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**evo**

ISSUE 119  
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2015

# Ed Speak



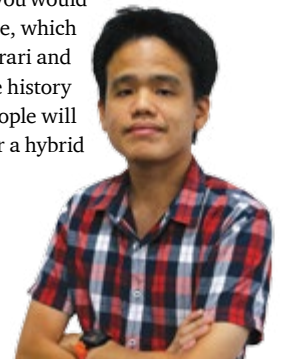
**AS THE WORLD GETS INTO THE STRIDE OF 2015, I CAN SAFELY** say for certain that the hybrid hypercar war is finally over. Normal programming of many supercars driven by high octane brawn rather than high voltage brains will resume shortly. After all, we might not see the likes of the hybrid hypercar trio for a while. Ferrari says that the technology used in the LaFerrari is too expensive for their normal production models, and I figure that Lamborghini couldn't be arsed to push the Asterion beyond the concept stage. Only esoteric supercar makers Bugatti and Koenigsegg are rumoured to be working on hybrid hypercars, but their exclusivity in making high-end cars for ultra rich individuals, means that they aren't going to send tremors through the supercar sphere.

So much for the fear-mongering and concern many pundits were voicing that hybrid technology would dull the genre's edgy and raw character and obscure beneath a cloud of technological complexities. As our cover story shows, for its hybrid system, the LaFerrari manages to shock and excite, just as viscerally as its predecessor the Enzo did, and in greater intensity. We often forget that hybrids don't have to be stale and boring fuel-efficient boxes built to please people who would like to think that they are making a difference. Hybrid technology, like any technology is impartial, it is how and the context by which it is used. In the case of hybrid technology, it has been used as a cornerstone for the environmentalist agenda, and as a result, its stereotype has maintained.

To add to that, we often forget that technology changes and improves, the electric counterpart of a hybrid system has always played a supportive role in a drivetrain, as battery technology couldn't keep up with user demands. And we still have plenty to learn about batteries. Some are even turning to the field of mathematics to calculate a method to reduce recharge times and increase battery capacity. Two years ago, I had the opportunity to test the Honda Accord Hybrid, which had an electric motor, an engine, and no gears. As it turns out battery and electric motorisation technology has progressed to a point where the engine doesn't have to be used constantly to aid the electric motor. Instead the engine is used to complement the electric motors at higher speeds, where it lies beyond the electric motors' operational envelope. Most of the time, the Accord Hybrid is driven by its electric motor, with the engine assisting the electric motor by generating more power for the electric motor. At speeds around 70kph, the engine in the Accord Hybrid will take over from propulsion duties and connect directly to the front wheels. It is an ambitious system, and a brilliant one when you consider that we have advanced electric motorisation technology to a point that its electric motor is capable to perform on its own.

It is exciting to see where electric mobility will take us. Not in the sense of reducing fuel consumption or improving performance, but enhancing the driving experience. As the widespread adoption of turbochargers has made us long for the immediacy of naturally-aspirated engines, electric motors might offer a solution. Imagine a device with instantaneous torque delivery, zero lag, and no dampening of the engine acoustics. It all sounds rather appealing. Many would post the counter-argument that hydrogen is the answer, but a hydrogen powertrain is just as exciting as what you would get in a fully-electric car. They are just electric cars without the recharge time, which sounds just as exciting as a Prius and not as thrilling as the likes of the LaFerrari and its hybrid hypercar kin. 2014 after all might turn out to be a watershed in the history of the performance car, just like how Ferrari discovered 28 years ago that people will pay top dollar for the barebones F40. Maybe people will now pay millions for a hybrid as well. Let's hope the story doesn't end here.

**Daniel Wong** Editor



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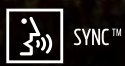
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It has been around for half a decade, but Daniel Wong samples the only one in Malaysia on local roads.

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The Lotus that celebrates the firm's success in one of the most pivotal seasons in Formula 1 history while wearing one of its most iconic liveries

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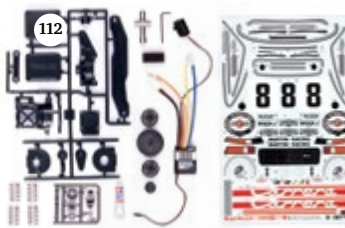
Honda's new HR-V compact SUV has the style, but does it have the talent of its compact car brethren?



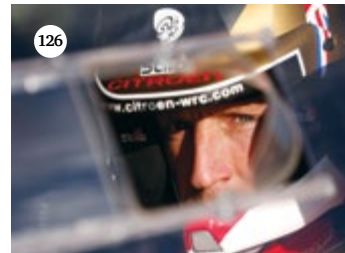
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The Ford GT returns out of the blue, with a track bias and over 600PS – from a turbocharged V6



More big reveals from the big US show, including the Mini JCW, Porsche 911 Targa GT5 and Infiniti Q60



The World Endurance Championship title holder recalls his highlights from the 2014 season

We take a closer look at the Infiniti Q50's mechanical link-free steering system

# NSX IS BACK!



## ...AND WHY IT DOESN'T FEAR ITS RIVALS

Hybrid power, advanced tech, and a total focus on the driver: the new NSX promises to be a blast

Words: Andrew English



**T**HE WAITING IS over. At the 2015 Detroit motor show we finally got to see Honda's long-anticipated new NSX in production form – and learned some (but not all) of its technical secrets.

How long have we waited? It seems like an age, because, erm, it is. Way back in 2005, with the first-gen NSX still in full production, a stray remark from an engineer suggested that the NSX replacement would have a V10 engine and that work on it was at full gallop. When asked about this, Takeo Fukui, Honda's then chief exec, said he'd produce this replacement NSX when Honda won a Formula 1 grand prix... The company withdrew from F1 in 2008, though it's planning a return with McLaren this year.

That V10 NSX was shelved and so (it is rumoured) were other replacement NSX projects. A decade on, this new, American designed, engineered and built NSX is a very different beast. It has also undergone a metamorphosis in its own development, which has taken place at the Transportation Research Centre, Ohio, and also at the Virginia International Raceway, Suzuka race circuit and the Nürburgring – 'the Nordschleife's been the final step,' says chief engineer Ted Klaus.

The car will be built by 100 specially trained staff at a new facility at Marysville, Ohio, but the technical

detail is being kept deliberately sketchy. Honda calls this a 'theatrical introduction', teasingly stage-managed. We talked to Klaus just after he'd had a bruising interrogation from a German magazine demanding in vain that he give them details that no-one else was getting.

Back in 2012 we saw a concept of this car badged as an Acura (Honda's swanky American brand), with a

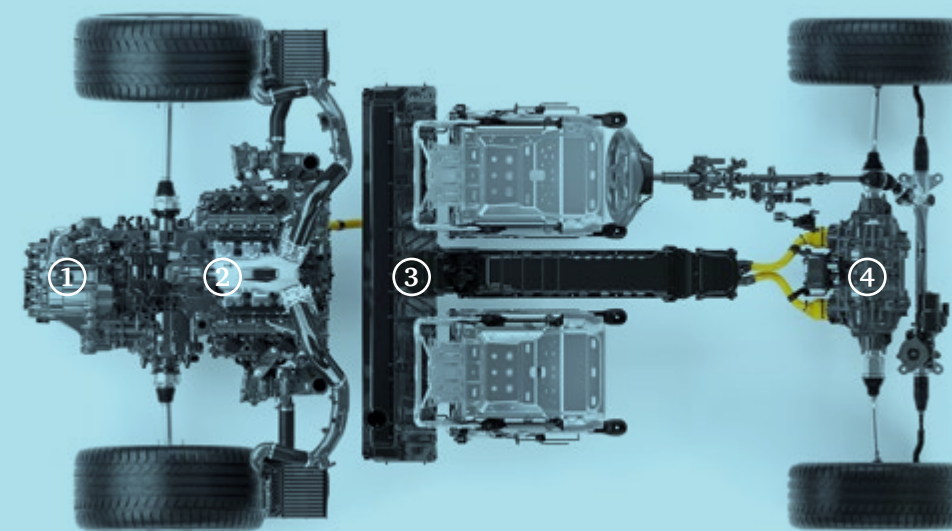
transversely mounted, naturally aspirated V6 engine across the back of the car. This production-ready model has a twin-turbo, 75-degree, quad-cam V6 (capacity undisclosed but we'd guess at 3.5 litres) mounted longitudinally behind the bulkhead with a nine-speed, twin-clutch transmission. There's an electric motor between engine and 'box to add torque while the turbos spool up,

and two more electric motors, one for each front wheel. Total power output is estimated at over 550PS.

So why did you change the engine, Ted? 'There are so many reasons,' he says, 'most of them to do with realising the concept more fully, which wasn't so straightforward. With the previous transverse engine we were starting to run out of space to do what we wanted to do. We ended up

### TECH ANALYSIS Under the skin: NSX powertrain

- 1 Gearbox** Nine-speed dual-clutch gearbox takes drive to rear wheels
- 2 Engine** Twin-turbo V6 longitudinally mounted ahead of rear axle
- 3 Batteries** T-shaped pack placed low and in centre of the car to aid agility
- 4 Electric drive** Two electric motors, one for each front wheel, plus one at rear





**INSIDE**  
**The NSX cockpit**



**TFT display**  
The instrument cluster features a dynamic TFT (thin-film transistor) display that responds to changes in the driver-selectable Integrated Dynamics System (see right) with relevant graphics and information

**Integrated Dynamics System**  
Driver uses rotary dial to select the various modes in the Integrated Dynamics System (IDS). These modes are Quiet (electric motors only, for short durations), Sport, Sport+ and Track, and each one tailors the responses of the engine, electric motors, transmission and chassis

**Exposed structure**  
Honda has made a feature of the NSX's structure. Under the leather-trimmed dash is an exposed section of the aluminium frame — a functioning structural member that, in Honda's words, 'reflects the design aesthetic of a naked sport bike'

sticking items higher and higher [the exhaust for example] and that wasn't doing much for the centre of gravity and we'd be pushed in terms of the future evolution potential.'

We did ask about that 'potential' but were met with Klaus's best Paddington hard stare. Apparently we'll get to learn exactly what the NSX can do at the launch in June or July this year. So there was no performance data at all. A spokesman explained this away by saying: 'Ted is anxious to get over the nature of the car's performance more than just the numbers.'

So does that mean it will be faster or slower than the benchmarked cars, Porsche's 911 Turbo, Audi's V10 R8 and, 'at the top end', Ferrari's 458? Dunno, but one look at the thing tells you that it's almost certainly a 300kph

**'You need to remember this is a hand-built, limited-production car'**

car. Although in fact it's impossible to take just one look at this compellingly gorgeous car, which is a credit to the exterior design team headed up by Michelle Christensen.

So what else do we know? Originally 'NSX' stood for New Sports car eXperimental and the new one is experimental at least in its powertrain layout. Proportionally, at 4470mm it's 80mm longer than the

2012 NSX Concept and, at 1940mm wide, 25mm wider. It's 1215mm high and runs on a 2630mm wheelbase.

The body frame is made of aluminium and high-strength steels, with a carbonfibre composite floor and outer body panels of aluminium and sheet moulded composite (SMC). Peering into the wheelarches, it appears that the suspension comprises upper and lower wishbones, while the brakes are carbon ceramic discs with monobloc calipers (six-pot at the front, four-pot at the rear) and the tyres are Continental ContiSportContacts, 245/35 R19s at the front and 295/30 R20s at the rear.

It goes on sale to US customers this autumn and in the UK, well, who knows, but most likely early next year. There are already 100 deposits placed with UK

deposits placed with UK

**THE LEGEND**  
**Recalling the original**



THE WORLD BECAME a poorer place in November 2005 when production of Honda's exquisitely engineered 'Japanese Ferrari' ended. Nothing else possessed the original NSX's medley of abilities. It may have had less than 300PS, but the power delivery of its 3-litre (later 3.2) VTEC V6 seemed never-ending. And all the time that perfectly weighted steering, that sublime composure.

Constructed in aluminium, bristling with race-bred tech and honed by Senna, it barely showed its 15 years in production. So easy was it to drive, so undemanding to live with and so well made, you sometimes forgot it was a supercar at all.

But that was always Honda's idea. The supercar as a switch: docile and pliable in town, the real deal on the open road. No supercar had ever done the crossover thing so well. Maybe it wasn't as fast as a 355. Maybe the hollow bark of its engine didn't tingle the nerves quite as intensely. Then again, Gordon Murray had one while he was designing the McLaren F1; he wanted a constant reminder of what it was to drive a useable mid-engined supercar.

And as Honda eventually showed with the NSX-R, red-blooded involvement and precision-guided technology needn't be mutually exclusive. Mixed together in the right proportions they could deliver extraordinary results. The Honda NSX's legacy turned out to be the supercar's future.

**David Vivian**



dealers, which means you shouldn't be holding your breath. As Klaus put it: 'It's going to be difficult locating products round the world, especially if we choose not to satisfy demand. You need to remember this is a hand-built, limited-production car.'

He was answering a question about the melee to get hold of the original NSX, when over-eager customers paid over the odds for early examples and then complained about it. 'I expect those types of disappointments to happen again,' said Klaus, 'in spite of everything we can do.'

As to the price, well, no one is denying the possibility that a US price somewhere in the mid-\$150,000s will

be translated into pounds simply by swapping the \$ for a £ sign.

I sat inside and the cabin feels reasonably accommodating — at 6ft, I had a couple of inches of headroom. The slightly squared-off steering wheel is covered in Alcantara, which is repeated on the door-cards; the rest of the soft upholstery is in coloured leather (red in the case of the show car). It's an attractive cabin, with the polished cast aluminium under-dash structure surfacing like the bones of a giant fish emerging from the seabed as it stretches across the car.

Gearchange paddles move with the steering wheel and there's a dial on the centre console to select from



**This page, from far left:** seats are comfy as well as supportive, echoing the original NSX's billing as the useable supercar; body panels are a combination of aluminium and composites



the Integrated Dynamics System, the modes being Quiet (electric), Sport, Sport+ and Track, governing a multitude of settings for the engine, electric motors, transmission, chassis responses and even engine sound level. There's talk, too, of a launch control system, à la Nissan GT-R.

It's a mouth-watering combination, especially when you consider the toolbox open to the team in the form of those front-wheel motors that can provide 'active' torque vectoring. Klaus admitted that developing these systems has been tricky.

'It's been a big challenge,' he said. 'It's been important to have a natural extension of the active torque transfer,

but it is something we've had a lot of experience with so we've been able to apply some of the same lessons.

'Has it been worth it? Yes it has. We use our torque response systems to eliminate deviations, but not at the expense of driver feedback. Sitting in the centre of the car, you feel it more keenly. But it shouldn't be artificial. The system waits for the driver's inputs: brake; throttle; turn. We like to say it's still an analogue driving experience...'

If Klaus is right, the new NSX will be a cut-price Ferrari, maybe better than that. If he's wrong, well, best not think about the prospect of something this lovely being a less-than-stellar driving experience. Roll on the summer...

**THE RIVALS**  
**How the new NSX compares**

HONDA NSX	NISSAN GT-R	ASTON MARTIN V8 VANTAGE S	MERCEDES-AMG GT-S	PORSCHE 911 TURBO	AUDI R8 V10	BMW i8
<b>Engine</b> V6, 3500cc (tbc), twin-turbo, plus three electric motors	<b>Engine</b> V6, 3799cc, twin-turbo	<b>Engine</b> V8, 4735cc	<b>Engine</b> V8, 3982cc, twin-turbo	<b>Engine</b> Flat-six, 3800cc, twin-turbo	<b>Engine</b> V10, 5204cc	<b>Engine</b> In-line 3-cyl, 1500cc, turbo, plus 96kW electric motor
<b>Power</b> 550PS+ @ n/a rpm	<b>Power</b> 550PS @ 6400rpm	<b>Power</b> 436PS @ 7300rpm	<b>Power</b> 510PS @ 6250rpm	<b>Power</b> 525PS @ 6000-6500rpm	<b>Power</b> 525PS @ 8000rpm	<b>Power</b> 362PS @ 5800rpm
<b>Torque</b> n/a	<b>Torque</b> 632Nm @ 3200rpm	<b>Torque</b> 490Nm @ 5000rpm	<b>Torque</b> 650Nm @ 1750-4750rpm	<b>Torque</b> 710Nm @ 2100-4250rpm	<b>Torque</b> 530Nm @ 6500rpm	<b>Torque</b> 570Nm @ 3700
<b>Weight</b> cl450kg (est)	<b>Weight</b> 1740kg	<b>Weight</b> 1610kg	<b>Weight</b> 1570kg	<b>Weight</b> 1595kg	<b>Weight</b> 1620kg	<b>Weight</b> 1485kg
<b>Power to weight</b> 380PS+/tonne (est)	<b>Power to weight</b> 316PS/tonne	<b>Power to weight</b> 271PS/tonne	<b>Power to weight</b> 325PS/tonne	<b>Power to weight</b> 326PS/tonne	<b>Power to weight</b> 324PS/tonne	<b>Power to weight</b> 244PS/tonne
<b>0-100kph</b> c3.5sec (est)	<b>0-96kph</b> 3.2sec (tested)	<b>0-100kph</b> 4.5sec (claimed)	<b>0-100kph</b> 3.8sec (claimed)	<b>0-100kph</b> 3.4sec (claimed)	<b>0-100kph</b> 3.8sec (claimed)	<b>0-100kph</b> 4.4sec (claimed)
<b>Top speed</b> c320kph (est)	<b>Top speed</b> 315kph (claimed)	<b>Top speed</b> 304kph (claimed)	<b>Top speed</b> 310kph (limited)	<b>Top speed</b> 314kph (claimed)	<b>Top speed</b> 314kph (claimed)	<b>Top speed</b> 250kph (limited)
<b>Price</b> c£150,000 (est)	<b>Price</b> £78,020	<b>Price</b> £99,995	<b>Price</b> £110,495	<b>Price</b> £118,349	<b>Price</b> £114,835	<b>Price</b> £99,895



# Shock Ford GT to fight Ferrari

Ford's surprise supercar is closer in spirit to the original GT40 than 2005's reincarnation – this time it's been designed with racetracks in mind

Words: Marc Noordeloos

IF EVER AUTOMOTIVE thunder was stolen, Ford's theft of Honda's publicity for its second-gen NSX at the Detroit motor show was the moment it happened. Rumours of a supercar reveal circled pre-show but few expected a machine quite so over-the-top, and the car's aggressive styling created a positive buzz within the Cobo Center.

If there is any controversy, it concerns the new Ford GT's downsized powerplant – a twin-turbocharged 3.5-litre V6 developing over 600PS.

It is, of course, an EcoBoost engine, and its deployment here demonstrates Ford's commitment to the turbocharged petrol setup that's now offered in every Blue Oval sold in North America and Europe, including the new Mustang. But in a supercar? Even with Ferrari 458-beating power, you can't help but think back to the



**'There's even speculation that the GT will race at Le Mans'**



nightmare Jaguar experienced in the early 1990s with the XJ220...

Jamal Hameedi, Ford's global performance vehicle chief engineer, was quick to defend the decision, saying: 'It was the ideal choice. The dry-sump V6 is packaged extremely efficiently and really plays well to the tapering fuselage – it also has an excellent power-to-weight ratio. It's unique to the car and is derived from the Daytona Prototype engine that won the 12 Hours of Sebring in 2014.'

But what about the sound? 'It will sound good,' promised Hameedi. 'Not like a V8, but very powerful in its own unique way.'

Complementing the carbonfibre chassis is pushrod suspension with active anti-roll bars and adjustable ride height – features that will grab the

attention of track enthusiasts.

'The 2005 Ford GT was a road car,' said Hameedi. 'The new car is much more focused on being a track car. It's more comparable to the original GT40.' There's even speculation that Ford will use the new GT for a return to Le Mans in 2016 – the 50th anniversary of the GT40's one-two-three finish. Hameedi wouldn't be drawn but homologation would explain Ford's engine choice.

The wild exterior design is said to be 95 per cent production-ready and is all about aerodynamics. It's particularly impressive from the three-quarter angles, clearly showing the narrow cockpit and the extreme tunnels that result from spectacular flying buttresses. The two turbochargers are mounted very low in the chassis and the intercoolers sit in those stunning rear haunches.

The interior design, by contrast, is minimalist. The two seats are fixed and integrated into the chassis. This saves weight, gives the driver an acute sensory connection to the car and was necessary for the designers to integrate that fantastically tight canopy. To fit a variety of drivers, both the pedals and steering wheel are adjustable and the majority of controls live on the wheel, including the paddles that command the GT's seven-speed dual-clutch transaxle.

Sales will begin late in 2016, with a production run of just 600 cars touted – all left-hand drive. And the price? Large. £200,000 was the figure circulated in Detroit. **X**

## OR THERE'S THE... Shelby GT350R Mustang

Think of the standard Shelby Mustang GT350 as America's take on a Porsche 911 GT3 and this new GT350R as the RS version. It has a six-speed manual gearbox, very few amenities, a big rear wing and a red line above 8000rpm. It makes for an impressive brace from Ford – as if the new GT wasn't enough.

The R is 59kg lighter than the GT350, with carbonfibre wheels contributing 24kg to that figure. Ford has even dispatched with the exhaust resonators, which is all the better for hearing the glorious 500-plus horses flat-plane-crankshaft 5.2-litre V8 engine sing.

The magnetic dampers are also retuned, the suspension has been lowered and wider Michelin Pilot Sport Cup 2 tyres are fitted. Sales begin late this year, but we won't see right-hand-drive versions or official UK sales. It's clearly a top candidate for grey import of the year.





**MINI JCW**

The quickest Mini John Cooper Works yet gets a 231PS 2-litre engine and a 0-100kph time of 6.1sec. Myriad bumper vents cool the turbocharged lump and hard-worked front brakes; pricing starts at £22,865.



**PORSCHE 911 TARGA GTS**

An acrobatic targa roof adds another dimension to Porsche's 911 GTS. Like the coupe, there's Alcantara trim, 20-inch alloy wheels and a 430PS flat-six at the back. The 0-100kph sprint takes 4.3sec; top speed is over 300kph.



**JAGUAR F-PACE**

Jaguar didn't show its new Audi Q5-sized crossover at Detroit but did announce its name. Design director Ian Callum tells *evo* the car's styling will be 'exciting', with a true Jaguar profile and F-type-inspired tail lamps.



**ALFA ROMEO 4C SPIDER**

Additional bracing and an aluminium roll-bar add just 10kg to Alfa Romeo's roofless 4C, displayed in eye-searing Giallo paintwork at Detroit. The coupe's 240PS turbocharged engine and dual-clutch transmission remain.

**Detroit 2015: best of the rest**

2015 was a vintage year for *evo* cars in Detroit, with plenty of fresh metal to get excited about. Here is a brief run down on the octet of reveals at the show.

**Words:** Antony Ingram



**MERCEDES-BENZ CLA45 AMG SHOOTING BRAKE**

The 360PS CLA45 AMG is now available in estate form, echoing its larger CLS sibling. Headroom and boot space have both improved, as has economy thanks to a low Cd of just 0.26.



**BENTLEY BENTAYGA**

Another British SUV named but not displayed was the Bentayga. Named after a mountain on Gran Canaria, its styling will be a toned-down take on 2012's polarising EXP 9F concept. Petrol, diesel and hybrid options will be available.



**INFINITI Q60 CONCEPT**

The best expression yet of Infiniti's future design direction, the Q60 Concept targets BMW's 4-series with flowing curves, a 2+2 layout, and a 3-litre V6 under the surging bonnet. A production version is expected in 2016.



**BMW M6**

Gentle styling revisions bring the 6-series and M6 in-line with other recent additions to the BMW range. The M6's 560PS turbocharged V8 remains, however, as do Coupe, Convertible and Gran Coupe bodystyles.

