPITE it being the only Rolls-Royce saloon designed and engineered 'for being driven in' and 'for driving', but the new Ghost is the nearest Goodwood's only car manufacturer gets to building such a thing.

And quite a thing it is too, at over five and a half metres long, more than two metres wide and crushing the scales at 2490kg, although compared to some luxury SUVs that last figure doesn't sound that bad. Well, obviously it is an obscene weight for a car, but considering what goes into constructing a Rolls-Royce Ghost you might expect that number to start with a three. I mean, there's 100kg of sound insulation alone...

This new Ghost is the first 'post-opulence' Rolls-Royce – a philosophy that matches the requirements of RR customers who have a desire to be less conspicuous and overt... by buying a 5.5-metre long, near 2.5-ton saloon car that set

them back £208,000 before local taxes and selecting their preferred mix of leather and lambswool. Just when you thought the world couldn't get any stranger.

The latest Ghost is built on a new modular aluminium architecture that allows for the dimensions to be adapted to suit the vehicle that it's underpinning, from Phantom to Cullinan. And while the strands of BMW DNA are no longer so prevalent in what was Rolls-Royce's best-selling car (a title the aforementioned SUV is likely to claim sooner rather than later), the 6.75-litre V12, now stamped with a Rolls-Royce part number even though it isn't cast in the Sussex countryside, still has a Munich twang to it.

From bumper to bumper this Ghost is an all-new design, the detailing less shouty, the shutline count reduced to an absolute minimum and none of them wider than a hair's breadth. But it remains a vast car, with a heft to its body

that from some angles gives the impression it's sinking into the surface beneath.

Its size doesn't diminish once you're driving it, either. You sit high behind the wheel and might even find yourself raising the seat a little higher still, so you can at least see the outer edges of the aluminium real estate that makes up the bonnet. Yet despite the cleaner design you still feel as conspicuous as you would sitting in a Caterham, roof down in the rain, trying to blend in to a morning commute on London's M25.

Suspending the new Ghost are air springs and adaptive dampers, the latter pre-set by Rolls-Royce with no options for further configuration by the driver. Not that you ever think twice about it, just as you also don't think twice about not being able to manually select any of the eight forward gears. Four-wheel drive is now joined by four-wheel steering, but it would be a stretch to suggest it sharpens the car's agility; rather it



'It cuts a hole through the air surprisingly quickly'

makes it more manageable and manoeuvrable. There is also a 12V active anti-roll bar fitted to the multi-link rear axle that works with a front-mounted camera to react accordingly when a lump, bump or tiresome compression is detected.

All this engineering deserves acknowledgement for resulting in a vehicle that can be driven with all the ease and comfort of any mainstream luxury car but in surroundings that push refinement and luxury to another level. Yes, it feels ridiculously large for our roads when you're sitting up front (and even larger when you're in the rear), and in today's world of cast-iron body control there's more lean than you'd anticipate, but it doesn't distract or leave you hanging on. It just feels right, the Ghost remaining consistent and predictable as you guide it with the lightest of touches in blissful isolation from those around you. A Bentley Flying Spur is sharper, more direct and arguably as well appointed, but the car from

Crewe lacks the presence and sense of occasion of Goodwood's newest family member. The Ghost provides an incredibly grand way to arrive, although the journey is unlikely to be filed among your greatest driving memories.

The fitment of a mass damper to the double-wishbone front suspension is intended to minimise shocks over poor surfaces, but it still can't isolate you from all that mass being worked over beneath you. There's also a degree more tyre noise than you'd expect when travelling across coarse surfaces, and while wind noise doesn't penetrate the door and window seals you're still aware that a car of these proportions will never be truly silent when cutting a hole through the air.

It cuts that hole surprisingly quickly though, as you'd expect of a machine calling upon 627lb ft of torque at just 700rpm above its twin-turbo V12's 900rpm idle speed. And that V12 operates with an eerie silence and is accompanied by an automatic

Above: interior options include a wide range of leather colours (or combinations of colours) and high gloss or open pore veneers, and if you can't find a combination to suit your taste, you can always go bespoke...

transmission that delivers shifts as seamless as the powertrain in an electric car. Which begs the question: why isn't the Ghost electric? If today's Rolls-Royce customers operate in a post-opulence world, surely this should also extend to them driving a post-ICE car?

Stuart Gallagher

Engine V12, 6749cc, twin-turbo **Power** 563bhp @ 5000rpm
Torque 627lb ft @ 1600rpm **Weight** 2490kg (230bhp/ton)
0-62mph 4.8sec **Top speed** 155mph (limited)
Basic price £249,600

+ Luxury and refinement unrivalled by others
+ Still better to be driven in than to drive

evo rating ★★★★★



Polestar 2 Performance

Tesla's Model 3 has had things its own way in the performance EV market. The Polestar 2 aims to change that

IT'S UNLIKELY VOLVO WAS TOP OF YOUR list to be the first to build a rival to the Tesla Model 3, but that's exactly what it has done with its Polestar 2, its first all-electric car. Built in China by Volvo's electric car offshoot Polestar, the 2 is based on the Swedish-built XC40, using the crossover's all-steel chassis, adding 150kW electric motors on the front and rear axles and installing a 78kWh battery pack in the transmission tunnel and under the rear seat.

Despite its Far East birthplace, the 2's design has a clear Scandinavian influence, which is no bad thing for attracting customers on the cusp of transitioning from an ICE car to an EV and who aren't bowled over by the designs that leave Franz von Holzhausen's sketch pad at Tesla. And as one Model 3-owning friend of **evo** pointed out: 'It's nice to see that the doors fit and the boot doesn't look like it will resemble a pond every time it rains.'

What strikes you about the Polestar 2 is how tall

it is (thanks to sitting on a platform designed for a crossover) and how heavy it looks in the body; you get a lot of real estate for your £46,900 – or £51,900 in the tested Performance spec – and, at 2048kg, a lot of weight, too. Hauling that weight is the equivalent of 402bhp and 487lb ft, the latter available from zero 'revs', and the resulting 199bhp per ton on a par with a Mégane 275 Trophy. Not that the hot hatch can match the Polestar for off-the-line shove, with that instant torque seeing the 2 reach 62mph in 4.7sec.

Like all electric cars, full-throttle applications result in instant forward propulsion in near absolute silence bar some tyre and wind noise, and whine from the motors. The 201kg-lighter Model 3 feels more sprightly and reacts with more vigour and violence, but Polestar hasn't gone for all-out YouTube views. Which is refreshing, because there's no more an uncomfortable experience than full-bore launches in an electric car.

But it does have that 402bhp, and in Performance trim is also equipped with dinner plate-sized Brembo brakes and, rather curiously, 20-way adjustable Öhlins dampers. So while the traffic-light grand prix wasn't top of Polestar's list, clearly there's some intention to appeal to the driver.

The fitment of Öhlins dampers has resulted in a great deal of chatter, although curiously only some of this has touched on the ride, which is truly, unacceptably awful. At times you think the springs and those fancy Öhlins have made way for batteries. There is no need for a car such as this to, firstly, have such a poor ride quality (Polestar has set the ride on our test car to what it considers 'standard') and, secondly, be fitted with 20-way adjustable dampers that even the PR said only three people would ever experiment with (him, a chassis specialist paid to do so and possibly an inquisitive journalist). For a car designed to segue motorists into 21st century mobility it feels at odds to bring with it a piece of



‘Clearly there’s some intention to appeal to the driver’

technology from the 20th century enjoyed only by those with very specific ride and handling needs for their very niche sports cars. If only Polestar’s owners, Geely, also owned a company considered to be the world’s number one for ride and handling that could help with the 2’s set-up...

Away from the 2’s ride, Polestar has blended ICE familiarity with EV convenience well. The interior is pure Volvo but with the added benefit of an infotainment system that works, although the seats aren’t as comfortable as those in a Swedish-built product. The necessity to retain the

transmission tunnel for battery storage does mean the open cockpit and sense of space other EVs offer is absent, however. The autonomous systems you’d expect of an EV, such as active cruise control and the equivalent of Tesla’s Autopilot, are all here, too. The former is better calibrated in the Polestar, the latter far smoother in operation in the Tesla.

If you fancy taking control yourself you’ll find the 2 has plenty of grip and corners with a flatness that comes as no surprise considering how it thumps down the road. The artificial weight dialled in to the steering does an OK job of letting you know what’s going on up front, but you make small adjustments late in a corner when your eyes, not the steering, tell you a little more or less lock is required. Those vast Brembos never feel like they will let you down and are neatly calibrated, with the configurable regen settings making the 2 a pretty good one-pedal car.

There’s a refreshing lack of driver modes, not having a ‘start’ button will frustrate a few people

Top left: front Brembo brakes part of £5000 optional Performance package. **Top Right:** ride quality is poor, not helped by the 20-way adjustable Öhlins dampers. **Above:** cabin is unmistakably Volvo in its design

making the switch to an EV – get in, select Drive and away you go – and it’s a car that generates considerable nods of appreciation. A claimed 292 miles of range makes a nice headline, but the reality is closer to 200-230 miles. It’s taken a while, and it’s from an unlikely source, but finally there’s a credible alternative to Tesla.

Stuart Gallagher

Motors 2 x 150kW **Power** 402bhp
Torque 487lb ft **Weight** 2048kg (199bhp/ton)

0-62mph 4.7sec **Top speed** 127mph **Basic price** £51,900

➕ It’s an EV that doesn’t look like it’s melted in the microwave

➖ There’s more to a performance car than straight-line speed

evo rating ★★★★★

Driven



by JOHN BARKER

Hyundai i20 N

Hyundai's i30 N put the cat firmly among the hot hatch pigeons. Will some more feathers now be ruffled with this, its smaller i20 N brother?



WITH SCALED-DOWN i30 N LOOKS, 201BHP AND SUPERB handling, the i20 N has the Fiesta ST slap bang in its cross hairs. Having muscled in on the hot hatch market with the capable, polished and well-equipped i30 N, Hyundai is now looking to do the same in the junior sector. And having driven a near sign-off spec i20 N on road and track, I reckon it's pretty much got everything it needs to do the job.

The standard i20 isn't a car we're familiar with at *evo*. Hyundai's WRC challenger is an i20, but that's based on a three-door that's no longer sold in the UK. The standard five-door is a sharp-looking thing though, with crisp lines and distinctive 'Zorro' rear lights, and it looks good given the full N treatment.

Building family resemblance, the hot i20 is available with Hyundai's Marmite Performance Blue paint and features bold red highlights on its lower trim that match the brake calipers for the upscaled discs. There's a spoiler perched on the top of the tailgate, and filling the standard arches are 18-inch alloys with 215-section Pirelli P Zeros – the biggest that would fit.

Hop in and it feels a bit tall and narrow because, well, that's how it is in the B-segment. The Fiesta is similar but welcomes you with the embrace of a well-bolstered, body-hugging Recaro. The i20 feels a bit less intimate, a bit more ordinary, but also gives you the support of a well-shaped seat and adds all the expected trimmings: a sportier-looking steering wheel featuring Performance Blue 'N' mode switches and a red button for rev-matching, plus a metal-faced pedal set and footrest and the gearlever from the i30 N.

The fully TFT instrument pack offers a dial configuration for each mode (Eco, Normal, Sport, N and N Individual), while to the right (in this left-hand-drive car) is a huge touchscreen giving access to navigation, climate control and also the configurable drive modes, allowing you to adjust throttle response, the noise of the valved exhaust, steering weight and stability control settings.

There's no adjustable damping, which limits the scope of the character shift available, but what will prove more significant than this is the fitment of a mechanical limited-slip differential. The way this Torsen-style diff enhances the dynamic ability and character of the little Hyundai yet blends in seamlessly is the defining part of the package. Happily, it will be standard on UK cars, but if it turns out to be an option where you are, treat it as an absolute must-have. We got to drive the revised i30 N and the i20 N on the Nürburgring GP circuit and the i20 ran rings around the bigger, more powerful N car...

More on that later. Before getting on track we drove the prototype i20 N on a short but revealing loop of roads in the Nürburgring area, including the extremes of broken-surface, gnarly back roads and a section of derestricted autobahn. The i20 N's engine is a pepped-up version of the 1.6-litre 'Gamma' motor, with variable valve timing, a new turbo and high-pressure fuel injection that help it make 201bhp. It's rather plain sounding, as in-line fours tend to be, even with the rather contrived tailpipe pops and crackles on the overrun.

As a fan of the Fiesta ST's warbly and similarly potent 1.5-litre triple,



I think the Ford is aurally more appealing. The Hyundai's delivery makes for a lively drive though, because although peak torque is a flat on the torque 'curve' – 203lb ft from 1750 to 4500rpm – the engine feels a bit more *fizz-bang!* than that, with a kick at 3000rpm, and that's fine because it's more exciting and the chassis can handle it thanks to the Torsen diff.

The steering is well weighted, reasonably direct and has linear responses, unlike the Fiesta's with its bright, enthusiastic pick-up off-centre. I don't mind this characteristic in the Ford because it makes the car feel alert and up for it right from the off, but the Hyundai doesn't need this because it comes good in the corners. You know you're in a small, tall car on lumpier surfaces, but the ride is good, and pushing on over such roads the i20 is calmer and better composed than the regular Fiesta ST, which starts to unravel dynamically.

Hyundai's N engineers worked hard to get the body strengthening they needed within the constraints of standard i20 bodyshell production. They've added welds at crucial load points, beefed up the front subframe mounting and, as on the i30 N, fitted a brace bar between the rear suspension turrets. Hyundai quotes a kerb weight of just under 1200kg, the same as the Fiesta.

The i20 N should have decent grip because



Above: 201bhp and 203lb ft 1.6-litre four is a pepped-up version of the unit found in Kia's Ceed GT and Proceed GT. **Right:** steering wheel home to 'N' mode switches and a red button to engage rev-matching

the P Zeros have been tuned to suit the car. Carry ambitious speed into a tight corner, get on the throttle early and the i20 doesn't push a little wide with understeer as most front-drive hot hatches would. Instead the i20 N seems to tighten its line. This is the Torsen working its magic.

Because you're anticipating the front pushing wide, the fact that it doesn't makes it seem like it's actually tightened its line. In fact, the further you drive the i20 N, the more impressive the diff installation becomes. It seems that you get all the benefits – terrific traction and cornering grip and





accuracy of line – with none of the side effects. We have yet to try it in the wet, but in the dry there's no tug or weave under acceleration, even on crowned roads, and no steering corruption. There's just lots of positive drive, as opposed to the subtle but nonetheless restrictive interventions of ESC systems that manipulate brakes and throttle.

I wasn't sure what we would learn on the truncated version of the Nürburgring GP circuit, coming as it did after a drive of the revised i30 N, which now has 276bhp (up 5bhp on the old Performance version). It's a great fast hatch, the i30, but it felt a bit lost and inert on the wide track, whereas the i20 N felt brilliant, even though it has considerably less power.

In the pre-drive technical briefing there had been talk of 'corner carving', which sounded like marketing guff but is in fact a great description of what the i20 does. You pick your line, aim for your apex and the i20 turns willingly and you find yourself going for the throttle much earlier than expected. This only seems to help; the nose hooks up and goes exactly where you want, straight to the apex, every time. It feels born to do this, carving cleanly from apex to apex for the whole lap, hooked up and holding the line hard as all 201bhp and 203lb ft is deployed. It's terrific fun, so clean and accurate and positive, and flattering.

Everything else works too: the upsized brakes have power and bite, the shift of the beefed-up six-speed gearbox feels light but drops home positively, the seats are supportive... You'll have gathered by now that it's an impressive bit of kit and will certainly give the Fiesta ST a hard time when it arrives next May. The one area where it hands an advantage to the Fiesta is that it's only available as a five-door, while you can get a three-door Fiesta. You could argue that the Ford is a better-looking car too.

Dynamically, though, the Hyundai ups the stakes. There's no definitive price yet, but expect it to offer good value, just like the i30 N. With the Torsen diff as standard, we reckon the i20 N will be priced at around £23k – between the stock Fiesta ST-2 (from £22,275) and the ST Performance Edition (£26,495). The latter doesn't have any more power but it does have the dynamic composure on B-roads that the standard ST lacks, and it's going to need it to see off the i20 N. ❌

Engine In-line 4-cyl, 1591cc, turbocharged
Power 201bhp @ 5500-6000rpm
Torque 203lb ft @ 1750-4500rpm **Weight** 1190kg (172bhp/ton)
0-62mph 6.7sec **Top speed** 143mph **Basic price** c£23,000 (est)
evo rating ★★★★★

➕ Fun, accomplished; should have the Fiesta ST worried
 ➖ Five-door only

IGNITION

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Taxidermy: is the French performance car stuffed?

The French government is increasing its punitive taxes on cars based on their CO2 emissions, threatening to kill off the country's performance car sector as we know it



€10,500
IN CO2 TAX

FRANCE HAS TAKEN ANOTHER SWIPE at the performance car, with its already-severe CO2-based taxes in some cases more than doubling for 2021. The increases will result in a new Renault Mégane RS costing its first owner as much as €10,488 in CO2 tax on top of its €40,700 price tag.

These latest increases will most certainly kill off the hot hatch and the wider performance car sector as we know it in France, with the ramifications possibly impacting other key markets within Europe, too. With France essentially shutting its borders to current performance cars, this once strong market will no longer be able to support any business cases set out by manufacturers to produce performance derivatives of more mainstream models if they are powered by petrol alone. In a global market where the cost of sale is scrutinised down to the last penny or cent, making an argument for a high-performance model that needs to be a sales winner and not just a halo car just got harder now France is effectively out of the game.

In 2021 the rates kick in with a €50 tax on cars omitting 133g/km of CO2, rising to a maximum of €29,070 for 218g/km or more; it was initially going to be as high as €40,000 for cars producing 225g/km of CO2 – rising to €50,000 in 2022 – but a recent U-turn by the French government has seen the upper bands scrapped. For now at least.

The writing has been on the wall for a while, with Renault Sport slowly and quietly retreating from a sector it not only led in terms of innovation but also sales. The last hot Clio was barely lukewarm and the current Mégane RS, in pre-facelift guise at least, left us cold, although having set the bar so high in the past our expectations have always been above the norm for any Renault Sport product. France's emission-based taxation had already resulted in Hyundai stopping sales of the i30 N there last year, Toyota and Subaru withdrawing the GT86 and BRZ respectively in 2018, and Kia's Stinger never reaching the country. There are currently no plans

‘THESE LATEST INCREASES WILL KILL OFF THE PERFORMANCE CAR SECTOR IN FRANCE’

for a replacement hot Clio in its current form (more below) and with the next Mégane heading down an electrified path a new Trophy feels like a wish too far.

Electrification is also the route Peugeot Sport is taking for its future models, starting with the 508 PSE hybrid, with its combined 355bhp peak coming from a 197bhp 1.6-litre turbocharged four-cylinder engine mated to two circa-110bhp electric motors, which allow it to avoid any CO2-based sales tax. Any next-gen 208 and 308 GTi models will utilise the same principle, which also means the hot hatch's biggest nemesis, weight, will have a field day.

Plug-in hybrid powertrains are now the preferred route for French manufacturers because if they enable the car to travel at least 50km (31 miles)

on electric power alone they are not subject to the CO2 tax, nor the new sliding-scale tax on weight to be introduced in 2022. This tax is one **evo** can get behind, however, for it punishes heavy cars by charging €10 for every kilo over 1800kg.

France's emissions taxes aren't aimed specifically at killing off the performance car – they also put a squeeze on older models that have hung on in a post WLTP world. However, it's a move that potentially endangers the advancements of 'right sizing' when it comes to engine selection, as it could lead to cars being fitted with inappropriate engines for their role, for example large saloon cars getting small, turbocharged four-cylinder engines that meet tax thresholds but end up working beyond

their maximum efficiency rates, when a larger-capacity engine would require less energy to deliver the same performance. Also of concern is that France doesn't stop at new cars, with CO2-based tax scales applied to used cars too, taking into account their emissions and power output.

The approach taken by the French authorities is on the draconian side, although someone paying €29,070 in CO2 tax for a V8 Mustang in 2021 might have stronger words to use, but it will also fuel debate about whether similar penalties should be adopted by other countries. After all, if you want to drive people into zero-tailpipe-emissions vehicles, what better way than taxing them out of cars that produce emissions at street level? **x**

EXAMPLE COSTS UNDER THE NEW FRENCH TAX SYSTEM

| |  |  |  |  |  |  |  |
|---------------|---|---|---|---|--|---|---|
| Model | Ford Fiesta ST | VW Golf GTI | Alpine A110 | Porsche 911 Carrera | Mercedes-AMG E63 | Audi RS4 | Bentley Bentayga V8 |
| CO2 (g/km) | 138 | 169 | 163 | 233 | 265 | 220 | 302 |
| Emissions tax | €170 | €2918 | €1901 | €29,070 | €29,070 | €29,070 | €29,070 |
| Weight tax* | €0 | €0 | €0 | €0 | €750 | €0 | €6160 |

*applied from 2022

Alpine to replace Renault Sport

Hot Renault models to wear 'A' badges as Alpine copies Cupra and Abarth

RENAULT'S NEW CEO, LUCA de Meo, has wasted no time in implementing his tried and tested product strategy when it comes to the company's next generation of performance cars, with Alpine to take responsibility for its range of hot hatches, bringing an end to the Renault Sport engineering business controlling the performance models.

During his time at Fiat, de Meo resurrected the Abarth name to carry Fiat's 500 and 124 Spider to a performance car-orientated audience. More recently, while at SEAT, he turned Cupra, the former go-faster SEAT trim line, into a standalone performance brand.

Alpine has already been reconfigured within Renault as a new business under the control of the firm's Formula 1



Above: new A110 variants could be inspired by the Sports X concept and Cup racer

team boss, Cyril Abiteboul, and the F1 team will be rebranded Alpine from the 2021 season. Alpine will also return to the top tier of sportscar racing in 2021 with the name appearing on an Oreca chassis powered by a Gibson V8 and based on a current Rebellion Racing R-13, its performance balanced to compete in the LMH class.

De Meo is keen to stop Alpine's

current nostalgia trip and focus on how it can be relevant for the future, which will initially see the Alpine name appear on regular Renault models after they have gone through a bespoke R&D programme to provide them with a unique proposition. In light of the French government's taxes on CO2 and weight, expect any Alpine-badged Clio, Mégane or Captur (of course there was

going to be a small crossover in the mix) to feature at least a plug-in hybrid element to their powertrain.

It could also be good news for the A110, with de Meo claiming he wants the 'life cycle management' of Alpine's mid-engined sports car to mimic that of Porsche's 911, with different versions expanding the offering and appeal. A spider version would be the obvious starting point, with a possible next step being more stripped out and powerful variants mimicking the look of the Cup, GT and rally A110s. Don't write off an electric A110, either. De Meo has said this would require an outside partner to bring to fruition, which probably means Mate Rimac has already had a call from Paris.



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Speed freak

Bugatti Bolide takes the Chiron platform to the extreme. Does a crack at the Nürburgring track record beckon?

THE BUGATTI CHIRON HAS SPAWNED countless special editions since its launch, from the retro-rehash Centodieci to the record-breaking Super Sport 300+. Now Bugatti has taken things a step further by creating the Bolide, a track-orientated model that wraps a bare-bones, lightweight body around the Chiron's mighty W16 powertrain.

Beyond the marque's trademark horseshoe grille the result bears little resemblance to its road-going siblings. Sitting just 995mm tall, the design is intended to be reminiscent of the Bell X-1 aircraft in which, back in 1947, Captain Charles 'Chuck' Yeager became the first person to break the sound barrier. A complex, stacked wing set-up can be found at the rear, with a central fin mounted on the engine cover for increased stability, while mammoth 400-section Michelin slicks are also clear to see; for reference, the Chiron uses meagre 355-section rear rubber.

Still driving all four wheels is Bugatti's 8-litre quad-turbocharged W16, which on 110-octane racing fuel can now produce 1824bhp and 1364lb ft of torque – up 345bhp and 184lb ft over a standard Chiron – for a quoted 2.17sec 0-62mph time and top speed in excess of 310mph. The Bolide is also said to go from 0 to 249mph and back to rest in just 24.64sec, 6.84sec quicker than Koenigsegg's Regera.

To ensure the 16-cylinder engine can withstand the toils of a track session, Bugatti has optimised

its cooling and oil systems whilst fettling all four turbos to produce more boost at higher engine speeds. Three air-cooled oil coolers are employed to help keep the engine, transmission and differential within suitable operating temperatures, and there's a water pre-cooling system to give a helping hand.

The Bolide's real party piece is its 1250kg dry weight – astonishing when the powertrain weighs nearly 500kg alone. To streamline weight, air-to-air intercooling is utilised instead of water-to-air, while 3D-printed titanium components, a wound carbonfibre driveshaft, forged magnesium wheels and a stripped cabin all contribute too. Combine this weight figure with the Bolide's 1824bhp output, and you get an unrivalled 1483bhp-per-ton dry power-to-weight ratio.

Suspension is of a pushrod design with the horizontal dampers visible through apertures in the bonnet. Extreme aerodynamics were also high on the agenda, with a peak downforce rating of 1800kg on the rear axle and 800kg at the front at 199mph. A 'morphable outer skin' is also used for the roof-mounted intake to reduce drag by ten per cent.

Bugatti hasn't decided if it will put the model into production, but it has claimed the Bolide will lap the Nürburgring Nordschleife in 5min 23.1sec – just seconds off the Porsche 919 Hybrid Evo's record time. It would certainly be fascinating to see if it could do it...



SPECIFICATION

| | |
|-----------------------|--------------------------|
| Engine | W16, 7993cc, quad-turbo |
| Power | 1824bhp @ 7000rpm |
| Torque | 1364lb ft @ 2000-7025rpm |
| Weight (dry) | 1250kg |
| Power-to-weight (dry) | 1483bhp/ton |
| 0-62mph | 2.17sec |
| Top speed | >310mph |
| Basic price | TBC |

Take a Bow

KTM adds an extra cross to its Bow with the track-only GTX

FROM ITS ORIGINS AS AN OPEN-TOP, road-legal rival to Caterhams and Ariels, the KTM X-Bow has now evolved into an extreme closed-cockpit track-only machine.

Called the X-Bow GTX, it uses the familiar carbonfibre-tub chassis engineered and built by Dallara in Italy, but from there the package gets significantly more serious with a 523bhp version of Audi's 2.5-litre turbocharged in-line five-cylinder engine and motorsport-derived drivetrain components. The extra performance from the engine – which produces 394bhp in Audi RS applications – comes from a new injection system, intake, wastegate, exhaust and ECU. No internals have been significantly changed. Torque peaks at 479lb ft and is sent to the rear wheels through a six-speed sequential transmission with an electronic shift mechanism that helps strip 7kg from the package's weight. The clutch has a race compound, and there's a mechanical locking differential too. KTM has not released acceleration figures but says the car will reach 176mph.

The new bodywork is carbonfibre and is far more aerodynamically efficient than the bodies of the more open X-Bow models. It's also able to support more effective aero kit, which is dominated by a large top-mounted rear wing. There are no doors, so access to the cockpit is via a roof canopy that lifts up and forwards.

Hanging from the carbon tub are a set of

Sachs dampers, manually adjustable for rebound, compression and ride height. The coilover units are mounted in a traditional upright position on the rear axle, but as with all X-Bows are in a pushrod layout up front. Unfortunately, due to the new carbonfibre skin, they are no longer visible from outside.

The steering has been switched to a new EPAS system, with three weight settings available, while the traction control and anti-lock braking are also adjustable via a digital interface on the steering wheel. The interior is totally stripped down, with structural carbonfibre exposed throughout the cabin and a roll-cage beneath the canopy.

The braking package is made up of 378mm front discs with six-piston calipers, and a 355mm/four-pot combination at the rear. Five-lug lightweight racing wheels are standard, although centre-lock units are available as an option.

Arguably the most crucial figure on a track car is weight, which for the GTX sits at 1048kg – quite a lot more than rivals from Ariel and Caterham, but the KTM does benefit from an enclosed body and isn't too far behind in power-to-weight terms thanks to its extra horsepower.

At nearly £250,000 the X-Bow GTX is a very expensive toy though, and it also arrives at the same time as another high-end track-only proposition powered by Audi's five-cylinder engine. Turn the page to find out more...



SPECIFICATION

| | |
|------------------------|-------------------------------------|
| Engine | In-line 5-cyl, 2480cc, turbocharged |
| Power | 520bhp @ n/a rpm |
| Torque | 479lb ft @ n/a rpm |
| Weight | 1048kg |
| Power-to-weight | 504bhp/ton |
| 0-62mph | TBC |
| Top speed | 176mph |
| Basic price | c£250,000 |



Dutch delight

Donkervoort's featherweight track-only version of the JD70 arrives with 573bhp per ton... and a £214k price tag

DUTCH BOUTIQUE SPORTS CAR manufacturer Donkervoort has revealed its most extreme model yet: the awkwardly named D8 GTO-JD70 R.

Designed to be a track-only version of the JD70 that was built to celebrate the 70th birthday of company boss Joop Donkervoort, the R, like all Donkervoorts, finds its origins in the Lotus Seven, and like Caterham, Donkervoort has created its own variation on the theme – but with a rather more eccentric twist.

The numbers are suitably mad, partly down to the Audi-sourced 2.5-litre in-line five-cylinder engine under the long, louvred bonnet. Producing 409bhp and 413lb ft of torque, the engine hasn't changed markedly from the units found in the RS3 and TT RS, but the 725kg car it's attached to here is rather different, being based on a tubular-steel chassis inherited from the Seven, but then wrapped in structural carbonfibre panels that give the car its distinctive looks but still those familiar proportions.

As a result, the JD70 R's power-to-weight ratio sits at a remarkable 573bhp per ton, 27bhp per ton more than the Ariel Atom 4. As you'd expect, performance is impressive, with 62mph arriving in

2.7sec and 124mph in 7.7sec. That 0-62mph time is a tenth of a second quicker than both said Atom and the Caterham Seven 620R can manage, while also being only a few tenths behind some of the fastest accelerating cars on sale.

Power is sent to the rear wheels via a new six-speed sequential transmission sourced from Quaife, replacing the standard JD70's five-speed manual. The new transmission does yield a 15kg weight penalty, but it was rationalised as a worthy compromise considering the extra performance it would bring to the package on a circuit. The 'box is



Above: Donkervoort says the JD70 R has been built 'to embarrass other sports cars and their owners'

also capable of flat upshifts and there's an auto-blip function in there too. Both the limited-slip differential and propshaft have been reinforced to suit. Suspension is double wishbones all-round, with new four-way mechanically adjustable dampers and bespoke coils fitted, giving the driver the ability to tailor the set-up to different tracks and surfaces. The anti-roll bars front and rear are also new adjustable units, and the bushes are stiffer than the road car's.

The braking hardware is identical to that of the standard JD70, consisting of 310mm front and 285mm rear wave-pattern discs, gripped by six-piston Tarox calipers at the front and, optionally, at the rear too (four-piston items at the rear are standard). Pads and brake fluid are specific to the R, and the front brake bias is adjustable via a switch on the dash. There's also the option of a new Bosch Race ABS system, which is 12-way adjustable and allows the driver to dial in the precise amount of assistance he or she wants during the course of a session.

All this sits behind a set of forged Rays alloys (17-inch front, 18-inch rear), with carbonfibre wheels an option to further reduce unsprung weight. Donkervoort offers two different steering

THE RIVALS



CATERHAM 620R

The high-performance Seven reinterpretation you think of first, the superb 620R tops Caterham's current range and, unlike the Donkervoort, can also be driven on the road.



ARIEL ATOM 4

Ariel's new-age British lightweight remains a thrill-seeking missile in '4' form, replacing the shrill of a supercharger with a bigger turbo punch. Sounds like a compromise. It's not.



McLAREN 570S GT4

If you're going to drop big money on a track-only toy, why not buy an actual race car? The £34k saving over the GTO will also go some way to paying for the cost of trawling it to circuits.

racks, both now assisted with a racer-derived lightweight EPAS system. At its fastest the JD70 R's steering ratio is a darty 2.7:10.

You can make your own mind up about the way the D8 GTO-JD70R looks, but in a similar fashion to the Morgan Aero 8 it has that curious combination of a contemporary skin wrapped over a set of proportions dating back to the middle of the last century, which certainly ensures it won't go unnoticed.

So in the armed warfare between super-lightweights, the Donkervoort hits hardest, and for the trackday enthusiast who has already had an Atom, a high-end Caterham and perhaps even a McLaren or two, the notion of a Lotus Seven

reimagined for the 21st century and stuffed with one of Audi's finest five-cylinder engines makes for a captivating package.

That is, however, assuming you have very deep pockets. While Ariel's superb Atom 4 might sound like an expensive toy at £40,000, and the £54,000 Caterham 620R even more so, Donkervoort's latest and greatest – which remember is no longer road legal – will set you back around £214,000.

That sort of money more than gets you into not just a track car, but a race car too, in the form of McLaren's 570S GT4...

SPECIFICATION

| | |
|------------------------|-------------------------------------|
| Engine | In-line 5-cyl, 2480cc, turbocharged |
| Power | 409bhp @ 5850-7000rpm |
| Torque | 413lb ft @ 1750-6350rpm |
| Weight | 725kg |
| Power-to-weight | 573bhp/ton |
| 0-62mph | 2.7sec |
| Top speed | 174mph |
| Basic price | £214,000 |





Golf Clubbed

New GTI Clubsport prepares to take on Honda's Civic Type R

VOLKSWAGEN HAS BROUGHT BACK the Clubsport name for a high-performance, front-wheel-drive Golf GTI designed to tackle the Renault Mégane RS and Honda Civic Type R head-on. Sitting beneath the slightly more grown-up four-wheel-drive, 316bhp Golf R (unveiled after we went to press – visit evo.co.uk for details), the new Clubsport promises to be the most focused of all performance Golfs.

It packs an uprated version of the latest GTI's evo4-generation EA888 engine, with 296bhp and 295lb ft of torque thanks to a larger Garrett turbo and higher-pressure injection. This puts it 54bhp and 23lb ft ahead of the standard Mk8 GTI, and 10bhp and 15lb ft up on its closest equivalents from the previous generation Golf, the Mk7.5 TCR and Mk7 Clubsport Edition 40.

As with the aforementioned TCR, a manual gearbox will not be offered; instead the new



Clubsport will come only with a seven-speed DSG transmission. It has been given shorter ratios, though, and an electromechanical locking differential is standard, all helping to get the Clubsport to 62mph in 'under six seconds'. For reference, the regular GTI takes 6.3sec with DSG, 6.4sec with a manual 'box.

The Clubsport's chassis has also been through an overhaul, with VW's engineers setting up the front axle with increased camber, while the multi-link rear has picked up new control arms, wheel hubs, damper bearings and damper hydraulics. Spring rates have gone up by five per cent at the front and 15 at the rear, which should equate to a 'pointier' front end and a more mobile and adjustable tail.

The standard wheel size is 18 inches, but 19s are an option, as are 19-inch Michelin Pilot Sport Cup 2s, which will measure 235/35 on all four corners; the standard tyre is Goodyear's new Eagle F1 SuperSport. Behind the wheels is an uprated brake package, with the front axle getting a pair of larger, 357mm drilled discs matched with two-piston calipers.

The 242bhp GTI's impressive showing (evo 279) bodes well for the Clubsport, but it'll need to be pretty special to unseat the Civic Type R at the head of the class (see page 74), let alone reach the dizzying brilliance of the last GTI to feature the Clubsport moniker, the superb Mk7 Clubsport S (see page 66).

WATCHES



Bamford G-Shock 5610

£149 bamfordlondon.com

Perhaps best known for its customised takes on luxury analogue watches, Bamford now offers this highly affordable twist on Casio's classic digital G-shock, complete with Bamford's signature blue accent.



Farer GMT Bezel Automatic

£1250 farer.com

Farer's latest offering features a GMT function, allowing the wearer to keep track of two time zones simultaneously. Three different designs are available, including this classic white-dial sports model.



Tissot Alpine On Board

£1895 tissotwatches.com

This new collaboration between Tissot and Alpine is called 'On Board' because the watch's main timekeeping module can be detached from the lugs and strap and affixed to an A110's dashboard using a special holder.

SENSATIONAL

Another sensational performance by an outstanding Continental tyre. SportContact™ 6 delivered outstanding grip, precise handling and excellent braking performance.

Whatever the season, whatever the weather, we have the perfect tyre for you.



THE **evo** BLUEPRINT

WEIGHT

WEIGHT, OR LACK OF IT, IS CRUCIAL TO A GREAT DRIVING EXPERIENCE. WE ASK THE EXPERTS FOR THEIR VIEWS ON HOW THE INDUSTRY IS TACKLING THE GROWING CHALLENGE OF KEEPING CAR WEIGHT TO A MINIMUM

H AS LEGISLATION MADE CARS HEAVIER OVER THE LAST 10-20 YEARS? IF SO, WHICH REQUIREMENTS HAVE ADDED MOST WEIGHT?

Steve Fletcher, director of body/trim/chassis and CAE (computer-aided engineering) at Group Lotus: 'Most notable are crash test requirements. In the last 20 years there has, quite rightly, been an uplift in global technical safety standards and a huge campaign of consumer safety testing.'

Ryan Vann, chief engineer of vehicle performance and technology at Prodrive: 'Safety has contributed, particularly with increased side impact testing, roof crush loads and small overlap impact testing. Deflection of the car body structure into the occupant area needs to be minimal, so the body is physically bigger to provide the space.'

'Multiple airbag systems add more weight. Compared with the 1999 original, the 2019 Focus is 200mm longer, 200mm wider and 200kg heavier but has a better safety rating. Consumers want better features too. And hybrid powertrains and driving assist systems only add weight.'

Dave Pook, director at VEDynamics and Life110, ex-JLR SVO: 'Regulations for emissions control and crash. The crash part is more obvious as cars carry more airbags and structure



for crash protection. They are a lot safer than they used to be; having a 30mph accident and being able to walk away is assumed now. But cars are heavier mainly because they are so much bigger and packed full of tech and features.'

Aluminium weighs almost three times less than steel and is often touted as the metal for lightweight construction, so why do so many production cars with an aluminium chassis or monocoque not deliver an appreciable weight saving?

'In general, I would disagree,' says Fletcher. 'There is an appreciable weight difference in aluminium-construction vehicles, but it's not two-thirds. A competitive aluminium sports car monocoque is circa 200-250kg, in steel this would be 300-350kg. Although aluminium is a third of the density it is also a third of the stiffness modulus; the main advantage is gained and recovered through section modulus [linked to the physical size of a beam]. For high-volume cars these section sizes can compromise other vehicle attributes such as ingress/egress and vision angles.'

The weight advantage, aluminium versus steel car bodies, is 30-40 per cent, he says, adding that this saving is then often used to increase content for the consumer rather than give a weight saving.

'You need to use the advantages of aluminium in the car's design,' says

Pook, 'using castings for complex parts and take away what is effectively redundant material and strength you would have from steel where it is not needed. It is also worth noting that an aluminium body, weighing around 200kg, is only a small part of a car's overall mass. There's no point making it lightweight if you then just hang heavy parts from it. A quote attributed to Colin Chapman resonated with me: "Lightweight design is more important than material." The Alpine A110 is a shining example of this approach, a ground-up design that focused on making the car lightweight. The achievement of this car, with a 1100kg kerb weight, should not be understated. It's a huge step.'

'Generally speaking, aluminium is not as strong or stiff as steel for an equivalent structural cross section,' says Vann. 'However, increase the size of the cross section and its strength and stiffness match a steel one whilst saving weight. Aluminium is more expensive and can be tricky and expensive to join and so tends to suit bigger, premium cars where cross sections can be bigger and the material cost borne by the price of the vehicle.'

Several OEMs claim a 40 per cent body weight reduction, he says, but if the aluminium body of an A8 weighs 241kg, he calculates that a steel-bodied Audi A8 would be 100kg heavier. 'Noteworthy,' he adds, 'is that the 2018 A8 is about 200kg heavier than the 2002 A8 [both used aluminium], similar to the Ford Focus example.'



This page, clockwise from above:

GT4 race cars are showing the possibilities for natural fibres; Evija's one-piece carbonfibre monocoque is a Lotus first; BMW i3's structure is carbonfibre; Audi's A8 uses a mix of aluminum, steel, magnesium and carbon to cut weight; current Ford Focus is larger and heavier than 1999 original. **Opposite and previous page:**

Alpine A110 keeps weight down thanks partly to an aluminium body and chassis



Carbonfibre is more increasingly common in production cars but mainly for addenda, yet BMW used it to make the structure of the i3 back in 2013. Why hasn't it been more widely adopted?

'Put simply, cost,' says Fletcher. 'Carbon offers excellent lightweighting opportunities through its high strength, good specific stiffness and directional nature. You can achieve something like 50 per cent weight reduction versus steel. The issue is cost and scaling. F1-style autoclave processes are very expensive and only suitable for low-volume applications, like the Lotus Evija. With non-autoclave technologies tooling costs increase dramatically but the piece price drops, making them appropriate for higher-volume applications, but the raw material costs are still very high.' There is a point where vehicle price and production volume make carbon viable, he says, but it's narrow and very sensitive to volume changes.

'For mass production, composite-material



body panels must be made in about 60 seconds or less, precluding traditional hand lay-up,' says Vann. 'Shortening the manufacturing cycle time requires special tooling that combines heat and pressure, and that requires large investment by the car maker.' He says that producing the carbon substrate itself is energy-intensive, 'potentially creating lots of CO2 emission if green energy is not

used, which can undo the CO2 savings from using less fossil fuel to propel the vehicle over its lifetime'. Carbonfibre is also difficult to repair, he adds.

Motorsport has traditionally pioneered weightsaving techniques. Are there any currently employed that might find their way into production cars?



‘WHEN A
CAR GETS
HEAVY THE
PROBLEM
SNOWBALLS’

Tim Kearney, director of vehicle Integration at Group Lotus: ‘There are lots, but they need to be implemented with care. Motorsport is a fantastic development environment but it has a singular focus: lap time. We need to adopt technologies with a more balanced attribute outlook. Our customers want cars that are quick but also quiet, efficient, comfortable and convenient. An area we follow closely from motorsport is systems integration, particularly battery integration to the vehicle structure.’

John McQuilliam, engineering director at Prodrive Composites: ‘One interesting area is natural fibre-based composites. For instance, the regulations for GT4 require body parts that are not on the road car – spoilers and wings, for instance – be made with natural fibres. This has demonstrated that natural fibre composites can compete with traditional carbon and glassfibre.’

‘The holistic thinking and aggressive lightweight targets for motorsport are things that could transfer to road cars,’ says Pook. ‘When a car gets heavy the

problem snowballs, as components need to get stronger, it gets heavier again, and so on.’

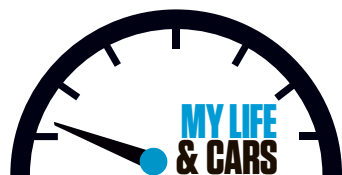
Given that batteries for EVs typically add 200-300kg, where are the weight savings that will offset this coming from?

‘In the short to medium term BEVs cannot be lighter than a conventional ICE variant for equivalent power and range,’ says Vann. There will be continued gains from multi-material bodies, he says, but short-term weight savings will come from the batteries too. ‘Each year sees an increase in cell energy density and volumetric density, so for a given capacity the weight of battery cells reduces and the battery enclosure becomes smaller and lighter also. Medium term, a move to solid-state batteries will not only further increase energy density but may reduce the battery cooling required, reducing battery system cost, weight and size. Lastly, the ability to fast-charge batteries in ten minutes could also reduce most peoples’ requirement for a large, heavy battery.’

‘Integration,’ says Kearney. ‘Most current products are ICE vehicles adapted to EV. In the future we will see the propulsion components more fully integrated into vehicle structures, carrying load and providing primary structural reinforcement. There are also significant weight opportunities in advanced materials and architectures. We [Lotus] are leading an engineering partnership with UK government support to develop a next-generation lightweight Battery Electric Vehicle architecture.’

‘As an EV has regen and puts the energy it used to get going back into the battery as you slow down, the overall mass is much less important,’ says Pook. But he also thinks that while currently there isn’t the need to take mass out of electric vehicles, this will change over time as people understand the impact of having so much material in a car, and the compromises it brings.

They will come to the realisation that they want them to drive better, he thinks. That’s a hope we all share, I expect. ❌



Shami Kalra

Watchmaker and car enthusiast

A childhood surrounded by German metal has influenced Shami Kalra's car choices, while a passion for motorsport has fuelled the meteoric rise of his Omologato watch brand

by STUART GALLAGHER

MY UNCLE WAS VERY INFLUENTIAL IN my life when it came to cars. He was a Mercedes-Benz dealer in the 1970s and when he came to visit he was in 450 SEL 6.9s, 280 SEs, the R107 SLs, all the cool stuff. This was the time when waiting lists ran into years, so he did well. Whenever he turned up in something new it was an event in our house. Everyone had Ford Cortinas and Consuls and all the usual stuff, but he'd turn up in these cool cars. It wasn't only Mercedes, he'd arrive in BMW 2002s and one of the first Mk1 Golf GTIs. He always had German cars around him, I guess that rubbed off on me.

It rubbed off on my father too, because we had a Golf when I was growing up and he bought himself a W124 230 E Mercedes when I was 17 and said he was going to buy me my first car. 'Great,' I thought. As a 17-year-old. What's more important? Then one morning he said, 'I've bought you your first car.' It was a 1758cc Austin Maxi automatic in what I can only describe as 1970s sh*t brown. I always wanted a VW Beetle, but this was a car and the start of my driving career.

It didn't hang around long and I quickly found a 1955 1200cc Beetle. It had a hole under the rear seat but generally it was in pretty good condition and I drove it everywhere for everything. I loved it.

I did some restoration work on it, had it resprayed and kept buying parts for it. It was a true first-love car. I couldn't get enough of it. Until one winter when it started leaking so much

I couldn't drive it anymore and swapped it for a 2CV. I loved the Citroën's quiriness. It wasn't conformist, it was just really cool, and for two years I enjoyed every mile in it, but when I got a proper job and had to start commuting, it had to go and I bought a Golf.

I had adored my Beetle but my VW affiliation started with that Golf, and the 16 or 17 I had between 1988 and 1994. I couldn't get enough of them. I started with a 1.3 C and by the end progressed to the icon: a Mk2 'big bumper' eight-valve GTI. Naturally it was stolen, because it was the '90s and no hot hatch was safe, and this coincided with our first child being born so I went all grown-up and bought a Mercedes.

It was very comfortable and all the rest of it but my mind kept rolling back to those Beetle days and the evening when I was out with my younger brother driving nowhere in particular, as you do when you're 17, and we stopped at AFN Chiswick, the Porsche dealer, to look at the 911s and 928s parked inside.

It was midnight so the police stopped and asked what we were doing on the forecourt, explained how we would never be able to afford anything from here and to move on. It was my 'How dare you speak to me like that' moment. It always stuck in my mind and I had a wry smile the day I bought my first Porsche, a 987 Cayman S.

It was three months old, pretty much brand new and I just couldn't believe it was mine.







—

‘DRIVING GIVES ME THE SAME BUZZ TODAY’

Porsches had been around the family at times – my uncle had a couple of 944s and my cousin had a 911, my neighbour a 930 – and I’ve loved the brand since that first day of Cayman ownership. I think I’m on number 15 now, everything from a Panamera to a Macan, and now, very fortunately, a 991-series 911 GT3. I’m also one of those owners who does the unthinkable and drives his cars, and it doesn’t appear to have impacted its value.

To this day I regret selling my Cayman S. I loved that car and it’s not helped that the owner is local to me and I still see it around. We were doing OK as a business and I didn’t need to sell it, but we needed a new kitchen and various other things so it went. I don’t think there’s a better car than

a Cayman S if you want an everyday sports car. The chassis is absolutely brilliant.

A car I regret buying is another Porsche, a 944. It was so disappointing. Growing up in the ‘80s it was one of those aspirational dream cars, a proper, ‘Wow, I have to have one of them.’ And then I did and I just couldn’t see the appeal. It didn’t feel special enough, or feel like a genuine Porsche. I also didn’t like my 1982 911 SC. It was rotten so I spent time and money restoring it, painting it duck-egg blue with orange Fuchs wheels and giving it a restomod before I even knew what that was. Someone paid me around £45,000 for it, and to this day I couldn’t see the appeal, or rather the value these things reach. I’d rather have a nice 997 Carrera with a manual gearbox – it’s modern enough to live with but has a hint of a retro look about it.

Before this Porsche love affair I bought a Series 1 Lotus Elise, and like my Cayman S I’ve regretted selling it to this day. When I sold the Cayman I had a GT3 too, so while the loss was hard to stomach I still had a Porsche in my life,

but when I sold the Lotus, that was it. I had nothing to replace it with. I will have another one day, although I’m worried about the direction Lotus is going. I do wish they would find a way to bring an Elise to market for around £30,000.

Selling a car was also one of the biggest influences on my career. I was working as a designer, designing merchandise for automotive brands, and things were OK. Business was steady. But like all things, one day it wasn’t and everything had to go. I was in my office staring at £9.61 in our bank account, with my wife asking what we were going to do. I didn’t have an epiphany, but I did start playing in Photoshop with some motorsport liveries on watches, looked at a couple and thought, ‘I’d buy that.’ So Omologato was born on a Friday night. By the following Thursday we had sold £1000 of watches.

I had been a fan of motorsport since my teenage days. My dad had a meeting at a racetrack and brought me along. He had no interest in the sport but I was hooked. The



Far left: Kalra loved the Series 1 Elise he owned and vows to have another Lotus one day. **Left:** he isn't afraid to put miles on his GT3, and bitterly regrets selling his Cayman S (below)



noise, the excitement. I couldn't get enough of it. Then I got into karting but I was too late to do anything professionally, not that I had the money to get involved, but I was still addicted to watching it.

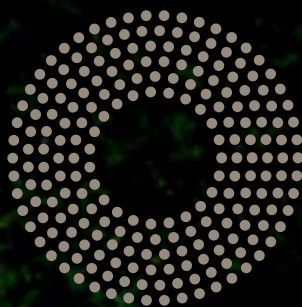
When I started Omologato it was out of necessity, but I never thought it would take me to those places I always dreamed of working. I started with two designs and a 30-day free trial for Shopify and this year we had Juan Pablo Montoya racing at Le Mans in a car supported by Omologato, and next year we'll be running in the Paris-Dakar, too. We're the official timekeeper at Monza and are under discussions with other circuits around the world to establish further partnerships. But with everything I do I have to maximise

the opportunities. I don't just want to sit back and see the logo on a car or at a circuit, I need to bring the relationship to life. It's what inspires our next designs and products.

This year has been tough because nothing can replace being at a motorsport event, but Omologato has had one of its best years and we haven't stopped planning and investing for 2021. One of the toughest parts is not being able to meet new people and make new relationships – these provide great inspiration. It's been just as hard not being able to get out and drive somewhere cool. Driving still gives me the same buzz today as it did when I passed my driving test and my father handed me the keys to that Austin Maxi. It always will.' ❌

Above right: it's fair to say Kalra had a passion for Golfs – he owned more than a dozen during the late '80s and early '90s, including a 'big bumper' Mk2 GTI. **Right:** Kalra longed for a VW Beetle during his youth, and a 1955 1200cc example would be the second car he owned





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Trustpilot  4.9 out of 5



THE evo

ENGINE DEVELOPED A

THIS MONTH V-W

*Richard Porter
tackles more motoring
definitions in the
penultimate instalment
of our automotive A to Z*



V-angle

The relative positions of the cylinder banks in a V-format engine. Typically 90 degrees in a V8 and 60 degrees in a V6 for optimum balance, though there are many exceptions to the rule, such as 90 degree V6s, which usually betray a relationship to an existing V8 (or one that was intended to appear later, as in the case of the Peugeot-Renault-Volvo V6). Extra points for the flat-12 'boxer' engine in the Ferrari BB 512, which isn't a boxer at all because opposing cylinders share a crankpin so it is therefore a 180-degree V12. So there.

V4

Engine format once used by Lancia and Ford, amongst others, before falling out of favour on account of being, in engineering terms, rough as arseholes.

V5

1. Zany engine layout briefly flirted with by Volkswagen during the era when Ferdinand Piëch kept making them do mad engineering things just to prove they could. Swiftly abandoned because there seemed to be literally no point to it.
2. Flimsy piece of paper demonstrating that you are the registered keeper (but not necessarily the owner) of a car. Although you could say the same of a cat.

V6

Ubiquitous but frequently unsatisfying engine format, especially in American cars of the '80s and '90s where it had some weird stated capacity like 4.1 liter and managed to make a lot of mooring noises while generating 107 horsepower.

V8

Frequently delightful engine format, capable of being a wet, lumpy slugger in some old American muscle car or a taut, modern zinger, as found in many modern Ferraris.

Arguably the greatest engine format in history, though on borrowed time these days, sadly.

V10

Unusual but amusing engine format, known for its fruity growling and thereby instantly increasing the appeal of any given car by about 200 per cent. e.g. Porsche Carrera GT, Audi R8, Lexus LFA, McLaren MP4/5.

V12

The gov'nor of engine formats, appearing as silky magic under the bonnet of the Jaguar XJ12 and performing muscular choral music inside various Ferraris. Hearty and inherently balanced, but getting rarer by the minute. Sob.

Vacuum

Technically, a space devoid of content, though also used to refer to a space in which air pressure is lower than in the atmosphere, as found in the intake manifolds of cars and the

Above left: a V8, specifically the LT2 unit from a 2020 Corvette. **Below:** a V12, this one from AMG. **Bottom:** the V5 engine offered by VW between 1997 and 2006





This page, clockwise from left: van, VIN plate, a ventilated disc (the cutaway showing the channels between the two friction surfaces that allow hot air to escape) and a valve cap (try not to lose it)

domestic appliances you use as you fruitlessly attempt to get all the crumbs out from under the driver's seat.