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# How it feels to be a champ

Brit Anthony Davidson finally got his hands on the World Endurance Championship trophy last year. Here he recalls the season's highs and lows

Words: Stuart Gallagher

## What was your best moment of 2014?

Chasing down Neel Jani in the Porsche during the final round at São Paulo, Brazil. There was a 20-second gap between us, but he had double-stinted on his tyres and I was on a fresh set; nobody had managed to double-stint on a set of tyres in the race so we knew he'd be managing his tyres and I had to be ready when they dropped off the cliff.

I was driving flat-out through the traffic, closing the gap with each lap. I was on a [driving] double-stint and the circuit is a really physical and quick track – we were around three seconds a lap quicker than the previous year. The car felt great, the crowd was great and really getting involved. We had everything in place, playing the perfect waiting game.



Unfortunately Mark [Webber] had his accident in the other Porsche, which neutralised the race. I'm convinced we would have won.

## What was your best race of 2014?

The 6 Hours of Fuji. I knew I was on top of my game, having qualified on pole position, and every race lap just came together. Working through the traffic, making no mistakes – from a driver's perspective it was the perfect race. And to beat the Porsches and win Toyota's home race... it was the perfect weekend.

## And the toughest?

For me – and I think for Toyota, too – it was Le Mans. We had the car to win; we had the best car. The sister car led the race by more than a minute for quite a while, but my

car was out of the running within a couple of hours. It aquaplaned off the circuit during the torrential downpour and there was nothing we could do. It was a case of the wrong tyres at the wrong time, but we weren't the only ones caught out – not that this made the disappointment any easier to take.

## How does it feel to be world champion?

It feels great! It means you have been consistently the best over the season and beaten the best sports car drivers in the world, in the best cars, in the toughest races. It's been a long time coming, but the testing, the time away from home and the heartbreak has all been worth it.

## Can you explain the resurgence of the WEC?

Last year was a great year. I think Porsche and Mark Webber raised the profile of the sport, and the battle between Audi and Toyota intensified, too. It all helped put more eyes on the series. With each year, the WEC has been gaining more focus, and I think it's now only second to Formula 1.

## What's left to win in?

Le Mans. When I left Formula 1 my goal was to win Le Mans. If you ask any of the top WEC drivers, Le Mans is the race we all want to win. ☑

# Porsche: the plan for 2015

Three new sports cars, two new engines and confirmation of an all-new supercar



New hardcore Cayman GT4 boasts 385PS 3.8-litre flat-six with a 0-100kph time of 4.4sec, and development led by Andreas Preuninger, aka Mr GT3.



A new Boxster Spyder is on its way. Not as hardcore as the GT4, it will be in the spirit of its lightweight predecessor.



The new 911 GT3 RS, scheduled to debut at the Geneva motor show early in March, is set to feature a completely new engine and will be the biggest evolution of the model to date. Using the Turbo's wider body, there will also be an RSR-style aero kit and the new engine could be turbocharged...



The entire 991 line-up will get new engines before the year is out, with the current naturally aspirated flat-six replaced with new turbocharged units.

Porsche's engineers are also busy developing a new V8 for the Panamera.



Porsche has all but confirmed that its mid-engined 960 project – which will sit between the 911 and 918 Spyder – will be with customers before 2020.

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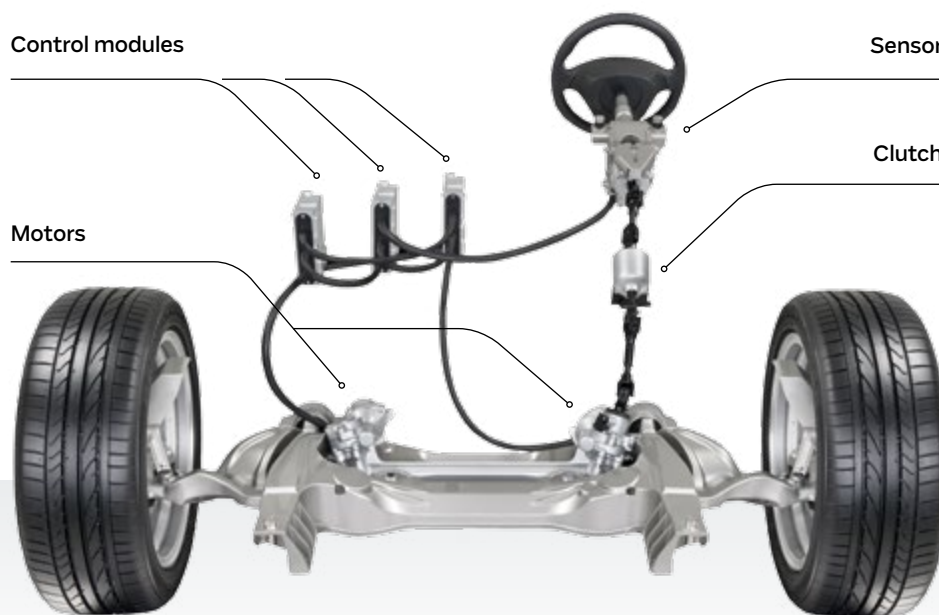


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\*Based on Sequence VG sludge test run on SAE 0W-40. **1** Based on ACEA M 111 fuel economy results compared with the industry reference oil. **2** Average percentage achieved based on ILSAC GF-5 and Sequence III G pistons deposit tests using 5W-30. **3** Compared with API SN specification and based on Sequence III G oxidation and deposit tests carried out at an independent laboratory.



# STEER-BY-WIRE EXPLAINED

**I**T'S NOT NEWS that modern cars are becoming more dependent on electronic controls.

We already have throttle-by-wire, where you dictate the amount of throttle by the position of a sensor under your foot. But how would you feel about removing the mechanical link in something potentially more serious, such as the car's steering?

That is exactly what Infiniti has done with the Q50 saloon's 'Direct Adaptive Steering' (DAS) system, which is the first of its kind in a production car. It uses a steering position sensor behind the wheel that sends a signal to the steering rack via three computer-controlled modules.

Before you spit out your tea and complain about what might happen if electrical power was lost, Infiniti has planned for that eventuality. The old pinion connection between the rack and steering wheel is still there, only decoupled by a clutch mechanism in normal operation. So if you do somehow lose power to the system, the clutch will engage and you'll have full control over the steering. Granted, there would

Infiniti recently launched the world's first production car to feature a steer-by-wire system. So what are the pros and cons?

**Words:** Michael Whiteley, research scientist

be no power assistance, but it may well be enough to stop you hitting anything while you come to a safe stop.

## HOW DOES IT DRIVE?

Day-to-day driving is comparable to conventional, electronically assisted mechanical systems. Weight can be altered to suit the driver's preference, with three settings ranging from a super-light feel for parking and city driving, to a more weighted feel for performance driving. You can also choose from three settings for speed.

It's only when you push on that you start to feel the difference between this system and conventional steering. With the electronically assisted systems that we are familiar with there is still a certain amount of feedback from the road surface when driving hard. With Infiniti's system, however, the driver is completely isolated from this sensation.

Understeer becomes an unnerving experience, where you can't quite tell exactly what the front end is doing.

Oversteer is also strange: throw the car into a drift and catching it is simple enough, but balancing the car with the steering and throttle is quite difficult. That said, a conventional setup has a small amount of lag between wheel movement at the ground and a corresponding reaction at the steering wheel; with DAS the steering responds instantly to what the wheels are doing. This means that, with practice, there's less sawing at the wheel.

## WHAT IS IT GOOD AT?

Let's not forget that this system isn't designed for outright performance driving; it's designed to help in everyday driving. An accompanying Lane Departure Prevention system can sense if you're creeping out of lane on the

motorway and, with the steering wheel stationary, jolt you back into your lane. In fact, you could theoretically take your hands off the wheel and cruise down miles of motorway in the same lane.

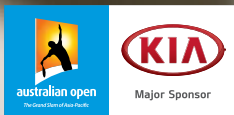
Moreover, despite any deviations in the wheels' trajectory, be it by rolling over potholes or along 'tramlines', the car will stay true to the driver's steering wheel position without transferring any load through the rim.

## THE POTENTIAL

Imagine a tank-slapper scenario, where the driver's hands can't react fast enough to keep the car under control. The yaw sensors and accelerometers in the car could work with the wheel position motors to flick the steering left and right to negate the tank-slapping motion faster than we ever could. Or, if the front wheels were equipped with individual position actuators, you could have adjustable toe settings for sporty driving to give sharper turn-in.

It's good to see Infiniti thinking outside the box. We don't see DAS quite fitting the 'thrill of driving' ethos at this stage, but for the daily driver there are some clever features to keep you out of harm's way. ☒





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**A** JAPANESE PORTABLE audio cassette player and an American brand that specialises in off-road vehicles may have little in common, much less each being a product hailing from different ends of the world, but both share one notable distinction that has rarely been repeated, and that is to be found in its name. Back in the 1970s Japanese electronics giant Sony was developing a portable audio cassette player that was small enough to fit into a pocket, which was a revolution considering that such devices were the size of suitcases. The device became a global success that its very name has come to epitomise the entire genre. Its name was the Walkman, and ever since then people have often associated any portable cassette player, regardless of its manufacturer, as a "Walkman".

Few iconic names and brands have ever achieved such a level of recognition before, and one such name

to have achieved such stature is Jeep. Back in the early 1990s, before the rise of the Sports Utility Vehicle (SUV) genre, people often coin the name "Jeep" whenever they are referring to a close bodied, off-road vehicle with an elevated ride; even though the correct term to refer to the genre back then are "four-by-fours". Even until now, the use of the snappy "Jeep" name to describe an SUV or 4x4 is prevalent amongst older audiences.

Like the Walkman, long before Jeep became the brand that it is today, the gestation of the first vehicle that would set the template of future Jeeps to come was borne from the strife of World War 2. With the United States military being steadily drawn into the conflict plaguing Europe and Japan, the US Army recognised the need for a small, quick, and simple reconnaissance vehicle that could navigate the worst war-torn battlefields. In 1940 the US Army solicited bids from 135 automakers to

build them such a vehicle. Whilst most auto manufacturer would take years to engineer a vehicle, Willys-Overland was reported to have developed the first prototype of what would become the Jeep in a remarkable 75 days. With minor engineering alterations, Willys-Overland was awarded the contract to put their finalised creation, internally known as the MB, into production and an icon was born.

Nicknamed the "Jeep", a slurred pronunciation of its official description in the US Army as a "General Purpose" vehicle or "GP", the MB was amazingly versatile. On top of being used as a reconnaissance transport as it was originally built for, it was used to perform all sorts of jobs for servicemen from battlefield transportation, to long range desert patrol, snow ploughing, telephone cable laying, fire fighting, field ambulances, and even tractors. General George C. Marshall, US Army Chief of Staff during World War 2,

described the Jeep as "America's greatest contribution to modern warfare". For its proven reliability, robustness, and dependability on the theatre of war, it is of little surprise that the Jeep became the vehicle that defined the genre of small off-road vehicles. In 1950s the trademark was granted to Willys-Overland for the use of the cheeky "Jeep" nickname, which signified the beginning of the Jeep name we know today.

After World War 2, Willys-Overland quickly produced civilian versions of the MB that were suited for agricultural usage as well as recreational use, with little modifications done. Today the instantly recognisable flared fenders, round-headlights, and seven-slot grille of the original MB can still be seen worn on the all-new Wrangler®. Available in three distinct variants, the five-door RM288,889 Unlimited Sport and RM328,889 Unlimited Sahara, which is complemented by the three-door RM338,889 Rubicon®, the



# MORE THAN NAME RECOGNITION

Jeep is more than a brand, it is more than a name. It is a global phenomenon.

Words: Daniel Wong

Wrangler® is the purest expression of the Jeep go-anywhere-versatility ethos.

For the Unlimited range, Jeep has fitted it with a Command-Trac® 4WD system with a Dana 44® heavy-duty front and rear axle, giving it Jeep's legendary off-road capabilities that allows it to traverse mud, sand, and rocks easily. On the other hand for those seeking a more focused off-road machine for the dedicated adventurer, the Rubicon comes with a Rock-Trac® 4WD system, Tru-Lock® front and rear locking differentials, heavy-duty suspension setup, and toughen body panels all around. All Wranglers come with a 3.6-litre Pentastar® V6 producing 284PS and 347Nm of torque to conquer any terrain, and mated to a robust five-speed automatic transmission. All variants are fitted with a removable "Freedom Top" hardtop so that you can always have the option of enjoying the "one with nature" experience wherever you go. Though for all its ready-to-rumble

outdoors appearance, Wrangler® drivers will never be too far away from creature comforts as it comes with a full-ensemble of safety systems as well as a well-equipped multimedia system.

Though never really appearing in the theatre of war, the Wrangler® got it shot in the spotlight as the vehicle of choice for the lead character of the 1980s hit television show MacGyver. Best remembered for the show's protagonist's display of ingenuity, resourcefulness, and adaptability in adverse situations, MacGyver was the perfect fit for such an off-road icon like the Wrangler.

That being said, the MB and its direct descendant, the Wrangler® isn't entirely responsible for the Jeep's widespread recognition in popular conscience. While the Wrangler® continued to carry Jeep's iconic face and established its name and connection to its role in history, it is only a part of the story. For the other part we have to fast forward to 1962, where Jeep introduced the

**'FOR ITS USEFULNESS IN THE WAR, THE JEEP WAS DESCRIBED AS "AMERICA'S GREATEST CONTRIBUTION TO MODERN WARFARE".'**



Wagoneer®, a large four-wheel drive vehicle that came fitted with all the trappings and luxuries that one would find in passenger car of those days.

The Wagoneer® appeared onto the market during a time when off-road vehicles were still rugged and often crude machines used for agricultural usage or utilitarian purposes. They were built more for your tools rather than for your family. But the Wagoneer® marked the change that turned the evolution of the four-wheel drive genre around. Today the Wagoneer® is widely regarded as the father of all luxury 4x4 SUVs we see today, and it is the progenitor of the



**Top:** the Wagoneer of the 1960s is the father of the Grand Cherokee and indeed the progenitor of all luxury SUVs we know today. **Left:** tough and ready for anything, the Wrangler's ancestry to the original Willys MB (above) is instantly recognisable.



Grand Cherokee® SUV of today.

The Grand Cherokee® might be the most familiar name of the Jeep brand here in Malaysia, simply because our infatuation of the luxury SUV genre in Malaysia can be traced back to the 1985 Grand Cherokee®, which became one of our country's first encounters with a luxury off-road vehicle. Its slab-sided straight and clean design extruded authority and robustness that won the hearts of many. The Grand Cherokee® needed no further introductions. Everyone immediately recognised its qualities of luxury, style, and comfort. To many, especially in Malaysia, this is the icon of off-road



luxury, and it is a Jeep.

That timeless shape has been carried forward to the latest interpretation of the Grand Cherokee® marque, which is available today from Jeep Malaysia at RM468,889 in the posh-Overland specification. The Grand Cherokee®'s authoritative shape is further enhanced with its broad and muscular body, chrome appointments, and eye-catching LED daytime running lights that adhere to the Grand Cherokee®'s iconic looks. With the Grand Cherokee® however, Jeep spared no expense in outfitting its cabin with the best of the range, detailed leather trim with contrasting stitching, lashings of open-pore wood trim, and a nine-speaker premium audio sound system from Alpine makes it a suitably sumptuous interior for passengers.

Like the Wrangler the Grand Cherokee® uses the same 3.6-litre Pentastar® V6 that has been tuned to produce more power at 286PS and 347Nm of torque, only this time

**Above left:** to many Malaysians the 1985 Grand Cherokee® was their first encounter with a luxury off-roader. **Left:** the Grand Cherokee® of today still carries with it an image of luxury. **Below:** Grand Cherokee®'s cabin extrude class and elegance.





**Opposite left:** aggressive, angular, and yet the Cherokee's origins is unmistakable. **Above right:** compact Compass is suited for those who want a small-sized SUV without any compromises on its off-road performance.

around it comes paired with a more sophisticated new 8-speed automatic transmission for improved fuel efficiency. Furthermore being the flagship of the Jeep brand, the Grand Cherokee® is fitted with a Quadra-Drive® II 4WD system to give it peerless mud-plugging capabilities and Jeep's Quadra-Lift® air suspension with five ride height settings to achieve the optimum ride and comfort.

Being a brand that was built on ingenuity and adaptability, Jeep is a brand that is constantly evolving with the times, and the brand-new Cherokee® and Compass® both represent the brand's next move into the future. For its size the entry-level RM248,889 Compass is the embodiment of Jeep's qualities and rugged design in a diminutive size. However with SUVs steadily adopting a smaller footprint, the Compass® is an ideal choice for those who want

an SUV that is capable off-road and manageable on the road as well. The Compass® sports a 170PS 2.4-litre 4-cylinder engine that produces 220Nm and is fitted to a Freedom Drive™ active full-time 4WD with Selectable Lock to ensure that it lives up to the expectations of the Jeep name.

As bold as its sharp front fascia is, the new RM378,889 Cherokee Trailhawk® sports the brave new face of Jeep as it heads into the 21st century. With its horizontal slender headlights and curved slats the new Cherokee® is as unorthodox of a Jeep as they come. Beneath its sleek and aggressive lines lies a brand-new downsized 2.4-litre 4-cylinder Multi-Air 'Tigershark®' petrol engine that cranks out 174PS and 229Nm of torque and couple to an all-new 9-speed automatic transmission. To further enhance fuel efficiency, the

**'AS BOLD AS ITS SHARP FRONT FASCIA IS, THE NEW CHEROKEE TRAILHAWK® SPORTS THE BRAVE NEW FACE OF JEEP AS IT HEADS INTO THE 21ST CENTURY.'**

Cherokee Trailhawk®'s Jeep Active Drive I 4x4 comes with a feature that allows the rear axle to be disconnected from the powertrain, thus reducing friction losses. The all-wheel drive system will automatically re-couple the rear axle should situations demand so, or at the request of the driver through the Cherokee's Selec-Terrain® traction-control system, with up to five customised settings (Auto, Snow, Sport, Sand/Mud, and Rock modes) to deliver the ideal on- or off-road performance for any given situation.

Diverse in its roles, appeal, and individualistic identities it may be. From the Wrangler® to the Grand Cherokee®, Cherokee®, and Compass®, each Jeep bears with it the identity that has made its name synonymous with the genre, supreme off-road capability, dependability, and robustness. More than a name, it is a mark of distinction. ☒



by HANS CHEONG

PHOTOGRAPHY by VOLKSWAGEN & VARIOUS SOURCES

# BEATING THE CYCLE BEATERS

*Think that manufacturer published fuel consumption figures fall far off the figures you can achieve in the real world? Not to worry as there is a new up and coming standard that will replicate real-world conditions. Hans Cheong explains how the industry is gamed the current system and the new standard that is going to set the record straight.*

**OF LATE CONSUMERS** are wising up to figures produced by the current New European Driving Cycle (NEDC) method of testing fuel consumption

and exhaust emissions, saying that they don't accurately represent real-world consumption figures. Introduced on 1st January 1996 as a standardised test for all types of vehicles, the NEDC method has come under heavy criticism for producing fuel consumption figures which are not realistic.

While it is reasonable to expect some level of discrepancy between laboratory testing and actual fuel consumption numbers - mostly due to external factors like traffic conditions, driving behaviour and weather - several influential automotive organisations like the International Council on Clean Transportation (ICCT) have noted that this discrepancy is becoming wider than ever before, suggesting that manufacturers have found a way to 'cheat' NEDC tests, a grey area commonly known as 'cycle beating.'

In its October 2014 report, the ICCT said: "For example, based on an analysis of real-world driving data from the German website spritmonitor.de, ICCT concludes that the difference between official laboratory and real-

world fuel consumption and CO2 values was around 7 percent in 2001. This discrepancy has increased continuously since then to around 30 percent in 2013."

The ICCT suggested that the diverging gap between NEDC and real world numbers are due to:

1. Increasing use of existing tolerances and loopholes in the determination of road load, vehicle weight, laboratory test temperatures, and transmission shifting schedules for type-approval.
2. Inability of the current test cycle, the NEDC, to represent real-world driving conditions
3. Increasing market share of vehicles equipped with air conditioning systems (NEDC tests are done with the air-conditioning switched off).

To facilitate a facilitate a more accurate testing method to attain consumption and emission figures that are closer to real-world conditions, the current NEDC method may soon be replaced by a new, World-Harmonized Light-Duty Vehicles Test Procedure (WLTP) method, which is said to provide consumers with a more reliable indicator for real-world fuel consumption and exhaust emission.

## PRESSURED TO 'CYCLE BEAT'

In relation to the first point, car companies are pressured more than ever before to 'cycle beat' NEDC tests in order to avoid stiff penalties for not meeting the EU's targets to reduce fuel consumption and exhaust emission.

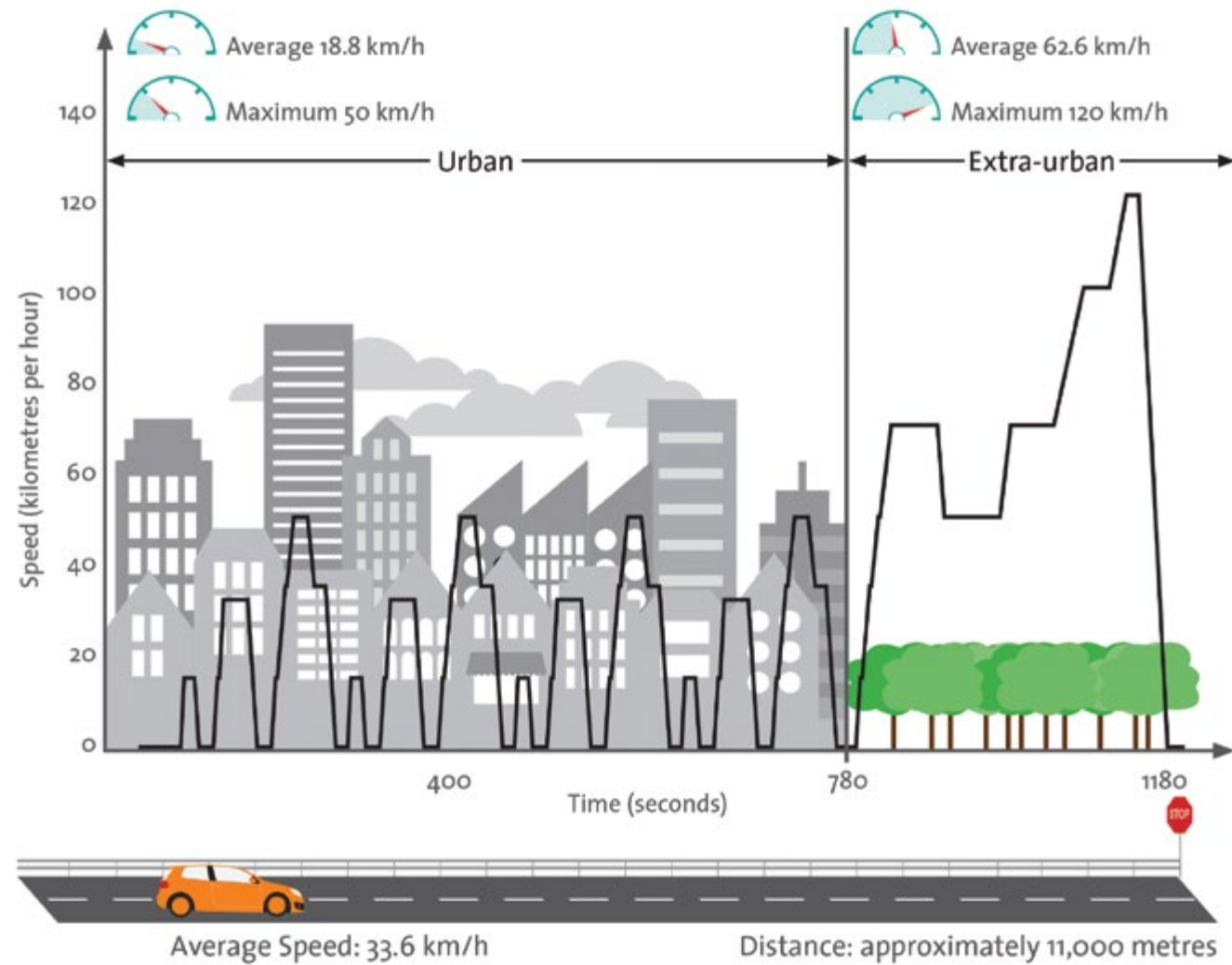
Sometime in the late '90s, the European Union (EU) mooted a proposal to encourage car manufacturers to voluntarily reduce their fleet-wide vehicular carbon dioxide (CO2) emission and fuel consumption to 140 g/km and 6-litre/100 km respectively by 2008.