Vague

Criticism applied to steering, gearshifts and car sales people's understanding of the products they're supposed to be selling.

Valve cap

Tiny plastic or metal air inlet protector, the loss of which is one of the most casually irksome things in car ownership.

Valve timing

Choreography of an engine's aspiration through the precise opening and closing regimes of the inlet and outlet valves into the combustion chambers, once fixed but now frequently variable to the benefit of efficiency. It might be assumed that Honda pioneered variable valve timing in road cars but Vauxhall was experimenting with a crude way to alter these characteristics as early as 1919 and the first production car with a variable system was the Alfa Spider 2000 of 1980.

Valve

Entry/exit mechanism of (most) internal combustion engines and a word rendered very exciting in the '80s when prefixed by the number 16.

Van

Panel sided commercial vehicle, the driver of which is coming through that gap whether you like it or not, mate.



Vanity plate

American expression for what in Britain is known as a 'twat reg'.

Variable

Word used to describe a number of automotive things including steering assistance, steering ratio, transmission, compression, spring rate, torque split, valve timing and the efforts of the BMW design department.

Vehicle

How police people refer to cars because in training college they all get taught to speak in that weird and slightly unnatural way, as if they've all spent too long with Ron Dennis.

Velour

Soft textile once considered the height of luxury when used as car upholstery, now rarely seen in new cars (possibly because Vauxhall used up all remaining supplies on the Senator).



Vent spews

Technical name for the tiny 'hairs' on new tyres that are the result of molten rubber making its way up the narrow air release pipes on the moulds during the production process. A better name would be 'pneubs'.

Ventilated discs

Disc brake design with a slotted gap between the inner and outer friction surfaces to allow heat to dissipate. First used on aircraft, as with most automotive innovations (except electric windows).

Venturi

An effect in which pressure reduces as a fluid flows through a restricted section of pipe, as discovered by Italian physicist Giovanni Battista Venturi. Not to be confused with the Venturi Atlantique, which was not 'discovered' by anyone, especially those in the market for a mid-engined sports car.

Veteran

Any car made before 1905. Not popular on the classic scene because they're hard to relate to unless you're 150 years old and because anyone who drives one looks permanently cold and tense.

VIN

Vehicle Identification Number. Unique ID that identifies when and where a car was made, and by who. Saying 'VIN number' is a textbook example of RAS (Redundant Acronym Syndrome) syndrome. See also: 'PIN number'.



Viscosity

A liquid's resistance to flow or, in simple terms, its thickness. So water is not very viscous at all, whereas runny honey would be, like, 25W-70.

Viscous coupling

Vehicle transmission component that transfers torque through a fluid, often used in the centre differential of four-wheel-drive cars. Here a difference in speeds between front and rear axles causes the corresponding plates inside the diff to turn at different speeds, rapidly heating the surrounding fluid and making it more viscous, thereby permitting it to transfer torque by bringing the speeds of the opposing plates closer together. Not to be confused with a vicious coupling, e.g. the marriage of Johnny Depp and Amber Heard if some of those things that came out in court are to be believed.

Voice activation

Feature that never works quite as well as you'd hope. I said, feature that never works quite as well as you'd hope. FEATURE. THAT. NEVER. WORKS. QUITE. AS. WELL. AS. YOU'D... Oh, forget it. Wait a sec; why are you calling my brother?

Volume

Of stereos and boots and cars made in significant quantities (e.g. 1980s Porsche 911s, not that you'd know it from the second-hand prices).



VR6

Clever but strange 'in-line V' engine developed by Volkswagen in the '90s and used to delightful/disappointing effect in the Corrado and Mk3 Golf respectively.

Vulcanise

To change the characteristics of rubber by giving it to the actor Leonard Nimoy.

W8

Nutty VW Group engine format, obscure even by their standards and fitted only to one model for a short period of time, after which it was realised that no one particularly wanted a Passat with a 4-litre engine and the whole thing was quietly dropped.

W12

Less obscure engine format, favoured in recent years only by the VW Group (who else?). Best



Clockwise from above left: a Wankel rotary engine from, you guessed it, Mazda's RX-8; the W12 engine from the Volkswagen Group powered Spyker's C12 supercar; and the W16 quad-turbo engine fitted in Bugatti's Chiron

known for its work in Bentleys, but also fitted in VW's Phaeton W12 and Spyker's C12.

W16

Ultra-bonkers engine format used to successful effect in the Bugatti Veyron and Chiron. Favoured for its compactness, although since an entire Chiron drivetrain weighs more than an Ariel Atom that's a relative thing.

Wankel

A rotary internal combustion engine, invented by a Nazi. Was never much in favour in cars and has now disappeared, though Wankels are still used in certain types of military drone where their compactness is useful and their flaws are irrelevant because they'll get blown up before their rotor tip seals wear out.

Wastegate

Valve fitted within the plumbing of a turbocharger to regulate the level of boost pressure. Not to be confused with a dump valve, which is fitted within the plumbing of a turbocharger to permit some arse in a heavily lowered Mk4 Golf GTI to make a right racket as he drives slightly too fast and then repeatedly lifts off while circling your local town centre.

Water cooling

What Porsche enthusiasts believed was the equivalent of the sky falling in circa 1997 before turning their fury to something else, such as different methods of steering power assistance.

Webbing

What seatbelts and ducks' feet are made of.



Weight distribution

Something BMW used to boast about a lot. Now it makes front-wheel-drive cars and whenever the subject is mentioned it just coughs loudly before shouting, 'Oh wow! Look over there!' and then running off.

Weight

The natural nemesis of Gordon Murray. That and koala bears.

Well

Where the spare wheel lives, when cars had such things. Also the worrying first word spoken by a mechanic when asked what's wrong with your car.

Whale tail

Name for a large item found on the back of Porsche 911 Turbos, Ford RS Cosworths and actual whales.

Wheel bearing

The thing that is making one of the worrying noises in the minicab you're in.

Wheel horsepower

A measure of the power available to move a car, accounting for losses in the drivetrain and from engine ancillaries. Such figures will be lower than those quoted by manufacturers, which are 'at the engine', so don't account for



drivetrain losses. And the complete opposite of the old SAE gross horsepower standard used by American car makers up until the early '70s, in which an engine was run with no ancillaries or exhaust, and then the resulting number probably rounded up a bit. Hence all those amazingly powerful '60s muscle cars.

Wheelman

A way to refer to a professional driver, if you want to sound like a bit of a berk.

Wind tunnel

Facility used to flow air over a static car to replicate moving conditions in the real world and hone aerodynamic characteristics, as regularly featured in '80s car adverts. Fun fact: most wind tunnels suck rather than blow the air over the car because it gives a smoother flow.

Wing mirror

What people over a certain age call side mirrors even though they haven't been on the front wings for decades (except in Japan for some reason).

Winter tyres

Tyres with larger, deeper tread pattern and made of a compound that stays softer at lower temperatures, mandatory in some European countries but less enthusiastically embraced by people in the UK because they can't be arsed, even though winter tyres are actually really good, bordering on the miraculous.

Wire wheels

Feature fitted to cars up until the 1970s, since when owners have been trying to get them clean again.

Wiring loom

The electrical nervous system of a machine and where all the problems live in old Italian cars.

Wishbone

A-shaped wheel location component, the snapping in two of which would very much not bring great fortune.

Works

Word denoting something related to a factory racing operation, and therefore quite exciting. As used a lot by Mini.

Wraparound

Word used to describe windscreens, dashboards, and a type of sunglasses that don't really suit anyone. ☒

Clockwise from top left: winter tyres, a whale tail, and the Works, Mini John Cooper GP style



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DOA: Renault Clio RS16

With 271bhp, a manual gearbox and a weaponised chassis, this 'SuperClio' could have restored the Renault Sport Clio's reputation, but instead it had to be sacrificed for a higher cause

OFFICIALLY THE RENAULT CLIO RS16 WAS a concept car, created by Renault Sport as a 40th birthday present to itself. But while most concepts are made of spit and tissues, this swollen Clio was capable of being used hard, as it proved at its reveal in May 2016 when Heikki Kovalainen thrashed it around the Monaco Grand Prix track. The following month the same stridently yellow 'concept' appeared at the Goodwood Festival of Speed, where it spent a long weekend zooming repeatedly up Lord March's driveway for the amusement of onlookers.

Plainly this wasn't a concept at all, as was later confirmed to members of the media invited to a Renault test facility to meet the black RS16 engineering mule and hear more from the small, self-described 'commando' team who had confected this tiny ball of muscle in just five months. It was codenamed KZ01, they explained, which sounded very corporate until you said 'kay zee one' out loud in a French accent and realised the wry nod to the madness inherent in the idea.

And what an idea it was, the ingredients running like this: 271bhp 2-litre turbo engine from the Mégane 275 Trophy-R, six-speed manual gearbox, limited-slip diff, trick 'Perfohub' front suspension from the previous Renault Sport Clio allied to Mégane hubs and the 360mm front brakes from the



Trophy-R's optional Nürburgring pack, rear axle from the Clio R3T rally car, Öhlins dampers, 60mm wider tracks, 19-inch Mégane wheels running Michelin Pilot Sport Cup 2s, and an Akrapovic exhaust.

This was, said its creators, the 'SuperClio', though they admitted they'd abandoned a lunatic plan to make it mid-engined. This would have given no handling advantage, they claimed. Anyone caught in a wildly rotating Clio V6 might agree. The engineers also reckoned that moving the engine would have added weight, whereas by sticking with a front engine – while ditching the double-clutch 'box of the Clio 200, binning the back seats and air-con, and installing a lithium-ion battery – the SuperClio was no heavier than the car on which it was based.

Some of the details within the RS16 belied

how hard the engineers had strived to make it production-ready, despite the hurried development programme. To accommodate the larger Mégane engine, they'd used subframe parts from the Kangoo van, while the Clio electronics talked to the brains of an unfamiliar engine using software adapted from the Dacia Sandero. These were not so much bodes as cost-effective parts-bin solutions to ensure that a production RS16 could be built for reasonable money. Renault Sport went so far as to say that if and when the car was signed off, its factory could build two or three a day.

Building it, however, was also where the problem lay. In 2016 the Dieppe plant was being prepared for the brand new Alpine A110, and trying to introduce another model line, clever parts sharing or not, would demand time and people that could not be spared. The alternative was to delay the RS16 until the A110 was on stream, but this would have slipped the SuperClio's on-sale date into 2018 and by then, Renault management agreed, the momentum would have been lost. Though two more prototypes were built for durability work and the car was crash tested in left- and right-hand-drive variants, the mouth-watering Clio RS16 wasn't to be. But this story doesn't have an entirely unhappy ending because it died to make sure we got the Alpine A110.



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Essence of evo

Having been a huge fan of **evo** from the very beginning, I have read most of the sentences written that have tried to convey the Thrill of Driving to the reader. However, in Issue 279 it seems that sneaky lensman Andy Morgan has managed to reduce those thousands of words into one single image.

A sun-dappled B-road, a 'committed' John Barker, and the fabled E30 M3 on (barely) three wheels is unequivocally the very essence of **evo** in just one picture. A picture that deserves to be framed and hung on the wall of every **evo** reader's home in celebration of, and the motivation for, the Thrill of Driving.

Steve Hedderman

All the rage

I think the term 'LOL' is overused, but I did literally laugh out loud at Angry Jethro (column, **evo** 279) – from his venting about the latest crop of performance cars to his observations about 'wacky' motoring podcasts.

Angry Jethro needs his own monthly column alongside the original Jethro.

Petro Bartoszyk, Cambridge

Brexit benefit

Since we have left the EU, can we now forget the crazy EU emissions standards that are making our cars more complex, heavy and expensive, while in real-world driving don't actually reduce CO2 emissions at all?

We all know today's hybrids never deliver the claimed mpg/CO2 numbers in reality, and meanwhile we are also prevented from having some great new **evo** models such as



the new Z-car from Nissan (Ignition, **evo** 279).

Just a thought.

Richard Carter, Sherborne, Dorset

Liveable Lotus

Reading the Lotus Evora GT410 versus Porsche 911 Carrera comparison (issue 278) brought home to me again why I only read **evo** to find out about modern cars: no one else describes in such comprehensible words how cars actually feel when driven.

In your test I found all the arguments for why I made an early Evora S my choice for the car 'you'd happily keep forever'. It starts with the view through the panoramic windscreen, with the two wheelarch bulges adding perspective. Then there's the supple working of the suspension I can feel through my bum even as a non-professional driver, the clear information the hydraulic steering assistance lets through to my fingertips, and the 'natural' melodious exhaust sound, instead of a PlayStation-like artificial noise.

But why is **evo** nurturing old prejudices by sowing doubts about the useability of the Lotus for 'every day, for every journey and in all possible conditions'? OK, in my early car there's no climate control, and quickly clearing the screens in the harshest winter weather can be a bit of a nuisance too, but bar those handful of days in the year, my Lotus is pure fun all the time, and reliable. In the 200,000km I have driven it since 2011 I have never had any problems. With a custom-made tow-bar I don't even need a 'normal' car to transport my bike and skis.

Even though I have the



LETTER OF THE MONTH

Regression analysis

IS IT ME OR IS THE WORLD REGRESSING, PROPELLED BY

a curiously rapid decrease in human intelligence? And is this being demonstrated by the automotive industry, with manufacturers competing to see who can best design their new models to be less elegantly engineered and beautiful but more complex, big, ugly, heavy and expensive than the previous ones?

Flicking through **evo** 279 it would seem so, with page after page of freshly minted mediocrity and massive misshapen monstrosities: the tediously complex hugeness that is the new Golf GTI, the nauseating ghastliness of the Aston Martin Vantage Roadster's interior, the prodigiously portly two-ton Porsche Panamonster...

It wasn't until page 70, however, that the depths of this automotive regression were fully plumbed with the new BMW M3/4. The exterior, a combination of slabby, large-arched dull 'Nissanity' and the ugliest front end since the '94 Ford Scorpio. Inside, offensively tasteless seats face off against an incoherent dash, the 'random geometric' theme extending to a 'double boomerang' rev counter. That these cars come only in 4WD and auto-gearbox form in the UK, I dare not contemplate.

Mentally bludgeoned and staggering, but hoping to survive the magazine, I vaulted the revamped Vanquish, only to be finally floored by the Fast Fleet's inelegant and uninteresting BMW M135i xDrive. It seems there really is no escape.

James Gardiner

The Letter of the Month wins a Straton watch

The writer of this month's star letter receives a Straton Classic Driver chronograph worth £220.

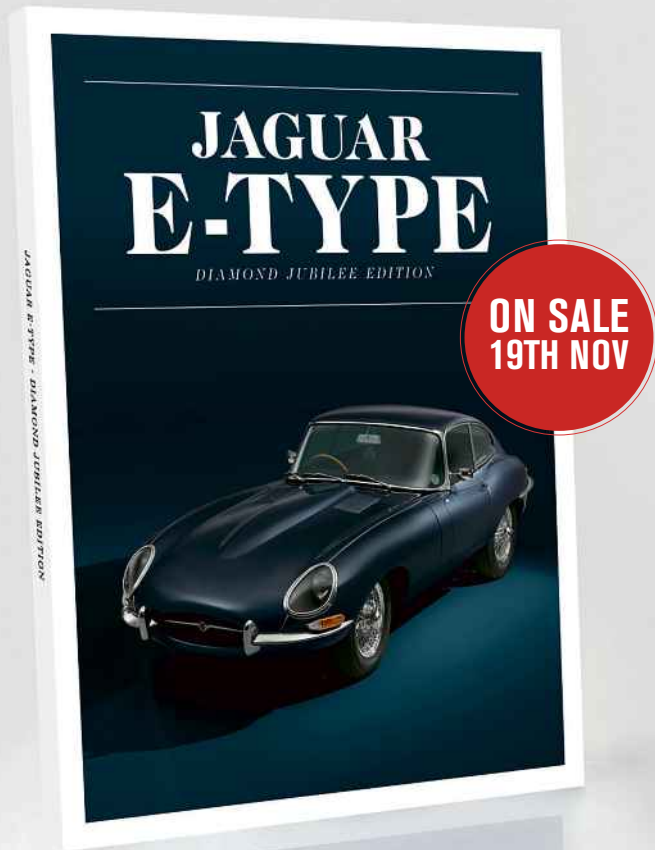
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INBOX



opportunity to use a Porsche 991.2 GT3, I prefer the Lotus for daily work. As your test says, it provides sensory pleasures at low speeds, which is important to me, living and working in a congested part of my country.

It is therefore a pity that the reliability and useability of a Lotus model conceived for daily life is nowadays still questioned. On the other hand, trying to sell Evoras (like the 430) at very close to Porsche GT3 money did not work at all here in Switzerland. Enthusiasts expect a price advantage for the Lotus for its lower count of technical features compared to the Porsche – even though when you live with the car you discover that you don't need them.

Bruno Meier, Switzerland

Getting a grip

From my own experience and from *evo's* too, it seems technology and regulations are ruining modern cars. Most cars now have a number of electric-driven systems that were previously mechanical, or have processes that have become synthetically enhanced.

The emotion, the mechanical noises, the sensations, the feel that the car is working with you, responding to your inputs and the road, all no longer seem to be present or have been significantly diluted in modern cars. This is a huge loss, and it's only by driving old cars again that you realise just how much these things were present and how much joy they bring to the art of driving.

It seems the only thing most manufacturers are now able to achieve are huge power and torque numbers and dreadful noises that sound like a broken exhaust.

Steering feel has fallen by the wayside and it is rare for *evo* to

mention it positively in reviews. However, I do notice the majority of *evo's* road testers do not hold a steering wheel correctly, which may exacerbate the problem. If you grip the wheel like a club hammer, you won't feel through the fingertips. You will also likely break your thumbs in a crash, were the wheel to rotate sharply.

Anthony Shilson

Perhaps it's the chunkier rims found in some modern cars that's making it look like we're grabbing hold of the wheel for dear life, but we promise that we're not. The road test team even have a full complement of thumbs to prove it –
Letters Ed

Specs appeal

Even if I won 'the big one' on the lottery I'm sorry to say that currently there is no new car on the market that I would wish to buy. No Ferrari, Lamborghini, Porsche, BMW, fast Ford or Mercedes, and definitely no Audi.

I may be a bit old, but I'm right in the middle of midlife-crisis territory and this situation is not right. A manufacturer needs to do something. What I really want is something cheap, light and thrashy, with three cylinders, narrow but grippy tyres, a manual 'box and bouncy suspension. Please.

James Bowen

We think you'll find that's called a Ford Fiesta ST or Volkswagen Up GTI –
Letters Ed

The new holy trinity

GMA T.50, Aston Martin Valkyrie, Lotus Evija. Yesterday, today and tomorrow's definitive visions of the Thrill of Driving. Murray, Newey, Kershaw.

What of the rest? McLaren Speedtail, Koenigsegg Jesko,



Hennessey Venom F5? Awesome, until GMD raised the bar into the stratosphere. Mercedes-AMG One, Lamborghini Sian? Trailing the Aston for aero, powerplant, visuals and emotion. Rimac C Two, Pininfarina Battista? Tech showcases – as is, or dressed in couture. Both leave me cold.

Our home-grown stars unashamedly target the driving experience. They're as light as they can be. Autonomy doesn't feature. And there's a golden-age feel to the intensity of their engineering, don't you think?

Start lining up that test guys, it's going to be epic.

George Svarovsky

Longing for lockdown

For some the days of full lockdown were difficult, and I understand that jobs have been lost too, but for me as a key worker it was a selfish gift in some ways. The weather in April played its part too, along with the rather sticky Pirelli P Zero Corsas I had just had fitted to my FK2 Civic.

My 20-mile commute on absolutely deserted A- and B-roads meant that I was probably among only a few people in the country to have a smile on my face upon arrival at work. Usually those roads were full of people on auto-pilot, doing the school run or heading to work, but now they were empty and able to be enjoyed like I never knew they could be (responsibly of course). What a pleasure!

Oh how I long to experience such roads again, especially when I find myself once again stuck behind a Zafira, kids in the back looking at me, driver having no intention of overtaking the tractor ahead doing 25mph in a 60...

Brad Johnson, Doncaster

Inspired by evo

It's safe to say that 2020 was not the year we all had planned. Insignificant though it was in the grand scheme, it was still disappointing to have to cancel the boys' road trip to the North Coast 500 that I had planned for June. Twenty-four of us in 20 cars are now hoping to make it happen in 2021.

But what about this year? Inspired by many back issues of *evo* and a little pooled knowledge, a new 'Wales, Lakes, Pennines, Dales & Moors' route was drafted for a smaller, 'rule of six' group. We'd be driving an Audi TT RS and RS3, an M4 Comp, an Exige, a 981 Cayman GT4 and Astons Vantage and DBS (a baton was passed between these last two halfway round).

Heading via Cheddar Gorge (for the views rather than the roads) we made our way to Abergavenny for dinner. An early start then saw us around the Brecon Beacons and the Black Mountain Pass, over to Aberystwyth and the back roads to Devil's Bridge and the Elan Valley for lunch. Two nights in Betws followed, allowing time on the fairly quiet and amazing roads of north Wales. Why had we not done this before...?

Then it was up to Coniston, the Ruskin Museum, the Wrynose, Kirkstone and Honister passes, over Alston Moor, Haydon Bridge and through Mickleton for a couple of nights in Darlington. More research took us to Reeth, Nateby, Ingletton and Pateley Bridge. Wow – what a mix of roads! Then it was a final fling over the Moors before the slog back south.

Six nights, 1700 miles, great cars, fantastic roads, good company, decent Brazilian, Indian, Mexican and Spanish dinners... Who needs Europe?

Thanks for the inspiration!
Gareth Richardson, Lingfield, Surrey

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RICHARD MEADEN

The unexpected restorative powers of a chance encounter with a skilled driver

I THINK WE CAN ALL AGREE 2020 IS PROVING to be an absolute stinker. Fatigued by the relentlessness and hopelessness of Covid, ground down by the futility of planning anything more than a few weeks ahead and deflated by the paucity of good things to get out and do, I don't mind admitting I'd begun to wonder if we'll ever return to enjoying anything resembling carefree fun.

Much I suspect like you, my go-to tonic for any kind of mental malaise is driving cars. But recently even this was failing to deliver a reliable boost. As regular readers of this column might have detected, I've become increasingly guilty of talking myself into a downer. Cars had become too fast, I wrote. Too many supercars, I wrote. Can't enjoy fast cars on the road anymore, I wrote. Bah and indeed humbug.

Then came October. Traditionally eCoty time, the month began with the rag-tag band of brothers that is the **evo** team engaged in the biggest test of the year. Perversely, while 2020 has been an absolute git, it has also been a belter for new fast cars of all shapes, sizes and prices. In this regard even I've had to concede we've got things pretty good.

Don't worry, I won't trump John Barker's notorious eCoty plot spoiler by revealing the winner an entire month early. In fact I won't even tell you the list of contenders. You'll just have to buy the next issue to see the test in all its glory. What I will tell you is that this year's eCoty is a two-parter that started in north Wales with no fewer than 16 cars and finished with an eight-car shoot-out on some of the best roads in Scotland. I've been doing this for a long time, but can't remember a better couple of weeks or a finer group of cars.

I'm not sharing this because I wish to regale you with smug tales of how driving many (many) hundreds of thousands of pounds' worth of sports and supercars on amazing roads miraculously restored my mojo. Though, *shockingly*, I have to say it did do a pretty good job of perking me up. No, the reason I'm taking you through the last few weeks of my working life is that it was another entirely unexpected moment – again on eCoty – that somehow put things into context.

I was heading north from home towards our first overnight stop in Hawick in the Scottish Borders. Three or so hours into the

four-plus hour trip, I was travelling solo in something exotic and Italian, slicing across country having left the main motorways behind. It was raining and the light was fading and thoughts of a warm fire and a cold pint were beginning to enter my mind.

I'd pretty much had the road to myself, but up ahead in the distant gloom I could see a pair of tail lights burning in the murk. It was one of those instinctive moments when a quick calculation of our relative speeds suggested whoever was up ahead was – how can I put this? – making the most of the opportunity.

Squeezing a little more speed from my car, I steadily closed in. I can normally identify tail lights from a good distance, but the spray and the fading light made it impossible. Part of me wondered if it was someone else heading up to eCoty (the brisk but measured pace certainly suggested this to be the case), but as I got closer, to my surprise and amusement, I realised it was a small van.

Ordinarily I would have looked for a safe opportunity to pass and continued on my way, but this was different. I reckoned the driver was a local, probably on their way home, on a fabulous road they know like the back of their hand. There was nothing risky about their driving, but they were going quickly, carving perfect lines between the sweeping curves, and intelligently losing speed with smooth lifts of the throttle rather than clumsy stabs at the brakes. I knew I was in the presence of a

quality driver when villages were driven through at less than the posted limit. It was masterful, considerate, risk-free stuff.

We continued like this for a good 20 miles or so. Me following at a respectful distance, but close enough to make it clear I was tagging along in their wake, enjoying a drive that was evidently a journey this van driver did every day. When eventually they slowed and signalled to turn off I was sad our good-natured chase had come to an end.

Did they even know they'd inadvertently been part of a shared petrolhead moment? I wondered this myself, until a brief but deliberate click of the hazard lights served as acknowledgement that they'd known all along, and thoroughly enjoyed it. What I'm certain they didn't realise is that they'd set the tone for what would turn out to be an epic eCoty. Nor that they had provided a perfect and much-needed reminder that the best drives often come at the most unexpected moments. Whoever you were, thank you.

'Ordinarily I would have looked for an opportunity to pass and continued on my way, but this was different'

@DickieMeaden

Richard is a contributing editor to **evo** and one of the magazine's founding team



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RICHARD PORTER

It's time for some hard truths about motor racing's influence on road cars

THE WELL-KNOWN F1 JOURNALIST WAS UP ON his hind legs, raging through the civility filter of social media at the editorial boss of *Certain Car Magazines That Aren't evo*. The Well-Known F1 Journalist was adamant that innovations from Formula 1 transfer to road cars all the time. The Well-Known F1 Journalist claimed to be amazed and astonished that other car media professionals weren't aware of this. The Well-Known F1 Journalist said there was a long list that proved his point. The Well-Known F1 Journalist was asked to name something off this list and came up with an example that was incorrect. Yet still The Well-Known F1 Journalist raged on.

The Well-Known F1 Journalist was wrong. There's little from F1 that ever makes it onto road cars. The white heat of motorsport might provide some advances in lubricants and metallurgy and, by extension, in the design of things like piston rings for high performance road cars, but even then the crossover is less than direct, simply because what's required of a road engine is not what's needed to power a racing car.

A bespoke competition engine is blueprinted, hand built, and designed to survive for a short amount of time under extreme stress. A road car engine, even one in a hypercar, has to last for the duration of the warranty and beyond. The greatest achievement of the W16 in the Bugatti Chiron is not that it can belt out over 1500 horsepower but that it can do so while conforming to all of Volkswagen Group's toughest durability and driveability tests so that it's as dependable and docile as a Golf when required.

Conversely, there are two 'F1 derived' hypercars in development at the moment that, so rumour has it, are stuck in development hell. One is said to be unpleasantly noisy inside, the other has proven to be a bastard to homologate thanks to an engine that was built to race, not to do boring things like meet emissions rules and idle unobtrusively in a traffic jam. Little wonder there's buggery all crossover between F1 and the road when the requirements of the cars for each role are so vastly different.

If The Well-Known F1 Journalist wasn't talking out of his hat, where are the demonstrable road car changes shown by manufacturers who have flitted in and out of Formula 1? BMWs didn't get less high tech or of lower performance when the

company bailed on the sport. Alfa Romeos don't seem to have got more sophisticated or demonstrated any tangible evidence of new thinking since they started to inhabit BMW's old Swiss shoes. Even the long-standing teams with road car divisions might struggle to point out where the tech transfer lies. They'll mumble something about carbonfibre, but laying up a handful of monocoques for a full F1 season is a discipline of little use when you need to turn out hundreds and thousands of road car monocoques a year. McLaren might also point to its centre-hinged paddleshift that allows up-and-downchanges with one hand and which is, I grant you, quite nifty. But beyond that, direct F1 tech transfer is hard to pinpoint.

Look at this another way: plenty of road car makers don't have an F1 connection and manage to match strides all the same.

Lamborghini, for example. Or, in a less sporty realm, Hyundai. Are their cars less dynamic/reliable/efficient than, say, Renaults?

It's easy to believe F1 is some glorious engine room from which innovations fly like sparks and that the cars in showrooms are somehow improved by association with the sport, but evidence, or lack of it, suggests it's just not true. We've had more obvious, identifiable road car technology from aviation than from Formula 1.

I was thinking about this again the other day when, fresh from reading The Well-Known F1 Journalist huffing about his mythical list of F1 innovations, I got talking to a friend about the last Ford GT. Just not cricket, said my mate.

They rushed that car through and brought a gun to a knife fight just so they could claim class victory to play on the whole '50 years since '66' thing rather than having the bottle to go toe-to-toe with the big lads in the LMP1 category. I completely disagreed. Why would Ford spend a load of cash to get its corporate arse handed to it by Toyota when for the same or less they could grab what they needed, sell a nice story, and be home in time for tea and medals?

My friend was, I fear, romanticising racing as something other than ruthless and calculating. Just as, surprisingly, The Well-Known F1 Journalist had fallen under the ridiculous myth that Formula 1 directly and relentlessly improves and advances road cars. It doesn't. And it doesn't because – hold on, here's the hard-to-swallow bit, as in both cases to think otherwise is to acknowledge an awkward truth that ruins the misty-eyed romance – motor racing is just marketing.

'Even long-standing teams with road car divisions might struggle to point out where the tech transfer lies'

@sniffpetrol

Richard is an author, broadcaster and award-winning writer of short autobiographies

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JETHRO BOVINGDON

Electric cars need more character, and there's an obvious place to look for it



CHARACTER IS HARD TO DEFINE BUT A VERY easy thing to recognise. It reaches out through mechanical components and grabs us by the guts and heart. Character is why you still pine after the old Clio Cup or 320i you once owned even though you've moved on to faster and 'better' things. Even the most unenthusiastic drivers aren't immune. You'll have a friend or family member who claims to have no interest in cars at all but fondly remembers 'Bertie' or 'Betty' or whatever they named their most dilapidated, dearly departed four-wheeled companion. Character is at the very heart of why we love cars. Sounds stupid, but it's true.

Of course, character can be imbued or manipulated. Engineers have done it for decades. Tuning exhaust sounds, pushing our buttons with quirky interior features and – most pertinently for *evo* readers – enhancing or creating dynamic traits that allow the driver to really impose themselves on the way the car behaves. Handily, different manufacturers value different sounds, wildly different tactile sensations and put their faith in a plethora of mechanical layouts. People who love cars really are spoiled. Whether you're shopping for a hot hatch, supersaloon, sports car or supercar, you'll quickly recognise and adopt the character that most fits with your own.

I think this is the root of why we're collectively struggling with the idea of a BEV-powered future. Unlike with conventional cars there is incontrovertibly a 'best' way to engineer a BEV, so everyone will essentially end up with the same skateboard layout to ensure a low centre of gravity and then play around with driven wheels and torque vectoring depending upon power output and application.

Power delivery is uniform. Whether you have a mid-sized saloon or a 2000bhp supercar the EV experience is all the torque all the time. Amazing for 0-60mph stats and genuinely awe-inspiring. For a while, at least. In my experience EV life has a blissful honeymoon period, giving way to respect and admiration, followed inevitably by either boredom or complete apathy. Rather than taking on a persona that's bigger than the sum of their parts, electric cars tend to do extraordinary things and make them feel mundane. You could define this capability as anti-character. Your aunt won't be naming her car Tilly the Tesla and enthusiasts will end up choosing their future models based on past glories.

Which got me thinking. Perhaps rather than trying to impose a new sort of character on machines that fundamentally have none, we should look to the past for inspiration. There's a horrible word often thrown around in meeting rooms: gamify. 'How can we gamify this idea?' Normally this is the point where I'd start throwing things, but I think EVs are ripe to be gamified.

Here's how it works. A sophisticated EV architecture has a motor at each wheel, offering an unbelievable amount of control over chassis behaviour. These power units can also be tuned purely with software with no inherent mechanical foibles (turbo lag, for example). So whilst all EVs currently offer instant maximum torque and perfect linearity, there's no reason why this has to be the case.

So why can't I have an app to alter that behaviour? And since Land Rover has already shown us 'Transparent Bonnet' technology and we now have electronic rear-view and side mirrors, why can't my view out match the dynamic behaviour I've downloaded? Not only could engineers recreate a big-boost turbo delivery, or a screaming short-stroke motor, but when I look out of the windscreen I could see over the sharp wings of a Ferrari 812 Superfast, or as eyes flick to the rear-view mirror the world could be receding behind the rubber-edged whale tail of a 930 Turbo. The driving experience – steering response, weight distribution, balance and body movements

– could all feel authentic, too. One car, multiple personalities. Your dream garage realised on one highly intelligent platform. Character, copied or not, preserved forevermore.

The idea has another advantage, too. Rather than engineers obsessing over the last tenth of a second or trying to create driving experiences so 'everyman' that they end up disappearing into nothingness, they'd have no choice but to focus on the minutiae. They'd not only dedicate weeks to replicating the steering of a Lotus Elan but also be reminded why it was so celebrated in the first place. Tuning a power curve of a virtual Plymouth Superbird or an NSX-R would spark a passion for theatre as much as bludgeoning performance. Lessons learnt during gamification would inexorably feed back into new-car development and maybe the generic nature of BEVs would start to disappear. Not only would old heroes be accessible to everyone, they'd inform the direction of travel for future icons, too.

'One car, multiple personalities. Your dream garage realised on one highly intelligent platform'

@JethroBovingdon

Jethro has been writing for *evo* for nearly two decades and is a host on *Top Gear America*



by ADAM TOWLER PHOTOGRAPHY by ASTON PARROTT

PARTY CRASHER

It's got them covered on paper, but has Mini's latest Works GP got the moves to outperform Renault's rival Mégane RS Trophy-R and VW's benchmark Golf GTI Clubsport S?



THESE ARE THE ELITE OF HOT HATCHBACKS.

Not necessarily the fastest in a straight line, but the warriors ruthlessly trimmed down to their optimum fighting weight, with months clocked up in the gym and superberry smoothies in their tanks. Consider today, then, a welcoming party for Mini's latest and third entry into this, the slenderest of market segments. The company's 2006 Cooper S Works GP was arguably the initiator of this breed of trackday-focused hot hatch, vehicles with two seats and scaffold bars of some description that owe their raison d'être to non-competitive driving on track, rather than an outright mission brief for motorsport as once epitomised by Rallye-model Peugeots, or indeed Rallyes from Volkswagen.

Of course, the car we all instantly think of when it comes to such a device is the Mégane R26.R, and in recent years it's the French machinery that has dominated this sector, with perhaps the exception of another car we have present here, the 2016 Volkswagen Golf GTI Clubsport S. Based on the Mk7 GTI, this two-seat wunderwagen blitzed not only the Nürburgring, where it lowered the hot hatch record to an absurd 7min 49sec, but also eCoty in the same year, famously clinching the runner-up spot.

That mention of being two-seat only is worth pausing on for a moment. Traditionally, no one gains entry to this exclusive club unless they've stepped across the Maginot Line of hot hatchdom: to sacrifice a tenet of the original hot hatch idea – practicality – in search of lower mass and, hence, greater circuit ability. It's a pivotal moment, because in doing so you end up with the obvious compromises of a front-wheel-drive, hatchback-based performance car, with the same occupant capacity as an outright sports car, itself purpose-designed for speed and driver satisfaction. Any hot hatch that takes the leap had better deliver in the entertainment stakes, or else...

We all know that the Golf is great. As I drive to our test location, Silverstone's Stowe circuit (currently home to Aston Martin), the memories of an extraordinary car come flooding back: the instant, any-rev response of the 306bhp EA888, the keenness that only saving the kilos can imbue. We already know, too, that 'Hardcore Mégane Take 3' is not without problems of its own, for all Renault Sport's reputation and the car's dazzling performance. As much as the Golf thrilled in eCoty 2016, the Mégane Trophy-R in full-spec, £72,140 form, with carbon-ceramic brake discs and carbonfibre wheels, failed to really hit the mark in eCoty last year. It simply proved a frustrating machine – brilliant on track, eternally hit-and-miss on the road. Here we're using the non-carbon car, at a still pricey £51,455, and moreover Renault has attempted to answer our criticisms of its on-road behaviour by tailoring its set-up to British roads. Will this be the golden key that unlocks its undeniable potential? Don't forget, it's the current Ring lap record holder, with a time of 7min 40.1sec.

First though, to the newcomer: the Mini. I park the Golf next to it in the pitlane at Silverstone and stare in puzzlement for a moment. Looks, as ever, are subjective, but for me this is a design that sends one eyebrow sky-high; on one hand brazenly aggressive (that rear wing) and on the other with some bizarre features (those flat-pack wheelarch extensions, that entirely fake bonnet vent). It's powered by the familiar BMW B48 engine, arguably one of the most charmless 2-litre turbocharged units ever made, albeit, I concede, an effective one. This is no ordinary B48 though, because in this 302bhp form it uses a reinforced crankshaft, new pistons, and runs more boost from a bigger turbo. It's the 332lb ft that really catches the eye, but then again this Mini is far from being mini in all senses of the word. However, it does endow the GP3 with fearsome acceleration, 0-62mph covered in just 5.2sec and the car running all the

Opposite: third-generation Mini GP is the most attention-seeking yet; its switch from a manual box to a torque-converter auto is getting all the wrong kind of attention, though



**‘THE GP3 IS ENDOWED WITH
FEARSOME ACCELERATION, 0-62MPH
COVERED IN JUST 5.2SEC’**





way unfettered to a maximum speed of 164mph – the fastest out-of-the-box car in the BMW Group. The motor is connected to an eight-speed torque-converter gearbox and deploys drive through a mechanical limited-slip differential, with a chassis that's wider in track, 10mm lower than a regular JCW, and whose metal and harder rubber bushings are partnered with a more aggressive geometry set-up for the suspension. This latest JCW GP weighs 1255kg, and 575 of them are earmarked for the UK out of a total production run of 3000.

I head out onto the circuit, perched on a slightly underwhelming sports seat, my fingers on the paddles ready to take control of the gearbox, a couple of slower laps ahead to get some heat into the tyres, and... this all just feels weird. The lack of interaction given no manual 'box is a strange sensation in a small, tightly focused hot hatch. Sure, the grown-up fast ones usually now have twin-clutchers, but Clubsport S, hot Méganes, Civic Type R – they all feature a stick and three pedals, and can you imagine a Fiesta ST without them? That keen sense of involvement is a hot hatch staple, and without it the driving experience feels a lot quieter – intensifying the brain's scrutiny on other areas.

The real issue here is that a torque-converter is absolutely not the stuff of hot hatch dreams. It doesn't have the positivity and response of a DCT, but worse is if you let the revs get near the red line. Now, despite pulling the paddle, you're stuck in a no man's land, waiting for the next gear to select after a yawning gap, the engine hanging on to its maximum revolutions in a tuneless wall of noise. I make a significant mental note to upshift a little earlier than my ear suggests would be wise, and concentrate on the torque steer instead.

The track is not the smoothest of layouts, but out of the hairpin the Mini likes to kick back through the steering, and there's even more of a torque reaction under heavy braking, where you've got to keep a firm hand on the car's trajectory. It's quite a handful; the motor feels punchy, the brakes capable, while the steering has that love-it-or-loathe-it Mini staple of a very quick ratio just off the straight-ahead to induce some of the hyperactive feel inherent in smaller Minis of ten and fifteen years ago. Hmm.

By contrast the Mégane has got you by the throat, dangling a metre

Above: its looks are understated in this company, but the Golf Clubsport S is all about the driving experience, which made it a worthy runner-up at eCoty 2016



off the ground, from the very first lap. On cold Bridgestones it has to be the most sideways front-wheel-drive car – possibly any sort of car full stop – that I can recall. It's like an old Super Tourer before the tyres have 'come in', a serial oversteer merchant if you so much as think about lifting off the throttle. The angles it'll go to – admittedly recoverable – are extreme (with the ESP switched off), and they'd certainly focus the mind on a wet winter's morning commute. Once that rubber has come up to temperature the Mégane is awesome, just as the full-spec car was at Ascari last autumn. Because it works the rear of the car so much, understeer is all but banished from the Mégane's vocabulary; the front dives in, you can manipulate it if desired by a lift of the throttle, and pretty soon the car is pointing straight, directly through and out of the corner, allowing you to use every last bit of the fizzy 1.8-litre's power onto the next straight. Rarely has any car felt so at home on a circuit, for like anything that excels in this environment it feels happy here, exuding endurance, looking after its brakes and tyres even when pushed hard.

Unfortunately our Golf today is equipped with the alternative OE tyre – a Pirelli P Zero – to the Michelin Pilot Sport Cup 2 all

previous examples we have tested have been fitted with. Yet despite the change of footwear the qualities of the Clubsport S are obvious: the way it feels so light and agile, so up on its toes, but bizarrely at the same time with that typical Mk7 Golf polish that almost seems at odds with a two-seat track car. Old Pirellis are not a good partner for the diff to work with, though, so there's plenty of wheelspin leaving the tighter corners, and understeer rather than tail-led heroics through the faster stuff because they just won't dig in and allow the tail to rotate, but the cool precision of the steering and the essential rightness of the package are evident. These are still road cars though, and heading out onto some classic English country lanes soon filters the pack more clearly.

The Mini is the first to fall here and, sadly, from quite a great height. I think it's fair to say that editor Stuart Gallagher detests it, and as much as I search for the good in it, I'm afraid I just can't get it to resonate as a package with me at all. On closer inspection those unusual track width extensions (what to actually call them?) look

Above: this Trophy-R may lack the carbon accoutrements of the eye-wateringly expensive fully optioned version, but it's still devastatingly capable on track

like something knocked together for a GCSE CDT project and appear to be held on by sticky pads. They're actually made of recycled parts of i3s and i8s, but the Mini's visual busyness is in stark contrast to the simplicity of a genuine homologation special of the moment, the Toyota GR Yaris. There is no adaptive damping, and where sometimes such purity of focus can be a good thing, in the GP3 that simply means the ride is very unyielding, and on poorer B-road surfaces a hindrance to fast driving. Predictably, that also means the diff struggles to deploy all that 332lb ft of thrust, meaning plenty of torque steer, and the gearbox... oh, the gearbox. Come on BM... sorry, Mini, we know you still have some fine manual gearboxes – the M2's, for example...

Cars are always a product of where they are born, and I don't doubt the GP3 will be effective at the Ring, and it's surely enjoyable too flicking it into Hohe Acht with a GT3 RS gasping for pace in

the mirror. But the execution simply doesn't work on our roads: it's uncomfortable but often ineffective with it, and the very notion of having a hot hatch with a slusher 'box is a mix even Heston Blumenthal would struggle to perfect. It feels artificially nervous and manic one minute, dull and uninvolved the next, and captures little of the pint-pot loony spirit characterised so well by the first two GP models. Frankly, its qualities and components seem so disparate to each other that it's a struggle to effectively sum up what is one of the strangest and most disappointing cars we've driven for some time.

As for the Renault, its problem is perhaps that it's too focused on one target. It feels like a ruthless exercise in making a large five-door hatchback lap the Ring in almost exactly 7 minutes and 40 seconds of blistering commitment, but something, somewhere, very important has been sacrificed in the process. The old R26.R was an equally brilliant – if slower – car on track, but it was also the sort of machine that you'd

Volkswagen Golf GTI Clubsport S

Engine In-line 4-cyl, 1984cc, turbocharged

Power 306bhp @ 5800-6500rpm **Torque** 280lb ft @ 1850-5700rpm

Weight 1285kg **Power-to-weight** 242bhp/ton **0-62mph** 5.8sec

Top speed 165mph **Price new** £33,040 **Value today** £34,500-37,000

evo rating ★★★★★



want to drive down your favourite B-road, just for the sake of it, again and again. As we said during our first drive of this reconfigured Trophy-R (evo 278), the changes to the suspension are a significant step in the right direction, the car no longer hopping from bump to bump and much better able to deploy its 296bhp without hunting all over the place, but it's still a fight if the road isn't smooth. Sometimes that can feel like highly charged fun, other times like you're having to force the car to do something it doesn't want to do, a sentiment that could be applied to the gearshift quality as well. There are still too many occasions when a corner is something merely to be completed, rather than an exercise in entry, line and exit. I greatly respect the Trophy-R for what it can do, but at this price point in particular, I don't yearn to own one.

So it's the old-timer that takes the plaudits because real class doesn't date. Although it's nearly ten seconds slower than the Mégane

around the Nordschleife (and half a second slower around Bedford Autodrome's West Circuit), in reality it's only a small percentage off the Mégane for on-track ability and pace. And yet in return it's a much more multitasking, multitextured sort of car, far more at home on the road. In fact, you could quite easily use it as a daily – not that it's the most practical of hatchbacks, but at least having a hatch with only two seats makes more sense in a three-door shell. Being able to soften the adaptive damping works wonders, and there's never a moment when the S feels out of its depth. It's one of those rare cars where the more challenging the road, the more it rises to the occasion, so the more you just want to keep driving it.

The customer base for a two-seat hatchback that only really works on the circuit but costs nearly Cayman GT4 money is tiny, but the market for one costing just over half that price and which is also a cracking road car is significantly bigger. For now, VW still rules. ❌

Renault Mégane RS Trophy-R

Engine In-line 4-cyl, 1798cc, turbocharged
Power 296bhp @ 6000rpm **Torque** 295lb ft @ 2400-4800rpm
Weight 1306kg **Power-to-weight** 230bhp/ton **0-62mph** 5.4sec
Top speed 163mph **Basic price** £51,455
evo rating ★★★★★

Mini John Cooper Works GP

Engine In-line 4-cyl, 1998cc, turbocharged **Power** 302bhp @ 5000-6250rpm **Torque** 332lb ft @ 1750-4500rpm
Weight 1255kg **Power-to-weight** 244bhp/ton **0-62mph** 5.2sec
Top speed 164mph **Basic price** £33,895
evo rating ★★★★★



by ADAM TOWLER

PHOTOGRAPHY by ASTON PARROTT

W I T C H C R A F T

*How do you keep the best car in
its class at the very top? Honda's
engineers think they have the
answer with the refreshed
FK8 Civic Type R*





HERE'S AN AUTOMOTIVE PUB QUIZ FACT OF the type guaranteed to have your significant other downing their chosen tippie with a look of abject despair. Did you know the 2020 Civic Type R has a more densely packed sequence of fins in its radiator core? The gap between each row is reduced by 0.5mm down to 2.5mm. You want more? Don't worry, there's plenty. Possibly every mid-life facelift of a performance car has the same miniscule improvements made, tiny advantages eked out by world-class engineers, sometimes offset by increasingly stringent emissions or safety legislation, or input from marketeers. It is, however, a level of scrutiny and microscopic development deeply associated with the Japanese marques, which are, at the very least, unmatched

at letting us know about the whole process, whether that's this month's evolution of the Nissan R35 GT-R or endless derivatives of the Subaru Impreza.

Honda hasn't flinched in any way when it comes to this update on the indomitable Type R. But one thing is for certain: if you hated the way it looked before, you're still going to loathe it (just as if you have a penchant for vents, angles, big wings, black wheels and bazooka exhausts you'll still love it). The only visual differences are small painted blades at the front and the rear, new fog light surrounds, and a revised grille that allows a 13 per cent increase in airflow, which Honda wanted to achieve for track work as part of its increased cooling target. The front air dam underneath the nose has also been adapted to offset the aerodynamic imbalance caused by the grille modification. Naturally.

In fact, the real meat of the changes to this Type R happen to be exactly where they count: with the driving experience. And

if you know the FK8, you'll be fully aware that the manner in which it drives is undoubtedly its strongest suit. This is the car that showed how when Honda was truly serious about a Civic hot hatch it could deliver the very best there is, even usurping Renault Sport as the ultimate *evo* choice. There's been many a group test and big event (Track Car of the Year in issue 254, for example) where the Civic has run rings around cars costing twice its price or more, and left us astounded in the process.

During the first few miles in the updated car I'm... well, not sure actually. Most of what I recall about the Type R is present and correct, but the ride never seems to settle on the road and I'm switching down to Comfort mode more than I remember. But when I swap into a sister car, which we'll subsequently cover many more miles in, it doesn't feel too stiff at all. I won't dwell on the situation, save to say Honda tells us this second car is representative. We'll have to take its word for it.

Don't go thinking the Type R is one-dimensional from the statement I'm about to make, but so much is obviously right about this car in the first mile – and it always has been. It's like running through a mental checklist: fab bucket seats, check; good steering wheel, check, and now with Alcantara, yay!; natural, engineered-in-feel response to the first steering input, check; super-direct and mechanical gearshift mechanism, yep, even just putting the car into first gear. But some things are even better. The front brake discs are now two-piece items, with the main objective being to improve the pedal feel, which was already very sturdy underfoot but now has a perfect weighting for judging brake inputs and heel-and-toe work. The new discs also shave 2.5kg off the unsprung mass, which is handy. That gearshift too – it's also improved, Honda having an entire slide with figures illustrating how the switch from a ball gearknob to a teardrop shape has helped with the weighting of the throw. They're not wrong, for the little aluminium lever slices through the gate with a pleasurable feel that matches anything else in production.

I think this last point sums up the Type R in many ways. It may be 'just' a hatchback, but in its own way it feels every bit as well engineered and thought out as a 911 GT3. In fact, in the past we've often applied the comment 'If Porsche made hot hatches...' to this car, and not without good reason. It really is that good.

Naturally, Type R project leader Hideki Kakinuma and his team haven't been able to leave the suspension tuning alone either. There are stiffer bushings and low-friction ball joints, and revised geometry settings, while the adaptive dampers can now monitor what's happening ten times faster than before.

So, you can feel how good the Type R is in those first few miles, but it's when you reach a decent road that it really comes alive. Quite simply there's a level of pace here that means nothing is getting away from the Type R unless the road is straight, smooth and flat for miles. It doesn't matter what supercar you could be driving, a well-driven Type R has everything – and I mean everything – covered. Every element of the car exudes a steely precision, the steering even more positive than before, the ride

Right: bucket seats are excellent, and Alcantara on the steering wheel is a welcome addition; the infotainment set-up trails the opposition, though







‘IT DOESN’T MATTER WHAT YOU THROW AT THE TYPE R, IT’S JUST NEVER FAZED’

even more iron-fisted in its control. +R mode is still too much for a B-road, but Sport does just fine, and Comfort remains a useable option for when you’re really not in the mood. You can brake really late and deep into a corner and never feel the chassis is getting nervous, but simultaneously it’s also a very, very long way from feeling inert, working the rear axle to complement that turn-in and positioning the car’s attitude for less scrub on the exit. Traction on the way out of a corner is exemplary thanks to the dark arts of the limited-slip diff – and that even applies on streaming-wet roads, the 20-inch Continentals resisting wheelspin and torque steer admirably. It doesn’t matter what surface or sequence of undulations you throw at the Type R, it’s just never fazed by anything.

The engine’s outputs are unchanged, but then there was nothing wrong with the 316bhp and 295lb ft of the pre-facelift car. There’s an upgrade to the ‘fake noise’, which is more of an acquired taste, and the in-line four isn’t the most musical of units at higher revs, but it does love to be worked constantly to its red line in a way many turbocharged engines don’t.

All of which means it’s hard to think of a rival front-drive hot hatch that can match the Civic, and Honda has tried to broaden its appeal further by introducing some new variants, too. On top of the basic and GT trim levels (the latter adding £2000 and bringing a few extra creature comforts such as parking sensors, satnav and dual-zone climate control), there’ll soon be a Sport Line derivative, priced in line with the GT and matching its kit levels, but featuring a smaller rear wing, no pinstriping, a quieter interior and 19-inch rims with Michelin Pilot Sport 4 S tyres (rather than the usual Continentals), all of which may go some way to appeasing those who simply can’t get on with the way this car looks. At the other end of the spectrum is the Limited Edition, in retina-bursting yellow, with a 47kg weight saving that includes less soundproofing material and forged wheels shod with Michelin Cup 2 tyres. If the standard car already feels like it could go toe-to-toe with a Mégane Trophy-R on a track, then the Limited Edition promises to be right at the forefront of any on-track hot hatch battle.

Does the Type R have a weakness? Apart from its exterior design, that would probably be its interior, and in particular the Garmin satnav and infotainment set-up, which is miles behind much of its competition. The Civic also only has four seat belts, which is a disaster for those with larger families needing their hot hatch to do the mundane stuff as well as the B-road blasts. But overall there’s still nothing quite like an FK8 Civic Type R, and with this subtle but comprehensive round of upgrades, Honda has made the task of toppling it even more formidable still. **X**



Left: teardrop-shaped gearknob has improved shift feel further. **Right:** ‘Racing Blue Pearl’ is a new colour option; looks are still love ‘em or loathe ‘em, though



Honda Civic Type R

Engine In-line 4-cyl, 1996cc, turbocharged **Power** 316bhp @ 6500rpm
Torque 295lb ft @ 2500-4500rpm **Weight** 1380kg **Power-to-weight** 233bhp/ton
0-62mph 5.8sec **Top speed** 168mph **Basic price** £32,820

evo rating ★★★★★







LIFE THROUGH A LENS

COLIN McMASTER

He's one of the world's leading rally photographers and a co-founder of the McKlein photographic agency. Here Colin McMaster charts his rise to success and shares with us some of his favourite images

by ANTONY INGRAM



'I'VE HAD HARDER JOBS!' JOKES COLIN McMaster over the phone as we talk five time zones apart. McMaster is in Barbados, on a job for spectacular American rally driver Ken Block, awaiting the obligatory Covid test results that will allow him to leave his villa... and the pool... by a beach. Rallying certainly isn't always that glamorous, but it was the joy of travel that played a big part in why McMaster made the switch from his initial career path shooting Formula 1.