European Car Manufacturers Association (ACEA) grudgingly agreed to the targets. At around the same time, EU Regulation 715/2007 was introduced in 2007 to enforce the Euro-5 and Euro-6 exhaust emission standards, again using the NEDC method.

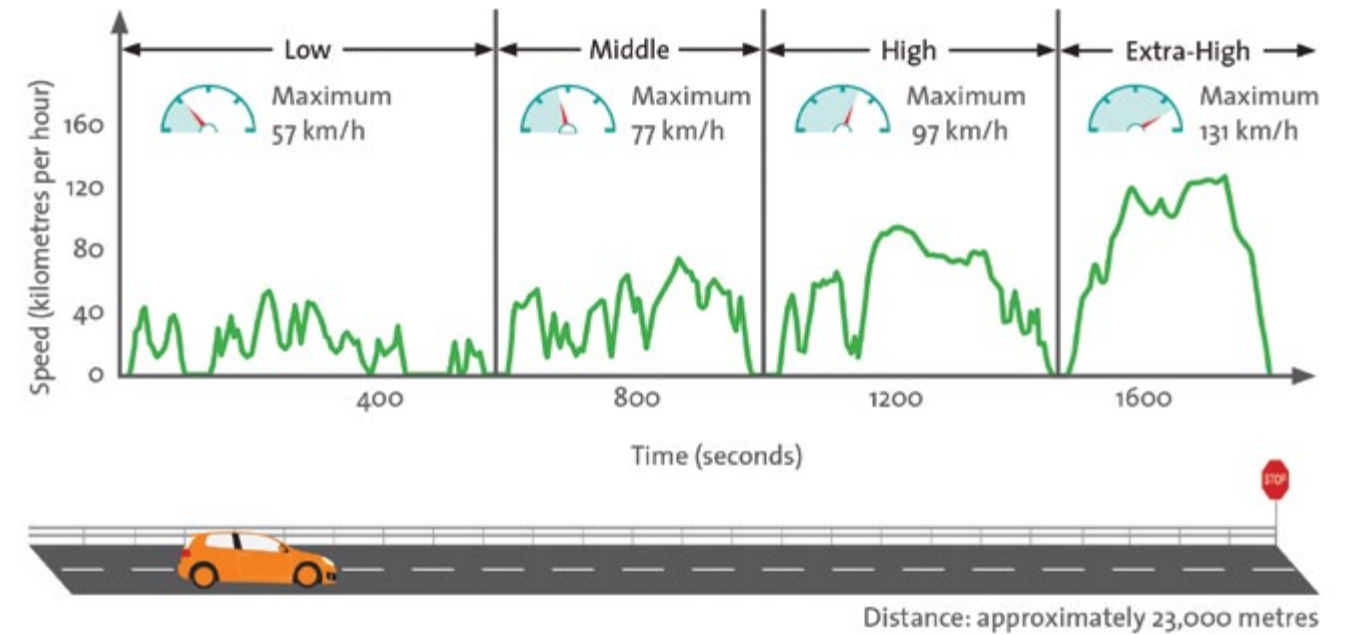
Similar proposals to reduce vehicular emissions and fuel consumption were also pushed forward by the Japanese government to the Japan Automobile Manufacturer Association (JAMA), as part of a wider initiative under the Kyoto Protocol, where Japan pledged to reduce greenhouse gas emissions by six percent from 1990 level.

While Japanese car makers made a strong push for hybrids, European manufacturers

## DRIVING PROFILE OF THE NEDC



## THE WORLD-HARMONIZED LIGHT-DUTY VEHICLES TEST CYCLE (WLTC)\*



\*The WLTC is the test cycle of the WLTP.

‘WITHIN THE CONFINES OF LABORATORY TESTING, TURBOCHARGED ENGINES HAVE AN ADVANTAGE OVER ITS NATURALLY ASPIRATED PEERS’

placed their bets on engine downsizing, mostly via the widespread adoption of turbocharging technology.

It soon became clear that while Japan was making good progress in reducing carbon emissions, European manufacturers, which have a higher mix of large, high-performance models, is not going to make the deadline and lobbied for a postponement.

By 2007, it became clear that the voluntary arrangement has failed to compel European manufacturers to do more to improve their green credentials.

In June 2007, the Council of Environment Ministers formally adopted a resolution to approve the shift to mandatory standards to achieve the 120 g/km (5.2-litre/100km)

target. Carmakers achieving 130 g/km (5.6-litre/100km) are allowed ‘credits’ to cut the remaining 10 g/km by using complementary measures. Those measures could include efficient tyres, air conditioning systems, tyre pressure monitoring systems, gear shift indicators, improvements in light-commercial vehicles, and the increased use of bio-fuels.

Manufacturers who missed the targets could face penalties of up to 95 Euros per g/km of CO<sub>2</sub> over target, per car registered. Europe’s CO<sub>2</sub> emission-based vehicle tax structure also rewarded/penalised vehicles based on their CO<sub>2</sub> emission.

By 2008, Europe’s industry-wide fleet average CO<sub>2</sub> emission and fuel consumption

stood at 155 g/km and 6.7-litre/100 km respectively, falling short of the 140g/km and 6-litre/100 km target.

### PRESSURED TO BOOST

It is also around this time that European manufacturers began to introduce downsized, turbocharged engines in their line-up.

Within the confines of laboratory testing, turbocharged engines have an advantage over its naturally aspirated peers, as low-load periods in NEDC test cycles are quite high, allowing turbocharged engines to operate below their boost threshold.

The marketing message was that this new generation of turbocharged engines combine

the best of both worlds - the performance of a large displacement engine and the fuel consumption of a small displacement engine, with almost zero turbo lag.

But very soon, consumers found out that the fuel consumption in many of these small capacity boosted engines is not anywhere close to their manufacturer’s claims - this is especially true for larger D-segment sedans and SUV models that are fitted with small capacity turbocharged engines.

A recent test conducted by Consumer Reports in the US, which does not accept advertising from car companies and purchases their own test cars, confirmed this.

Consumer Reports found that a Kia Sportage with a 2.0-litre turbocharged engine consumed

11.2-litre/100 km, which is poorer than the equivalent naturally aspirated Toyota RAV4 3.5-litre V6’s 10.7-litre/100 km. The Kia’s acceleration from 0-100 km/h is also 0.4 seconds slower than the Toyota, despite its turbocharged engine’s ‘performance’ image. A similar result was also seen in the Ford Fusion 1.6-litre turbo, whose 9.5-litre/100 km fuel consumption is still poorer than a Honda Accord 2.4-litre’s - the equivalent comparison for naturally aspirated engines - 7.8-litre/100 km.

The Honda’s acceleration from 0-100 km/h time of 7.7 seconds is also faster than the turbocharged Ford’s 8.9 seconds.

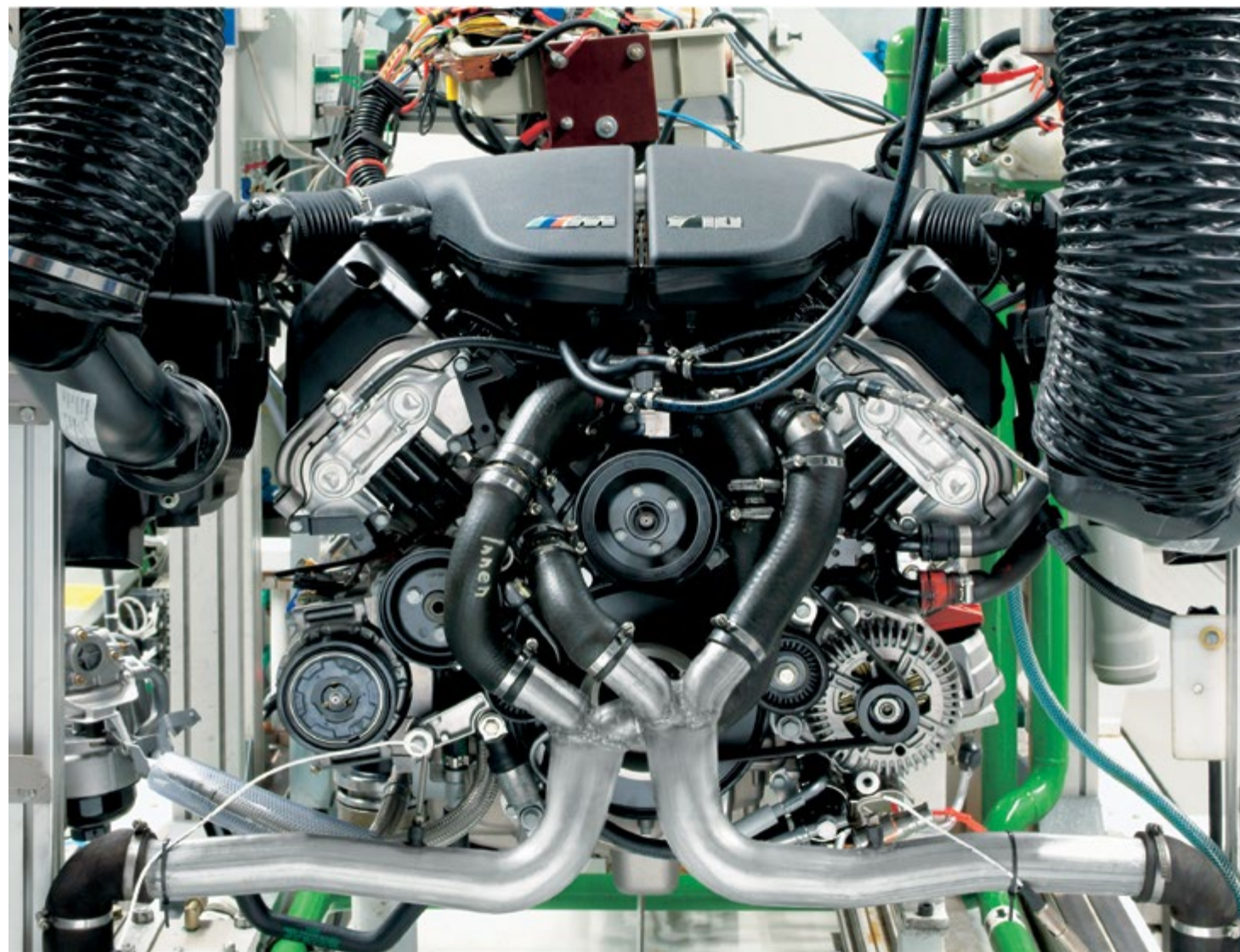
The larger capacity Ford Fusion 2.0-litre turbo and Kia Optima 2.0-litre turbo didn’t

improve much either when compared to their equivalent naturally aspirated peers with 3.5-litre V6 engines.

Both the turbocharged Ford and the Kia consumed more fuel (10.7-litre/100 km and 9.8-litre/100 km respectively), and had poorer acceleration (7.4 seconds and 6.6 seconds respectively) than the naturally aspirated Honda Accord 3.5-litre V6’s test results - 9-litre/100 km and 6.3 seconds.

Consumer Reports advised consumers: “So don’t take turbocharged engines’ eco-boasts at face value. There are better ways to save fuel, including hybrids, diesels, and other advanced technologies.”

It also said that generally, small capacity turbocharged engines actually have poorer



acceleration performance than their larger capacity, naturally aspirated equivalents, but the wider torque range of turbocharged engines give them the illusion of good performance.

“One benefit to the turbocharged engines is an abundance of torque at low to mid rpm. In daily driving, this means a more effortless feeling of thrust with reduced need to downshift while climbing hills or when delivering the kind of moderate acceleration most drivers demand. That can make a car feel more responsive, even if its actual acceleration times from a standstill are slower,” it said.

## WAYS TO CYCLE BEAT

Although NEDC’s test methodology is strictly regulated by the UNECE (United Nations Economic Commission for Europe) regulation

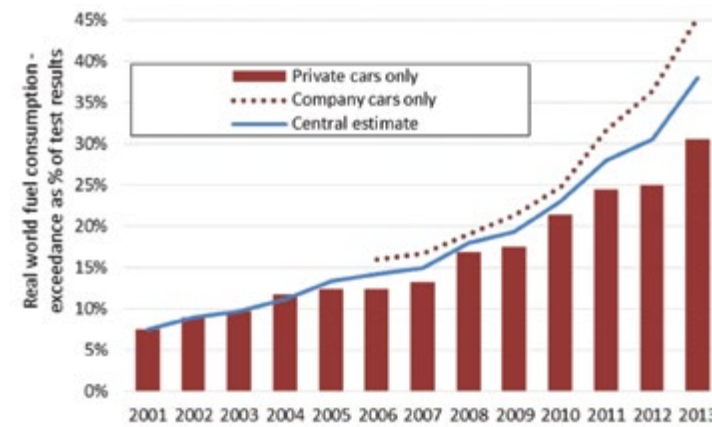
**‘THAT CAN MAKE A CAR FEEL MORE RESPONSIVE, EVEN IF ITS ACTUAL ACCELERATION TIMES FROM A STANDSTILL ARE SLOWER’**

No. 715/2007, there are several loopholes that manufacturers can exploit to obtain a more favourable test result.

The tests are usually conducted either at the manufacturer’s own facility under the authority of a technical service provider, as part of the vehicle homologation process before the model can be allowed to go on sale.

The NEDC’s test methodology is characterized by gentle acceleration, many idling events, and constant speed cruises, all conducted without switching on the air-conditioning or any other power consuming infotainment devices - conditions that are significantly different from today’s urban driving conditions where stop-go traffic see numerous short bursts of moderately hard accelerations, with heavy reliance on air-conditioning and infotainment systems.

While the regulations are quite strict on ensuring that the car submitted for testing



Above: The gap between official fuel economy and CO2 tests and real world driving 2013 (derived from ICCT, 2014).

(usually a pre-production model) is a reliable representation of the production model, in reality it is very difficult to enforce this.

The manufacturer can for example, load specially customised software into the engine control unit that can, recognise from the way the car is driven, that it is being put on an NEDC test and adjusts its operating parameters accordingly.

They can also replace the standard car’s lubricants with special low viscosity engine oil, overinflate its tyres, install non-standard low rolling resistance tyres, alter its wheel alignment to reduce rolling resistance, and even push the brake pads fully into the calipers to reduce resistance. All these areas are not clearly defined in the current NEDC test methodology.

## RIGHTING THE WRONG - INTRODUCING WLPT

The United Nations, under the WP.29 (World Forum for Harmonization of Vehicle Regulations) working committee, together with stakeholders from the European Union, Japan, Korea, China and India, are currently in the midst of finalizing the details for the proposed WLPT test to replace the current NEDC method.

With WLPT, governments hope to introduce a new standard for fuel consumption and exhaust emission testing, one that is a closer

representation of actual driving conditions.

The draft regulation for WLPT is to be submitted to the UN’s Working Party on Pollution and Energy (GRPE) in October 2015.

The goal is to have an informal document ready by January 2016, and introduce it to the market by 2017.

## DIFFERENCES BETWEEN NEDC AND WLPT

Generally speaking, vehicles with downsized or hybrid engines will see a 10 percent increase in their official WLPT fuel consumption and CO2 emission figures as compared to NEDC. On the other side of the technology spectrum, conventional non-hybrid, naturally aspirated cars without idle start-stop systems will see a 5 to 10 percent improvement in their official fuel consumption and CO2 emission.

These rather counter-intuitive findings were produced by automotive engineering consultancy, Ricardo Inc., which simulated both the NEDC and WLPT test cycles on a wide range of vehicles. Ricardo explained the differences in results are because WLPT has a lower share of vehicle stop time.

The same result was confirmed by another powertrain consultancy, AVL, who also added that there are no significant differences in results between similar petrol or diesel-fueled engines.

## FROM DOWNSIZING TO ‘RIGHT-SIZING’ - MAZDA WELCOMES WLPT

Manufacturers will understandably be more apprehensive towards WLPT, which is more challenging to do well than NEDC.

One manufacturer that has stubbornly bucked the downsizing trend is Mazda, which has consistently maintained that downsizing is not the correct path for Mazda as the added cost and complexity of turbochargers outweigh its benefit, not to mention their poorer real world fuel economy (as proven by Ricardo and AVL).

When asked about Mazda’s opinion towards replacing NEDC with WLPT, Mitsuo Hitomi, Managing Executive Officer in charge of Powertrain Development and Electric Drive System at Mazda’s Technical Research Centre said: “The change of European driving cycle will be more accurate in reflecting real world fuel economy.”

In an email reply to Automotive Industry Review, Hitomi explained that even engineers at European car companies acknowledge that downsized engines are not very fuel efficient when tested in WLTP.

He went on to explain that a European engineering consultant company had recently come out to say “We have downsized engine displacement too much, from now we will go to rightsizing.”

In another interview with Automotive Industry Review earlier in May 2014, Hitomi told us, “Boosted downsized engines have turbochargers and intercoolers. We are sure that the cost of SkyActiv is much less than downsized engines. SkyActiv has relatively larger displacement, however its cost is less than downsized engines and its real world fuel economy is better, we believe.”

“NEDC fuel economy (testing) is favourable for downsized engines because low-load operation frequency is high,” he added.

“We believe that SkyActiv is never behind downsized engines in terms of real world fuel economy. However, unfortunately automotive tax is determined by regulatory mode fuel economy therefore we have no choice but to improve fuel economy in light load range,” he said. ☒

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# Outside Line

by RICHARD MEADEN



Lotus under the patronage of Volkswagen – now there's a way that the Norfolk sports car maker could really unlock its full potential

**W**

## WILL SOMEBODY PLEASE SAVE LOTUS?

That might sound like an odd question given the company has finally emerged – blinking, mildly paranoid and bathed in cold sweat – from the automotive acid trip that was the Bahar era. Yet news that the new boss, Jean-Marc Gales, is completing a round of redundancies and cost cuts leaves me with a heavy heart.

Not because I think such actions are unnecessary – 1200 employees producing 1200 cars per annum is an ugly equation – but because the conservative survival plan appears to rely on people like us having a continued appetite for yet more evolutions of the current range. Of equal concern is the fact that, as Gales readily concedes, this purgatorial process of slow growth is predicted to take three years, which means the recovery also relies on the brilliant people who remain at Hethel having the appetite to stick around.

I don't envy Gales. There are no quick fixes and there's only so much anyone could do with the hand he's been dealt. God knows someone had to administer a cold slap to a business left with a tragic balance sheet, wilfully neglected existing product line and decimated dealer network. That Gales has spared us the bullshit, rolled up his sleeves and got on with restoring Lotus to something approaching an even keel is encouraging. What worries me is whether he's being allowed to do enough.

We'll never know how close Lotus came to sinking in the turbulent storm of controversy surrounding Bahar's dismissal after parent company Proton was bought from the Malaysian government by DRB-Hicom. The financial lockdown that becalmed Lotus in the aftermath were dark days, but thankfully the Exige S – dismissed as an irksome distraction by Bahar and crew – emerged from the wreckage and found buyers. Combined with continued interest in the Elise and increased confidence amongst dealers and customers, sales rose from a pitiful 70 units in 2012 to the current 1200 a year.

Of course, the highest profile casualty in all this (apart from Bahar) is the long-awaited Esprit. It certainly wouldn't have been a panacea for all Lotus's ills, but it was the only credible car of the Infamous Five. Perhaps not a searing Ferrari 458 beater, nor as complete as the Audi R8, but a refreshingly desirable alternative to the established players and a means of propelling Lotus into an elite and – presumably – more profitable area of the market without requiring huge sales. Sadly, we'll never know.

What we do know is that by failing to bring that car to market, Lotus has effectively erased all evidence of the Bahar era. Perhaps that's the idea. Or perhaps the Esprit wasn't quite as production-

ready as we think. I suspect a pinch of both is probably nearer the truth, but at a much more fundamental level I worry that the cause of Lotus's current stasis is DRB-Hicom lacking the wherewithal to be decisive and do what's necessary to enable Lotus to thrive rather than merely survive. Basing a business on smoke, mirrors, Sharon Stone and an undeliverable model strategy was madness, but it's also true that palliative care can only do so much when what the patient really needs is a cure.

I'm not blind to the shortcomings of the cars or the company, but as a driver the Elise and Exige still hold strong appeal, and I find it impossible not to want the best for Lotus. I'll admit 'the best' is a somewhat nebulous concept, so I'll nail my colours to the mast now and say I wish VW would step in and show the

## 'Basing a business on smoke, mirrors, Sharon Stone and an undeliverable model strategy was madness'

Malaysians what they've been squandering all these years.

Think about it. With VW's patronage anything's possible, the best exemplar being Bugatti. Without Ferdinand Piech's sheer force of will and VW's unflinching commitment to bankrolling what for years seemed like an insane act of folly and ego, Bugatti would have remained defunct. Yet VW took a deep breath, set itself an apparently insurmountable engineering challenge and created the Veyron. In so doing it took the brand from the dusty pages of history to a position of pre-eminence in one giant leap. That Bugatti almost certainly continues to cost VW a fortune doesn't matter: arguably a marque such as Bugatti has to be a money-no-object exercise. It needn't be the case with Lotus.

As an authentic maker of lightweight sports cars, and with multiple World Championship-winning F1 pedigree, surely Lotus is the one jewel missing from VW's crown. Acquire Lotus and Porsche's diversification could be confined to sporting saloons and SUVs, Lamborghini would be left to fight Ferrari, Bentley to focus on super-luxury and Bugatti to re-writing the hypercar rule book. And with the stability and creative freedom that comes from VW's unflinching backing, Lotus would build the all-new, genuinely affordable world-beater Hethel so desperately needs, and I for one am so desperate to see. ☒

 @DickieMeaden

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





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# Petrolhead

by RICHARD PORTER



The simple, avoidable irritations in modern cars are the ones that can completely ruin them, fumes a frustrated Porter

**I** **IF YOU'VE READ OUR CAR OF THE YEAR** ultra-feature you'll have seen the disappointing show from the latest BMW M3. It gave the *evo* Brain Trust no pleasure to discover the inelegant, lumpy way with which the strangely charmless M-car relegated itself to a bottom of the table slot. But after two days of intensive driving, failings such as the unsubtle torque delivery, strange steering and hard-to-read handling made the M3 difficult to recommend. For me, however, there are other massive problems with the M3, ones not mentioned in *evo's* away trip to Scotland.

First of all, when you stop, press the button to turn off the engine and open the door to get out, the stereo keeps on playing. This is endemic amongst all current BMWs and Minis and it simply will not do. I don't want to come home late at night and wake my neighbours with the thudding sound of after-dark dance music radio. Nor do I want to arrive home at any time of day and let them know I have been listening to *The Best Of Girls Aloud*. That's a private matter between me and the interior of the M135i I don't own precisely because of this problem. You can stop it by jabbing the start/stop button twice, but in a manual car you've got to take your foot off the clutch first otherwise the engine restarts. Which is tremendously annoying.