'I really liked the freedom of rallying and the photographic opportunities it presented,' he explains. 'When you work at circuits, you fly to the country, pick up your hire car, and then you're hotel, track, hotel, track, whatever, back to the airport – you never see the country, you just see the circuit. With a rally you travel around the country, or the region where the rally's based. It just woke me up to what travel was really about. So basically I just fell in love with rallying.'

McMaster's path into photography started at 11 years old, when he was gifted a camera for his birthday. 'It took 110 cartridge film, which is a tiny, horrible little negative format. The camera was fixed focus, fixed everything – aperture, shutter speed – so a point-and-shoot with nothing else, but I loved it.'

Combined with a father who competed in motorcycle racing and a grandfather who wrote about it, racing was already in the blood, but it was a move to South Africa aged 15 that really spurred on the career.

'What really accelerated my photography was the inability to speak Afrikaans. They had something like four hours of Afrikaans a week at this school I went to, and we decided



Sébastien Loeb, France
'The Col de l'Orme, Alpes-Maritimes [previous pages]. Look at the view! I know a lot of photographers outside of motorsport, and one I really respect who does fashion was wowed when she saw it. It's a picture that works even without a rally car – you'd struggle to even see Loeb! It shows what rallying is all about.'

Hayden Paddon, Finland
'This [above] was in 2016. You don't see the cars that many

times during an event, so if you're going to pick a stupid shutter speed like 1/40th of a second, or 1/25th, you're gambling a bit, but it paid off.'

Richard Burns, Finland
'Richard Burns and Colin McMaster! I've got Robert Reid's overalls, pace notes, watch, helmet, shoes... shot on film, I'm triggering it with a cable release under the pace notes. This [right] was Finland, a test with Burnsey. He was a good mate, best man when I got married! It was the end

of the test and he knew the stage well, so it was proper.'

Sébastien Loeb, Germany
'This jump [far right] is on the Panzerplatte stage on Rallye Deutschland, in 2002. I was in a helicopter, pointing the 300mm out the window; with the long lens you compress it all and see the shape of the road. Loeb won the event, so the picture also tells a story. Nowadays the crowd are 100m away, and there's a big plastic arch over the jump. It'll never be repeated again.'







Thierry Neuville, Turkey
 'Every year there's a competition, rally photo of the year. I entered this in 2018 and it won! Voted for by the public, not by the organisers. So I've included this one because it was the rally photo of the year 2018.'

Sébastien Loeb & Sébastien Ogier
 'This [left] is one of my favourite rally pictures of all time. It's not set up, this is genuinely the two greatest current-era world champions just having a quiet moment. They'd parked in a quiet side street to escape the crowds.'

To have that moment with them, undisturbed. I like this because they're oblivious to me as well.'

Thierry Neuville, France
 'I just love this picture [top] because of the glowing discs. Some of the fans had lit fires and were holding flares. It was bloody dark! There's no better place for night rallying than Monte Carlo.'

Elfyn Evans, Sweden
 'This [above middle] was last year. I put a flash strobe light behind the car and one to the side. It's a bit of luck. I'll confess, but the light flare

from his headlights down my lens, he's hit the snowbank, perfectly lit, and the lights just make the picture.'

Carlos Sainz, Wales
 'Right place, right time [above], but that was no fluke! I reced the Margam Park stage and holed the sump on my car 100m from where Luis Moya's kicking that car. I was framing the house, and that's where he stopped. Sainz just had to finish 4th or 5th to win the title so was cruising. He destroyed the engine going too slowly, I destroyed a Volvo going too quickly!'

there was no point in me starting that, as we were only there a year. I persuaded the school to let me do photography. Basically I could roam around the grounds taking pictures. I built a darkroom at the school and that made me instantly popular, because it was a room you could physically lock. All the smokers became my best friends because I had the key!

'So as well as that and the background of a family who were entrenched in motorsports, we would go to the racetracks, go on safaris, see the landscapes – there was so much you could photograph in South Africa, and I soon became the photographer in the family.'

When the family returned to the UK, McMaster used contacts through his grandfather to shoot images for junior drivers in Irish motorsport, supplying newspapers and magazines, opening the door to both press access and, importantly, contact with others in the industry. That led to a position at Oxfordshire-based Words and Pictures, a photographic agency that covered events from the BTCC to Formula 3 and Formula 3000. From there McMaster transitioned to F1.

'By around the end of '92 I was doing Formula 1 testing, at places like Paul Ricard. To me that was fantastic – this was all I wanted in life, to go around photographing F1. I did a good job in testing and then I was on the plane to Brazil in March '93. I did a full season of F1 in '93, '94 and '95. At the time the PR girl for Subaru lived near the Cotswolds, and knocked on the door one day as they'd just signed Colin McRae, and British American Tobacco as a sponsor...'

McMaster started shooting promotional and lifestyle material for McRae and Subaru, building up a rapport with the Scot and travelling to the Asia-Pacific rallies McRae was competing in at the time. 'I used to know the barman at Changi Airport, Singapore. He'd recognise me 'cos I was going in and out of there so often! I was doing F1, rallying, still shooting some touring cars at the weekend, and thought, "It can't go on like this."'

In the end, McMaster's love of rallying won out, and that's where the McKlein story starts. 'With a rally you don't see the cars that much – each day you might see them three or four times maximum, so it was quite obvious that the best thing you could do was team up with some other photographers and offer a service for clients, and that's what I did with a German photographer and another British guy – Reinhard Klein and Bob McCaffrey. We joined forces and started McKlein in 1997.'

That combined expertise, the love of travel and love of the sport has taken McMaster to some amazing places, but he loves the process

of shooting a rally too. 'The key to it is the recce. I will always dedicate two or two-and-a-half days to drive the stages myself. You can talk to co-drivers and they're pretty good at recommending spots too, but that's normally for action 'cos they write down pace notes: "big jump here", "big cut" or whatever. You have to work out how to get somewhere too – it could mean driving in before the roads are closed, parking up, and losing the best part of a day to create the image that you want. I don't like standing next to other photographers either. It's nothing personal, I just want to have something unique!'

Kit gets a bit of a beating at rallies, and McMaster points out that he's a couple of generations behind with his Canon camera bodies, some of which are brought along to set remotely for areas inaccessible (or inadvisable) for snappers to stand. There's a wide choice of lenses too: 'I have a core set. I take a 35mm, an 85mm and a 300mm lens. I take those three to more or less every rally I do, and then I just fill the bag a little bit according to the rally I'm going to.'

Then there's the unique challenge of shooting each rally: 'If you go to an event like New Zealand you have to understand landscapes, scenery, topography. These make your photos recognisably New Zealand, so you have to understand that element of photography, and make the framing work. If you go to Finland you have to understand the sport, the dynamics of the cars. Finland is less scenic, but more three-dimensional – you need to know what they'll do on the high-speed sections, the jumps, the crests, the corners. So it's a different skill set that you need to capture two different types of events.'

'Tarmac's another one – there's no snow, or dust, so that dynamic element's gone from your pictures compared to a gravel event. With a tarmac event you've got to find where there are deep cuts, you might see some sparks from the undertray, you might get a locked tyre, smoke and that sort of thing. If it's low light in the morning or evening you might see glowing discs, you know? That's quite a challenge in rallying to capture all these different elements... I'm finding it interesting talking about it because it's second nature to me now, but it took a while to get there.'

So does McMaster prefer the scenic or reportage elements of rally photography, or the pure action? 'An editor I worked with told me to always try to come back with one picture that sums up the whole event. And it's always stuck in my mind, can you actually achieve that? You'll struggle to do it with a pure action shot – there has to be something more to it. With rallying you've got the possibility to make a composition that works without a car. The car is just the icing.' ❌



Ott Tänak, Finland

'This jump [top] in Finland is on a left-hand corner, and it's called the Amazon jump. Finland, Tänak, proper attack, sideways – I love it. I entered this in the rally photo competition and thought I might as well just prepare the acceptance speech, but it didn't win!

Teemu Suninen, Turkey

'You're only as good as your last picture. Normally Turkey is just harsh light in the middle of summer, but they ran two late-

afternoon stages this year due to Covid changes. Proper dust, low light, perfect [above].'

Colin McRae, Cyprus

'All McRae's doing here [top right] is closing his boot, but the front page in *Motoring News* was "McRAGE!" Colin was leading in 2002 on the last day, but then he rolled. They fixed the car, he went out again, rolled again and went the wrong way down the stage! This was at the end of the stage after he'd dropped down to 5th or something.'

Ken Block, Switzerland

'Love working with Ken Block. If he asks you for something, you make sure you get it, because he doesn't ask you for much. He's the only driver I know that'll give it a bit extra for a picture! He said to me the note was "5 right, 100 to fifth-gear crest". Basically he's got 100m to make up his mind if he's going to lift... He even put "media" in the notes to say I'll be there with a camera. And that's the result, he gets it, you get the picture [right], and he tells six million people about it on Instagram!'



BATTLE OF

The latest Bentley Continental GT V8 and Aston Martin Vantage offer two different takes on the front-engined supercoupe formula. But which should you choose?



by RICHARD MEADEN PHOTOGRAPHY by ANDY MORGAN

BRITONS



THESE ARE ENTRY LEVEL MODELS. The first rungs of Aston Martin and Bentley's respective ranges. While you let that sink in for a moment, let's pause to ponder their objectives, specifications and vital statistics.

Superficially these are two very similar cars. Both the product of storied British brands (OK, British so long as you ignore the mix of German, Middle Eastern and Canadian ownership...), each boasts a 500-plus bhp 4-litre, twin-turbocharged V8 engine mated to an eight-speed torque-converter automatic transmission. Likewise, each promises to be the sportiest and purest driver's car in their marque's model portfolio.

Scratch deeper beneath the surface, however, and the differences in approach are more significant than the similarities in brand and hardware, the Continental GT V8 being a luxurious all-wheel-drive 2+2, while the Vantage is a resolute rear-wheel-drive machine strictly tailored for two.

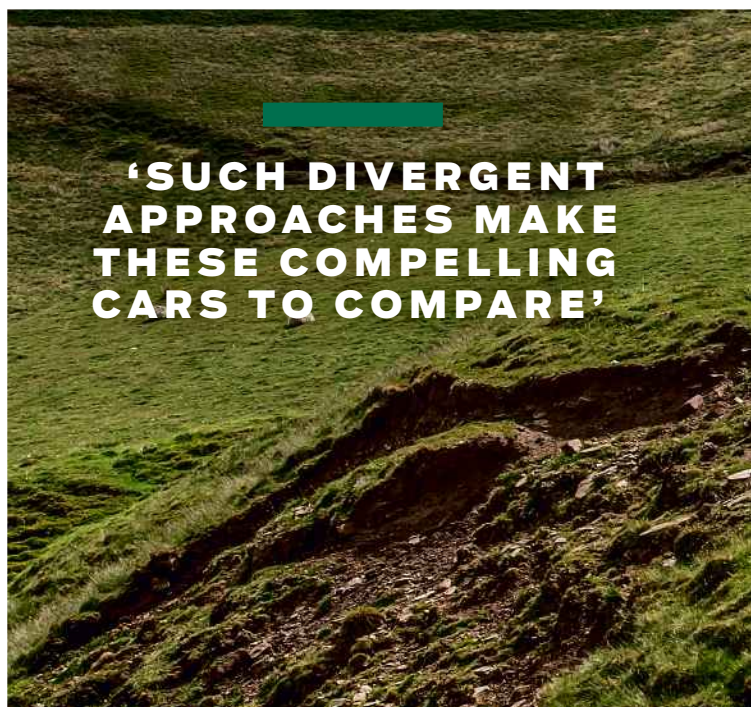
All-out each gets tantalisingly close to 200mph, though the Aston is quicker to 62mph, hitting the benchmark time in 3.6sec versus 4.0 dead for the considerably heftier, 2165kg Bentley.

Ignoring any dealer discounts that might be floating around, the Aston starts at £124k with the auto 'box (as here), while the better-equipped Bentley begins just beyond £150k. Typical options will realistically add a further £25k or so to each. They may be the babies of the range, but both are very grown-up purchases.

Such divergent approaches to building supremely potent, prestigious and desirable coupes make these compelling cars to compare. In so doing we'll get to the heart of what separates each brand and zero in on what that means in terms of driving dynamics and owner appeal.

Shunning alphabetical convention we'll start with the Bentley. The latest-gen Conti GT has proportions and features familiar from the original, but the shape is so much more defined. It has evolved from something rather amorphous to something truly sculptural. It expresses a true sense of speed through a dramatically streamlined shape – one never better expressed than in the sharp lines that form at the headlights and flow all the way down the flanks of the car. Even the headlights themselves are extraordinary things, with jewellery-like facets that mimic a piece of cut glass.

This car's mid-green exterior and dark green interior may sound like the car equivalent of a verdant double denim, but it works exceptionally well. The quality of the leather and the stitching is first rate, though the design is quite blingy. Especially in combination with the high-gloss surfaces and chrome switches. It may not be to all



'SUCH DIVERGENT APPROACHES MAKE THESE COMPELLING CARS TO COMPARE'







tastes, but there's no question it has the quality to carry it off, largely thanks to Bentley's production department being prepared to sign off large amounts of budget to make sure everything looks and feels of the highest possible quality.

The Aston is much more overt in its exterior styling. It's undeniably and deliberately divisive. In fact you could say it's the apex of Aston's reaction against those who complained about the previous-generation Vantage, DB9, DBS and Rapide being Russian dolls. Beautiful ones, admittedly, but all sharing the same features.

The busy, aggressive approach continues inside, with dozens of switches and heavily hooded instruments. You sit low, so there's an exaggerated cockpit-type feel, but it all just seems to try a bit too hard. Worse, compared to the Bentley it all feels rather flimsy and lacking in substance. The Conti's quality comes at a price in terms of weight, but unfortunately the lasting impression of the Vantage's rather brittle interior is one of cost saving, not weight saving. It's also well off the pace in terms of infotainment.

The flip side comes when you begin to drive. Even judged in isolation the Vantage is truly intense. Push the starter button

and it immediately pulses with energy from that AMG-sourced, AML-tweaked V8. It's got some teeth, no doubt about it. You feel in close proximity to the heart of the car and the moving components that give it life and vibrancy. The Bentley is by definition a more discreet character. It starts with a promising, pulsating soundtrack, but after clearing its throat for theatrical effect the engine quickly fades into the background, felt but not heard.

These first impressions extend into the wider driving experience, the Aston feeling much more exciting from the off. It connects you to everything, and because there's more energy in the car you immediately put more energy into your driving. I only use the Bentley's paddleshift very occasionally, and largely because I feel I ought to for the purposes of the test, but it feels much more natural to use the Aston's paddles, as you're keen to put your stamp on how you make progress.

It might be a basic measure, but to me this desire to roll up your sleeves is a litmus test of how engaged you feel in the process of making progress. Advantage Vantage, then.

It's no great surprise, for Aston pursued a deliberately aggressive course with this car, the need for each model's

**‘THE BENTLEY
IS TOO FAST TO
ROUTINELY OR
RESPONSIBLY
UNLEASH’**



styling and dynamic behaviour to be reflections of one another being the mantra within Aston for all the Palmer-era cars.

Whatever you think of the Vantage's styling, there's no denying its dynamic fingerprint is a match for its attacking looks. Everything about the way it moves is amplified, that inherently sporting feel increasing incrementally as you toggle through the dynamic modes. Never less than firmly suspended, it supports itself with iron-fisted resolve, but also offers pliancy in its softer modes.

When the opportunity comes to press on with something approaching full commitment there are times when you need to put some more support into the car. This is delivered nicely in Sport+, which better controls vertical movement, particularly at the rear. This greater sense of being tied-down fosters huge confidence without adding too much tension into the damping, so the car still works with the road. Indeed, unless the surface gets particularly rough you can quite happily stay in Sport+ and not feel like you're having your teeth rattled. It's nuanced, not about body control and corner speed at all costs.

The paddleshift transmission is very good, at least by

torque-converter standards, but lacks the snap and immediacy of the best double-clutch 'boxes. This said, I'm pretty certain there's never been a more dynamically focused car fitted with a torque-converter 'box, so the fact it delivers rapid upshifts, crisp throttle-blip downshifts and rarely denies a pull for a lower gear under maximum braking efforts means that, although it's not the last word in driver engagement, it doesn't get in the way of your enjoyment.

The steering is quick-witted and has a real sense of urgency. You don't have to make large applications of lock to get the car to dive for an apex, but this means you have to calm your inputs down in order to become at one with the Vantage's voracious appetite for direction change.

It rotates with real enthusiasm, enough to test your trust that it's actually got enough grip at the rear to keep pace with the front end's rate of response. But when that penny drops, wow! You can step up several gears in terms of the commitment you show the car and the manner in which you throw it into a corner. It excels at rapid direction changes, carving through turns like a slalom skier.

Matching the chassis is straight-line performance that

Above: Continental GT wears a sharper suit in its current form, but if it's presence you're after, look no further than the Vantage (left)



Top row: Bentley test car wears optional 22-inch wheels with standard cast-iron brakes; interior quality feels fitting for a £150k car

has a raw, explosive quality. It perhaps sounds derogatory to suggest the Vantage has a hot-rod quality to the way it punches through the gears, but it's actually a compliment. That Merc motor may have a brutish quality familiar to AMG customers – something that arguably dilutes Aston's standalone DNA – but its brute force also has echoes of old-school pre-Gaydon Astons. In short, you wouldn't want to spill its pint.

Completing the package are the optional carbon-ceramic brakes of our test car (*evo's* Fast Fleeter). They're a little sharp on initial application, but you can compensate quite intuitively, so you rarely have to consciously moderate and modulate your inputs. Once beyond that initial bite point the brakes have terrific stopping power, stamina and feel.

This all combines to create a car that relentlessly eggs you on. Empty roundabouts, open corners, T-junctions, traffic lights – all offer you the opportunity to grab some illicit fun and burn some rubber. You need to have your wits about you if

your intention is to provoke a slide, for the breakaway is sharp and requires both swift corrective lock and confident throttle control to achieve more than an edgy stab of oversteer.

It might not conform to Aston's gentlemanly stereotype, and certainly requires skilled hands to fully exploit and enjoy, but if you place a greater emphasis on dynamism than decorum you'll find a kindred spirit in the Vantage.

To say making the switch to the Bentley is like chalk and cheese is masterful understatement, for from the moment you grip the steering wheel and squeeze the throttle the difference between them is stark. Chassis-wise the Bentley always feels slightly underdamped. Of course it has a lot of weight to contain, and you certainly don't want something so stiff it rides like a 2.2-ton skateboard, but still you can sense Bentley's struggle to find a sweet spot between the car being crashy and wallowy. This said, the current Conti is noticeably more agile and enthusiastic than its predecessor, though the spectre



of mass and momentum is always lurking in the shadows.

Were you so inclined, and had the room to do so, I'm sure you could switch everything off, lob it into a corner and get the tail to slide, but you would do so in the knowledge such treatment goes against the grain. It is not that car.

What the Conti excels at is putting the full force of its performance down into the road. It has levels and layers of performance that you access almost by accident, because it fosters an inherently less punchy driving style.

Instead of yearning for opportunities to get the thing slicing and slithering through corners, you just build speed and then stay there, enjoying apparently boundless traction and stability, combined with abundant torque and a mighty sense of acceleration. If you enjoy going very quickly with little apparent effort, you'll find the Conti GT extremely impressive.

It's inert compared to the Aston's darty, high-energy style, but make no mistake, when you decide to really give it

some, the Conti is monstrously quick across the ground. Its weakness is that compared to the Aston it does feel a bit one-dimensional, because it hasn't got the ability to meaningfully raise its game beyond that effortless manner of delivery. Perhaps unsurprisingly there's an Audi RS6 sensation to driving it quickly, albeit while being surrounded by more quality and carrying more mass. Like its VW Group siblings it has an ability to deliver shocking speed, but it does it in a prescriptive manner.

It would be easy to take from all this that the Aston is relentlessly uncouth, but that would sell it short. It's quite happy to drive in a more relaxed way and simply go with the flow, but compared to the Bentley it's adrenalised, as though poised on the brink of some kind of fight-or-flight mode. This makes it exciting and provides ready reminders you're in something with unusual potency. Nevertheless, this energised character compromises the Vantage's abilities

Bottom row, opposite page: our Fast Fleet Aston has 20-inch wheels and optional carbon-ceramic brakes; interior is shown up by the Conti's

as a GT car. Road noise, wind noise and engine noise are all significantly more intrusive than in the Bentley. Consequently the Vantage is the more selfish choice. Less the car in which you'd embark on a really nice touring holiday with your partner, more the car you'd take for a weekend hoon with your mates.

By contrast the Bentley is a soothing and relaxing car, and one that you can also drive bloody quickly without your passengers being aware of quite how fast you're going. Covert speed rather than overt speed, if you like.

Which would I have? It's very hard to choose between them, even though they're totally different cars. In my heart I'm more aligned with the Aston, but I wish it had a bit more of the Bentley's quality and polish. Then again, I wish the Bentley had a pinch more of the Aston's attitude and ability. Not just outright dynamic prowess, but its ability to excite at a visceral level.

There's no question the Bentley is a quality piece, and I'd be lying if I denied that the older I get, the more I've come to appreciate cars that will make mighty yet effortless progress. Yet still I know I would feel I was missing out on an essential degree of sporting capability and excitement if I chose Crewe over Gaydon.

In an unexpected way this pair shine a light on the trouble with many of today's premium performance cars.

The Vantage is a car that encourages you to drive quicker and with more commitment than is compatible with today's roads, yet the Bentley is also quick enough to be too fast to routinely or responsibly unleash on all but the quietest and most remote stretches. Perhaps counterintuitively, because it's more garrulous in character you get more from the Aston more of the time than the cool, calm and collected Conti GT. As ever, you pay your money and you take your choice.

For most people the Bentley is the easier purchase, simply because it's easier to live with – less extreme and exuding an extraordinary sense of quality, refinement and prestige. If you have the means it would be an absolute pleasure to live with on a daily basis.

The Aston needs the right roads and opportunities to shine brightest, and presents you with greater compromises in those times when you find yourself mired in more humdrum scenarios. What's undeniable, and what ultimately elevates the Vantage above the Conti GT as a driver's car, is you always have the promise of those intense moments where, no matter how fleetingly, you and the car can raise your game to access an intense and rarefied zone.

For as long as The Thrill of Driving remains this magazine's strapline, cars such as the Vantage will always prevail over cars like the Bentley. Even if it is by the narrowest, most focused and most subjective of margins. ✘

Bentley Continental GT V8

Engine V8, 3993cc, twin-turbo


Power 542bhp @ 6000rpm Torque 568lb ft @ 2000-4000rpm

Weight 2165kg Power-to-weight 254bhp/ton

0-62mph 4.0sec Top speed 198mph Basic price £151,800

evo rating ★★★★★





**'IT'S VERY HARD TO
CHOOSE BETWEEN
THEM, EVEN THOUGH
THEY ARE TOTALLY
DIFFERENT CARS'**

Aston Martin Vantage

Engine V8, 3982cc, twin-turbo

Power 503bhp @ 6000rpm Torque 505lb ft @ 2000-5000rpm

Weight (dry) 1530kg Power-to-weight (dry) 334bhp/ton

0-62mph 3.6sec Top speed 195mph Basic price £124,400

evo rating ★★★★★

by STUART GALLAGHER PHOTOGRAPHY by ASTON PARROTT

GODZILLA IN THE MIST





Nissan's R35 GT-R has been carving its own unique path through the motoring landscape since 2008. Fourteen years on, we drive the ultimate, and possibly final, incarnation: the £180,000 2020 GT-R Nismo

NUMBERS DEFINE THE GT-R, ALWAYS HAVE and always will. It's that kind of car, one engineered and developed to the kaizen philosophy of continuous improvement. But also one that Hiroshi Tamura, Nissan's GT-R chief product specialist, feels will never result in a 'perfect' GT-R. Not that this should be of concern, because while continuously improving the R35 Godzilla family we get to experience the likes of the latest Nismo interpretation of a GT-R.

Technically this is the 2020 model year Nismo GT-R, a car announced at the tail end of 2018, that we drove at the Lausitzring in the summer of 2019... and then 2020 did its thing so now it's late autumn as the latest Nismo finally lands at **evo Towers v2.0** to scare the neighbours.

GT-Rs have always looked tough, Nimos tougher still. Slab sides with carbonfibre hanging from them. Creases as sharp as a Miyabi Artisan knife. Body panels slashed with intakes, aero devices shaped for a purpose that didn't include aesthetics. Its European contemporaries might look as sophisticated as Fleming's Bond ordering a martini, but the GT-R has an air about it that makes it more Jack Reacher walking into a bar fight. It operates in a different sphere to its contemporaries, too. Once the top of a healthy Japanese performance car tree, it now looks down on a barren trunk with only a few compatriots for company. The days of Impreza and Evo varieties of all sorts hanging from every branch are gone (although a green shoot is growing quickly in the guise of Toyota's GR Yaris), which makes Nissan





and Nismo's commitment to the cause even more honourable, especially so when you consider Nissan isn't exactly in a healthy condition right now. That it continues to direct resources to a 592bhp, four-wheel-drive performance car that bears next to no resemblance to anything else in its line-up is more than commendable. It's bloody inspiring.

Despite a design that's heading into its teenage years and is as familiar as that of any rival of equal iconic status, you approach a GT-R that wears the full Nismo battledress with a degree of apprehension. It's in the same league as a GT2 RS, 620R or AMG GT R Pro when it comes to palm perspiration levels. Bravado is very quickly replaced with modesty, with what lies beneath this Nismo's carbon skin running faster through your mind with every step closer you take to it.

As with rivals that focus on driver involvement and ultimate performance, lightness has been added in the form of carbonfibre, here for the bonnet, bootlid, roof, bumpers and front wings (whose GT3 RS-style cuts add 6.8kg of downforce while creating no additional drag). Combined, these reduce the body's weight by 10.5kg. With an additional 9.5kg saved in other areas and 16kg knocked off courtesy of the carbon-ceramic Brembos, the Nismo comes in at 1703kg.

It's not a sophisticated noise when you pull the aluminium door closed. The combination of the Nismo's lighter-than-expected construction and dated fixtures and fittings will come as a shock

to those used to Europe's latest premium performance products. There is a nod to 2020, though, with carbon adorning the transmission tunnel and Alcantara the dash top, while the Recaro seats pinch, hug and hold you in all the right places, although they seat you a little high, or rather don't drop low enough into the body of the car. Should you value tech and touchscreens over 592bhp straight-six motors and Dunlop tyres that have had their outer tread grooves removed to increase the contact patch area, you'll probably get straight back out again. There is Apple CarPlay, but really that shouldn't be your focus here.

But this has always been the case with the GT-R: you either get it or you don't. Many don't and buy a 911 instead, and while Porsche's perennial sports car has been an ever-present rival to the R35, the two couldn't be more individual. Only in recent years has the GT-R, in Nismo trim, come close to the 911 RS models, and even then it sits somewhere between the naturally aspirated GT3 RS and the demonic GT2 RS in character and performance. You're unlikely to find someone who would dispose of either Porsche to own the Nismo, but there are also those who wouldn't give the 911s a second glance on their way to buying a GT-R. That Porsche has launched and facelifted two entire generations of 911 Turbo and has just released its third in the time the R35 has been

Above: touches of carbonfibre and Alcantara do their best to lift the otherwise dated cabin; driver sits too high in the excellent Recaro seat



**'IT ALL
COMES DOWN
TO THE
CONTROL
THE CHASSIS
DELIVERS'**





in production you can view in two ways: either Nissan is a little slow on the take-up and is milking the R35 for all it can, or it still doesn't consider the project finished and has yet more to come. I'm firmly in the latter camp.

The straight-talking VR38DETT doesn't sugar-coat the process of burning 98 octane and oxygen. Its starter button requires you to depress it a fraction longer than in more modern machinery and the result is as far a cry from an augmented amplified sound as you can get. Stone cold on a dawn autumn morning it has the gravelly tone of someone who spent the night with a bottle of bourbon and one too many packets of Marlboro Reds. The GT-R was considered to have a rough edge to its mechanical soundtrack in 2008 and time hasn't smoothed those vocal cords one bit. And it's all the better for it.

It's in and around the straight-six that so much work has been done on this latest Nismo. With a pair of turbochargers taken from Nissan's GT3 race car, their responses over those of a regular GT-R, the previous Nismo and the latest Track Edition are more noticeable than you'd ever expect. Once you've eyeballed every temperature gauge offered (there remains one for everything that has a fluid passing through it) you start to explore the throttle's travel. There's some lag – it's to be expected – but there's also less of it, and even on small throttle inputs the GT-R fills its lungs and heaves down the road with that trademark punch that has you involuntarily tensing as you would if you knew someone was about to leave their size-nine footprint on the small of your back. Some things never change.

What has changed is how Nismo has sharpened this GT-R's response times. The race car's turbos make do with ten vanes rather than 11 and they are all 0.3mm thinner, which results in a near 15 per cent reduction in mass, and inertia drops by nearly a quarter, combining to improve throttle response by as much as 20 per cent. Away from the numbers it results in an almost instantaneous response to your throttle inputs once that slight initial lag is overcome. Yet despite peak torque not arriving until 3600rpm, speed and revs pile on with a rabid ferociousness, and despite the timber it carries this GT-R still moves across the landscape with McLaren-esque athleticism as it calls on all of its 353bhp per ton.

Then there is the noise. The induction growl, the angry, guttural roar that echoes along the titanium exhaust before exploding into the atmosphere through blue-tinged quadruple exhaust pipes, the whine from the turbos – all of them assault your senses, fight for your attention, but still your focus remains pinned to the horizon as the Nismo claws you into its grasp and a steely resolve falls over you. If you only ever drove this GT-R in a straight line and experienced its monstrous thump and lightning pace you'd be left short of breath but desperate for one more hit.

Thankfully we've more than a straight line to play with. It's not a softly sprung car, the Nismo GT-R. They may have reduced the front spring compression by five per cent and the rebound by 20, but the GT-R remains a car you'd be kind to call stiffly sprung and not so far off from being cruel if you described it as having the ride quality of a cart. But this is when you're milling about and using a £180,000 GT-R for the everyday grind, because when you combine the performance of the blown six with the chassis the Nismo has been bestowed with, the whole package crystallises and the GT-R magic catches you in its spell.

It comes down to the control the chassis delivers. The steering feels light on first acquaintance, overly so if it's been a while since you last drove the least Nissan-like Nissan, but the directness and clarity that allows you to position it in, through and out of a turn remains unique to

the GT-R. There will forever be sections of the internet dedicated to pulling apart the dynamics of the R35 as a point-and-squirt oaf with the tactility and involvement of a supertanker. These tend to be the views of those who have never driven an R35.

Left: 3.8-litre V6 gains turbos from the GT3 race car. **Far left:** carbon-ceramic brakes (410mm front, 390mm rear) are now standard





Below left: Nissan says it has improved the six-speed dual-clutch transmission, but it still betrays the GT-R's age

Squeeeze the throttle deeper into the footwell, keep your grip on the wheel relaxed, let the inherently stiff body absorb any slack, and the Nismo flows with an unexpected delicacy, settling into a rhythm as you link the exit of one turn with the entry to another in ever shortening blinks of your eyes. What

body roll there is remains measured and consistent, the Nismo settling on its Bilstein-supplied chassis with a precision that instills confidence and encourages you to explore deeper into the armoury on offer. Perhaps the biggest surprise is how keenly the Nismo reacts and moves to your commands, especially so the front end, which works every millimetre of its Dunlops' increased contact patches to generate more grip under higher loads. In the dry you'll need a commitment level that's borderline reckless to breach traction, while in the wet and on poor surfaces there's a level of grip that takes a few committed braking points and apexes for your grey matter to compute just how hard you can lean on the front axle into a corner and call upon the rear to get the job done on exit. It may lack the sophistication of today's latest all-wheel-drive, 600bhp super sports cars but the Nismo GT-R drips character from every piece of carbon that's been thrown at it.

Dig deeper and you find yet more precision and composure, and soon the GT-R has banished those early thoughts of a fidgety, rough-riding machine that made low-speed journeys so tiresome. You feel, sense and experience those trad R35 high points but with more clarity, polish and involvement. You could drive a cheaper, more accessible 992 Carrera S across the same road at a similar pace, but Japan's warrior offers a more exciting, engaging and rewarding

alternative drive. It's a unique experience; no other car thrills and excites like a GT-R. Never has, unlikely ever will.

The only component that holds the Nismo GT-R back and highlights its age is its six-speed dual-clutch 'box. Updated software has brought quicker upshifts and sharper downshifts in the most extreme R mode, and it needs them. Left in its regular mode the upshifts can't keep up with the rampant acceleration, the delay between pulling a paddle for a downshift and the gear engaging measured in moon cycles. It's a glaring chink in the GT-R's otherwise impenetrable armour.

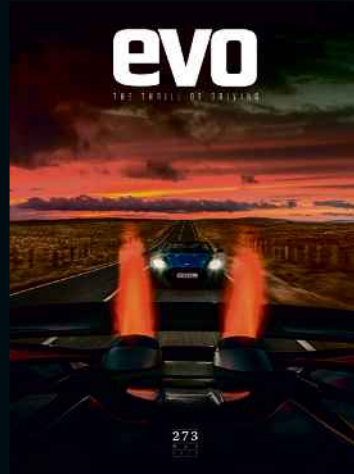
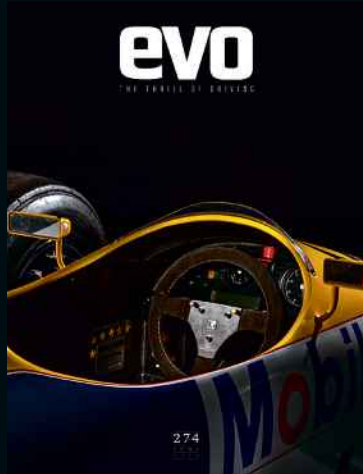
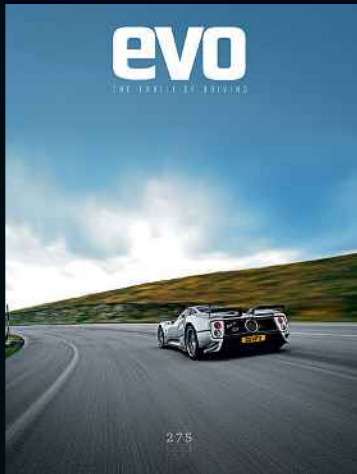
There's no denying the GT-R remains an acquired taste and a brave purchasing decision when you consider the other cars you can buy for this level of financial commitment. Especially when £35k gets you an original R35 and for an additional £20k Litchfield will provide you with a 750bhp upgrade... Cost aside, however, the R35 Nismo GT-R remains one of the great driver's cars. It hooks you in from the moment it takes its first lunge for the horizon and leaves you transfixed and addicted to its performance every time you experience the brutality of it all. It's a physical and demanding car delivering a thrill we once craved and celebrated, and there's every reason why we should still do so today, even if the £78k cheaper Track Edition offers 90 per cent of the Nismo's performance.

There is also the very serious possibility this could be the last GT-R. Having forecast a \$4.1bn loss for the year to March 2021, after posting a \$6.2bn loss the previous year, even the most ardent enthusiast and GT-R fanboy must understand the challenges Nissan faces in making the decision to develop a replacement for such a wonderfully bespoke, niche and small-selling super sports car. But if this is to be Godzilla's last breath as we know it, it's one hell of a finale. ❌

Nissan GT-R Nismo

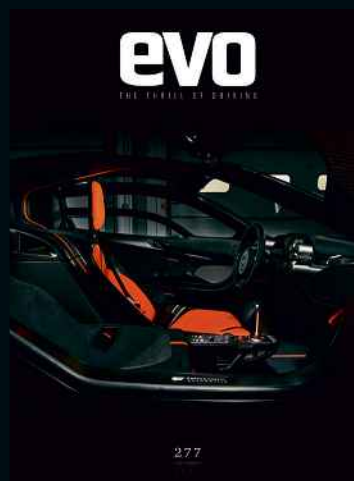
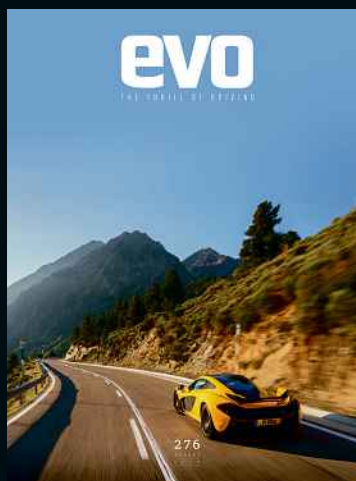
Engine V6, 3799cc, twin-turbo **Power** 592bhp @ 6800rpm
Torque 481lb ft @ 3600-5800rpm **Weight** 1703kg **Power-to-weight** 353bhp/ton
0-62mph 2.8sec **Top speed** 196mph **Basic price** £180,095
evo rating ★★★★★





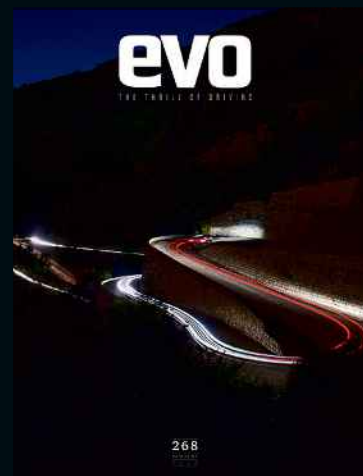
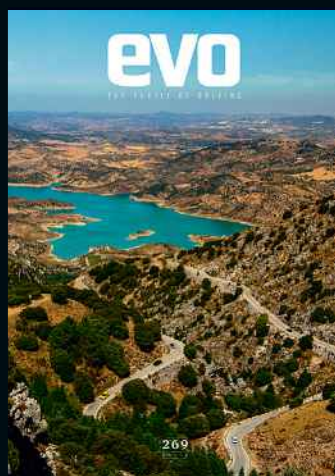
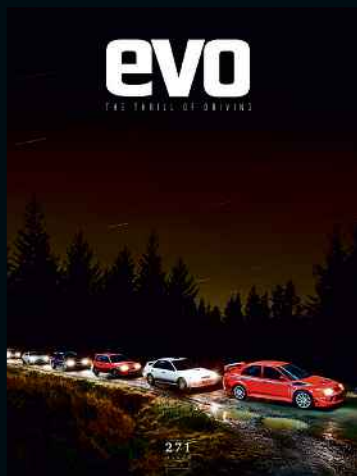
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AIR





by ADAM TOWLER

PHOTOGRAPHY by ASTON PARROTT

MAX

Ferrari's 812 GTS retains the Superfast's incredible 789bhp V12 but gives you the option to drop the top too. Has it diluted an intoxicating driving experience or just made it even better?

N

INO VACCARELLA CLOSED THE DOOR ON HIS classroom for the last time that week. His students had long since ran outside into the baking Sicilian sunshine, excited about playing football in the streets of Palermo and, no doubt, the spectacle of the Targa Florio road race that weekend, which would allow them to get literally within touching distance of the world's fastest racing cars as they passed by their front doorsteps at speeds of 150mph and more. Unfathomably, given the magnitude of the challenge and its correspondingly gruesome dangers, in 1970 the race formed part of the then WEC-equivalent World Championship of Makes, and moreover, their teacher Signor Vaccarella was in with a chance of winning outright at the wheel of a factory team Ferrari.

Anyway, where was I... Ah, the road to Penybontfawr. Yep, as you were...

Unsurprisingly, Vaccarella knew the roads around the island forwards, backwards and inside out. What was more of a challenge was that Ferrari was bringing its frontline V12-powered endurance racer, the 512 S, the same car that a fortnight earlier it had entered at Monza, and that two weeks later would be lining up at 'the old' Spa. Yet, rather than bring its rival 917 to Sicily, Porsche had prepared a fleet of 350bhp 908/3 Spyderys specially for the Targa – little more than karts with an air-cooled flat-eight wedged perilously close behind the driver's shoulders. Given there were nearly 900 corners a lap to contend with, having a car that weighed under 700kg with the wheelbase of a supermarket trolley was a significant advantage; Vaccarella would have to sweat it out under a blazing Mediterranean sun in the 900kg-plus, 550bhp beast better suited to the Mulsanne Straight.

It's most definitely not a good idea to drift off dreaming about 1970s sports prototype racing cars when you're at the wheel of a Ferrari 812, roof or no roof. A car of barely concealed savagery, it can on occasion also be a soothing machine, as smooth as the patter of the salesman who talked you into spending £300,000 and a whole chunk more on options in the first place, but by the same token you must never completely relax, because to do so at the controls of a naturally aspirated 789bhp V12 is to flirt with potential carnage. And yet... and yet... Nino's Sicilian heroics in the 220mph-plus 512 are all I can think about as the 812 and I engage in hand-to-hand combat across the narrow, twisting lanes of north Wales, deeper into Snowdonia: a very big, very angry Ferrari on a very small, drastically unsuitable road; the alarming sensation of holding a hand grenade and wondering whether now might or might not be the right time to pull the pin out.

It's true, I may have paid more attention in GCSE Maths if my teacher had also won the Le Mans 24 Hours outright (as Vaccarella did in 1964). Not only may I have gained a sound grasp of trigonometry and long division,

but I might have eventually become a potential customer for this, the Ferrari 812 GTS, a convertible version of the superb, superfast, er, Superfast. Vaccarella's 512 was also the open version, the rush of air over the Spider's cockpit some relief during his 11-lap workout. I'm a fraud in comparison, the warm autumnal air gently lapping around my ears, all modern automotive conveniences on board, and all that horsepower that dwarfs the figure developed by the 512. Still, the GTS is about double the weight of the old racer, at 1645kg dry, and is also some 120kg heavier than the Superfast.

It's hard to convey in the pictures just what a formidable car the 812 GTS is. Everything about it screams power, expense and decadent consumption. It takes the same mechanicals of the Superfast and opens the lid via a folding metal hard-top, which retracts into the body behind the rear deck in 14 seconds. Until its launch last year, Ferrari hadn't made such a car in regular production form since the often-replicated Daytona Spider of the early '70s, although with limited-run machines such as the 550 Barchetta and 575M Superamerica it's not a market niche that Ferrari had abandoned completely in recent years.

Right: 789bhp means the GTS is happy to break traction at the rear at will, but you need to be on top of your game if you do so with the stability aids fully off



**'EVERYTHING
ABOUT THE GTS
SCREAMS POWER,
EXPENSE AND
DECADENCE'**




It's that sense of intimidating size that preoccupies the mind every time you lower yourself down into the leather-scented GTS cockpit. The passenger seat feels as though it's sitting over on the pavement, and the car's extremities appear to cover a vast portion of the county you're in. Helpfully, the rising edges of the front wings, swollen humps with a mesh covering for the air exit, are a corner marker in the style of a Land Rover, a necessary outlier to help judge width. Lowering the roof is as easy as you may expect, a touch of a button all that's required, and the rear screen is also powered, increasing airflow with the roof down, but also providing fresh air and an amplified soundtrack when the roof is closed. Otherwise, it's all entirely familiar to anyone who's had the privilege of tooling around in a current or recent generation of Ferrari, down to the twin

info displays and their control buttons either side of the rev counter, and of course, the famous manettino switch on the steering wheel.

Thumb the plump, angry red starter button on the wheel and the V12 kicks into life. Even the way it fires up expresses its highly strung state of tune. If the engine is cold, expect a rolling barrage of exhaust noise through the rear pipes as the cats heat up rapidly, assisting in getting this enormous engine – somehow – through current legislation. There's a thrum and tingle through the car – it's not rough in any way, but already even a giant of a car such as the GTS is patently ruled by the motor that lurks underneath that comically proportioned bonnet.

If you're going to have the roof down in the GTS you have to style it out. Even in the relatively subtle shade





of Tour de France Blue it just screams 'LOOK AT ME AND MY ENORMOUSLY POWERFUL CAR!', and there is many a moment during my time with it that my grin is of the meek and apologetic variety. Correspondingly, it's not a car to generate envy, however decadent it may be, something that seems peculiar to big front-engined supercars in a way that sometimes is not the case with the mid-engined stuff. Perhaps it's the more stately, old-money aura of a classically formed berlinetta versus the racerish flash of a low-slung mid-engined machine that makes the difference?

Immediately the GTS has a softer feel on the road than the Superfast. The dampers have been recalibrated to compensate for the extra weight, and the GTS is a little more laid-back as a result, but that's not to say that you won't toggle the 'Bumpy Road' button in search of a better ride still. To do so just takes the edge off the GTS's intolerance of small ridges and road surface

damage, with the inevitable flip side that when pushing hard it can sometimes leave the car a little stretched to control its mass fully; that's the time to do without it. It's also the time to switch to Race mode, if you haven't already done so, or be a little bolder and go for CST Off, which peels away certain electronic safety nets but in usual Ferrari style leaves some semblance of a guardian remaining. I find myself drawn towards the latter increasingly on this journey because not only does it allow you to get a sense of the raw power of an unfettered V12, but also to experience what effect that has on the chassis.

It hasn't taken long to compartmentalise the GTS's delivery. The seven-speed twin-clutch 'box won't let the revs drop below around 1600rpm in a higher gear, but the V12 will pull with vigour from this point. It would probably walk away from idle in top if the electronics let it. From there, using up to 2000rpm

**'THE GTS HAS A
SOFTER FEEL ON
THE ROAD THAN
THE SUPERFAST'**



gives more than enough performance for the everyday. You'll keep up with traffic, maybe even overtake the odd dawdler, and feel generally unstressed about life. Having that much power in reserve tends to have that effect.

Using between 3000 and 4000rpm from the Tipo F140GA V12 is more than enough to get along indecently quickly on the road. You can really feel the guts of the 529lb ft of available torque now, and hear the familiar gargle of the F140. Is it sacrilege to admit that I don't actually enjoy the sound of this engine that much? Well there, I said it anyway. It's a busy, tight, shrill sort of sound, one with plenty of drama, but not the musical yowl and twang of Vaccarella's 512 V12, or even a Lamborghini Aventador's for that matter. Its voice alone doesn't make the hairs on the back of my neck stand to attention, but using up to 5000rpm does, because this is supercar performance now, riding the crest of that power wave, each gearchange slotting in almost before the brain has registered the message was sent via synapse to the fingers to squeeze the right-hand paddle. Suddenly this big, top-down cruiser has got very serious indeed, and the concentration needs to be attuned to suit.

Sometimes it's hard to get beyond this point in the GTS. It does depend on the road, naturally. Perhaps on a Middle Eastern highway, broad, ripple-free and empty, it's easy to drive everywhere as though your hair is on fire. Not in Wales though. Not today. This cross-country route to the far reaches of Snowdonia misses out much of the A5 and correspondingly provides much more of a test, from medium-fast curves between hedges connected by medium straights, to much tighter sections with awkward crests, single-track stretches and difficult cambers. Then there's the blast across the moor too, more of an exercise in restraint less the speedo readout goes ballistic in the blink of an eye.

Get to 6000rpm and the GTS changes. The V12's note hardens and the whole car is now shot through with an industrial-grade adrenaline hit, presumably ingested via a bucket to this prancing horse. It's very much a conscious decision to leave your foot planted on the pedal, such is the reach of this engine. The noise is now thick and dominating, even with the roof lowered, and the scenery is beginning to go in reverse. As I climb the hill out of one village and up the side of a mountain I don't get much further, because I'm off the power, hard on the brakes, trying to rein it all back in again, almost flicking the nose into the first corner, then back the other way, using the throttle to balance the car, not to break the horizon. But then the road opens up again, and now the revs

'YOU'LL NEVER FORGET HITTING THE V12'S 8500RPM POWER PEAK'

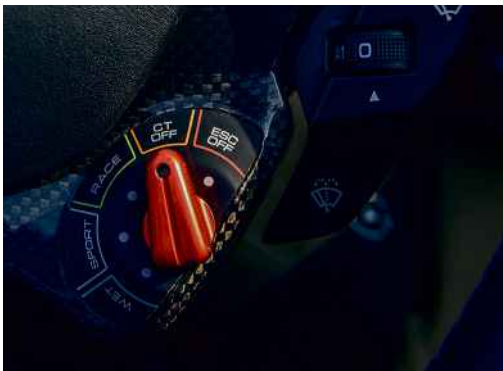


climb. Let's say it's in second gear to at least assume some semblance of legality.

It just doesn't seem possible that an engine displacing six-and-a-half litres can get so feral at the top end like it's a Honda K20. If there's one thought that won't leave me in all my time with the GTS it's simply, 'How do they do that?' All those engine parts, so meticulously designed, fastidiously reduced in mass, all moving together in unison thousands of times per second, for hours, months and years. An engine built to last your long-term ownership of the car, to start every morning, to tolerate queuing to park at the supermarket, and yet one that revs out just a mare's whisker short of 9000rpm. If nothing else, it feels like a triumph of engineering.

You'll never forget your first time hitting the V12's 8500rpm power peak. The drama is heightened by the sound and force of air rushing over and around your head, whipping away the inevitable screams of excitement (and perhaps terror from your passenger). I don't mean to sound wet, but it's a level of performance that's just not useable on the road. It's too much, too great a level of violence compared to other traffic just bumbling along, largely minding its own business. Overtake someone using the full beans and it's like you're trying to blow them out to the Irish Sea. Get really brave and work through the gears and the speedo will be reading jail-time numbers before you've even had the slightest notion of the consequences. The full, bonkers rev range therefore exists partly as a

Top: naturally aspirated V12 is unchanged from the Superfast and as epic as ever. **Above:** 398mm front, 360mm rear carbon-ceramic brakes are the same too



forbidden fruit, always trying to lure you in, but also as something you dip into every now and then, when the road and surroundings allow, when perhaps no one is looking. It becomes a very personal exercise between you and the car – between you and the V12, really. It's part of what makes the car special, an affirmation of Ferrari's work to keep the big, naturally aspirated V12 for as long as the legislators will allow.

Having been so consumed by the GTS's engine, the rest of the car takes a little longer to come into focus. The typically light, fast steering of a modern Ferrari takes a while to acclimatise to, but once you've clicked mentally with its ways it's amazing how natural it feels before long. There are some very clever things with acronyms going on beneath the surface, hinting and cajoling with the steering's torque what you should and shouldn't be doing. Of course, the structure doesn't have the impregnability of a carbonfibre tub, but it does a fair job of feeling all as one – don't expect drastic rear-view mirror wobble here. If you really hustle it you're aware of mass moving around; as already mentioned the firmer damping mode is really a must, and the throttle application of the engine alters the pitch and yaw of the chassis in a pronounced way.

Feeling brave? Twist and hold the manettino and go for 'all off'. The GTS doesn't need provocation or setting up for a sideways corner, it merely needs a stab of throttle and it'll spin up its rears, but that in itself is quite a challenge: too much throttle initially and the risk is the rear overtaking the front, which on the public road doesn't bear thinking about. The easy trap to fall into, though, is to be too aggressive coming off the gas as much as going on it, because the formidable compression of the V12 at higher

revs means snapping shut the throttle has a drastic effect on the attitude of the car and requires a very, very quick steering input back the other way to save the situation. I guarantee your heart will be beating a lot faster afterwards.

The accuracy you can summon in the GTS is the greatest impression it makes. As I reach my destination on what feels like the very last day of summer, the road narrows along a rock face on one side and a big drop on the other. Here, a soft *thisp* sound accompanies the rise and fall of the V12 along the valley, and it's only when photographer Aston Parrott confirms things via the display on the back of his camera that I realise it's the gentle slap of individual stems of long grass on the GTS's front left corner. The car is entirely filling its side of the road down to the final centimetres, but just a couple of fingers' width away from the jagged rocks I'm brushing the protruding grass – the confidence I have to do that is entirely due to the inherent precision of the 812 and the relationship I've built up with this extraordinary car.

Vaccarella's 512 was probably doing the same and then more, but he'd never have heard it above the scream of the unsilenced V12 and partisan crowd. He came third that year behind two 908 Porsches, in the circumstances a brilliant result. That Ferrari can still make a car such as the 812 GTS also feels like a brilliant result for those of us lucky enough to try, let alone buy, this grandest of open GTs.

It's not just the melancholic autumnal sun that sets across the long bonnet as I drive home eastwards, but the feeling that there won't be many more days with new Ferraris like this one. An electric replacement will undoubtedly be faster, more violent still, but it'll never connect with the soul like the 812 GTS. ☒

Ferrari 812 GTS

Engine V12, 6496cc **Power** 789bhp @ 8500rpm **Torque** 529lb ft @ 7000rpm
Weight (dry) 1645kg **Power-to-weight (dry)** 487bhp/ton **0-62mph** <3.0sec
Top speed >211mph **Basic price** c£300,000

evo rating ★★★★★



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evo TYRE TEST 2020

Great tyres can transform your performance car, but which options are the best of the current crop? The annual **evo** tyre test has the answers

by JOHN BARKER

PHOTOGRAPHY by ASTON PARROTT

IT'S THE TURN OF THE 19-INCH ULTRA HIGH PERFORMANCE (UHP) TYRE this year, in the best-selling 235/35 R19 size, a size that's the most popular partly because it's used by many of today's high performance hatchbacks.

Most of the premium tyre brands are represented in our test, including Goodyear with its all-new Eagle F1 SuperSport, the notable exception being Bridgestone, which has a new Potenza set for launch in 2021. Of the other absentees, Yokohama couldn't meet our request in time due to Covid-19 related staff layoffs, Hankook, Toyo and Falken all have revised tyres on the way, and Maxxis, which we included unofficially in last year's test of 18-inch UHP tyres, unfortunately did not have any stock for this test.

As always in the **evo** test, the results are decided in part by objective testing and in part subjective. A tyre that delivers good numbers doesn't necessarily feel good beneath you, and the reverse can also be true, so we rate them all for steering feel and feedback, for the confidence they inspire on track, and how refined and responsive they are in a general driving environment too. In this way we aim to provide a full and rounded view of each tyre to better inform your next purchase.