There's another problem with the M3 that's also BMW-wide and that's the inability to instantly mirror the side-to-side temperatures on the dual-zone climate control. Say you have a passenger who likes the car to be warmer or cooler than you. They get out and you're driving alone. Many other cars have a system that, with one press of a button, syncs the passenger temp so it falls into the line with your own. BMW, for reasons I can't understand, no longer gives you this option. You have to jab the passenger temperature adjustment until it matches your side, and with every prod at the controls you're reminded of the idiocy of your own weirdly pedantic mind. So yes, I know it's a bit obsessive-compulsive, but driving solo without side-to-side temperature symmetry bothers the bejabbers out of me.

I know I'm not alone on this one, which makes me wonder if anyone at BMW actually drives their own cars. It's a big company, there must be lots of people there, and people who are quite interested in cars. Yet not one of them has ever said, 'You know what, guys? This radio thing and this climate thing, they're really sodding annoying' (but in German, obviously).

The Munichers are not alone, of course. Plenty of cars boast features that seem to have been signed off in the face of all reason. Ever tried to program the satnav in a Ferrari 458? Of course not. If

you had you wouldn't be reading this column. You'd be outside, still trying to program the satnav in a Ferrari 458. Or locked in a room with very soft wallpaper, slowly rocking back and forth muttering, 'The screens. The screens. So many confusing screens.' When I borrowed a 458 and needed to go somewhere unknown, I ended up gumming a TomTom to the dash. The dash of a £178,000 car. Mmm, classy.

The rival offering from McLaren is no better for clattering design idiocy, as discovered during *evo* Car Of The Year testing when anyone over six feet tall tried to get into the 650S. With the standard seats, this car presents the leggier person with two options. One, an uncomfortable knee-bent posture that puts you too close to the dash, the other providing the right amount of leg stretch but forcing the seat back upright against the bulkhead

**'When I borrowed a 458 and needed to go somewhere unknown, I ended up gumming a TomTom to the dash'**

so you feel like you're sitting in church. Either way, a poor show. More than that, a baffling disappointment. There must be people within McLaren who are reasonably tall, not least Ron Dennis himself. Did nobody mention this?

It goes on. Jaguars with exterior door handles that feel like they're going to snap off. Mercedes-Benzes with auto headlights you can't disable. Lexuses that beep incessantly whenever you drive past the speed camera that you know is there because it's 50 yards from your bloody house. Fords with stereos covered in buttons, not one of which does what is expected of it. *evo's* SEAT Leon long-termer that silences its own DAB radio whenever the heated rear screen is on. Did no one live with these features before putting the cars on sale?

Car makers can pull off some pretty incredible pieces of engineering when they put their minds to it, and come up with ways to build and sell said engineering in a repeatable, reliable mass-produced way. Which makes it all the more baffling that every so often they make a right royal cock of the very basics.

The net result of which is that my neighbours know a little too much about my ongoing love of primary-coloured pop music. ☒

 @sniffpetrol

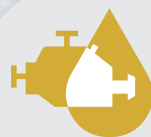
Richard is *evo's* longest-serving columnist and is also the keyboard behind sniffpetrol.com

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# Champ

by DARIO FRANCHITTI



Almost as though someone tipped him off about what's in this issue of **evo**, Dario reminisces fondly about RC cars

**I** I REMEMBER BEING A KID AND coveting the first remote control car I ever saw, a Tamiya Sand Scorcher – that Baja Beetle thing. Although I didn't buy it at the time, I've had the bug, if you'll pardon the pun, ever since. I remember the first kit I got was when I was about 14. Initially I didn't have the skills or patience to build it, so my dad probably put it together, but when I took it out in the street and ripped it off down the road, one of the back wheels parted company with the car at terminal velocity. We never saw that wheel again.

I don't remember the specific make of that first RC car, but it was a typical off-road buggy and broke quite a lot. Poor manufacturing might have been one of the reasons for this, but to be honest I think I was also a contributing factor. For a start, I remember tinkering with them and learning quite a lot about how to adjust stuff. It was really quite informative, but possibly not brilliant for the longevity of the car. The other thing that probably didn't help was jumping it off progressively larger and larger objects. Having been riding motorbikes since an early age I had some experience building ramps and they were the sort of ambitious kickers that were liable to be lethal to either me or, in this case, the car.

Anyway, after miraculously not killing myself with either the motorbikes or any low-flying RC buggies, I went off and did some racing for a bit and my next experience was on my 22nd birthday. I was racing for Mercedes and after blowing out the candles the team gave me a quarter-scale replica of my DTM car. With a chainsaw engine in it. The thing was absolutely lethal and had so much power that even in a straight line all you were trying to do was just keep it pointing in the right direction. One of the top fuel dragster guys *might* have had an idea how to do it, but all I tended to do was roll the thing over.

The other problem was trying to find somewhere to drive it. I tried to run it on the street outside my parents' house, but when somebody's driving to work in their Fiesta and something blows past them that's quarter scale and sounding like a chainsaw, they tend to get a bit upset with you. Years later I had a driveway long enough to use it on, but the problem there was that you couldn't actually get high enough off the ground to see it for any length of distance and because the thing did 110kph it was out of sight by the time your thumb had twitched on the controller. I may get in trouble for saying this, but really there was only one solution. Jan Magnussen had one too, and we'd drive a road car and chase these quarter-scale DTM cars with one of us hanging out the

sunroof. It was still impossible to control, but it was good fun.

Living in Nashville some years later, I started buying different RC cars that I'd lusted after in my youth. I'd build them (now that I had the patience) and gradually progressed up the ladder to the petrol engine ones, or whatever other funny type of fuel they used. I ended up with a really cool Stratos that, of course, I then had to go and buy all the go-faster bits for. I was continually tweaking and I think that's where I first learned about online shopping. I ended up buying the buggy that had won the last five world championships or something, and then I put in the bigger engine that wasn't supposed to go in it and it all got a bit mental from there. I think those cars are still in the garage in Nashville gathering dust.

**'When somebody's driving to work in their Fiesta and something quarter scale blows past them sounding like a chainsaw, they tend to get upset'**

Of course it's not just RC cars. I bought a Hot Wheels model of a Guards Red 993 GT2 in a pharmacy in New York the other day because I'm trying to find a die-cast model of every road car I've ever owned. It's an ongoing process, because for me the devil's in the detail: you can get a Porsche 930 no problem, but you can't find an LE. You can find a Porsche Cayenne, but you can't find a dark grey Techart Magnum. I think taking the 1:18 bodyshell off a model and sending it off to get it painted the right colour might be taking things a touch too far. But I can see it happening eventually.

And now it's all coming full circle in the Franchitti clan. My brother Marino's son, Luca, is only 20 months old, but the boy's obsessed with cars. **evo** is his bedtime reading. And now he has discovered model cars. He's got an F40 model, but he doesn't want to just trash it, he wants to look under the engine cover and discover what's going on. It's brilliant to see. I'm already looking forward to building his first RC buggy for him and watching at least two wheels fall off first time out. ❌

 @dariofranchitti

Dario is a three-time Indy 500 winner and four-time IndyCar champ



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## Ferrari 458 Speciale A

Test location: Futa Pass, Italy GPS: 44.082932, 11.283377

A fitting tribute to the imminent passing of the last of Ferrari's naturally aspirated V8 engines

Photography: Aston Parrott

**E**VERYTHING LOOKS pretty much the same at the evocative old entrance to the Ferrari factory on Via Abetone Inferiore. There are people scurrying in and out, uniformed staff at reception issuing guest passes and, as ever, an exhilarating air of organised chaos. However, appearances are deceptive and beneath the sense of the familiar, the very ground we walk on might as well be rumbling

and grinding as it breaks apart and reforms into something new. Around here the times really are a-changin'. To recap: Luca di Montezemolo is out, Alonso followed, technical director Roberto Fedeli has defected to BMW and soon Ferrari itself will be wrenched from the Fiat Chrysler Group and ten percent of the company will be floated on the stock exchange. What does all this mean? Only new boss Sergio Marchionne knows, and while he's

making encouraging noises about not flooding every city with bright red SUVs with a Prancing Horse on their bull noses, there's one thing Ferrari has long held sacred that's definitely dying... We're here to drive the final iteration of the normally aspirated V8-powered Ferrari. The turbo motors are coming. We'll see the new 488 GTB at the Geneva show, which will offer more power, a mountain of torque and a more saintly CO2 output. What

remains to be seen is whether it can match the sharpness, intensity and sheer joy afforded by the current 4.5-litre V8. It's a question for another day, but an engineer quietly admitted to us with a heavy heart that 'without legislation we would never develop a turbocharged engine'. He didn't seem so much sad as angry, right down to his core. I'm reminded of this when the key to the 458 Speciale A is handed to me. 'This is a celebration of the naturally

aspirated V8, no? Let's enjoy it while we can.' The weather is horrific but I'm not about to argue. It's no secret that we're fully paid-up members of the Speciale fan club and the 'A' version (as in 'aperta', or 'open'), of which only 499 will be produced at £228,682, looks unlikely to change that. It retains the wildly powerful, fearsomely sharp V8 that spits out 605PS at 9000rpm and 540Nm at 6000rpm and everything else

**Above:** loss of the 458's roof has a small effect on rigidity, but not enough to prevent you doing this sort of stuff. Ferrari's electronic nanny lets you have plenty of fun whilst guarding against your worst excesses

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The eCoty-winning V8  
Ferrari loses its roof
- AUDI TT 2.0 TFSI QUATTRO** **p45**  
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- INFINITI Q50 2.0T GT** **p53**  
Base model with Merc engine and traditional steering
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Two-door 1-series Coupe gets its own spin-off

## The team

With the Speciale A leading our Driven section, we asked the evo road-test team where their perfect location for driving a convertible supercar would be:



**NICK TROTT**  
Editor  
'Late Spring, just after sunset, up in the hills in Garrotxa in northern Spain. Can I pick a Zonda Roadster, please?'



**HENRY CATCHPOLE**  
Features editor  
'Gran Sasso in Italy. It feels like you're on the roof of the world.'



**DAN PROSSER**  
Road tester  
'A convertible supercar? Probably Whiteladies Road in Bristol at about 20kph.'



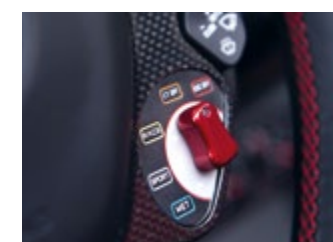
**JETHRO BOVINGTON**  
Contributing editor  
'N-260 through the Pyrenees. Beautiful road, stunning scenery, destination Barcelona. Perfect.'



**RICHARD MEADEN**  
Contributing editor  
'Mont Ventoux in an Aventador Roadster. Flat-out pre-dawn ascent to catch sunrise from the summit.'



**DAVID VIVIAN**  
Contributing road tester  
'The Mojave Desert, California, at sunrise. The biggest red sky I've ever seen and no traffic.'



that makes the coupe such an immersive car: the seven-speed dual-clutch gearbox, the E-diff, the magnetorheological dampers, the latest CCM3 carbon-ceramic brakes and that incredible Side Slip angle Control (SSC) system that lets you run right up to the car's limits but retains a watchful eye in case you blink at the wrong moment.

The real key to the Speciale's magic is that all this technology melds seamlessly with the driver's inputs, augmenting talent but never detracting involvement. Will another 50kg because of the folding roof mechanism, plus a slightly higher

centre of gravity and the inevitable reduction in structural integrity create a disconnect between driver and the way the car deconstructs a road? Erm, I doubt it. But it pays to keep an open mind in this business so we head to 'our road', a home away from home about 130km from Maranello, intent on finding out. Oh, and to soak in the response, noise and almost unbelievable ferocity of that normally aspirated V8 until we drown in it.

Of course, I mean that figuratively. Sadly, somebody has taken me literally and Italy is under a rain cloud more menacing than the spectre of

a Ferrari SUV. The roads really are drowning. On the autostrada there's sign of a brightening sky, but it's just a tease. The rain is here to stay. Still, the Speciale A tracks straight and true through the deep standing water. The Michelin Pilot Sport Cup 2 tyres really are a world away from those early M3 CSL-spec tyres that forced BMW to devise a legal disclaimer for customers who chose to fit them. They inspire complete confidence even at Brit-abroad-in-somebody-else's-car speeds. The Speciale A also exhibits the same supremely supple but controlled ride as the coupe and there's

little discernible shimmy or shake with the roof in place on relatively smooth autostrada. So far, so much the same.

In fact, that's not quite true as there's one stark difference: the noise. All the Speciales we've driven have been deafeningly loud under anything other than a tickle of throttle. Even at a gentle cruise the noise never really abates and although we all like to think that louder is always better, in truth it's pretty wearing and – dare I say this – the noise isn't even that nice. However, this Speciale A is maybe only 70 per cent as loud under load

**'You get such a precise picture of the chassis' grip and balance that confidence builds quickly'**

and could almost be described as refined on part-throttle. The note is also sweeter and more tuneful. Later I'll be told the exhaust was 'turned down a bit for the open car' to stop it becoming 'unbearable'. Of course there's still plenty of tyre roar, but overall this boring section of the journey is all the more enjoyable for the reduced decibels.

As the Futa Pass starts to climb and coil, that enjoyment only intensifies. The Speciale A has lost its roof and some stiffness, but it hasn't lost any of its ability to entertain. The super-fast steering is weighty enough to lean up against,

and the load through it shifts as the front tyres seek out grip on the sopping wet, leaf-strewn surface. You get such a precise picture of the chassis' grip and balance that confidence builds quickly. In these conditions the Speciale A's incredible beyond-the-limit poise is easily accessed for those who look for it, but the real magic is in how the electronic systems allow you to exploit so much of its potential with no fear and without heavy-handed intervention.

Select Wet on the manettino and the grip and traction the Special A finds is spooky. One more click

**Opposite page and above:** cabin remains largely dry when the car is on the move, so no interiors were harmed in the making of this Driven. Marvel at how the Speciale A copes with these conditions in our video review at [youtube.com/evotv](https://youtube.com/evotv)



## ALTERNATIVE CONVERTIBLE SUPERCARS



### Lamborghini Aventador LP700-4 Roadster

Rather than a folding top, the big Lambo comes with a two-part removable lid. The 700PS 6.5-litre V12-engined supercar is good for 0-100kph in 3.0sec and 350kph.



### McLaren 650S Spider

Its innovative carbon tub means the 650PS Spider weighs just 40kg more than the coupe and maintains structural rigidity. It also matches the coupe's 3.0sec 0-100kph time.



### Aston Vanquish Volante

What better way to fully enjoy a 12-cylinder Aston Martin soundtrack than by dropping the soft-top on a 576PS Vanquish Volante? Pin the throttle and it'll hit 100kph in 4.0sec.



### Lamborghini Huracán Spyder

Whilst Lambo remains tight-lipped, you can expect a Spyder version of the 610PS Huracán to be along soon, most likely with a folding soft-top.



### Ruf Rt35 Roadster

Porsche tuner Ruf has extracted 630PS from a twin-turbo 3.8-litre flat-six. Despite the added weight of a folding electric soft-top, the Rt 35 Roadster tops out at 338kph.

**'There's no question that the 499 people eagerly awaiting their new toy will not be disappointed'**

to Sport in combination with the 'bumpy road mode' is probably the sweet spot today, allowing the car to be manipulated around its limits without ever slithering way beyond them. Once you connect with the car's steering and reactions it's tempting to click further to Race or CST Off – thereby bringing the Side Slip angle Control system to the party – but the downshifts are so aggressive that the rear axle feels like it might lock on the way into corners. Why tread that fine line when Sport mode creates such a wide, softly curved ledge on which to express yourself?

The rest of the dynamic flavour is pure Speciale, from the superbly firm but progressive brakes, the scintillating engine (I might just shed a tear when the 488 arrives) and the sense of absolute clarity, to the way it responds to your inputs and to the road surface itself. Is anything lost when you stow the neat metal roof?

In this weather, on these roads, it's hard to pinpoint a huge amount of flex or a reduction in body control because of the retuned suspension. Meanwhile, the wind (and rain) adds to the sensory overload without becoming horribly intrusive.

However, a word of caution: in the UK the standard 458 Spider feels vastly more wobbly than the carbon-tubbed McLaren 650S. The Speciale A has no more bracing than the Spider so expect plenty of flex on poor surfaces and a little reduction in the precision so intrinsic to the coupe. For me the coupe will always be the one because I'd always choose pure dynamism over a bit of wind in the hair. But having said that, there's no question that the 499 people eagerly awaiting their new toy will not be disappointed. The Speciale A is, rather predictably, jaw-dropping. ❌

**Jethro Bovingdon**  
(@JethroBovingdon)

## Specification

Engine	Power	Torque	0-100kph	Top speed	Weight	Consumption	Basic price
V8, 4497cc	605PS @ 9000rpm	540Nm @ 6000rpm	3.0sec (claimed)	320kph (claimed)	1445kg (419PS/tonne)	11.8L/100km	£228,682

➕ Same incisive dynamics and fluidity, fantastic balance, a bit less shouty ❌ Roof inevitably reduces precision slightly, chassis flex on bumpy surfaces

**evo rating** ★★★★★



📍 Test location: Ronda, Spain GPS: 36.760341,-5.177994

# Audi TT 2.0 TFSI quattro

Last month we drove the top of the new TT range, the TTS. Here's the mid-range



W

**WE LIVE IN A MIX-** and-match age. The days of 'Any colour so long as it's black' are long gone (in fact that quote applied only to later Model Ts

built on Henry Ford's famous assembly line, the reason being that black paint dried more quickly than other colours, thus hastening production). So, if sir wishes to provoke a gag reflex in unwitting pedestrians then sir may choose a yellow car with a brown canvas roof and green interior.

Audi, however, has been unfashionably prescriptive when it comes to your mechanical choices with the new TT. Below the impressive 310PS TTS (**evo** 117) there are two engines, the most affordable of which is the 2-litre TDI Ultra Sport. This is available only in front-wheel drive and with a manual gearbox. The other engine is the 2-litre TFSI, which is available in both front-wheel drive and quattro. However, if you want quattro with a manual gearbox, then you're going to be disappointed. The front-wheel-drive version is only available with a manual and the quattro is only available with the latest six-speed twin-clutch S-tronic. Odd.

Having spent the majority of our time on the Spanish launch in the 310PS TTS, I drove the 230PS petrol quattro back down the magnificent Ronda road to Marbella. The first thing to say is that the interior is just as



stunning as the one in the more expensive car. You still get the five beautiful new vents protruding from the dash. You also get the bewitching 'virtual cockpit', which replaces the usual dials with an adaptable TFT screen. As well as the speedo, rev-counter, fuel gauge, etc, it also carries the satnav map, radio settings and other information that you would usually expect to find on a centrally mounted screen. I have to say, though, that as much as it tidies the interior of the car and delights you with its graphics, it did feel a little odd to have to keep glancing into the depths of the instrument cowl for all your information. It perhaps also makes it too easy for your eyes to linger there for longer than is desirable. I suspect a longer period of acclimatisation is needed.

Our car was on fixed-rate dampers (magnetic ride will be available in due course) and in some ways I preferred these to the adjustable

ones on the TTS as they gave a nice, natural feeling with a firm but well-judged ride/handling balance. The 2-litre TFSI is the same smooth and decently powerful engine that we've experienced in plenty of other VAG products and while the small paddles attached to the back of the steering wheel don't make the process of changing gear feel the most involving pastime, ratios are swapped with the exacting efficiency that you would expect.

Sweeping down fast, smooth roads, the TT felt entirely unruffled. Presented with ideal sight-lines and wide lanes you could brake extremely late and get the nose of the car pointing nicely into the apex of a corner, the steering feeling light but very accurate. Ultimately, though, it wasn't the most satisfying drive down one of the world's greatest roads and that's a shame. There were no inherent flaws in the car – if anything it felt more pleasingly agile than its predecessor (no doubt helped by being 50kg lighter). However, unlike the more powerful TTS, there seemed to be very little that you could do to get the rear of the car involved in the action, so the balance was efficient neutrality at best (making it sound very Swiss).

We'll bring you a full UK road test once cars have landed on our shores, but it all made me think that the cheaper, manual, front-wheel-drive TT might actually be the one to have if you can't stretch all the way to the TTS. ❌

**Henry Catchpole** (@HenryCatchpole)

## Specification

Engine	Power	Torque	0-100kph	Top speed	Weight	Consumption	Basic price
In-line 4-cyl, 1984cc, turbo	230PS @ 4500-6200rpm	370Nm @ 1600-4300rpm	5.3sec	250kph (limited)	1335kg (172PS/tonne)	6.8L/100km	£32,785

+ Looks, interior, decent performance and handling - Lacks ultimate involvement

**evo rating** ★★★★★



# Nissan 370Z Nismo

Test location: B660, Cambridgeshire, UK GPS: 52.38101, -0.39229

**Left:** substantial dry-surface grip partly offset by a lack of suspension pliancy. **Above:** rear wing is more subtle than last Z Nismo's. **Right:** big V6 has to be thrashed to bring it to life. **Far right:** cabin has superb seats



**I**F YOU'VE GOT a drop of petrol in your veins then any road car bearing the name of Nissan's motorsport division should make your heart beat a little faster. Exciting and intriguing in equal measures, a Nismo badge signifies something beyond the norm. That's not to say all the ninja-spec Nissans are a shoo-in for your affections. The GT-R Nismo is hobbled by overly stiff suspension and priced at a premium that puts it beyond the reach of all but the most diehard fan, while the Juke Nismo is a bit softcore to convincingly deliver on the Nismo promise. However, the 370Z Nismo promises to be the

Still a lot more money than the standard Z, can the latest Nismo version justify the extra expense?

Photography: Dean Smith

sweet spot of the range.

There's no denying the Z is getting a bit long in the tooth, but this updated Nismo version serves as a timely reminder that a muscular front-engined, rear-drive coupe is a recipe with enduring appeal. It doesn't seem like that long since the first 370Z Nismo went on sale, but in true Japanese fashion it's already been subject to a number of detail design and engineering updates.

Visually this refreshed model is more in line with its big brother,

the GT-R Nismo. A muscular body kit and distinctive red accents are unmistakable Nismo trademarks. Black headlamp bezels, new LED daytime running lights and larger air intakes give the Z a more aggressive face, while new black and silver 19in Rays alloy wheels fill the exaggerated wheelarches to perfection. The aero package itself has been tweaked (via a reshaped front bumper and smaller rear wing) to achieve greater overall downforce and a more even balance front to rear. Nissan goes so

far as to claim the Nismo Z has more downforce than any sector rival.

Inside, the Z's cockpit is dominated by a pair of new Recaro seats. Trimmed in red and black leather and Alcantara, they are built around a shell structure rather than a tubular structure, so they're lighter and more rigid. Greater adjustment and increased support also makes them more comfortable. Deeply recessed dials and heavily hooded binnacles lend the Z an old-school ambience, while the strict two-seater layout gives it a focus and purity that a token 2+2 arrangement couldn't match, so although you can't dupe your wife with the promise that there's room for the

## 'The V6 would benefit from being more exuberant, to live up to the expectation set by the extrovert styling'

kids, the upside is there's decent luggage space for a long weekend.

As you'd expect, the Nismo is a more aggressive proposition than the regular Z, but Nissan has addressed criticism that the original Nismo lacked compliance and refinement by revising the rear spring and damper rates and introducing new inner wheelarch liners and carpets to absorb road noise. These measures have achieved some level of success, but the car still lacks the refinement of a Golf GTI or M235i. That's not necessarily a bad thing, but if you're used to more grown-up machinery the lack of isolation from road and mechanical noise will challenge you a little.