WET HANDLING – LAP TIME

| Tyre | Seconds | % |
|-------------|---------|------|
| Pirelli | 46,0 | 100 |
| Goodyear | 46,7 | 98,5 |
| Nokian | 46,7 | 98,5 |
| Michelin | 46,8 | 98,3 |
| Dunlop | 47,2 | 97,4 |
| Vredestein | 48,0 | 95,8 |
| Continental | 48,5 | 94,8 |

WET HANDLING – SUBJECTIVE

| Tyre | Points | % |
|-------------|--------|------|
| Pirelli | 62,0 | 100 |
| Dunlop | 58,5 | 94,4 |
| Nokian | 56,5 | 91,1 |
| Continental | 56,0 | 90,3 |
| Goodyear | 55,5 | 89,5 |
| Vredestein | 55,0 | 88,7 |
| Michelin | 54,5 | 87,9 |



THE CAR

Once again, test car duties were ably filled by the Volkswagen Golf GTI, in this instance a Mk7.5 Performance version, with 242bhp and, more pertinently, a solid 273lb ft of torque from just 1600rpm, sent through the front wheels via a seven-speed DSG gearbox. As ever, the GTI provides a consistent and feelsome platform that can exploit a tyre's ability to the full, wet or dry, but equally will expose any weakness, whether it's lack of traction or grip, poor balance or vague feedback. Helping to ensure the required consistency are supportive seats, air conditioning and durable brakes.

THE TRACK

Covid-19 travel restrictions demanded a different approach this year but one that still gave excellent results. Objective tests such as wet and dry braking and aquaplaning were carried out, as they normally would be, by Continental staff at Continental's Hannover test track. The difference is that subjective testing was carried out in the UK, at the MIRA proving ground, with the support of Continental UK staff and facilities on site. So the wet and dry handling tests, lap timing and subjective assessments, and the road route, were carried out by **evo** here in the UK.

THE TYRES

All of the tested tyres were independently sourced by **evo**. Prices shown are an average from a number of suppliers. EU Tyre Labels ratings in brackets: RR = Rolling Resistance, Wet = wet grip, Noise = dB



1. Continental SportContact 6
235/35 ZR19 91Y XL (RR E, Wet A, Noise 72)
£133



2. Dunlop Sport Maxx RT2
235/35 ZR19 91Y XL (RR C, Wet A, Noise 68)
£150



3. Goodyear Eagle F1 SuperSport
235/35 ZR19 91Y XL (RR E, Wet A, Noise 72)
£129



4. Michelin Pilot Sport 4 S
235/35 ZR19 91Y XL (RR C, Wet A, Noise 72)
£142



5. Nokian Powerproof
235/35 ZR19 91Y XL (RR C, Wet A, Noise 72)
£110



6. Pirelli P Zero (PZ4)
235/35 ZR19 91Y XL (RR E, Wet A, Noise 71)
£124



7. Vredestein Ultrac Vorti
235/35 ZR19 91Y XL (RR E, Wet B, Noise 70)
£119



WET HANDLING

WE CHOSE A RELATIVELY SHORT BUT CHALLENGING LAP on the MIRA wet handling circuit. The sprinkler-fed circuit is quite narrow, demanding accuracy, and throws a couple of transitions into the mix, plus a trailing-throttle cresting corner and a long, large-diameter circle that leads onto the longest straight.

The Pirelli was the star turn here, almost a second faster than the next best and subjectively head and shoulders above the rest too. The Pirelli offers the best of everything, with a strong sense of grip and a very secure balance, so you can push the very grippy and decisive front end and carry speed without the risk of the rear getting loose. Fast and secure, it was in a different league to everything else.

Fifth on lap time but second subjectively was the Dunlop, which also offered good bite and a good feeling of grip on the slick surface. It was a little more willing to move the back end to help decisive turn-in, but this never developed into anything more and so was exploitable, while traction was superb. A confidence-inspiring tyre.

The Nokian and Goodyear were equal second fastest but of the pair the Nokian was preferred subjectively, impressing with its turn-in grip

and stable balance. It offered great traction, just needing a moment longer to get straight on corner exits compared with the Pirelli. The Goodyear also offered good traction, carried speed well and gave better feedback through the wheel, but felt more delicately balanced, the front and rear feeling on tip-toe at the limit.

Slowest by a significant margin was the Continental, which was at odds with how it felt, with good turn-in aided by an exploitable rear that would slip a little but not go too far. However, it had poor traction out of corners, needing to be almost straight before it would take power.

Sixth fastest and sixth subjectively was the Vredestein. An overly tactile and noisy tyre even on the wet surface, it was nonetheless effective, offering good traction and turn-in and a stable feel in the tricky transitions. On lap time, the Michelin was fourth fastest, just a tenth behind the Nokian and Goodyear. It offered stability under braking, sharp turn-in and excellent traction, but was least well rated subjectively because while the front end was hooked up the rear couldn't keep up; it felt lightly loaded and loose at crucial points, giving the car a nervous feel.



**‘THE SPRINKLER-FED
CIRCUIT IS NARROW
AND CHALLENGING, SO
DEMANDS ACCURACY’**

WET CIRCLE

THE CLOSELY MATCHED TOP THREE here were also in the top four on the wet handling circuit. On a wetted asphalt surface with an inner diameter just short of 70m, the Michelin generated the highest lateral G, lapping in 12.39sec. This put it fractionally ahead of the Pirelli and Goodyear, which were tied on 12.42sec. There was then a step to the Dunlop and Nokian, tied on 12.54sec, and then came the Continental on 12.60sec. Slowest of all was the Vredestein, trailing the Continental by more than a tenth of a second.

WET CIRCLE

| Tyre | Seconds | % |
|-------------|---------|------|
| Michelin | 12.39 | 100 |
| Goodyear | 12.42 | 99.7 |
| Pirelli | 12.42 | 99.7 |
| Dunlop | 12.54 | 98.8 |
| Nokian | 12.54 | 98.8 |
| Continental | 12.60 | 98.3 |
| Vredestein | 12.71 | 97.5 |



BRAKING AND ROLLING RESISTANCE

FULL ANTI-LOCK STOPS REVEAL A tyre's ultimate performance in the crucial braking tests, stopping in a straight line from 80kph (50mph) in the wet, and from 100kph (62mph) in the dry. Having set the benchmark on the wet circle, the Michelin topped the table in wet braking and did the same in the dry too. In the wet it stopped in 26m dead, a significant 1.7m better than the next tyre, the Continental. In the dry, it stopped in 33.6m, this time just a fraction (0.2m) ahead of the next best, which was again the Continental.

A close third in the wet was the Goodyear, 0.3m beyond the second-placed Continental, with the Pirelli in fourth with a further 0.7m. The Pirelli and Goodyear swapped places in the dry, stopping 0.5m and 1.1m after the standard-setting Michelin respectively.

The Nokian finished fifth in both the wet

and the dry tests, off the pace by 2.8m in the former and 1.9m in the latter. Lower ranking in both tests was the Vredestein, which took 3.6m longer to stop than the Michelin in the wet, and 2.5m more in the dry. However, it was the Dunlop that took longest to stop in the wet, a full car length more than the Michelin. It was sixth in the dry.

Since 2012 all new tyres have come with a rolling resistance rating, from A (best) through to G (worst), the difference in fuel economy between these bookends being 0.5 litres per 100km. Independent testing doesn't always correlate to the stated rating, however, and here we see the Continental, which is rated E, outperforming our C-rated tyres – the Dunlop, Michelin and Nokian. The rest are rated E, though the Goodyear generates appreciably less rolling resistance than the last-placed Pirelli.

WET BRAKING

| Tyre | Metres | % |
|-------------|--------|------|
| Michelin | 26.0 | 100 |
| Continental | 27.7 | 93.9 |
| Goodyear | 28.0 | 92.9 |
| Pirelli | 28.7 | 90.6 |
| Nokian | 28.8 | 90.3 |
| Vredestein | 29.6 | 87.8 |
| Dunlop | 30.1 | 86.4 |

DRY BRAKING

| Tyre | Metres | % |
|-------------|--------|------|
| Michelin | 33.6 | 100 |
| Continental | 33.8 | 99.4 |
| Pirelli | 34.1 | 98.5 |
| Goodyear | 34.7 | 96.8 |
| Nokian | 35.5 | 94.6 |
| Dunlop | 35.6 | 94.4 |
| Vredestein | 36.1 | 93.0 |

ROLLING RESISTANCE

| Tyre | Co-eff | % |
|-------------|--------|------|
| Continental | 0.831 | 100 |
| Dunlop | 0.840 | 98.9 |
| Michelin | 0.873 | 95.2 |
| Nokian | 0.894 | 93.0 |
| Goodyear | 0.917 | 90.6 |
| Vredestein | 0.977 | 85.1 |
| Pirelli | 1.017 | 81.7 |





AQUAPLANING

FEW DRIVING EXPERIENCES LEAVE you feeling as helpless as aquaplaning. When a tyre can no longer clear the water beneath it, it loses contact with the asphalt, taking your braking and steering control with it. We test aquaplaning resistance in both a straight line and in cornering. In the straight-line test we measure the maximum speed a tyre can attain in 9mm of water before it overspeeds by 15 per cent, and in the curved test we measure the average residual lateral acceleration generated in 5mm of water tackled at a number of speeds between 60 and 90kph (37 and 56mph).

The Dunlop was by far the best performer in both disciplines, achieving a best of 74.4kph in the straight-line test, with the next best, the Pirelli, over 2kph slower at the head of a tight-knit pack; the rest, from Michelin down to Continental, were covered by just 0.5kph.

The Dunlop was out front by a strong margin in the curved test too, with Pirelli again the best of the rest and Nokian and Vredestein close behind. Goodyear and Michelin were noticeably further off the pace this time, with Continental again trailing in last place.

STRAIGHT-LINE AQUAPLANING

| Tyre | kph | % |
|-------------|------|------|
| Dunlop | 74.4 | 100 |
| Pirelli | 72.2 | 97.0 |
| Michelin | 72.0 | 96.8 |
| Nokian | 71.8 | 96.5 |
| Vredestein | 71.7 | 96.4 |
| Goodyear | 71.6 | 96.2 |
| Continental | 71.5 | 96.1 |

CURVED AQUAPLANING

| Tyre | Lat acc m/s ² | % |
|-------------|--------------------------|-------|
| Dunlop | 3.38 | 100.0 |
| Pirelli | 3.08 | 91.1 |
| Nokian | 3.03 | 89.6 |
| Vredestein | 3.01 | 89.1 |
| Goodyear | 2.88 | 85.2 |
| Michelin | 2.73 | 80.8 |
| Continental | 2.64 | 78.1 |

DRY HANDLING


THE DRY HANDLING LAP WE FASHIONED ON THE handling circuit at MIRA was short but demanding. It started off slightly uphill, the flying start leading into a slight kink left at speed and then immediately into a long right, the left-right testing stability in transition, the right-hander with its 75m radius testing outright grip and balance. A short straight then led into a shallow right and the braking zone for a tight right-left chicane, testing turn-in and poise, and traction on the exit. The final leg was a gradually tightening, 80m-radius right-hander with a late, slightly downhill apex.

Equal fastest were the Michelin and Pirelli on 52.15sec. As usual, all the tyres were close on time but quite different in feel, so although the seven tyres were covered by just one second, subjectively they scored very differently. The Pirelli matched the Michelin's time but subjectively was rated fourth while the Michelin was rated best. The Michelin felt so keyed in to the surface, so grippy and stable, that it made the lap feel easy. It carried speed with confidence everywhere but especially into the first sequence, the left kink into the long right, which it rolled into with just a slight lift while some others needed a dab of brake. It was a positive, inspiring performance.

No other tyre quite matched it but the Continental came closest, despite being a half second off its pace and fifth fastest. It too had great traction and carried speed into the first curve, and bolstered confidence with its positive response and very mild scrub in the faster turns. A great dry-road tyre. Third on lap time and third subjectively, the Goodyear felt like a tyre that wanted to be the Michelin, giving even crisper steering response and delivering great turn-in and traction. It just lacked the Michelin's stability at the limit.

The Pirelli made the speed and felt great on its first lap, matching the Michelin's crisp transition, traction and stability, but it seemed to lose its edge quickly, its keenness softening noticeably on the second lap. The Nokian was sixth on lap time and equal fifth subjectively. It felt stable and calm, springing no surprises, but it felt rather woolly in feel and precision.

The Dunlop was the slowest of the seven but equal fifth subjectively. It didn't have the grip or positivity of the best, scrubbing wide and feeling imprecise and sounding a bit hard-pressed too. The Vredestein was equal third fastest with the Goodyear but lowest rated subjectively. It was a bit noisy and made everything seem like hard work.



**‘ALTHOUGH THE SEVEN
TYRES WERE COVERED
BY JUST ONE SECOND,
SUBJECTIVELY
THEY SCORED VERY
DIFFERENTLY’**

DRY HANDLING – LAP TIME

| Tyre | Seconds | % |
|-------------|---------|------|
| Michelin | 52.15 | 100 |
| Pirelli | 52.15 | 100 |
| Goodyear | 52.50 | 99.3 |
| Vredestein | 52.50 | 99.3 |
| Continental | 52.65 | 99.1 |
| Nokian | 52.95 | 98.5 |
| Dunlop | 53.10 | 98.2 |

DRY HANDLING – SUBJECTIVE

| | Points | % |
|-------------|--------|------|
| Michelin | 63.0 | 100 |
| Continental | 61.5 | 97.6 |
| Goodyear | 59.0 | 93.7 |
| Pirelli | 57.0 | 90.5 |
| Dunlop | 56.0 | 88.9 |
| Nokian | 56.0 | 88.9 |
| Vredestein | 53.5 | 84.9 |



ROAD ROUTE

OUR FIVE-MILE ‘ROAD ROUTE’ WAS fashioned entirely within MIRA, which offers a huge variety of surface finishes, along with features such as expansion joints and raised and sunken manhole covers.

The Michelin was our favourite, giving steering with a wonderful sense of connection with lots of feedback. It wasn’t as crisp on centre at higher speeds and was reasonably loud on coarse surfaces, but it dealt well with sharp impacts. Close behind was the Continental, which wasn’t quite as connected or tactile at lower speeds but felt calm and more direct at higher speeds. It also had obvious noise on coarse surfaces but was able to smooth off abrupt inputs.

The Nokian put in a good performance too, taking the sting out of ridges and being reasonably quiet on all but the poorest surfaces, but its steering felt a little light at low speed and lacked feedback. So too did the Dunlop, and its ride was rather hit and miss, smoothing some impacts but wrong-footed by others. The Pirelli scored the same as the Dunlop, being impressively quiet on highly textured surfaces but noisy elsewhere, while its steering was softer in response than the best.

The Golf’s steering felt light and glassy on the Vredestein but improved with speed, while there was an underlying noise and it felt clumsy over some bumps. The Goodyear had great steering feedback but was noisy and tough over many of the surfaces.

ROAD ROUTE

| | Points | % |
|-------------|--------|------|
| Michelin | 25.0 | 100 |
| Continental | 24.5 | 98.0 |
| Nokian | 23.5 | 94.0 |
| Dunlop | 22.5 | 90.0 |
| Pirelli | 22.5 | 90.0 |
| Vredestein | 22.0 | 88.0 |
| Goodyear | 22.0 | 88.0 |



RESULTS

7TH VREDESTEIN **89.1**
The Ultra Vorti is a decent tyre that showed well in the aquaplaning tests and set a good lap time on the dry circuit too. It was at or near the bottom of the table in many tests, though, and subjectively was noisy and lacked the connection of the best. It's worth noting that an updated version is due in the new year. **BLACKCIRCLES SAYS...** *Despite not scoring highly on tyre label scores for fuel efficiency, customers have overall been happy when buying this tyre. Positive reviews often comment on road holding and braking performance.*

6TH DUNLOP **93.0**
By far the best in aquaplaning, the Sport Maxx RT2 was also highly rated on the wet handling circuit. It wasn't as impressive in the dry though, being marginally the slowest on track and middle-ranked subjectively, and also marked down on the road for a lack of feel and refinement. **BLACKCIRCLES SAYS...** *With an overall review score of 4.6/5*

on Blackcircles.com, over 1900 motorists have been impressed with the Dunlop, many commenting on its low noise and reliable grip.

5TH GOODYEAR **93.7**
The Eagle F1 SuperSport had steering feel and feedback as good as the best, helping it achieve strong dry results. It delivered good objective wet performances too, but while its steering was outstanding its refinement was less good: on poor surfaces it was noisy and bumpy. **BLACKCIRCLES SAYS...** *Released last year, the Goodyear is a tyre that has impressed customers at Blackcircles.com, leading to a 4.7/5 overall review score. Excellent grip and handling are often cited.*

4TH NOKIAN **94.4**
A great result for the Powerproof. It's not the most tactile or the sharpest steering here but it delivered strong performances in the wet, including equal second fastest on the wet track and good aquaplaning resistance. This it

combines with decent everyday refinement and good value. **BLACKCIRCLES SAYS...** *The Nokian is not a tyre that we sell. As such we are unfortunately unable to provide any insight into its popularity with our customers.*

3RD PIRELLI **95.0**
The 'PZ4' P Zero was outstanding in the wet, setting the fastest time and feeling the most connected and grippy on the wet circuit, which it backed up with strong aquaplaning performances. It lacked the steering feel and feedback of the best but was good in the dry too, setting the equal fastest lap time. **BLACKCIRCLES SAYS...** *A new model, this latest P Zero is already gaining good reviews amongst our customers, with a score of 4.6/5. Positive reviews have highlighted excellent grip and wet performance.*

2ND CONTINENTAL **95.6**
The SportContact 6 lacked corner traction in the wet, as is reflected in its slowest wet handling time and bottom-of-

the-table aquaplaning results, but it was good elsewhere and subjectively was highly rated in the dry and on the road route for its steering feel, calm poise and decent refinement. **BLACKCIRCLES SAYS...** *The Continental consistently scores well amongst our customers, with an overall rating of 4.6/5. Reviews regularly focus on the tyre's good levels of grip, handling and performance.*

1ST MICHELIN **96.5**
The Pilot Sport 4 S was good in the wet and outstanding in the dry, setting the fastest dry lap time and topping our subjective ratings on track and on the road route, where it impressed with superb steering feel and feedback and ride comfort. A great tyre that will improve the feel of your performance car. **BLACKCIRCLES SAYS...** *This tyre is a firm favourite with our customers, over 1700 reviews resulting in an overall score of 4.7/5. Frequently praised are the tyre's grip, comfort and handling performance. ✕*



NEED MORE HELP CHOOSING YOUR NEXT TYRES?

Over **200,000** reviews from our customers should help!

Here is how our customers rated 2020's **award-winning** tyres.



Pilot Sport 4 S

Overall rating by our customers
4.7/5



The car feels better to drive
4.7/5



I would buy the same tyres again
4.8/5



The tyres were value for money
4.1/5



SportContact™ 6

Overall rating by our customers
4.6/5



The car feels better to drive
4.4/5



I would buy the same tyres again
4.7/5



The tyres were value for money
4.1/5

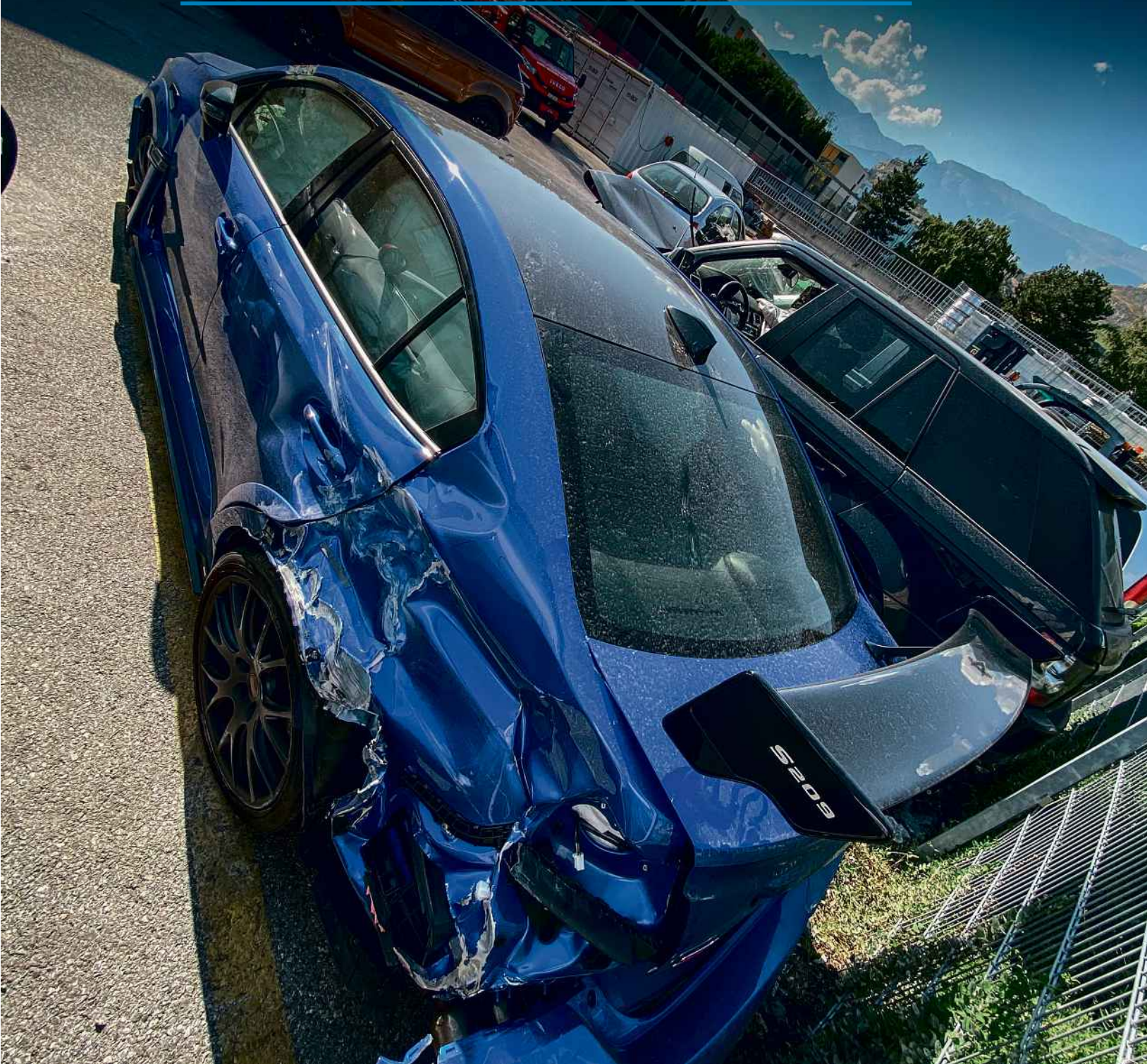


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FAST FLEET





END OF TERM

Subaru STI S209

It's an unhappy ending for this special limited-edition Subaru as it meets an early and unfortunate demise. Its unlucky owner picks up the tale...

T HERE WAS NO FAST FLEET report on the S209 last month because I spent it first pre-quarantining outside the Schengen Area for 14 days, before going on an essential 12-day business trip to San Francisco and then spending a further ten days in Swiss quarantine in France upon my return.

Altogether this meant 36 days of not driving the S209, so when I eventually got back home I was very excited about a long-planned trip to finish driving every single Alpine pass and col over 6000ft with my great mate Quinton, who was flying in to Munich and renting an M2 Competition at a very reasonable price from Sixt. 'Drive Smug' indeed.

As a Lake Geneva-area resident I had to avoid Germany, and as a UK resident he had to avoid stopping in Switzerland, but the last passes of our decade-long project were in Austria and Italy, so it was on.

I set off early in the morning to take the autoroute past Lausanne, aiming for the famous abandoned Hotel Belvedere on the Furka Pass. Quinton and I have driven more than a hundred passes over the years, including his favourite, the Furka, at least three times, and my favourite, the Spluga, twice, and a spellbinding run on the Turini that I will never forget.

A short time after setting off, while still in Switzerland, I encountered roadworks between Martigny and Sion, with narrower



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p138 Toyota GR Supra



p138 VW Passat R-Line Edition



lanes denoted by temporary orange markings. As I slowly overtook a lorry doing its maximum 85kph it drifted left out of its lane into mine. It was too late for me to brake, so I tried to stay centred on the narrowing gap, thinking the lorry's driver would surely see me and swerve back to the right, but no. Both of the Subaru's side mirrors exploded at the same time as the left-hand one touched the central divider and the right-hand one the lorry. A moment later both sides of the car made contact, squeezing the STI like a bar of soap. Next the left side of the Subaru started to rise upwards due to the triangular base of the central barrier, and then the car went airborne – three metres above the ground according to witnesses, pirouetting as it flew. After three-quarters of a clockwise barrel roll the STI glanced the top of the barrier with its left side as it came back down, somehow finishing back in its lane... Air Subaru Flight S209 had landed.

The two shocked bikers who came to drag me out of the smoking car were surprised that I could get out and walk, and so was I. I'd like to publicly

'Both sides of the car made contact and the STI was squeezed like a bar of soap'

thank those bikers – Lolo and Vanko – for coming to my aid, plus the Valais Police, the ambulance service, the Hôpital de Sion, and my wife and daughter for collecting me from hospital. I'd also like to recommend Subarus for their great crash protection, and pay tribute to Harold Round and Arthur Parrott for inventing the aeroplane airbag in 1919, John W Hetrick and Walter Linderer for separately inventing the automotive airbag in the early 1950s, and Allen K Breed for inventing the crash sensor in 1967. I dread to think where I'd be without these innovations – the police officer who handled my written report of the incident and the

insurance analyst who wrote off the car both told me that it was a miracle I was alive; sobering stuff to hear from two people who live crashes every day.

So that, I'm afraid, brings the S209's Fast Fleet story to a premature end. It seems like only yesterday that I was eagerly anticipating its arrival at Liverpool docks, its first journey being on a cargo ship to there from the States – the only market in which the limited-edition S209 is sold. After some running-in miles and an oil change it found itself going head-to-head with Mercedes-AMG's new A45 S for a twin-test in *evo* 272. The AMG, with its 415bhp, four-wheel drive and take-no-prisoners attitude, had been described by some as a spiritual successor to the best Subarus (and Mitsubishi Evos) of old, so the opportunity to pit it against the best on sale today was irresistible.

On that test Adam Towler and Dickie Meaden were both enamoured with the S209, declaring it a car with an appeal that grows with miles in a way the A45 can't match, and Adam concluding that Subaru's 'unique way of making driver's cars is as appealing as ever'. But there was nevertheless some disappointment with its 2.5-litre flat-four, which with



341bhp has just 31bhp more than the regular STI, and 74bhp less than the Merc. I more than agreed, so quickly remedied the situation with a Cobb Accessport tuning device, which remapped the engine to over 420bhp. This instantly felt more appropriate and is an upgrade I'd recommend to the remaining 208 S209 owners.

How this more powerful S209 would have performed on those Alpine passes, or fared over more adventures to come, we'll never know, but one thing that's for certain is that this S209 shone brightly during its short existence, and ably demonstrated that there's life in the old Subaru formula yet. Safe travels.

David Price

Date acquired February 2020 **Duration of test** 7 months **Total test mileage** 3200 **Overall mpg** 22.6 **Costs** Cobb Accessport \$675, oil change £83, plus hospital bills **Purchase price** \$63,995 (c£49,000) **Value today** Not much



Dacia Duster

Modest it may be, but the Duster is not short of admirers

IT REQUIRES A RESET TO LIVE WITH THE Duster. Not so much due to the way it drives – though there is an element of performance recalibration required, more of which later – but what it says about you.

It's a vanity thing, of course. One fuelled by society's increasing and unhealthy obsession with the image we project to others. This probably sounds rich coming from someone who has spent the vast majority of his adult life driving cars he can't afford, but it's the truth.

The funny thing is, the Duster has so far garnered universal praise from everyone I've come into contact with. Yes, I get ribbed from time to time with 'What did you do to upset editor Gallagher?' but such comments are always at my expense, not the car's.

I find this interesting, because there aren't actually that many genuinely affordable, unassuming and unpretentious new cars that have enough about them to warrant any kind of acknowledgement. At least from people who profess to like cars. But the Duster appears to spark conversations far more readily than if I were smoking around in a supercar or spangly SUV. It's actually very refreshing, especially as you never get the judgemental side-eye from strangers that often comes when you're driving something more prestigious or provocative.

Driving-wise I've settled in nicely to life with 115bhp. The stumpy gearing still bugs me (though my dog-leg conversion still works nicely) and I'd be lying if I said I didn't miss an engine that liked to rev.

Nevertheless I'm really impressed by the way the Duster tackles back-roads.

Once wound up it carries plenty of speed across the ground. More than enough to expose below-average drivers in much faster cars. This is alright so long as they were already behind you, but the one thing you learn about the Duster is that while it'll whistle along nicely on a clear road, it doesn't possess much in the way of overtaking poke.

Sometimes this means you simply drop back and relax, but the paucity of power is also making me relearn skills acquired many years ago, when momentum, timing and immaculate pre-planning were part and parcel of a clean overtake. It all combines to deliver that long-forgotten feeling of being satiated without the guilt of knowing you've been travelling at suicidal speed.

Housekeeping-wise the Duster hasn't used a drop of oil or AdBlue, and continues to return a solid 42mpg+ in everyday driving with 45+ on motorway runs. After the rigours of being used like a van during our house move I'd worried the interior might bear a few scuffs and scrapes, but it has scrubbed-up a treat, suggesting it's as rugged as its looks suggest. The only thing I'm disliking is the Desert Orange paintwork, and I'm not so keen on the rather blingy alloys, but otherwise Dacia life is surprisingly sweet.

Richard Meaden (@DickieMeaden)

Date acquired January 2020 **Total mileage** 4200 **Mileage this month** 757 **Costs this month** £0 **mpg this month** 42.1



Audi RS7 Sportback

Our Audi takes on a big rival in the form of BMW's M8 Gran Coupe

LIVING IN THE SHADOW OF THE RS6 CAN'T be easy for the RS7. The former is the king-of-cool über family car, worshipped far and wide and an ever present in numerous three, five and even ten-car fantasy garage lists as the 'daily'. With good reason, because few cars manage the duality of being a practical family car that can also cause its driver to raise a smile when they find themselves alone on a road more interesting than those often taken with the family on board.

In theory the RS7 should offer the same, albeit with no room for the hound in the boot. But in the past it has been a close relative to the RS6 in name only, feeling flat-footed, a little dull to drive and performing to the fast-Audi stereotypes of old.

However, the new RS7 has proven to be a genuine RS6 alternative, and in the seven months ours has spent with us, only when the Towler clan (deputy editor Adam being the current custodian of the 7) has needed to go on holiday en masse has the increased capacity an estate car offers been missed.

Perhaps the biggest challenge for the RS7 isn't from within, however, but from outside Audi Sport's family, because if you want in the region of 600bhp in a four-door, slightly coupe-looking body you are somewhat spoiled for choice. Also in the VW Group is Porsche's Panamera, while Mercedes-AMG has its GT 4-Door and BMW has updated its entry with the car you see here: the M8 Gran Coupe, which is available to UK customers in Competition trim only.

Technical make-up for both the M8 Competition Gran Coupe and RS7 Sportback is borderline off-the-shelf premium supersaloon. Twin-turbocharged V8? Check. Circa 600bhp? Yep, 592bhp for the RS7 and 616bhp for the M8. Five-hundred-plus lb ft of torque? Please, anything less would be an insult. Eight-speed automatic gearboxes? What else would you expect, other than possibly a double-clutch unit? Unfortunately, more mainstream manufacturers are now sticking to torque-converters, claiming the shift speeds are close enough to those of a double-clutch 'box and that the cost of developing both is a luxury rather than a necessity. BMW has also followed Audi's 40-year tradition and now only offers its range-topping M-car with xDrive four-wheel drive. Although, unlike the Audi, you can, through diving into the submenus of the iDrive system, make your M8 Gran Coupe rear-wheel drive.

The initial thought when bringing the M8 to



the RS7's party was that the BMW would be sharper in those areas where the RS7 still reverts to brand type. There have been a number of times with our RS7 when whoever has been behind the wheel has enjoyed the unexpected interaction it provides. Its V8 has an enthusiastic character that's matched with a crisp throttle and neatly suited ratios, providing a drivetrain that favours pushing from the rear rather than pulling from the front, ably assisted by the standard Sport Differential. But go beyond this 70 per cent operating window and the weight and size of the RS7 comes into play, the road never feeling big enough to exploit its performance and give it the space to move around. At around five metres long and two metres wide, an RS7 needs a fair bit of room when it gets moving.

BMW M GmbH knows how to make its performance cars feel special and dance around

regardless of the speed you are travelling and the road you find yourself on. To a point, anyway. And indeed where the M8 outperforms the RS7 is when you go looking for, and need, that last 20-30 per cent of feedback and precision. As with our RS7 you need to find the right modes: Comfort dampers for both, Sport steering to add some weight, the sharpest throttle and shift speeds, and any differential settings available to you switched to their most alert and reactive mode. Configured accordingly the M8 GC is less prescriptive than the RS7 in all that it does. Its body control and damping is more in tune with your expectations, its steering quicker – less feelsome than the Audi's, requiring a higher degree of load before you feel confident it's hooked up, but when it is the M8 carves a more precise line. And its V8 is more energetic and reactive to inputs and therefore easier to maintain a balanced engine speed with when required.

However, the RS7 has the more immersive V8,

'BMW M GmbH knows how to make its performance cars feel special and dance around'

both in terms of noise and how it builds through its powerband, and thumps along on its torque, a benefit of it being used across the VW Group from Bentley to Lamborghini, and by Porsche in-between, meaning Audi is able to tap into the available data and tune accordingly. In the M8 you merely gain speed, albeit at a frantic pace, whereas in the RS7 the octaves rise and fall in keeping with your pace, adding a fizz of excitement along the way.

FAST FLEET

BMW scores higher with its carbon-ceramic brakes (a £7995 option, compared to £9200 for the equivalent on the Audi), which are much easier to moderate and natural in pedal feel, making for far smoother and more consistent braking when you're pushing on. And when there is 2000kg or more to slow you need the anchors to be on your side. (The M8 tips the scales at 1980kg, the Audi tips them even further at 2065kg.)

But for all its involvement and the thrills

delivered by the M8 GC Comp, boy do you need to be travelling to experience them. In pure terms the BMW is a more focused, more athletic supersaloon than the Audi. It certainly answers the question more comprehensively than the RS7 does when it comes to asking which delivers the greatest performance when speed and space aren't restricted. But here's the crux. These are road cars, designed to offer a level of performance a cut above the norm, which they both most certainly

'If you're not exploiting all of the M8's performance, its advantage is all but eradicated'



do, but if you're not exploiting all of the M8's performance, its advantage over the RS7 is all but eradicated. If anything, at more level-headed speeds the RS7 gives more back more of the time.

An unexpected black mark for the RS7, however, is its interior. Much is made of the quality Audi manages to engineer into its cockpits, and our RS7 feels as solid today as it did before it started its non-stop life with



us. But for all the shiny piano-black trim and the welcome use of Alcantara, there is too much £47,000 A7 TDI in here to justify the £95,000 starting price for an RS7 (our fast fletcher came in at £140,000...). The from-£123,880 M8 looks and feels far more bespoke, with the quality of its materials on a par with those of the machine produced in Ingolstadt. It also has the quieter interior to cover big miles in. Both cars swallow 300 miles (the best their fuel range will offer) in the blink of an eye, and only a ride quality that's focused on performance, especially so in the case of the BMW, hampers these two from being leftfield alternatives to a more traditional GT car.

If our time with the RS7 Sportback has demonstrated anything it's that the RS6 Avant no longer holds the driving advantage. The 7 might not be as iconic nor have the social media #want

factor, but it can be considered on a par in terms of driver appeal if not dog-carrying ability. (Does anyone actually do this with their RS6, by the way, or is it just a term thrown around in a similar fashion to people talking about hosing out the interior of their Land Rover Defenders?)

The M8 Competition Gran Coupe is the better driver's car than the RS7, but *its* biggest problem is the M5 Competition, which is £22,000 cheaper, and for that saving I'd be happy to forgo the former's more bespoke interior design. I'd still have an RS6 over an RS7, too.

Stuart Gallagher (@stuartg917)

Date acquired April 2020 **Total mileage** 6893 **Mileage this month** 754 **Cost this month** £0 **mpg this month** 25.9



Porsche 911 Carrera (996)

The new engine may not be ready yet, but it's got a very tasty exhaust system waiting for it

I'M GOING TO KEEP YOU GUESSING FOR at least another month. The 996's rebirth is making great progress at Litchfield but until the engine choice is up and running, all the bugs are ironed out and I'm confident the plan has been a success, my lips remain sealed. All I will say is that if things go as intended the 996's power-to-weight ratio should eclipse those of the first two GT3 models, and my little old Carrera will punch like a car developed by the good people of the Motorsport department.

Before the big reveal I wanted to talk about some of the cool little details I've accumulated for the rest of the, ahem, reimagining. I only use that word in case it adds £200,000 to the resale value. Anyway, whilst I've gone big on suspension (KW Clubsport two-way adjustable plus RSS Tarmac Series adjustable arms front and rear, and their bump-steer kit), I decided not to go crazy on a high-end exhaust system. Why? Because despite all the grand claims, actual performance improvements on a normally aspirated flat-six can barely be measured on a dyno whether

you spend £1500 on a full system or £8000. Much as I like stupidly expensive things made of titanium and Inconel, the bhp-per-£ just isn't worth it. Plus, I wanted to save some pennies for heat management. Much more important.

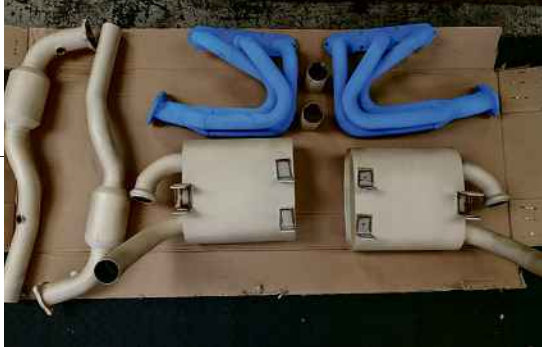
After much research and many excellent testimonials, I opted for a full stainless system including 200-cell cats made by Topgear in Bridport, Dorset. They're fast building a nice reputation amongst those of us who love our 911s but can't quite stretch to GT3 RS-level budgets. Even better, they do a 'mild' sound that's not much more than OEM in terms of decibels. On some primal level I love the idea of a 911 that howls so proudly you can hear it from two counties away, but in reality I'd just feel a bit of a dick. Stealth and trackday-friendly noise levels seems much the better way.

Decision made, the next step was to make my 'budget' system look cooler and perform, erm, cooler. I've always wanted ceramic-coated headers for the 996 (mostly because they look great, admittedly) and Zircotec performance coatings in Banbury had

also been on my radar for years. They're suppliers for supercar OEMs, pretty much the entire F1 grid, BTCC and GT teams and, now, Project Arena Red. They seemed less excited about this than me.

Zircotec's unique plasma-spray technology was developed for the nuclear industry and has since been adopted widely in top level motorsport. Its benefits are vast and measurable – exhaust temperatures are reduced by up to 33 per cent, engine bay temperatures are significantly cut (by greater than 50 degrees in some cases), there's increased gas flow, and because the coating is just 0.3mm in thickness, weight increases are negligible.

The iconic and most effective coating is the Performance White system. It looks incredible, too. However, the coating marks up really easily as it's a porous material, so Zircotec recommends its Performance Colours range for road cars. Suitable for applications up to 900 degrees Celsius and with a sealed finish, the Performance Colours range has a three-year warranty and there are 14 shades from which to choose. It's not cheap,



but the performance, longevity and aesthetic benefits are compelling. My full exhaust system cost £2240 to coat.

Picking a colour is the stuff of nightmares. There are the 'safe' options: Solid Black, Metallic Black, Sterling Silver. And some statement colours: Fern Green, Chilled Red, Yellow Gold. I guess I opted for something in-between. The tubular manifolds would be Ultra Blue and the rest of the system Antique Silver (which is almost champagne-coloured and I thought might be close to the Performance White coating). As it turned out the burnished-titanium metallic blue I'd envisaged for the headers turned out to be almost bright blue. A bit of a shock. But I've quickly grown used to it. Love the sparkling Antique Silver, too.

So my 'budget' system has a new air of motorsport cool plus it should perform way better. Now... back to work on the engine it'll be hanging from.

Jethro Bovingdon (@JethroBovingdon)

Date acquired May 2013 **Total mileage** 150,432 **Mileage this month** year 0
Costs this month exhaust £1455, exhaust coating £2240 **mpg this month** n/a



Porsche 911 Carrera (993)

The 993's new wheel and tyre combo gets put to the test

THE OPPORTUNITY FINALLY CAME TO take the 993 out on some proper driving roads after a hectic return to work post lockdown.

The plan was to meet up with a bunch of industry mates for breakfast and then go for a drive in our own cars, leaving any press cars behind for once. The mix of metal was brilliant, including a BMW 2002, a Honda Integra Type R, a Lancia Delta Integrale, a Peugeot 106 Rallye and my 911.

The roads we chose included several that are well known to **evo** for testing and photoshoots. Much as it's fun to explore new or rarely visited territories, there's a lot to be said for driving on familiar routes, as they enable you to focus more on the car and assess it relative to others you've driven along the same route – or in my case an earlier iteration of the same car.

The weather was plenty warm enough, so the new Yokohama Advan A052 weren't running in compromised conditions, and sure enough they provided huge amounts of grip. The real surprise for me, though, was how the 911 felt on its new Billet 117 wheels. You hear all the time how important unsprung mass – or reducing it – is, but I didn't think a total saving of 10kg would make such a big difference. The 993's steering has become more accurate and the entire car now feels more composed over bumpy British B-roads, with the suspension working more effectively. The combination of wheels and tyres has transformed the driving experience, and with the recent Momo



steering wheel upgrade too (see **evo** 279) the whole car is an absolute pleasure to drive.

The day was a massive success, then, both in terms of testing the upgrades and meeting up with mates. Here's hoping we can all get out on the roads and spend time with fellow car enthusiasts as much as possible over the coming months.

Aston Parrott (@AstonParrott)

Date acquired April 2016 **Total mileage** 86,366 **Mileage this month** 511 **Costs this month** £0 **mpg this month** 28.0



VW Passat R-Line Edition

An embarrassing mishap leads to a damaged tailgate

THE TIME HAD FINALLY COME FOR THE best shoot of the year: *evo* Car of the Year. As you'll see in the next issue, for 2020's test we visited Anglesey Circuit and then Scotland, and the Passat would be my trusty companion for the entire gig – or so I thought.

Things got off to a great start, the VW, fully loaded with photography gear, making light work of the five-hour drive over to north Wales, but the next day things would take a turn for the worse.

In a pit garage at Anglesey, we readied the Passat for a car-to-car shot. Adam Towler hopped in the driver's seat, while I positioned myself in the boot, safely harnessed in place, with the tailgate open so that I could photograph the eCoty contender that would be following us around the track.

'Ready?' shouted Adam from up front. I confirmed that I was, so he gently pulled away – only for there to be the most horrific smashing noise followed by a shower of broken glass.

Blame an early start and not enough caffeine, but none of us had noticed that the garage's metal shutter door wasn't fully raised, so the poor Passat's open tailgate didn't fit beneath it. The result? A smashed rear screen, a broken wiper motor, a small dent in the tailgate and much embarrassment.

Volkswagen Roadside Assistance came to our rescue, arranging for a new screen to be fitted the next day, but the wiper motor was beyond repair and unfortunately the damage to the tailgate prevented the glass from being replaced, so HMS Evo had to return to VW for a full repair job and miss out on leg two of eCoty.

Aston Parrott (@AstonParrott)

Date acquired January 2020 **Total mileage** 7059 **Mileage this month** 702 **Costs this month** TBC **mpg this month** 28.2



Toyota GR Supra

Deputy editor Towler offers a second opinion on our Supra

IT'S BEEN A LITTLE WHILE SINCE I drove a new Supra, and although this yellow example has been with us for a number of months now, all things Covid have meant the Fast Fleet isn't quite as promiscuous as it usually is.

The Supra is a car I feel I should be more excited about than in reality I actually am, especially when it's painted in a yellow that's so deep and lustrous it's almost luminescent. For me it's one of those designs that has angles of extraordinarily strong appeal, and others that just don't work at all, leaving me somewhat perplexed as to my definite opinion.

And driving Ev's long-termer initially fails to provoke a different reaction over and above the cars we originally drove last year (*evo* 263 and 265). It's rapid, keen to turn, often very short on traction, and working an eight-speed torque-converter with tiny paddles holds very little driver appeal for me at all. Essentially, it feels exactly how I imagine a coupe version of a BMW Z4 with nicer steering would be.

Where I do think the Supra scores highly is in being a fine GT; in fact, if only the ride was a little more relaxed it would excel at being a cosy, but practical, grand tourer for two with oodles of effortless pace on demand. As it is, even with the damping set to its more comfortable setting, the car never quite relaxes with the road in the way I'd like.

'If only the ride was a little more relaxed it would excel at being a cosy, but practical, grand tourer for two'

The old 'A80' Supra was a GT. Most were ordered with the auto 'box. It seems to me that the Supra myth has built up around Japanese tuning videos and Hollywood films, creating an image in the minds of those too young to remember earlier generations of Supras when they were new that it's a car with about 800 horsepower and wings off an LMP1 car. In the face of that, this new Supra was always going to struggle to satiate that iconography, given it's oh-so-close roots to a Z4. Push all that to one side, and the car that remains is a very likeable one, if you give it the time to show its true qualities.

Adam Towler (@AdamTowler)

Date acquired March 2020 **Total mileage** 10,171 **Mileage this month** 750 **Costs this month** £0 **mpg this month** 29.5



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CHRISTMAS GIFT GUIDE



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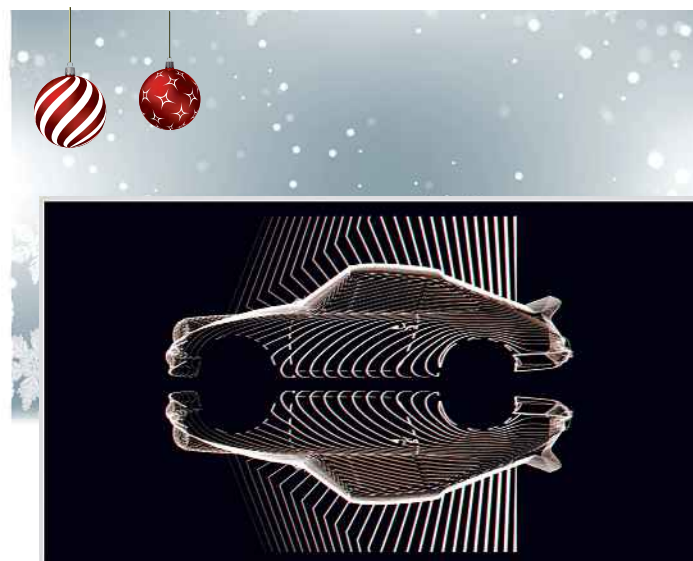
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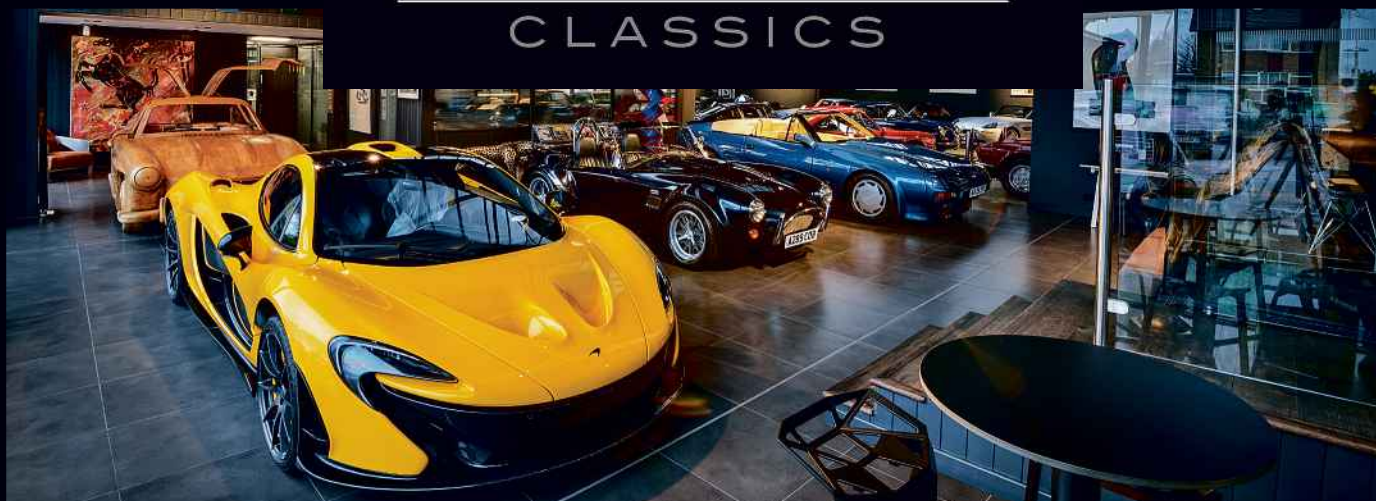


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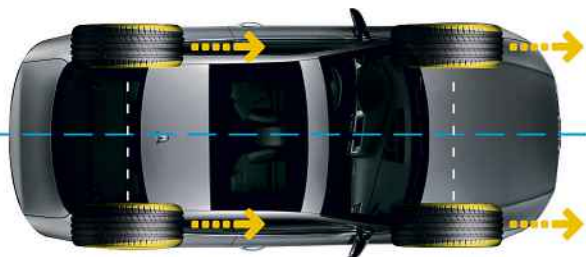
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Kia Stinger GT-Line 2.0

Table with 13 columns: ISSUE NO., PRICE (ON ROAD INCL VAT), ENGINE (CYL/CC), BHP/RPM, LB FT/RPM, WEIGHT, BHP/TON, 0-62MPH (CLAMTED), 0-60MPH (REAL), 0-100MPH (REAL), MAX MPH, and EVO RATING. Contains car data for Volkswagen Golf GTI (Mk5) to Kia Stinger GT-Line 2.0.

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Main table listing car models, specifications (Issue No, Price, Engine, BHP/RPM, Weight, etc.), and EVO RATING for various saloons, estates, and SUVs.

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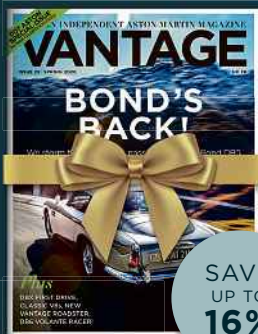
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To Munich and back in a day for a photoshoot provided an unforgettable RB5 initiation for Stuart Gallagher

YOU KNOW STUART GALLAGHER AS THE current custodian of the editor's red pen at *evo*. But this is not Stuart's first stint on the mag. A younger, marginally more hirsute Gallagher was *evo*'s first staff writer (an HR-friendly way of describing the office's general dogsbody) back in the late '90s. This position, as I know full well, often involves doing the drives that nobody else is young/stupid enough to undertake.

One such drive for Stuart was for a twin test in issue 008 that pitched a new Audi against a new Subaru. Stuart takes up the story of how he and photographer Gus Gregory drove 1000 miles and bagged a 12-page feature in a single day...

It started at Gus o'clock – 3am – leaving his home in Surrey and heading for Germany via the Eurotunnel. We were meeting *evo*'s ace tab poacher, David Vivian, who would be landing in Munich to collect the new Audi S3. Gus and I were in the equally new Subaru Impreza RB5. So new that Prodrive had only completed its preparation the previous morning and the adhesive used as additional bonding for the rear spoiler to the bootlid was still a few hours from hardening when the car arrived at *evo* Towers.

Europe was different in the late '90s and you could cover considerable ground in a considerably short period of time, which is why we were skirting around Frankfurt and

catching its morning rush hour only a few hours after emerging from the Eurotunnel. A couple of hours later we were in Munich, having received a text message from the office saying that Subaru had been in touch to ask if we could avoid any max speed runs because some of the RB5's new aero fixings hadn't been signed off yet.

It's when we were waiting for Viv and enjoying some caffeine at Audi's customer centre at Munich airport that we decided to turn around and head to the Black Forest to do the shoot. Yes, the Black Forest on the French border, some 250 miles back in the direction we had just come from. It made sense to Gus and me because we'd be closer to home when we finished the shoot and, this being the last Friday in July, the roads were expected to be busy ahead of the August holidays. If only we'd had this idea several hours and a couple of hundred miles ago.

By the time we arrived at the location we were already 620 miles into the day and it was only just lunchtime. Little wonder that by mid-afternoon Gus had launched his camera case – still with his kit in it – off the side of the road and into the forest. That shutter release cable never did work properly...

His mood wasn't helped soon after when a group of bikers parked their midlife crisis Harleys in the exact spot Gus wanted to take a static shot. He did, however, deal with this

situation with impressive diplomacy. He even ascertained that they were bankers. Well, I think that's what he said.

'Shoot done, Viv hotfooted it back to Munich just in time to miss his flight home, while Gus and I were stopped at the Eurotunnel by UK customs, who asked me for the paperwork for the RB5, which of course I didn't have. And Prodrive and Subaru had gone home by the time I called. Customs were also intrigued as to why gaffer tape was being used to hold the rear spoiler in place...

'Eventually we were allowed on a train, I dropped Gus home and then completed the last 70 miles in time to arrive for last orders. A longer than usual day, but it was worth every wave of exhaustion to spend time in that RB5, which remains one of my all-time favourite cars I've driven at *evo*. It was, and I suspect still is, an extraordinary machine. Where are you now, T47 JOP?'

'WE WERE 620 MILES INTO THE DAY AND IT WAS ONLY JUST LUNCHTIME'



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