The heart of the 370Z Nismo remains its 3.7-litre V6. No different to the outgoing model's, and in all honesty little different from the regular Z's, that means peak power and torque outputs of 344PS at 7400rpm and 371Nm at 5200rpm respectively – up 16PS and 400rpm, and 8Nm at the same revs, compared with the non-Nismo 370Z. Those are respectable figures, but the Z is a relatively chunky 1535kg, so the Nismo works with a power-to-weight ratio of 224PS per tonne. That's the same as an M235i and roughly halfway between a Cayman and a Cayman S. For context, the GT-R Nismo has around 50 per cent more horsepower to propel every kilo

but asks for more than three times the money for the privilege.

The Nismo Z only comes in coupe form with a six-speed manual, so there's no doubting its credentials as a pure drivers' car. This sets the tone for what is a very simple and transparent driving experience. The big V6 starts with the push of a button and settles into a lusty idle. It's not vocal in the contemporary, contrived sense. Indeed, it would benefit from being more exuberant, to live up to the expectation set by the extrovert styling.

The control weights are reassuringly substantial, the ride no-nonsense firm but with enough low-speed compliance to suggest



it'll work on real roads. There's a barrel-chested swagger to the way the Nismo Z goes about its business, with plenty of part-throttle response and urgency. The steering responds with encouraging immediacy: a roll of the wrists is all that's needed to peel into fast- and medium-speed corners. In the wet you're quickly mindful that the front-end responds more rapidly than the rear-end can support, but in the dry you can lean on the nose with greater conviction and trust in the available traction and inherent balance of the chassis.

It's an indication of the Z's character that you only need to push the traction control for a moment for it to disengage. No nannyng multi-stage 'Are you sure?' intermediate modes, just a single 'Yes, I'm willing to take responsibility' switch from a reliance on an electronic safety net to sensory, synaptic control. Circumspection is prudent in the rain, but dry roads require a more robust approach. The ride is busy and the Z is constantly deflected off-course on bumpy

**‘The ride is busy, but if you’re prepared to boss it around, the Nismo comes alive in entertaining fashion’**

**Above:** Nismo styling tweaks certainly give the Z renewed presence, which if you've paid £10k more than the standard car you might consider important

roads, albeit only slightly, but if you're prepared to boss it around, the Nismo comes alive in entertaining fashion. A standard limited-slip diff means it'll slide when provoked, but the diff could be faster to react: as it stands there's a delay between getting into the throttle, the diff locking and the tail beginning to slide. Consequently the transition between grip and slip feels like a clutch kick rather than being smoothly progressive. The Z therefore lacks delicacy and precision compared with a (slower) Toyota GT86 or a (classier) Cayman.

An area of disappointment is the 3.7 V6. Undeniably effective, yet never less than coarse, it feels and sounds reluctant to rev much beyond 6000rpm, even though the red line suggests you've got the best part of 2000rpm left to play with. Aurally there's little pleasure to be had from working it harder, but persevere and the rewards are there in terms of pace. The gearing is tall, but more playful than a Cayman's, and you have the option of an annoyingly sweet rev-match mode that activates a

throttle-blip function (something Nissan pioneered). The motor might lack sparkle and an appetite for revs, but there's no doubt the Nismo Z ups its game when wrung-out.

At a little short of £38k the Nismo Z is a big chunk more money than the car on which it's based, but the fact a standard Z represents great value compared with a GT86 distorts the picture slightly. The Nismo is also a couple of grand cheaper than a bum-basic Cayman and £11k less than an un-optioned Cayman S. If you're prepared to look beyond the coupe genre, the more rapid and infinitely more practical Golf R is £7k cheaper.

That might sound like a cold and calculating assessment of what is an unashamedly emotive and charismatic car, but the 370Z Nismo relies on you buying into its niche appeal. It looks the part, but it either needs sweeter, heavier under-bonnet ordnance or a more pliant, fluid chassis – preferably both – to commend it to a wider audience. ❌

**Richard Meaden**  
(@DickieMeaden)

**Specification**

Engine	Power	Torque	0-100kph	Top speed	Weight	Consumption	Basic price
V6, 3696cc	344PS @ 7400rpm	371Nm @ 5200rpm	5.2sec (claimed)	250kph (limited)	1535kg (224PS/tonne)	10.6L/100km	£37,575

➕ Sharper looks, improved ride and refinement, pure and simple thrills ❌ Engine needs more sparkle, chassis lacks ultimate precision; fighting a tough price-point

**evo rating** ★★★★★



📍 **Test location:** Montserrat, Spain  
**GPS:** 41.593513, 1.837533

# Porsche Cayenne Turbo

A facelift, changes under the skin too, but the same bonkers and brilliant result

**I**T'S ARGUABLE IF the Cayenne needed another facelift. A vehicle that has stubbornly resisted Porsche's attempts to nail a truly comfortable-in-its-own-skin look since its introduction 12 years ago, the latest design tweaks are more about differentiation, aero and cooling than a final stylistic resolution – the next Cayenne will start with a cleaner sheet – but, as ever, it's an impressive and imposing beast that's both slightly neater and more male gender-adjusted than before. It doesn't look half as good as its smaller brother, the Macan, but that's unlikely to dent its standing as Porsche's most lucrative product or, indeed, its reputation as the wonder of the SUV world.

The seven-model range now includes the first premium SUV to be available as a plug-in hybrid, a brace of diesels and the addition to the petrol engine line-up of a twin-turbo 3.6-litre V6 from the sportiest Macan, producing 420PS and 550Nm of torque. Under the mildly remodelled skin, the changes focus on making the Cayenne more efficient. Collateral benefits in performance, in turn, warranted chassis tweaks to make the hulking 4x4 even more bewilderingly agile on a twisty road. The new layers of standard kit, tech and connectivity are something of a given these days.

With software mods and new four-piece bushes, the air suspension has been given a



wider remit: to deliver more precision and control when fully exercised and a more comfortable ride at low speeds. Inside, there's a new multi-function steering wheel modelled on that of the 918 Spyder. The vault-like solidity of the cabin and the fit and quality of the materials are more impressive than ever but a stark contrast to the overtly plush and luxurious ambience of a Range Rover Sport.

Being **evo**, it's the range-topping 4.8-litre V8 Turbo that commands the most wheel-time at the new car's launch in Spain. More powerful but less thirsty than the outgoing model, its stats alone are seductive: 520PS and 750Nm of torque, 0-100kph in 4.5sec and 279kph flat-out. All this with a combined consumption figure of 11.5L/100km, which equates to 261g/km of CO2. Given the Turbo still weighs north of two tons – 2185kg to be precise – the claims almost defy reason.

With the superbly smooth and fast eight-speed auto transmission in Drive, the way the Cayenne Turbo acquires speed on the lightest of throttle openings is vaguely unsettling. Effortless doesn't really do the feeling justice. But it's what happens when you find a suitably open stretch of tarmac and bury your right foot that astounds because you discover that, far from being a low- and mid-range turbo-gorged heft-fest, the fastest Cayenne's inner hot-rod actually resides in the upper half of its rev-band. And that's seriously addictive. Quickly you find yourself switching to the paddles, immersing yourself in the V8 soundtrack and arriving at bends travelling far faster than you imagine even a Cayenne with the latest chassis mods could handle. But you'd be wrong.

The new Turbo corners securely and neutrally at speeds that are patently ridiculous. And it isn't a case simply of monsterring bends into submission with all-drive grip and traction supported by a generous acreage of rubber. There's real involvement and finesse, too, with good weight and feel from the hydraulically assisted steering and a surprising degree of adjustability, especially if you turn the stability and traction systems off. In short, it's something of a point-to-point weapon. That it's also a more mature and polished Cayenne Turbo can only be good news for those who need what must, for now, be the ultimate all-rounder. 📌

**David Vivian** (@davidjvivan)

## Specification

Engine	Power	Torque	0-100kph	Top speed	Weight	Consumption	Basic price
V8, 4806cc, twin-turbo	520PS @ 6000rpm	750Nm @ 2250-4000rpm	4.5sec (claimed)	279kph (claimed)	2185kg (238PS/tonne)	11.5L/100km	£92,628

➕ Remarkable performance, handling, completeness 📌 Bigger, heavier, pricier than Macan

**evo rating** ★★★★★



Frontline MGB



**Right:** authentic period dials are specially recreated by Smiths, the speedo now reading to a very un-MGB-like 275kph. **Far right:** Dunlop alloys are shod with chunky 215-section Yokohama C-Drives

## Frontline Developments MGB Roadster

📍 **Test location:** Abingdon, Oxfordshire **GPS:** 51.618123,-1.313102

**This MGB is effectively brand new, with a 308PS Mazda engine. It costs an eye-watering £96k and it's worth every penny**  
**Photography:** Aston Parrott

**N** **NO, YOUR EYES AREN'T** deceiving you. This is a £96k MGB Roadster. Built by marque specialists Frontline Developments, the Abingdon Edition might look like a freshly restored original but, in what soon becomes a common theme, little about this car is what it seems.

Rather than begin with a rusty basketcase, Frontline starts with a brand new British Motor Heritage bodyshell, in 1965 spec, seam-welded and built from CAD plans tailored to the Abingdon's unusual requirements. Just how unusual becomes clear when you lift the bonnet and find a brand new 2.5-litre four-cylinder all-alloy engine supplied directly by Mazda Europe. Not content with that, Frontline then fits a billet crankshaft, billet conrods, forged pistons, solid lifters and variable cam timing, a set of 50mm

throttle bodies and Omex engine management.

The result is 308PS at 6800rpm and 326Nm at 5200rpm, sent to the rear wheels via a Mazda six-speed manual gearbox and a limited-slip differential. Given the MGB weighs just 897kg, that's enough to propel it to 96kph in a claimed 3.8sec and on to a top speed of 257kph. That's very serious performance in 2014, let alone when packaged into a small '60s sports car.

As you'd expect, the suspension has come in for some equally serious attention, Frontline fitting aluminium front suspension uprights and tubular wishbones, adjustable coilover dampers and model-specific six-link rear suspension. Likewise the brakes, which feature billet alloy four-pot calipers and ventilated discs at the front, cast alloy two-piston calipers and solid discs at the rear, plus braided Goodridge hoses and high-performance brake pads.

The more you delve into the Abingdon Edition's build and specification, the more gems you find. Electric power steering with adjustable assistance means you don't have to heave and heft at the wheel. Dynamat sound-deadening brings increased refinement and decreased levels of road noise; Dynaliner heat insulation on the floor, bulkheads, doors and transmission tunnel keeps unwanted mechanical heat-soak at bay, but ensures the heater is as effective as possible on chilly autumn and winter days. Conversely, air-conditioning will keep you comfortable during the summer.

When it comes to paintwork and interior trim, you have a limitless choice of colours and treatments. Finished in a metallic grey taken from Aston Martin's palette, then given a twist with a hint of brown in the clearcoat lacquer, Frontline's demo car really makes the most of

the MGB's pure and pretty lines. Inside, swathes of Connolly leather upholstery look, feel and smell magnificent. Bespoke Smiths period instruments, a chunky Motolita steering wheel and a simple black Bakelite gearknob that fills your hand perfectly are the finishing touches.

All this would count for nothing if the driving experience was a letdown, but it takes just a few minutes to conclude this is a really special car. Okay, so an open-top British sports car, fast, sweeping country roads and a crisp, early-autumn day help make for a memorable drive, but the Abingdon Edition requires no rose-tinted glasses. The engine is absolutely razor-sharp and blessed with a fabulous, hard-edged soundtrack to match. The gearbox shifts so sweetly you can't help but snap up and down the 'box just for the sake of it, heel-and-toeing on the downshifts for maximum grin factor.



‘You’re soon pitching it through bends with absolute confidence’



The gearing itself is short, but not ridiculously so. In fact it’s the perfect antidote to modern cars and their absurd long-striding ratios. I’m talking to you, Boxster and Cayman. In outright terms the acceleration is really very impressive, not big-power-Caterham urgent, but not far off. The MGB’s slim hips and low weight ensure you’ve got plenty of road to play with, and

you’re soon pitching it through bends with absolute confidence, trusting the road-holding, the responsive front end and the inherent front-engined, rear-drive neutrality, but enjoying the fact you can play with it on the throttle at sane speeds. In short, it’s an absolute hoot.

Bumpy roads eventually unsettle it: there are times – most often on fast straights at elevated speeds – when you find yourself bobbing up and down in the extremely comfy (heated) bucket seat. It’s the only time you feel Frontline hasn’t quite managed to transform or conceal the age and flaws inherent in a five-decade-old design.

The brakes feel a bit soft for my liking, but when I mention this to Frontline they smile and explain that the car did have a harder pedal and sharper response, but they changed the master cylinder and tried some different pads after another journalist thought the brakes were too

sharp! In a roundabout way that illustrates how each car is tailored to its owner, so I have every faith Frontline could finesse the brakes to how I’d like them. Sadly without the requisite £96k I’m unlikely to find out for sure.

The weird thing is I’ve never had the slightest yearning to even drive an MGB before, let alone own one, yet the Abingdon Edition MGB Roadster is one of the most enjoyable and desirable cars I’ve driven all year. The engine and transmission is so well integrated, the performance so vivid and the driving experience so engaging you can’t help but be seduced. What’s more, the commissioning and build process is so personal and the whole package so well finished that far from seeming ridiculous, the asking price feels genuinely reasonable. Frontline has two dozen customers a year who’d wholeheartedly agree with me.

There’s something truly compelling about the work Frontline is doing, and it’s a feeling I’ve experienced twice before. The first time was when I drove an Eagle E-type, the second more recently in a Singer 911. On both occasions I arrived questioning the sense and sanctity of re-imagining such iconic cars, but left cursing the fact I’m unlikely to ever have the means to buy one. And now I can add a Frontline MGB to my Lottery win-funded fantasy garage. ✘

**Richard Meaden** (@DickieMeaden)

**Specification**

Engine	Power	Torque	0-96kph	Top speed	Weight	Consumption	Basic price
In-line 4-cyl, 2448cc	308PS @ 6800rpm	326Nm @ 5200rpm	3.8sec (claimed)	257kph (claimed)	897kg (343PS/tonne)	n/a	£95,874

➕ Freshly built '60s classic, fierce performance and fine quality ➖ 2014 levels of performance and quality don't come cheap

**evo rating** ★★★★★

# Infiniti Q50 2.0t GT

The Q50's headlining new steer-by-wire system certainly is a revolution, but how does the Q50 fare without it?



**T**HERE MUST HAVE been plenty of pursed lips and head-scratching going on in Infiniti after their Director of Performance, Sebastian Vettel, ran loose and headed over to Ferrari. They should have listened to Bernie Ecclestone's muse that Formula One drivers were nothing more than rich tax-exiles who blow engines, crash cars, and break contracts for personal glory, instead of pinning their branding on one of them. Well at least Infiniti claims that they have managed to get Vettel's feedback on the Q50 and made it integral to the car's dynamic development. Or so they say.

Back when we were sampling the Q50S Hybrid, there were hints that beneath its big and pompous body that the Q50 was hiding some talent, somewhere between its big 3.7-litre V6 and its revolutionary steer-by-wire system. The steering itself wasn't entertaining, but despite having a mind of its own, it was remarkably responsive, when you aren't opposing its absolute computational directive of preventing you from steering yourself into a hazard. Being



schooled in the thought that less complication equates to more fun, I theorised that the Q50 could be a better driver's car if it ditched the drive-by-wire system for a more traditional electro-hydraulic system. So recently I had a poke at the base Q50 for a change, the only Q50 variant in Malaysia without the voodoo steering. And wonder of wonders, I couldn't have been any more wrong.

The Q50 is even worse off with a traditional, physically connected steering system. Though there is

some naturally occurring feedback flowing through to the palm of my hand, the steering is slow, heavy, and not very precise. For all the distrust I had with the steer-by-wire Direct Adaptive Steer system, its quick response and accuracy did make the Q50S Hybrid feel as wieldy as a surgeon's knife. This on the other hand was as blunt as a sledgehammer. I get the unnerving impression that the engineers poured plenty of love and affection into the development of the DAS system, but rummaged through the parts bin for any hydraulic system that could fit the Q50 over a weekend without giving much thought thereafter.

Without the Q50S' sport suspension, the Q50 was more of a comfortable luxury barge with marshmallow levels of softness. It feels flabby, and it isn't as though its Mercedes-Benz derived 2-litre drivetrain is helping in giving it a bit of zest. On paper the 2-litre turbocharged 4-cylinder engine produces a respectable 211PS and a healthy serving of 350Nm of torque, which is plenty of power to give the Q50 some pace. But getting the engine to deliver its load, with a

throttle response that is incredibly blunt even when the Drive Select system is left in Sport, was rather frustrating. Give the throttle a quick stab and the engine won't show any response, it is only when you keep your foot on the throttle for more than half a second would there be some progress made. Gentleman racer this is not.

As much as it pains me to say this, the Q50 is ponderous and not very good to drive without the DAS. While its sluggish powertrain and ponderous steering wouldn't be so much of an issue as a chauffeur's car, the Q50's interior doesn't come across as a classy product, with several questionable design choices like the ugly instrument dials, the lagging onboard dual-screen infotainment system, and its rather bland interior. So if you quite fancy yourself a Q50, get it with the DAS, and if you don't trust electronic overlords dictating your steering, then better look elsewhere. It isn't quite the sporty sedan that Infiniti would like to paint themselves on the side of some Austrian Formula One cars. Don't take Vettel's word for it, he's at Maranello. ❌

**Daniel Wong**

## Specification

Engine	Power	Torque	0-100kph	Top speed	Weight	Consumption	Basic price
In-line 4-cyl, 1991cc, turbo	211PS @ 5500rpm	350Nm @ 1250-3500rpm	7.2sec	245kph	N/A	6.5L/100km	RM248,800

➕ Quiet ride and refinement, plush seats   ➖ Blunt steering, hefty, and lacks excitement

**evo rating** ★★★★★



# BMW 220i

**A** NATURAL development in a range of cars that have seen even-numbered coupes produced based off their odd-number sedans, here is one BMW that this particular writer believes he loves the most: the BMW 220i. Based largely on its odd-numbered counterpart, the 1-Series, the even-numbered 2-Series carries forward a lot of the same developments in the form of a proper coupe body.

Looks fantastic too, doesn't it? While not as massive as we've seen the 3er evolve to become, or its counterpart 4-Series, the 2-Series is an indulgent throwback to the very DNA of compact BMW sports car

## A small BMW coupe sounds like the perfect recipe for rear-wheel drive fun.

Photography: Chris Aaron

greatness. In a 220i guise is all you could officially have it here, but being a fully-imported model, we don't imagine BMW Malaysia giving you too much trouble about ordering an M235i to quench your thirst for thrust.

But then again, while the numbers for the variant we have here seem to suggest 184PS and 270Nm of torque, it's to no one's surprise that real-world performance feels a bucket-load quicker. Claiming 7 second dash to 100kph is an accurate assessment, but given the way this thing drives, it really is enough.

Now, you could argue that having a full complement of four doors would make more sense, and that a 1-Series or a base 3-Series (316i) is a lot more affordable and practical; and you'd be rational to think so. But since when did a properly compact BMW sports coupe attempt making any sense? It's just a bloody awesome thing. Apart from where the M Division is concerned, the current F30 3-Series feels like a poodle next to what the 2-Series can do for fun, dynamic, unadulterated driving. And it doesn't need a bigger engine with more

horses or turbochargers to prove the point either.

Because of its compact size, you naturally gain a level-up of confidence to enter a corner with more speed, and it's only then where you discover the BMW magic. Overcooking it and then dialling in too much steering revealed that the rear end was more willing to come around rather than the front wheels going wayward with slip – and that's far before you get anywhere near the throttle for some angle correction. Finding the right balance and timing of your actions is easy to do as well; you can feel so much of the chassis underneath you and how much grip it's got to give before going over the line. This is a natural fact of most



**Left:** the 2-Series carries BMW's perfect long bonnet and short tail proportions well. **Below middle:** as it is with all BMWs, the dashboard is plain, but functional.



### Specification

Engine	Power	Torque	0-100kph	Top speed	Weight	Consumption	Price
In-line 4-cyl, 1997cc, turbo	184PS @ 5000-6250rpm	270Nm @ 1250-4500rpm	7sec	230kph	1440kg	6L/100km (NEDC)	RM259,800

🟢 Entertaining and rewarding rear-wheel drive dynamics 🟡 Not quite special enough

**evo rating** ★★★★★

modern BMWs and how they're geared to deliver superb driving dynamics, I'm sure, but because of the 2 Series' compact stature, it's so much more approachable and easy to discover.

Throttle and shift response are no surprise either: in full-on Sport+ mode, there's so much eagerness of the revs at your disposal at all times. You could argue that there are faster things for around the same money, with the Golf R being a prime example. But you wouldn't look as nerdy in this, nor will you feel as rewarded for 'getting it right' as you would in the RWD 2-Series that boasts no coddling electronic differentials or torque-vectoring systems – yes, skill is a bit of a

perquisite here.

"What about the Megane RS," you say? Well, you couldn't turn up at Marble 8 with your significant other in an RS, yellow seatbelts and all, and expect to be taken any kind of seriously, could you? In the BMW, you can; in style, with everyone's spines in check.

Okay, so maybe we've been painting an overly generous picture of the 220i. But that's the sort of thing a car like this does to you after driving it. It soothes you with a snug fit interior that's moulded in the subtlest ways to make you want to go faster every time. The seats are sculpted unusually well and fit your back like a glove. The ride is so good even on horrid uneven Malaysian

**'Finding the right balance and timing of your actions in the 220i is easy to do as well; you can feel so much of the chassis underneath you'**

roads that you'll soon be fiddling with the AC dials while forgetting that you're doing 150kph; and that's an actual experience. When you need it, the audio system rivals anything else for the money, too.

To finish, yes, entering and exiting a coupe is never a particularly graceful exhibition, and having those automatic seatbelt extenders hand out your safety once you've managed to get it, would have been nice. But if those are the only two downfalls of the beast, so be it. Especially after being able to fit my six-foot self in the rear seats with no problems whatsoever, which is the final nail in the coffin for any argument that a four-door would work better. 📧

Chris Aaron





## Nissan X-Trail 2.5L 4WD

Nissan is bringing back the X-Trail back to its roots at being a capable off-roader, has it worked? Gerard Lye tries one on for size.

**T**HE FIRST-GENERATION T30 Nissan X-Trail made its impact in Malaysia back in 2003 with its impressive All-Mode 4x4 system. So it was a bit of a let-down when the second-generation X-Trail, the T31 entered the market in late 2010 without one. This time however, it's back because Nissan recently introduced the third-generation (T32) X-Trail and the AWD system is back in place, now dubbed All-Mode 4x4-i. That's not all because the new model now includes Nissan's Active Chassis Control.

Looks may be a subjective matter, but personally, the car does have a very wide departure from its predecessor in terms of looks and it is for the better part, a welcome change as the X-Trail now has a new distinctive look to stand apart from its competition. So what is it this Active Chassis Control? Well it is a collective effort of various systems that aim to keep the X-Trail as true and steady on the path you intended it to. If you tackle a corner a little too ambitiously, before the traction control system cuts in, Active Trace Control or brake torque

vectoring attempts to make sure the car follows the cornering line. Even when you start hitting bumpy roads, a separate feature known as Active Ride Control slows down the vehicle gently by applying braking and adjusting the engine's torque output to get things back in line. And you'll know when either of the two systems are engaged because the coloured multi-info display will show it.

On to the All-Mode 4x4-i system, and located on the centre console is the rotating dial that controls the system, with three modes made available – 2WD, Auto, and Lock. You can leave it in 2WD mode that sends drive to the front wheels only, whereas in Auto mode, power is split between the front and rear axles with a huge share of the power delivered to the front wheels.

Prowling around town, the X-Trail rolls over bumps with very little fuss and has enough grunt from its 2.5-litre engine that is paired to the XTRONIC CVT, to haul itself along. However, you will have to deal with the 'elastic band' characteristic of the transmission. As a result, throttle response won't



be instantaneous as the CVT takes a while to really put the power down. You get the blip of about a thousand revs and wait for the power to roll in.

With fuel efficiency as a factor, it's understandable why the CVT is in place because highway cruising is a joy. A comfortable ride coupled with electric-powered seats featuring two-way lumbar support and cruise control means miles simply fly by. Cabin noise is not very profound but on our unit at least, travelling at speeds near 50 metres per second did result in a visible flex of the hood. We'll consider it an issue with air resistance.

However, where the roads end and the sight of gravel, sand, and grass replaces it, that is where the 'i for intelligent' bit of the all-wheel drive system really kicks into action.

Granted that we weren't on the most gruelling off-road terrain to push the X-Trail to its limits, the vehicle still manages to pull its way through the plantation route all on its own, modulating the power sent to the front and back that you can see on the multi-info display between the dials.

Another party trick up its sleeves is the inclusion of hill descent that worked as advertised. At the top of a hill, simple set Lock mode on the all-wheel drive system's control dial, toggle the hill descent switch, put it in D and the X-Trail is able to bring you down with only steering input expected of the human driver.

All things considered, the X-Trail is capable of doing several things and doing them well. It is easy to drive around town and thanks to its around-view monitor it is remarkably easy to park. If you do need to make that trip out of town, the X-Trail does that well too, with its comfortable and refined ride keeping fatigue at bay. Lastly, where the road ends and an off-road trail appears, it'll take them on too. A very well-rounded all-rounder this. **X**

**Gerard Lye**

### Specification

Engine	Power	Torque	0-100kph	Top speed	Weight	Consumption	Price
In-line 4-cyl, 2488cc	171PS @ 6000rpm	233Nm @ 4000rpm	n/a	n/a	1612kg (106PS/tonne)	8.3/100km (claimed)	RM165,800

**+** Good on-road and off-road capabilities, feature-laden **-** Dull CVT

**evo rating** ★★★★★☆



## Peugeot 3008

A neat new face and updated interior brings back some charm for the 3008

**F**

**FIRST INTRODUCED IN** 2010, the Peugeot 3008 is one of the more unique cars that belong in the compact crossover segment. Just like the Honda CR-

V, Mazda CX-5 and Nissan X-Trail, it has all the right spatial features, and serves a very popular purpose: it offers a high-seating position, a lot more cargo area than your average sedan, and the exterior dimensions that will make it fit in the average Malaysian parking spot with ease.

Since its introduction here in Malaysia the 3008 has been pretty well received. And in order to keep it fresh and competitive against its rivals, Peugeot has given it a much needed facelift earlier this year with updated styling and features, along with a little more power. But, are these changes enough to sustain its niche status in the local market, alongside the range of fast-improving competitors here?

At first, you may doubt whether or not the turbocharged 1.6-litre four-pot engine is has the goods to haul the 3008, but once you start driving your opinion on its diminutive size will change. The 165PS engine offers more than adequate power for the tasks you may put this car through. It revs freely all the way up to redline, while offering solid mid—range punch. The engine will also surprise you with its overtaking capabilities at speed, even above legally permissible speeds on the highways.

With no 4WD option available for the 3008,

it's just the front wheels that are driven. That said, it's not like you'd plan to take this SUV anywhere off the road anyways. The obvious result is a lighter SUV, and as a result you will appreciate that choice in terms of the amount of fuel saved every month.

Coupled to the sweet engine is a six-speed auto adaptive gearbox, which is a little bit disappointing. The six-speeder has a tendency to hold on to the second and third gear all the way up to redline even when you are accelerating normally. As you would expect from any tall-riding car, there is a noticeable amount of body roll when you start leaning in on corners hard, but there is no shortage of mechanical grip.

The electro-hydraulic steering feels heavier than most other class-rivals we've driven. This helps when driving at highway speeds, though you would wish for more assistance when navigating through city traffic or parking. Overall, it is a decent handling car, but not quite the best SUV when it comes to delivering the goods for that occasional spot of spirited driving sessions from time to time.

At low speeds, you may find the ride to be slightly stiff, but as you pick up speed it actually gets better. Is that a problem? Yes, because it is very likely that most of us are going to spend quite a bit of time driving on regular roads rather than highways. Still, small imperfections and ripples on the road are transmitted into the cabin very clearly at highways speeds. In terms

of interior design and quality, the 3008's cabin certain feels a notch more 'upmarket' than its immediate Japanese rivals. As you would expect from a French car, the dashboard design takes a more imaginative approach.

One of the plus points of this French crossover is its space. It will easily swallow five people plus their luggage for a 'balik kampung' trip without breaking a sweat. The rear passengers get sufficient amount of leg room and headroom as well. In short, the 3008 is roomy for all passengers. Its boot space of 512-litres, is on par with other cars in this class, and if you want to have more space, fold down the rear seats and you will get a whopping 1604-litres, but dropping down the rear seats alone is not an easy chore. However the addition of a self-recharging torch light in the boot is a neat touch.

As you would already know, the number of crossovers has rapidly increased in recent times. After all people will opt for a crossover simply for their robust and tough looks, higher ground clearance, commanding driving position and spaciousness, rather than utilise any off-road capability it has. In this case, the 3008 perfectly fits the bill. For its asking price, you do get a lot of toys and features if you choose to go for this high-riding French car. The Peugeot 3008 is a lot of car for RM150k, and it will not be a let-down if you are looking to use it as a tool to get from A to B. **✉ Lingkesh T.**

### Specification

Engine	Power	Torque	0-100kph	Top speed	Weight	Consumption	Basic price
Inline-4, 1598cc, petrol	165PS @ 6000rpm	240Nm @ 1400-4250rpm	9.5sec (claimed)	202kph (claimed)	N/A	7.7L/100km (NEDC combined)	RM153,888

**+** Competent handling, refined power delivery **+** Firm ride at low-speeds

**evo rating** ★★★★★

# Essentials

The Best Timepieces, Fashion, Scale Models, and Gadgets For The Discerning Enthusiast

## Vacheron Constantin Métiers d'Art The Legend of the Chinese Zodiac



As the Chinese zodiac calendar enters into the year of the Goat, Vacheron Constantin presents a new addition to their Métiers d'Art *The Legend of the Chinese Zodiac* collection that celebrates the symbol of a vivacious and independent spirit. Seated in the centre of the dial face crafted from pink gold or platinum is the detailed engraving of a Goat. As a demonstration of Vacheron's expertise in the field of precious ornamental techniques, the fine coat of fleece on the Goat engraving measures a mere fraction of a millimetre, providing a tangible expression of the artistic vision behind its creation.

Surrounding the engraving is an intricate leaf motif

that is inspired by classic Chinese iconography and paper-cutting art known as *Jian Zhi*. The technique is listed on the UNESCO Intangible Cultural Heritage list draws many similarities with another popular paper-cutting art from Switzerland known as Scherenschnitt. The motif, which is accentuated by several reliefs of raised honeysuckle flowers that appear to be floating over the dial, is etched directly in the metal.

Once the fine engraving work and etchings are done, the dial face is put through a *Grand Feu* enamelling stage, where enamel specialists will apply successive layers of enamel and then fired in

the kiln at temperatures ranging between 800 and 900°C to give its blue or bronze-toned dial the right visual intensity. When the right hue is achieved, the dial is given a final layer of enamel and fired to vitrify the dial and lends a shiny glazed effect that will give its floral motif an added definition. Once the dial is finished and the artisans satisfied with its outcome, the Goat engraving is delicately applied to its centre and sapphire crystal placed over it.

To ensure that the Goat keeps its place on the centre stage, the Métiers d'Art *The Legend of the Chinese Zodiac* features a hands-free display, with the hour, minute, day, and date being displayed

**Opposite:** inspired by the zodiac, Vacheron will only be making 12 examples each of the platinum and pink gold case timepieces. **Below:** combining a conventional steady movement and jumping movement requires Vacheron's Caliber 2460 G4 self-winding movement.



through four windows arranged around the central dial motif. While the hour and minute indications are of conventional steady movement, the day and date are of the jumping movement. Its mechanical self-winding Caliber 2460 G4 movement beats at the rate of 28,800 vibrations per hour and is equipped with a 22-carat gold oscillating weight adorned with a geometrical motif inspired by the shape of the Maltese Cross, the historical House emblem. In keeping with the spirit of the zodiac calendar, only 12 of each of the platinum and pink gold case timepieces will be produced, each bearing the year "2015" on the case back.

## Panerai Luminor Submersible 1950 Carbotech 3 Days Automatic

Renowned for infusing their latest timepieces with echoes of the glorious past, such as offering the Luminor Submersible in a case of bronze, Officine Panerai is looking to the future with a Luminor Submersible timepiece sporting a case made from composite material known as Carbotech. Used for the first time in the world of watchmaking, Carbotech, which is based on carbon fibre, has an uneven matt black appearance that varies according to the cutting of the material. As such no two Luminor Submersible 1950 Carbotech timepieces would be alike.

Carbotech is used to expertly form the iconic shape of the Luminor Submersible case, rotating bezel, and lever bridge that protects the winding crown, giving it a stealthy and sleek appearance.

Like other non-corrosive high-end materials used in watchmaking such as titanium and ceramics, Carbotech is lighter, much more resistant to external solicitations, making it ideal to encase the heart of the Luminor Submersible 1950 Carbotech, the P.9000 automatic calibre. Sporting two spring barrels the P.9000 calibre boasts a power reserve of three days.

To complement its appearance, the dial is black with applied hour markers and a date window at 3 o'clock, whereas its caseback is made of lightweight and durable titanium with black treatment. Standing out from its nearly all-black appearance, the timepiece's small seconds counter, Carbotech name, and 'OP' logo on its black rubber strap, is highlighted in an eye-catching Panerai blue.



# Essentials

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## DeWitt Academia Grand Tourbillon

Inspired by the advancements of the Industrial Revolution, which saw the mechanisation of society at the beginning of the 20th Century, the beautiful arrangement of silvered latticework of DeWitt's Academia Grand Tourbillon houses the Manufacturer's new calibre DW 8030. Derived from DeWitt's first 100 per cent in-house manually-wound tourbillon movement, the DW 8028, the DW 8030 features a time display in the form of a jumping hour and minute indication. For the setting of the hours, a rack mechanism is activated to give added mobility to the watch's dial. As each minute passes, a slip-spring moves into place, giving the wearer the impression of a highly complex machination of industry.

The date indication peers through from an opening in the outer ring and displayed in a rose gold colour tone at 3 o'clock, and is adjustable by a corrector situated on the side of the case. Round the back, the sapphire case back reveals a day and night indicator, which takes on a blue colour tone to indicate night-time and a white colour tone to indicate day-time hours.

As it is with every DeWitt tourbillon, the Academia

Grand Tourbillon timepiece bears the signature of the watchmaker who assembled it, and in order to ensure perfect quality, DeWitt makes it a point to honour that each grand complication movement should be assembled, set, and tested by the same master watchmaker.



## Montblanc TimeWalker Urban Speed e-Strap

**Right:** Montblanc's new TimeWalker Urban Speed Chronograph looks sporty and conventional (right), but it can come fitted with a digital e-Strap, which comes with an in-built touch screen display (below).

Ever since technology giant Apple bravely claimed that their new Apple Watch would kill traditional watchmakers, the debate between smart wearable technology and traditional watchmaking has been raging on. Many see it as a clash of an unstoppable trend meeting an immovable art. For Montblanc, dissolves the distinction between the two schools of thought with the TimeWalker Urban Speed e-Strap that marries a highly functional digital e-Strap with contemporary mechanical TimeWalker timepieces.

The e-Strap is an interchangeable strap that features an in-built touch screen display, which would allow the wearer to receive smart notifications from their mobile devices, as well as monitor the wearer's physical activity over time and keep track of their personal daily goals. More than just a device that reads digital inputs, the e-Strap also comes with a remote control function that is useful for controlling certain smartphone features. The e-Strap is said to be compatible with selected Android and iOS smartphone devices. In keeping up with the dependability of contemporary timepieces, the e-Strap would only need to be recharged every 5-days with a standard micro-USB cable.

The e-Strap is a fitting complement to Montblanc's new TimeWalker Urban Speed Chronograph, which epitomises a new and sophisticated urban feel with its 'cold grey' sand-blasted steel case and black ceramic bezel.



## Roger Dubuis Excalibur Automatic Skeleton

As new developments in the world of horology has pushed the engineering boundaries of timepieces onwards, watchmakers are finding new and interesting ways of opening up the minute and complex inner workings of their timepieces. One of the most complicated designs seen in watchmaking circles today is the openworked movement, which is often the reserve of high-end and experienced watchmakers.

In recent years, Roger Dubuis has made a name for itself in the field of skeleton calibres. Rather than merely designing skeleton-working existing movements, the Manufacturer has been designing their skeleton calibres right from the word go. This gives the designers a considerable creative freedom, and yet keeping the developers busy overcoming the challenges involved in ensuring that the mechanical functions fit the requirements of the design.

Its latest Excalibur Automatic Skeleton serves as a grand showcase for the Manufacturer's new in-house RD820SQ automatic skeleton calibre. Housed in a 42mm pink gold case, the skeleton calibre offers wearers a spectacular three-dimensional effect that is created by the openworked micro-motor and the brushed skeleton 'star shape' that is a signature of Roger Dubuis' skeleton timepieces. All of the movement's 167 parts have been individually finished with the same level of care and detail that earned Roger Dubuis the prestigious 100% Poinçon de Genève certification. More than a precise timepiece, the Excalibur Automatic Skeleton highlights Roger Dubuis' optimal command of technical and aesthetic parameters to create captivating timepieces that are beautiful yet functional.



**Above:** Roger Dubuis' skeleton movement is a thing of engineering beauty and finesse.

# Essentials

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## The Timeless Design of Mühle-Glashütte

With a history that dates back over 145 years, the medium-sized family business of Mühle-Glashütte has maintained a timeless design for their timepieces, which conveys the company's proud heritage of manufacturing precise dial gauges into the modern age. From first sketch to finished Mühle timepiece, the whole design process is carried out from start to finish at the company headquarters in Glashütte, Germany by the company CEO Thilo Mühle and a three-person team. This is where the ideas for the classic timepieces, sporty instrument watches, nautical wristwatches, as well as those for

the manufacture models of the R. Mühle und Sohn line emerge.

This adherence to the company's long and illustrious history has given a Mühle timepiece an appearance that is instantly identifiable upon first glance. One of the features that stand out is the bold and open character of the dial design that is derived from one of the company's core values – the optimal legibility of time. Even as Mühle-Glashütte prepares their 2015 model line-up, we can be sure that it will be a continuation of the company's longstanding tradition.



## Patek Philippe Upgrades Plan-les-Ouates

Just as festivities of its 175th anniversary have drawn to a close, Patek Philippe is turning their attention to enlarging its manufacture in Plan-les-Ouates to pursue new activities and enhance its knowledge transfer. With an investment of more than CHF 450 million, the project will see the construction of a new six-storey facility with four underground levels, and boasts a floor area of 50,000 square metres. When completed in 2018, the new facility is expected to house all of the family-owned company's Geneva-based activities and growth in the next 20 to 30 years.



**Blancpain Ocean Commitment Bathyscaphe Chronographe Flyback**

Despite the vastness and mysteries of the deep blue ocean, our oceans environment isn't entirely impervious to mankind's activities. As part of their support for oceanic environment causes, Blancpain unveiled a special Ocean Commitment limited edition, which will be part of a series of limited editions. The first of the series is the Ocean Commitment Bathyscaphe Chronographe Flyback, which features Blancpain's latest in-house movement, the F385. This entirely new column wheel controlled flyback chronograph movement runs at a high frequency of 5Hz, ideal for a chronograph as each second is perfectly divided into 1/10th of a second intervals. The movement is further distinguished by its use of silicon for the balance wheel spiral, giving it a degree of protection from magnetic forces.

Limited to 250 examples, the Ocean Commitment Bathyscaphe Chronographe Flyback will be individually numbered, with Blancpain committed to donate €1000 of the revenues from the sales of this piece to various initiatives. Each purchaser will also receive a copy of Blancpain's collectible volume entitled *Fifty Fathoms the Dive and Watch History 1953-2013*, that is hand numbered to correspond to the serial number of the purchaser's watch.

## Audemars Piguet Royal Oak Offshore Selfwinding Tourbillon Chronograph

Characterised by its thick octagonal case that extrudes solidity and imperviousness to the elements, the Audemars Piguet Royal Oak Offshore has garnered a cult following among horological aficionados, and cemented itself as one of the all-time greats of modern watch making. Its case of timeless elegance and lasting appeal has since seen several iterations with different movements and cases.

The new Royal Oak Offshore Selfwinding Tourbillon Chronograph on the other hand sports its very own self-winding Calibre 2897. Comprising of 335 parts, the mechanism is more than just an engineering masterpiece, but a work of micro mechanical art. Audemars Piguet prides themselves

as one of the few remaining high-end watch makers to still use a high level of decoration, which includes classic finishes such as mirror polishing, hand chamfering, circular graining, and hand drawing, to deliver a shimmering play of light and shade that its wearer can appreciate through its sapphire crystal caseback. These finishing touches are executed manually in a series of meticulous operations that accounts for as much as 30 per cent of the value of the finished timepieces. Such work would take hundreds of hours to complete, after which the master watchmaker can perform an initial trial assembly, before it has to be dismantled again to be meticulously cleaned, and made ready for its final assembly before being mounted in the 44mm Royal

Oak Offshore case.

To protect this sublime piece of engineering precision, Audemars Piguet's designers have created a special version of the iconic Royal Oak Offshore case using a mixture of materials to give it a modern appearance. Forged carbon is used of the middle, ceramic for the bezel, a mix of titanium and ceramic for the push pieces, and rubber for the strap. On this version, the model's eight trademarked polished steel hexagonal screws are nestled within the recesses of the black ceramic bezel, which has contrasting brushed and polished surfaces to provide an exceptional definition of its clean-cut angles, further defining the Royal Oak Offshore's unmistakable shape.



**Below:** though it uses modern materials and construction methods, the Selfwinding Tourbillon Chronograph still sports the Royal Oak Offshore's iconic shape (left).



# Essentials

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## Bell & Ross BR-X1 Skeleton Chronograph

Just as nature has shown that delicate structures can deliver tough structural properties, Bell & Ross' BR-X1 Skeleton Chronograph extrudes the image of a tough 4x4 with its angular 45mm case, and yet feels as light as a drone thanks to the use of grade 5 titanium and ceramic. Built in Bell & Ross' tradition of taking practical considerations into account, this timepiece that is limited to 250 examples highlights the watchmaker's expertise in creating professional watches.

To give its wearer maximum grip and control, the BR-X1's innovative rocker push-buttons, which are used to activate its chronograph functions, are made from high-tech ceramic with ergonomically-designed rubber inserts. A rubber grip is also fitted into the case at 9 o'clock to make it easier for the wearer to operate the rocker push-buttons. Perfect eligibility, a Bell & Ross design trademark is achieved with the

use of photo-luminescent inserts on the dial, hands filled with Superluminova, and a sapphire glass with anti-glare properties.

Rather than having a dial of metal, the BR-X1 features a grey-tinted mineral glass that feature appliqué metal indices, offering its wearers a view of its rare skeleton chronograph movement. Structured in the shape of an 'X', its upper bridge reads like a mark of its identity, which in this case takes after the code name that refers to NASA's experimental aircrafts and the timepiece's name, the BR-X1.

The central hour and minute hands are read traditionally, with the small seconds hand positioned at 3 o'clock, whereas a skeleton date dial is positioned at 6 o'clock. Instead of a hand, the minute timer on the BR-X1's chronograph function, which is positioned at 9 o'clock, uses an ultra light aluminium disc that resembles the blade of a turbine.

**Below:** the BR-X1 looks stylishly modern, helped by its use of rubber, titanium, and ceramic in its construction.



## Bell & Ross Unveils Commemorative BR03



Over the last 30 years, the annual Festival Automobile International has become the event of the year for auto design professionals and fans. In celebration of the show's 30th anniversary, Bell & Ross unveiled a commemorative model based on its iconic BR03 timepiece. Employing the design principles of a dashboard clock, this watch-instrument immediately affirms its utilitarian vocation. Its PVD-coated steel case, dial, and rubber strap are finished in jet black, while a bright red second hand adds a subtle sporty touch. In recognition of the auspicious event, at 6 o'clock, the dial bears the emblem of the Festival Automobile International. The "30th Anniversary" BR03 is available in a limited edition of only 30 pieces and was put on sale throughout the event that was held between 28th January and 1st February at the Hôtel National des Invalides.



## Urwerk UR-110 "Eastwood"

"Following convention" is the one two-word sentence that one wouldn't associate with the award-winning Geneva-based watchmaker, Urwerk. Renowned for making imaginative timepieces that defy-convention and tradition, Urwerk watches often bear futuristic and modern design cues. However for the UR-110 "Eastwood", Urwerk's watchmakers are blending its cutting-edge and unconventional movement with tailored flair and a vintage twist.

Touted as the final edition of Urwerk's 110 collection, the UR-110 "Eastwood" takes the brand's

eccentric appeal a step further. Instead of a bezel made from metals or ceramics, the "Eastwood" features a rounded bezel carved from ebony, one of the hardest and densest timbers on the planet. In keeping with the times, the bezel is made from five pieces of fair trade wood made from Indonesian Macassar ebony or South African Red Ivory wood. To complement its traditional appearance, the "Eastwood" comes with a strap made from the finest wool tweeds. Prized for its durability, tweed was the textile of choice for Britain's upper class. One of the patterns Urwerk chose to incorporate

into the strap for the "Eastwood" is the original Prince of Wales check worn by the Duke of Windsor.

Its unconventional use of wood on the bezel and vintage-style tweed for its strap is of stark contrast to the UR-110's timepiece which always shows the time on the right side of the watch. Three hour satellites follow a vertically arced line, graded from 0 to 60 minutes, in a downward motion. Planetary gears on the other hand keeps the satellites and their arrow-shaped "torpedoes" in parallel formation as they take turns to indicate the time as they pass the 60-minute track.



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## Breitling Chronospace Military

In Breitling's longstanding tradition of taking inspiration from the military, the Breitling Chronospace Military electronic multifunction pilot's chronograph is built to perform in the most extreme conditions. Featuring a stealthy black Volcano dial with luminescent numerals and hour-markers, and oversized hands, which guarantees optimal readability the Chronospace Military is ideally suited for any condition regardless of the lighting conditions. Complementing the Chronospace Military's SuperQuartz chronograph calibre are the addition of two NVG-compatible backlit screens that displays many functions that are useful to pilots, including a 1/100th of a second chronograph with split times, alarm, countdown timer, and a dual time zone display with independent alarm and Coordinated Universal Time.

**Below:** Breitling's brings analogue style with digital functionality in the Chronospace Military timepiece.



## Rado True

Though ceramic is an ideal material for watchmaking, prized for its toughness and imperviousness to the elements, its appearance isn't quite as refined or polished as one made from metal. For Rado however the reintroduction of its award-winning True timepiece, gives the watchmaker an opportunity to demonstrate their mastery of materials. The True's unique warm metallic colour is achieved without the use of any metals. Instead, its monobloc case is made from a high-tech ceramic that changes colour from white to a metallic hue through a plasma carburising process, a technique first used by Rado. The new ceramic case houses an automatic movement with up to 80 hours of power reserve, and is attached a new three-link flexible bracelet design for a comfortable fitting.



## Casio G-Shock GLS8900CM

There are plenty of watches out there that are built to withstand enormous underwater pressure, and highly resistant to the elements. For Casio's almost invincible G-Shock range, the final frontier is sub-zero temperatures. Designed to take on winter climates, the GLS8900CM comes with unique, weather responsive functions that are ideal for athletes competing in cold weather environments. The GLS8900CM comes with a low-temperature resistant LCD that can tolerate temperatures of as low as -20°C, with no fadeout. The GLS8900CM comes offered in four camouflage-banded colour themes.

## Pecqueur Conceptuals concept watch by Peugeot Design Lab



Far from the automotive sphere from which the Peugeot name is best known for, Peugeot Design Lab is a global brand design studio that leverages on the company's 200-year history in industrial design, and solely dedicated to the service of external clients. From bicycles to furniture, Peugeot Design Lab's expertise is expansive as it is distinctive. Recently Peugeot Design was tasked with creating an identity for Pecqueur Conceptuals, a new comer to the world of watchmaking. To establish the brand's "mechanical arts" approach, which is characterised by the integration of unprecedented materials and components, Peugeot Design has unveiled a concept watch.

Featuring a GMT complication that simultaneously indicates the home time and that of the second time zone on two dials, splitting of the mechanism is avoided thanks to the use of specific differential gear-based mechanics, which provides the focal point of the watch design. The new calibre OP 21/1-15 was created specifically for this watch and remains true to the original principle of Pecqueur, with a stepped rather than flat design that is unlike the differential gears of classic watches. Instead this innovative architecture is based on angle transmission gears that offers a beautiful overhead effect and features an elegant play on depth. The various display dials give the concept watch the dynamic impression of gears meshed together, while a differential bridge that pays homage to the Eiffel Tower overlaps the local time dial, offering its wearers a glimpse into the inner workings of its mechanical heart.

## Sony Bravia TV Gets Thinner and Smarter

Mobile devices aren't the only things getting thinner and more feature-laden. Sony says that their Bravia TV range for 2015 is getting thinner with the body of its X90C model getting as thin as 4.9mm, and smarter too with the introduction of Android TV. Similar to any Android-powered mobile device, the Android TV feature allows viewers to surf the internet, listen to music, view photos, play games, and install apps, just as you would on a mobile device only that it is now done on a larger screen. Despite slimming down the Bravia TV is said to boast better picture quality with Sony's 4K Processor X1, which promises greater clarity, brilliant colour, and higher contrast. To complete any immersive viewing experience, the Bravia TV comes with a DSEE HX audio upscaling feature that will deliver a more lifelike listening experience.



# Essentials

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## Naim Mu-so

By combining their expertise in audio streaming, loudspeaker design, and sound amplification, Naim has delivered a home hi-fi system where music lovers no longer have to compromise on sound quality for convenience. Capable of streaming 24bit/192kHz high-resolution audio, the Mu-so is able to continuously stream audio from Apple Lossless CD imports from iTunes, and various HD audio formats. Mu-so is also designed to support both iOS and Android mobile devices, laptops, and other storage devices. Music lovers would also be able to stream their favourite tunes from the internet. Thanks to its Sportify Connect feature, users would be able to take calls or operate other apps without any interruption to the audio streaming.

Designed to fit seamlessly into any modern living space, the Mu-so's clean and unassuming shape hides six 75W digital amplifiers that deliver 450W of audio firepower through its built-in speakers. With such power the Mu-so is quite capable of being used as a central home hi-fi system. Furthermore owners of other Naim systems such as the UnitiQute 2 would be able to link it up with the Mu-so to create a true high-fidelity multi-room audio system.



## Olympus OM-D E-M5 Mark II

If you think that mirrorless cameras are far inferior to their SLR counterparts, think again as Olympus claims that the latest version of their flagship mirrorless camera now comes with the most powerful 5-axis in-body Image Stabilisation system. The camera-shake compensation system is said to be the equivalent of setting a shutter speed faster by five EV increments. This translates into better low-light performance and the chance to leave that bulky tripod at home for a change.

Weighing in at 417g for the body alone, the E-M5 Mark II is relatively lightweight as compared to your average SLR, and is built to be dust-, splash-, and freeze-resistant. The list of features packed in the E-M5 Mark II is no less impressive. Its OM-D Movie Mode is able to record high bitrates of up to 70Mbps, and offers a wide variety of 1080 Full HD formats, from 60p to 25p or the classic 24p. With a 16MP LIVE MOS sensor, the E-M5 Mark II can deliver 40MP images, whereas its TruePic VII image processing engine is able to deliver high-resolution images even in low-light conditions.



## Lego Technic 24 Hour Race Car

Like Mark Webber, having done a Formula race car, Lego has turned their attention to 24-Hours endurance racing and produced a set based around a Le Mans Prototype. Supposedly designed to be a non-descript racer, the 24 Hour Race Car as the kit is called, bears a passing resemblance to the Toyota TS040.

Comprising of 1177parts, the 24 Hour Race Car features plenty of automotive components recreated in Lego that you would recognise if you had opened a Hayes manual before. Everything from the car's V8 bank to its double-wishbone front suspension setup and clamshell engine cover is gloriously recreated in that blocky yet charming Lego style. When completed the model would measure in at 48cm long and 21cm wide, and for more ardent Lego enthusiasts, the kit can be upgraded with a electric motor set to give it motorised doors, engine cover, and LED headlights.



## Forever Pininfarina Cambiano

Inspired by Pininfarina's Cambiano beautiful luxury concept car, the Forever Pininfarina Cambiano inkless pen is a blend of modernist style with classical elegance. Made from aluminium and wood, the writing instrument is characterised by a writing tip made from an alloy known as Ethergraf, which allows it to write limitless with no ink or refill. Completely hand made in Italy as a collaboration between esteemed design studio Pininfarina and Napkin, the Forever Pininfarina Cambiano was designed to deliver precise strokes like that of a pencil, but permanent as one traced from a pen.

Recently this writing instrument was awarded the "Trophée du design et de l'attraittechnologique", or

the award for best product in terms of design and innovation, by the French magazine "Le Stylographe". The Forever Pininfarina Cambiano is available at the Pininfarina store at [store.pininfarina.com](http://store.pininfarina.com).



**Left:** without the need for ink, the Forever Pininfarina Cambiano is more sculpture than instrument, and it looks that way too.

## LaCie Rugged RAID Hard Drive



For those delving into the world of digital photography and videography, one of the biggest gripes is finding a quick and reliable way to store all that data, especially when you are on the move. LaCie, Segate Technology's premium brand, has introduced the Rugged RAID mobile hard drive for just that sort of task. Wrapped in a shock, dust, and waterproof casing, the Rugged RAID comes equipped with Thunderbolt and USB 3.0 connectivity to ensure a sustained read speed performance of up to 240MB per second. With that

kind of speed LaCie claims that users are able to transfer as much as 64GB in less than five minutes.

To ensure complete data protection, the Rugged RAID features 4TB worth of data storage capacity, and thanks to its RAID 0 and 1 hardware, the data is duplicated across two hard drives. Furthermore the casing is tested to withstand drops of up to 1.5-metres and 1 tonne of pressure. The Rugged RAID also comes with the LaCie Private-Public software, which lets users password-protect the entire drive with an AES 256-bit encryption.



**PRETENDERS COME AND PRETENDERS**

go, but only Ferrari has remained a constant force on the supercar scene. Like gravity, the weight of Ferrari's unparalleled catalogue of exquisite road cars and a matchless motorsport pedigree keeps the others firmly in their place.

So, while it's true there have been a few lame nags along with the prancing horses, and the Scuderia has endured some seasons to forget, it's also true that when it comes to pulling out all the stops and building genre-defining flagships, Ferrari never fails to deliver.

In 21st century terms, this means Enzo and LaFerrari. It's an obvious pairing, but no less compelling for that. Besides, it's not simply getting these two mythical beasts together, but the challenge of getting them together for a meaningful amount of time, in a location that does them justice, that takes blood, sweat and tears. Not to mention the trust and generosity of two owners. As moments go, arriving at our chosen meeting point high on the Denbighshire moors to find the Enzo and LaFerrari already disgorged from their transporters and silhouetted against an azure sky is something akin to a religious vision.

A decade or more on from its launch, the Enzo's shock value remains undiminished. If anything the intervening years have

**‘Seeing the Enzo and LaFerrari together is something akin to a religious vision’**

intensified its visual impact, a little familiarity somehow allowing us to interpret the quality and purity of its shape, rather than just stare in slack-jawed wonder. The boldness of its profile, the extravagance of its endless front overhang, the quirkiness of that upswept side window and the brutality of its squared-off tail conspire to create something wondrous. Still not beautiful in the conventional sense, but utterly magnificent.

So you approach the Enzo with a certain reverence, as befits a car named in memory of the Old Man himself. Reach into the neat recess in the trailing edge of the door, pinch the release handle and swing the door up and open before stepping down into the cockpit and settling into the supportive driver's seat. It's wall-to-wall carbonfibre in here. No frills or fripperies. In fact it's like sitting in an unfurnished room, empty and a bit echoey. Ahead of you are only the essential tools of a driver's trade: steering wheel, two pedals, two paddles and some dials that come to life when you twist the ignition key.

Enzo predates the manettino, so instead of that deliciously tactile red anodised lozenge you get a row of small round buttons on the steering-wheel boss. I can remember thinking that this, combined with the shift lights embedded into the top of the wheel's arc, was impossibly cool when I first drove an Enzo (the first to

# BLOOD BROTHERS

by RICHARD MEADEN | PHOTOGRAPHY by DEAN SMITH

*Does the new LaFerrari deliver the ultimate flagship Ferrari experience? Or does that honour still belong to its legendary predecessor, the Enzo? In an **evo** exclusive, we put these two £1million machines head-to-head to find out*



**Right:** the LaFerrari emerges from its trailer.  
**Below:** carefully does it...  
**Bottom:** Enzo requires care on damp autumnal tarmac



to the UK). Now it looks a bit quaint. I'm wondering if the driving experience will mirror that in the face of the LaFerrari.

Dab the brake, press the scarlet engine start button, and momentarily register the shrill spin of the starter motor before all twelve combustion chambers ignite in a barrage of furious sound and rich super-unleaded fumes. This particular Enzo has a somewhat liberal attitude to silencing. In fact it's deafening. Still, out of courtesy to the cold V12 you have to sit for a few minutes, eardrums rattling in your skull, as hundreds of metal components thrash up and down in cold, viscous lubricants. Slowly the gauges begin to register some temperature, the cold-start revs settle into a less frantic tickover and the four stubby tailpipes spew rising serpents of vapour. Finally the oil pressure drops a little, acknowledging the hard-working oil pump's burden is beginning to ease as the oil thins. The Enzo is ready. But are you?

Dab the brake, pull back on the right-hand paddle and gently squeeze the throttle. The clutch begins to bite and the Enzo gets moving, slowly at first, then more insistently as clutch plates finally clamp to the flywheel. The sparse cockpit offers little isolation from the commotion going on just behind the firewall, and the carbon

## 'Few cars offer such an immediate connection between throttle and response as the Enzo'

tub transmits all manner of tingles, vibrations and resonances into your body. You really do feel like one of the car's components.

Stray chippings and other bits of road detritus clatter round the wheelarch liners, picked up and flung like roulette balls by the big Pirellis. You've only explored a small fraction of the throttle's travel, but still the magnificent 6-litre V12 dominates the experience. Few cars offer such a direct, precise and immediate connection between throttle and response, with seemingly every additional micron of pedal movement yielding a commensurate rise in revs, noise and acceleration. This is not a car you get into and stamp on the gas, not least because 660PS and 657Nm in a million quid's worth of all-carbon Ferrari icon deserves and demands healthy respect. Especially when the road is slick with overnight rain and strewn with the first leaves of autumn.

The skies are blue and the sun is out, so the grip will come, but for now the Enzo is playing the part of short-tempered supercar to a tee, fighting for traction in a straight line on part-throttle and generally showing me who's boss. It's now you're presented with a major dilemma. Leave the ASR in its tighter settings and it's difficult to get the Enzo to make clean, uninterrupted progress, but disabling it altogether feels like the ultimate hubris. Despite its label, Race mode seems like the best compromise, for it relaxes the electronic reins sufficiently for the rear wheels to spin, but still offers some support, both literal and psychological.

As the Enzo winds through the intermediate gears, revs flaring and tail shimmying as the meat of the torque arrives at 4500rpm, there's the sense that even a stage as grand and sprawling as this has





**‘You feel  
the increased  
sophistication  
the moment the  
LaFerrari starts  
moving’**

been found wanting by the demands and performance envelope of our 350kph projectile. The Enzo is a big, broad car that fills its side of the road and more. You become familiar with the *kerdug-kerdug-kerdug* of the right-hand tyres slapping across the catseyes, and when you encounter oncoming traffic you instinctively breathe in as a ton-and-a-half of steel flashes by its precious composite flank.

The steering has that unmistakable urgency and pointiness that defines all turn-of-the-century Ferraris. It's alert and aggressive, enough to require calm hands and measured inputs if you're to avoid over-agitating the Enzo as you turn in, but the upside is a front end that you know will always change direction and never wash wide of its mark. It takes confidence to lean that hard on the nose, especially as you know that doing so means the tail feels lively. Coupled to the razor-sharp throttle response and a rampant V12, you really need to dance the Enzo through fast corners with small, precise inputs. An unflustered approach pays dividends, for getting the car settled before you ask it to change direction means it stays deliciously flat and four-square on the road. With each

tyre working evenly and pressed helpfully into the surface by the steadying hand of downforce it slices through fast sweeping curves like a slot car, punching out onto the next straight as you push the throttle through the last of its travel and ride the torque as it goes to work on one of the six-speed transmission's taller ratios.

It's an intoxicating feeling, and one surpassed by the savagery of the Enzo's delivery in the first three gears. With dry tarmac beneath its tyres the whole car comes alive and you can access a whole new dimension of excitement. It'll still break traction, but only under full throttle, and it remains stable and free from that edginess that makes it so spiky in the wet. Even in the dry there are only so many opportunities to stoke the Enzo's race-bred V12 through successive gears, but when you do it's absolutely sensational. The sound builds from a deep, roiling bellow to a raw and jagged howl, each upshift punctuating the aria with a short, phlegmy stammer.

There's plenty of go at any revs or throttle opening, but as each gear is devoured there's a definite sense of building to an aural and accelerative crescendo. You have to work the Enzo to get the best

from it, and you have to form an intimate bond with it to know how to do so. The automated single-clutch transmission, once a source of wonder and synaptic shift speeds, is one of the Enzo's weaker links, but you do learn to finesse the upshifts, not so much by lifting off the throttle, but by relaxing your pressure on it by a fraction. No need to worry on downshifts, though, so you squeeze the brilliantly powerful and satisfyingly feelsome carbon brakes and bang down through the gears, revelling in the massive stopping power, *brapp-brapp* blips and crackling report of the exhausts on a closed throttle. It might be an early product of the digital age, but its thrills are very much of the visceral kind.

If the gearbox dates the Enzo then so too do the damping and driver aids. Actually it's probably more accurate to say it's the electronics that date the Enzo, rather than just the hardware. Don't forget these were the days when the firmness of suspension was ramped up in line with everything else, so as you go from Sport to Race the car gets stiffer. But while the chances are you'll want the increased immediacy, aggression and freedom offered by Race,



**Above:** the LaFerrari's more advanced damping inspires greater confidence through corners. **Below:** Meaden gets absorbed into the LaFerrari experience



it doesn't always figure that you'll want the firmest suspension to go with it. On a smoother, more manicured road like the Route Napoleon, that's not a major compromise, but up here where the surface is more lumpy you want a little more pliancy than the Enzo is prepared to give you. Yet run in Sport and you run the risk of grazing the car's flat belly on the road through the numerous high-speed compressions that lie in wait. Ultimately it's a combination of common sense and limited body control that tempers your speed, even when the road opens out and invites you to go for it. But when those moments come, the Enzo is absolutely mighty.

There's something slightly surreal about climbing out of an Enzo and immediately walking up to a LaFerrari, as though I've been sucked into the pixelated fantasy world of *Forza* or *Gran Turismo*. The first thing that strikes you is how much fussier the new car's styling looks. Compared to the broad, slab-surfaced Enzo, the LaFerrari is a complex collision of curves, scoops and moveable aerodynamic devices. Where the Enzo has the look of a Cold War MiG fighter jet, all square shoulders and jutting air intakes, the

## 'The LaFerrari's shape bends the slipstream to its will, rather than taking bites out of it'

LaFerrari's shape is more intelligent, bending the slipstream to its will, rather than taking big bites out of it.

From the moment you climb inside you know you're in a different world. Where the Enzo's cockpit feels hollow and brittle, the LaFerrari's exudes a sense of quality. There's a reassuring density to the thunk with which the door closes and a level of finish to the interior that highlights the exposed fixings and visible wiring that has always made the Enzo feel unfinished.

The fixed seat forces a different ritual to getting comfortable, so you bring the oddly shaped (but perfectly comfortable) steering 'wheel' and pedals towards you, rather than shuffle yourself around on runners. Start the engine and there's little of the Enzo's bombast, but you're in no doubt of the potency of the powerhouse that sits just behind your shoulders.

Like with the Enzo, there's little effort involved in getting the LaFerrari underway; the same dab-tug-squeeze of pedals and paddle is all you need to do. The double-clutch transmission is smoother and more decisive, the propulsion creamier and more elastic. There's more weight to the controls, especially the steering, which has a calmer and more intuitive rate of response that has subsequently informed the 458 Speciale's dynamic stamp. As a result it's easier to settle into the LaFerrari, for it feels like a more relaxed, less edgy machine.

The suspension has the same polish. There's sweeter control and greater depth to the damping, and you can feel this increased sophistication from the moment you start moving. The whole structure has greater rigidity and integrity, which combined with much-improved levels of noise, vibration and harshness creates



an impressive, all-pervading impression of solidity. It might seem anathema to what a supercar stands for to praise comfort and isolation from the action, but the really clever thing about the LaFerrari is that it only seems to filter out the unwanted bits. Those parts that matter – your understanding of what each wheel is doing, how much grip it has available and how hard the suspension is working – are more clearly gauged and understood. What's more, thanks to the supremely honed electronics you have complete faith – and zero frustration – in the driver aids.

In the LaFerrari it's clear we have now reached a point where traction and stability control systems are another tool at the driver's disposal, for they never get in the way and allow useful slip angles. It de-risks the process, yet when you work your way to the most lenient settings it's still your skill and judgement that will make the difference. Maybe I'm getting old, but I never make that final twist of the manettino to disable the ASR. On the road there's simply no need.

Retracing the route I followed earlier in the Enzo is a bizarre experience, for it literally feels like the road has been resurfaced. Not with baize from a billiard table, but with a smoother covering of fine asphalt that's had the sharpest edges and most savage compressions rounded and filled to present less of a challenge to passing hypercars. In the LaFerrari, mid-corner bumps barely deflect you from your chosen course and crests do little to shake the rear tyres' ability to channel all that torque into the tarmac. It's a graphic lesson in the advances in suspension technology and one that makes the Enzo feel its age.

If there's a defining type of corner up here on the moors it's the long, fast sweeper. In a car like the Enzo or LaFerrari they require minimal steering lock, but because of the speed at which you can commit to the turn, you're chasing maximum confidence and feel for what the front and rear ends are doing. The Enzo's responsive nose, light steering and slightly edgy tail never quite feel completely connected to one another, so although you learn to trust it, you rarely feel totally relaxed. Thanks to its slightly calmer steering and a much closer bond between front and rear ends, the LaFerrari feels much the more composed. There's a fleeting phase after the perfectly measured initial turn-in where the steering seems to deliver a slightly increased rate of response, but then almost as soon as you've noticed, a fraction more lock restores the linear response. Every now and again you find a curve that has you sitting in this awkward transitional stage, but it's a very minor flaw.

Interestingly, the brakes don't feel quite as linear as they did in Italy on our first drive of the LaFerrari (evo 111). The nature of those roads – short tangles of straights and hairpins – meant you'd hit the brakes late and hard, much like we did later in the day in our laps at Fiorano, but up on the moors that fringe Snowdonia the greater variation of corners demands more subtlety, and therefore tests whether the brake feel and response is black and white, or offers some shades of grey. The answer is a bit of both, actually. When you're making lighter brake applications there's a fraction of dead travel, then the pads seem to pinch the discs rather than squeeze. Like that split-second of non-linear response in the steering it's soon gone, replaced by consistent, organic and intuitive feel, not to mention immense power, but for outright feel they don't quite match the Enzo's stoppers.

The funny thing is you don't get the sense it's related to regenerative retardation for the hybrid system, as it feels more of a temperature-related issue. You simply don't need to brake that often, or that hard, on these roads, so it could be that they just crave more heat. On the positive side there's no hint of the regen 'grab'

**'The magnitude of performance at the command of your right foot in the LaFerrari is, frankly, crazy'**





**Left:** Enzo's F1-inspired wheel includes buttons to control the driving mode, indicators and hydraulic nose lift function

the moments it delivers are incredibly special.

Like the Enzo, the LaFerrari has too much performance to deploy on these roads, despite the huge steps in suspension and electronics, but you always have to remind yourself that you're unleashing 963PS and 900Nm, some 303PS and 243Nm more than the Enzo sometimes struggles to control. That's absurd firepower. What's truly remarkable is the level of refinement, quality and measured tactility that's been engineered into a car that relies so heavily on electronics. Its chassis is far more supple and malleable, yet you feel more connected to the process. And, though it perhaps sounds irrelevant in a car so wholly dedicated to speed, it feels just as satisfying at low speed, so you get more from the experience more of the time. I'm not sure there's ever been a more complete supercar, at least when measured against my own emotional and rational yardsticks.

No question, the LaFerrari is a majestic machine. One that embraces dazzling technology, but ruthlessly exploits it to intensify its performance in a manner Enzo Ferrari would surely condone. The F40 was the last flagship to receive his blessing, but in the wake of his death in 1988 the F50, Enzo and now LaFerrari have remained true to his memory. When asked which was his favourite car, Ferrari responded: 'That which is yet to be built. The car which I have not yet created.' He could surely not have imagined a car like the LaFerrari, just as we can't conceive of how its eventual successor can possibly move the game on further than this.

*With thanks to Matthew Munson and Chris Green for the loan of their fabulous cars.*

**'I'm not sure there's ever been a more complete supercar than the LaFerrari'**

we felt at Fiorano during the final phase of hard braking, so that's clearly something that only manifests itself when you're right on the limit of the brakes.

The magnitude of performance at the command of your right foot is, frankly, crazy. We covered how the technology of the 963PS hybrid system works in our original test, but suffice to say the way the V12 and battery power combine is like nothing else, P1 and 918 Spyder included. Of course, if you work it hard from a standstill, the way you're catapulted down the road is genuinely shocking, but it's even more impressive to settle at a steady speed (not three-figures fast, but not far off) in a high gear, let's say fifth, and then floor the throttle. Without any hesitation or pause for breath it punches – and I mean punches – forwards, as if you've just dropped two gears. The way it accelerates from three penalty points through six, to nine and, ultimately, to a velocity where you're risking your licence and liberty is quite shocking and, in truth, laughably easy. The only consolation is you can dip in and out of this twilight zone so readily that you and the LaFerrari barely break sweat.

Such epic in-gear performance is a new sensation brought to us by this new breed that is the hybrid hypercar, but it's one that does come with a downside, and that's the fact it all but negates the need

to explore much beyond the foothills of this extraordinary V12's rev range. Of course you don't have to rely on the massive low- and mid-range shove, but invariably you find yourself working within that generous band of propulsion, rather than using the gears. At least that's how it seems on the road, where even going as fast as the most liberal conscience thinks is prudent you're still so far within the all-out capabilities of both these cars that to believe otherwise is totally delusional.

By every objective – and most subjective – measures the Enzo is outclassed by the LaFerrari. It trails in pace, grip and poise, yet its performance is less accessible and harder to manage. How a car that was once the benchmark for advanced technology can now seem so comparatively crude is testament to the increasing pace of change in automotive engineering rather than any slight on the old warhorse. And yes, despite the compromises and relative shortcomings, the Enzo remains a spectacular experience. There's something intoxicating about the rawness of its delivery and the fact there isn't an instant seamless slug of battery power to iron out the kinks in the torque curve. It's a more binary character, less patient of those who can't or won't commit, less adaptable to road surface and weather conditions. But when the road is smooth enough and dry enough, and you feel bold enough to seize the day,





‘The Enzo and now the LaFerrari are cars



Top: carbonfibre body helped keep the Enzo's weight down to 1255kg (dry). Below right: V12 produces 660PS – still a mighty figure, but down 303PS on the LaFerrari

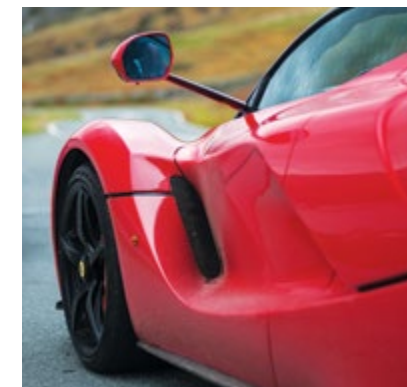
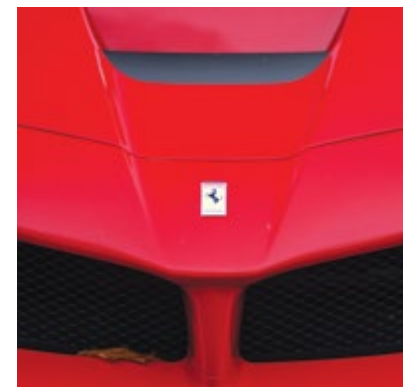


**FERRARI ENZO**

**Engine** V12, 5999cc  
**Power** 660PS @ 7800rpm  
**Torque** 657Nm @ 5500rpm  
**Transmission** Six-speed automated manual, rear-wheel drive, limited-slip differential, ESP  
**Front suspension** Double wishbones, coil springs, adaptive dampers, anti-roll bar  
**Rear suspension** Double wishbones, coil springs, adaptive dampers, anti-roll bar  
**Brakes** Ventilated and cross-drilled carbon-ceramic discs, 380mm front and rear, ABS  
**Wheels** 9 x 19in front, 13 x 19in rear  
**Tyres** 245/35 ZR19 front, 345/35 ZR19 rear  
**Weight** 1365kg (1255kg dry)  
**Power-to-weight** 484PS/tonne (526PS/tonne dry)  
**0-100kph** 3.7sec (claimed)  
**Top speed** 350kph+ (claimed)  
**Basic price** c£950,000 today, c£450,000 when new  
**On sale** 2002-04



that remain true to Enzo Ferrari’s memory’



Top: LaFerrari is same length as the Enzo, with an identical wheelbase, but is 43mm narrower; it weighs the same too, despite its V12 (below) being joined by a hybrid system



**FERRARI LaFERRARI**

**Engine** V12, 6262cc, plus 120kW electric KERS motor  
**Power** 963PS @ 9000rpm  
**Torque** 900Nm+ @ 6750rpm  
**Transmission** Seven-speed dual-clutch gearbox, rear-wheel drive, ESC, E-Diff 3, EFl-Trac  
**Front suspension** Double wishbones, coil springs, adaptive dampers, anti-roll bar  
**Rear suspension** Multi-link, coil springs, adaptive dampers, anti-roll bar  
**Brakes** Ventilated and cross-drilled carbon-ceramic discs, 398mm front, 380mm rear, ABS, EBD  
**Wheels** 9 x 19in front, 13 x 20in rear  
**Tyres** 265/30 ZR19 front, 345/30 ZR20 rear  
**Weight (dry)** 1255kg  
**Power-to-weight (dry)** 767PS/tonne  
**0-100kph** sub-3.0sec (claimed)  
**Top speed** 350kph+ (claimed)  
**Basic price** c£1million when new  
**On sale** 2014 – but sold out!



RS6 AVANT v XFR-S SPORTBRAKE v E63 AMG S ESTATE

# Load.

by DAN PROSSER

# Aim.

PHOTOGRAPHY by DREW GIBSON

# Fire.

*These three estate cars boast a combined 1695PS. We pit the awesome new 550PS Jaguar XFR-S Sportbrake against its rivals from Mercedes and Audi*



# T

## HE IMPENETRABLE

morning fog that greeted us upon our arrival at the Black Mountain road in south Wales lifted an hour or so ago. And as far as I can make out, my extremely juvenile colleague in the Jaguar a few yards ahead of me is doing his utmost to blanket the expansive valley to our left beneath a thick white fog of his own. He seems to have buried both pedals at once, using the XFR-S's supercharged V8 and 295-section rear boots to generate enough smoke to signal the election of a new pope a thousand times over.

He bleeds off the brake pedal and the car begins to creep slowly forward, the rear end slewing towards the grass verge. A pair of snaking, jet-black lines emerges from beneath the Jaguar's long body, scorched indelibly onto the road surface, while the white smoke builds

relentlessly and begins to envelope the dark red wagon. He finally backs out of the throttle, but for several seconds the smoke continues to pour off the asphalt and from deep within the car's rear wheelarches. As the stiff breeze eventually lifts the fog high into the air, I find myself debilitated by my own breathless laughter. It's the single most tumultuous burnout I can recall witnessing. And it was executed by a Jaguar estate car.

At every possible juncture the automotive industry is at pains to remind us that it has an ecological conscience. New plug-in hybrids and all-electric vehicles appear in a non-stop stream of pious one-upmanship. Even the very latest £1m hypercars seem to raise an apologetic hand to the environmental lobby with their zero emissions electric drive modes. As the manufacturers increasingly project an image of earnestness and



RS6 AVANT v XFR-S SPORTBRAKE v E63 AMG S ESTATE



**Left:** because you can.  
**Above:** XFR-S Sportbrake boasts the same peak power figure as the XJ220.  
**Right:** first time Jaguar's R-S badge has been pinned to the grille of an estate



*'IT'S A COMMENT ON THE SHEER LUNACY OF THIS SECTOR OF THE MARKET THAT THE JAG IS ACTUALLY THE LEAST POWERFUL CAR HERE'*

diligence, cars like the Jaguar XFR-S Sportbrake remind us that the industry has not lost its sense of humour.

The super-estate as a concept is nothing new. It was 20 years ago that Audi first slackened jaws with its 315PS RS2 Avant, an estate car that – with the help of those wily engineers at Porsche – had enough grunt to outpoint that very marque's own 911 sports car. So we've long been in awe of family wagons with the straight-line performance to make a supercar blush, but this latest generation of super-estates seems to haul the insanity level to unprecedented heights.

The XFR-S Sportbrake may well be Jaguar's first of the breed, but it's by no means a half-baked effort. If I could offer you just one piece of information to convey the sheer intent of this machine, it would be this: the XFR-S develops exactly the same amount of power as an XJ220. That's 550PS. Since it's my privilege to cram as much information as I can into an 10-page magazine story, consider also the following: 680Nm of torque from 2500rpm, 4.8 seconds to 100kph and 300kph flat-out. In purely rational terms that 5-litre supercharged V8 has no business whatsoever lurking beneath the bonnet of an estate car.

It's a comment on the sheer lunacy of this sector of the market that the Jaguar is actually the least powerful car here. The Mercedes E63 AMG S puts

out a scarcely credible 585PS with 800Nm ready from 2000rpm. That's what a 5.5-litre twin-turbo V8 will do for you. Like the Jaguar, the Mercedes is rear-wheel drive only with a limited-slip differential tasked with deploying the gargantuan motive force with some degree of finesse.

The Audi RS6 seems best prepared to make effective use of its twin-turbo V8 power since it's the only four-wheel-drive car here. That engine is a 4-litre, good for 560PS and 700Nm of torque from even lower revs (1750rpm) than the Merc. The Audi is terribly unfashionable for actually being less powerful than the car it replaces, though with a quicker-shifting Tiptronic gearbox and less weight to lug than its predecessor, it is at least faster.

**WE'RE GOING NOWHERE IN A GRAVEL** car park at the summit of the Black Mountain road, waiting for the dense morning fog to burn off. Every so often our surroundings will brighten slightly as the sun threatens to break through the low-lying cloud, but time and again an ever-thicker pillow of fog rolls across the hillside to blot the sun out once more. A steady stream of dog-walkers and work-dodging white-van drivers pulls into the car park, few of them caring to take a second look at our three-car line-up. I doubt any of them would imagine that between them they're worth a smidge under £250,000, nor that their

combined power outputs total 1695PS.

They might be equally surprised to learn that their collective kerb weights would tip the scales at 5782kg; each is within a few dozen kilos of two metric tonnes. And therein lies both the very appeal of cars such as these, and the problem. Each of them carries a price tag and a level of firepower that only the trained eye will appreciate, but they're also so downright heavy that one begins to wonder at the very wisdom of them. Is this application not just a waste of a perfectly good performance car engine?

With the fog having risen and a bunch of static shots committed to memory card, I pinch the keys to the Jaguar. I've driven a handful of

*'EACH CARRIES  
A PRICE TAG  
AND A LEVEL  
OF FIREPOWER  
ONLY THE  
TRAINED  
EYE WILL  
APPRECIATE'*

XFR saloons in the past, but this'll be my first exposure to the higher-powered XFR-S version, and also to the Sportbrake body shape. It's a relief to escape the gusting winds as I drop into the Jaguar's leather-bound cabin. When the XF first arrived back in 2007 the interior was stylish in a minimalist, contemporary sort of way. Much the same remains true seven years later, but despite a few facelift tweaks along the way, the quality or sense of solidity that one expects of a premium saloon just isn't there. It's the details that cause all the problems: the indicator stalks are pretty naff and the bin covers on the transmission tunnel both look and feel cheap. And the way that the rear edge of the steering wheel boss cover can bite

at your fingertips is just inexcusable.

Five hundred and forty two bhp has a habit of putting niggly interior details into perspective. The Jaguar is furiously quick, but (and this seems like an odd thing to be typing given that the 680Nm torque peak comes in at just 2500rpm) it doesn't quite serve up the same immediate, wrecking ball thump of the twin-turbo cars. Instead, the impression is of torque building steadily over the rev range – a quirk of supercharging compared with turbocharging – so the car seems to accelerate at an elasticated rate towards the horizon. The exhaust note at standstill is pure big-capacity V8, but as the engine approaches its rev-limiter the sound

grows into a frantic ripping noise, like a thousand newspapers being torn at once.

The eight-speed automatic gearbox is the same ZF unit that serves so effectively in the F-type. Be it perception or calibration, the gearshifts don't feel quite so crisp and clean as they do in the sports car. The torque interruption on upshifts is fairly minimal, but the slight lag between pulling the right-handle paddle and the shift actuation does irritate a bit in an age of whip-crack twin-clutch gearboxes. In isolation the Jaguar's auto is good enough, but it's off the pace of the very best.

The stability control system has three modes: on, intermediate, and off. The road surface is

dry and warm in this unusually pleasant late September, so I hold the button down until the system is disabled fully. What first becomes apparent is that the mighty engine has no trouble whatsoever in overcoming whatever purchase those rear tyres can muster. It's only in third gear that the chassis can handle the full arsenal. The electronically controlled plated differential does at least distribute the power evenly and with a level of transparency; when the traction breaks it isn't with an alarming immediacy or with a violent bid for freedom by the rear axle.

That's true, at least, in a straight line. At corner exit in second gear the car will attempt

to rotate itself quite suddenly if you're clumsy with your throttle inputs because there just isn't the traction to handle the torque. The pedal itself is also quite binary in its operation, with a lightness to its resistance, which makes metering-out fine throttle inputs rather tricky. In faster third-gear corners the XFR-S won't try to swap ends under power in quite the same way, but that throttle calibration does make balancing the car in a neutral state at corner exit without inducing a sudden yaw moment quite hit and miss.

Yes, the Jaguar is traction-limited. Of course it is. Over the course of a few miles the driver learns to treat the pedal on the right with respect, after which point the XFR-S can be hustled swiftly without fear of the tail lights suddenly overtaking the headlights. And, evidently, it does play the drifting hooligan as though it was born for it.

As with the throttle calibration, the driver must take a little time to tune into the chassis' responses. The first impressions are of light, disconnected steering, a hyper-alert front axle and a lack of body control; the car feels aloof and vague to begin with, which is precisely what you don't want of a near-two-tonne machine with more than 500PS on a narrow, rock-lined hillside road. The process goes something like this: brake hard for the corner, pulling for downshifts that don't bang in quite when you want them; turn in, feeling a lack of resistance in the rack and a disproportionate dart of the front axle towards the apex; feel the heavy body collapse onto the outside wheels; unwind the steering lock a little to correct the line; wonder if the rear axle will manage to

scribe the same tight line as the front; unwind the lock while trying to feed in the power smoothly; throw a little corrective lock at the resulting slide; widen eyes (involuntarily) for maximum concentration as the big V8 catapults you down the next straight.

For the first few miles, extracting performance from the XFR-S is a little like riding a bucking bronco. The biggest mistake one could make now, though, would be to get out and loudly declare it a spudder.

The XFR-S takes time and familiarity. In the way that eyes adjust to the dark, the driver soon adjusts to the Jaguar so that its rate of response begins to feel normal. Whereas the steering was once vague, it now feels incisive and even feelsome. The front axle finds huge turn-in grip, while what initially felt like a lack of body control is really just a predictable and manageable degree of roll. The XFR-S is always a tricky car to nudge right up to its dynamic limit and manipulate on that edge, but the driver does soon get into a rapid, flowing, eight-tenths rhythm, feeling confident in the car's abilities



*'FOR TWO CARS THAT HAVE SO MUCH IN COMMON, THE JAGUAR AND MERCEDES COULD HARDLY FEEL MORE DIFFERENT'*



*'DESPITE LACKING IN DISPLACEMENT, THE AUDI REALLY DOES FEEL THE MOST RABIDLY ACCELERATIVE'*



**Above:** the RS6's four-wheel drive allows it to convert every one of its 560PS into forward motion. **Far left:** Merc's squarer lines make it the most capacious load-carrier of the three



090 evo



**Above:** latest RS6 has two cylinders and a whole litre less than its predecessor, but with less weight and a fast-shifting auto gearbox, you'd never know from the way it goes. **Right:** Merc keeps its masses in check beautifully

and exploiting that wildly mismatched traction-to-torque ratio for dramatic effect when space allows. It does demand a specific approach but, once the driver figures that out, the XFR-S is fast and a huge amount of fun. Often very childish fun, it must be said.

For two cars with so much in common, the Jaguar and the Mercedes could hardly feel more different over a road like this one. Immediately, the E63 is more intuitive and approachable. Its steering has a natural weighting, the front axle's dart for the apex is proportional to the steering input, and that moment of body roll at corner entry is far less exaggerated. It has similar turn-in bite to the Jaguar, which is to say rather more than the weight of these things might suggest, but with better traction it feels much less nervous at corner exit under power. In fact, the E63 suffers from the exact opposite problem to the XFR-S in terms of throttle calibration; its accelerator feels blunt and lethargic, in contrast to the Jaguar's aggressively sharp response. Given the vast torque in reserve, you have to throw an awful lot of clog at it to bring the rear axle into play. That gives a false impression of



lazy throttle response and excessive turbo lag, which is unfair, although sharper calibration would make the E63 feel more alive and easier to balance on power at corner exit.

So the Mercedes feels much more intuitive and accessible in performance driving terms than the Jaguar. It's sharper and more agile when the road gets really challenging because it keeps its mass in check more effectively; whereas the Jag tries to disguise its weight with that hyper-alert front end, the Mercedes *defeats* its weight. There are frustrations, however, such as the slightly dim-witted automatic gearbox – the least effective transmission here – and the steering, which suddenly feels numb and synthesized mid-corner just when you want it to load up and chatter back to you.

There can be no doubting the efficacy of that monstrous twin-turbo V8. It serves up both the kind of effortless, half-throttle performance that enables you to dismiss all other traffic with utter disdain, as well as thumping the weighty E63 along at astonishing speed under full load through the gears. It lacks the character of the Jaguar's supercharged V8, however, and we

will forever mourn the loss of that wonderful old 6.2-litre normally aspirated V8.

The RS6 is an altogether different proposition. With its downsized engine it represents the new school of super-estates, the direction in which this sector is certain to head. I first get a taste of it as I run five or six times through a third-gear left-hander for the snapper's lens. Immediately it lacks the incisive turn-in bite of its rivals here, the front reaching its limit just a little sooner and washing away from the intended line. It also feels wider and longer than its rivals, though with the dampers in their firmer mode it does keep control of its mass very well over undulations. The issue, however, is that the RS6 crashes over lumps and bumps quite heavily in this mode, while switching to the softer damper setting means it runs out of body control rather too early.

The chassis works on smoother sections, where the Audi is defined by control, traction, security and predictability, with understeer at the limit. It's a more one-dimensional device in dynamic terms, without the layers of complexity of the Jaguar. Naturally, it covers ground at an alarming rate, but it does so without the sense of engagement and adjustability of the rear-drive cars. Shot through with stability, it might just be the most effective day-to-day car here, but the Jaguar is more characterful and the Mercedes has a dynamic repertoire that the RS6 couldn't hope to match.

What the Audi counters with is an incredible drivetrain. Despite lacking in displacement it really does feel the most rabidly accelerative, a result of its unbreakable four-wheel-drive traction and near-seamless gearshifts. Like the Jaguar, the RS6 uses a ZF eight-speed auto, but the clever calibration work gives it the immediacy of a twin-clutch unit, and it also leads the way for throttle response. With the optional sports exhaust (£1000) it even sounds the part; the rumblings and crackles on the overrun imbue the RS6 with a personality that seems to sit at odds with the staunchly Teutonic styling inside and out.

Nobody needs a 550PS estate car, any more than they need a 550PS food blender. If we ignore the frankly hideous buying and running costs, though, these super-estates are all so undemanding of their drivers in daily use – they ride comfortably and they're brilliantly refined on longer runs – that there's no trade-off required for the intoxicating performance they offer. With prolonged exposure, one just can't help but find good sense and rationality in something so wantonly excessive.

The Mercedes is the most complete super-estate of the three and so it wins on this occasion, although the Jaguar is unmatched for hilarity and the Audi feels the most modern and useable. Between them, they serve to remind us that in the face of snowballing environmental pressure the automotive industry can still deliver a knockout punch-line. ☒

## SURREAL ESTATES

by SAM SHEEHAN

*From a Vauxhall to a Lambo-engined Audi, five super-estates to suit all pockets*



### Audi RS6 Avant (C6)

The previous, C6-generation RS6 Avant boasted no less than 580PS and 650Nm from its Lamborghini Gallardo-derived biturbo 5-litre V10 – enough to power it from 0 to 160kph in less than 10sec and all the way to 320kph (if Audi removed the 250kph limiter). This really is a supercar in a sensible suit.

The chaps at prestige car specialist Romans International know the C6 RS6 well and admit that running costs can be high. Average fuel consumption is around 18.8L/100km, while a basic service is £438, though it feels worth it when you've experienced that fabulous V10. Good examples start at around £30,000.

### Vauxhall Insignia VXR Sports Tourer

Vauxhall's own super-estate mixes 325PS, 4WD and 1530 litres of boot space for considerably less money than the 'prestige' opposition. That said, as VXR specialist Mark Watts confirms, the lower purchase price doesn't translate into cheap running costs: 'A pair of front brake discs can set you back more than £1000, and pads are easily over £100 per corner. That twin-turbocharged 2.8-litre V6 is thirsty, too, but as an effortless load-lugger to burn up motorway miles it's fantastic.'

Watts admits the VXR is more suited to devouring distance than blasting along B-roads: 'It's never going to be a sports hatchback because of its weight. It's more of a point-to-point weapon. That effortless performance is pretty enjoyable though!'



Used VXR Sports Tourers start at around £15,000, so while the first owners would have seen their purchases lose 50 per cent of their showroom value in just three years, it makes them a good value second-hand buy.

### BMW M5 Touring (E61)

The E60 M5 looks set to go down in history as the last M5 to receive a big displacement, naturally aspirated engine. With a 5-litre V10 with links to F1 producing 507PS, the E60-gen car gargled and wailed into the world with one of the most desirable powerplants ever to feature in a road car. The E61 Touring version combined that engine with a practical estate body, or so you'd think...

'If you're buying the M5 Touring for practicality, you're looking at the wrong car. You'll never see less than 14L/100km,' says Dan Norris from Munich Legends, who has run enough Tourings to know. 'They generally live a harder life thanks to playing the role of sports car and MPV. But that engine, what a masterpiece.'

Issues include water ingress in the boot and sticking flywheels, while the SMG gearboxes can be clunky. Since they're rarer than the saloon, M5 Tourings command no less than £20,000 in the classifieds. But that engine...



### Subaru Impreza WRX

A boxer engine soundtrack, rally heritage and a cult-like following has long made the Impreza WRX Wagon one of the coolest ways to lug the family around for petrolheads on a budget. A minimum of 215PS from that warbling flat-four combined with permanent four-wheel drive gives formidable cross-country pace.

Neil Thompson of ScoobyWorld tells us: 'The engines are easy to tune and the gearboxes are strong. They can easily handle up to 340PS without modification.'

Many are approaching or have surpassed 150,000km now, but aside from small issues like knocking rear dampers, they're a great value buy, with well-cared-for cars from as little as £3000.

### Mercedes E63 AMG Estate (W211)

Mercedes' 6.2-litre naturally aspirated V8 is one of the great engines of recent times, with a staggering 514PS of top-end power. AMG expert Andrew Bradburn of The Hughes Group says the W211-gen E-class (2006-09) was significant because it resurrected AMG's 63 badge. 'The larger engine was great, though that extra power meant the E63 chewed through tyres.'

Andrew hasn't seen any major issues with the estate, though carbon trim and complicated bodywork makes repair work very expensive. Pads and discs wear quickly, too.

Skimming the classifieds, these desirable seven-seaters command no less than £15,000. Lot of car for the money though.

### AUDI RS6 AVANT

<b>Engine</b>	V8, 3993cc, twin-turbo
<b>Power</b>	560PS @ 5700-6600rpm
<b>Torque</b>	700Nm @ 1750-5500rpm
<b>Transmission</b>	Eight-speed automatic gearbox, quattro four-wheel drive
<b>Front suspension</b>	Double wishbones, coil springs, adaptive dampers, roll control
<b>Rear suspension</b>	Multi-link, coil springs, adaptive dampers, roll control
<b>Brakes</b>	Ventilated discs, 394mm front, 380mm rear, ABS, EBD
<b>Wheels</b>	9.5 x 20in front and rear
<b>Tyres</b>	275/30 R20 front and rear
<b>Weight</b>	1935kg
<b>Power-to-weight</b>	289PS/tonne
<b>0-100kph</b>	3.9sec (claimed)
<b>Top speed</b>	250kph limited, 305kph unlimited
<b>Consumption</b>	9.6L/100km (NEDC Combined)
<b>Basic price</b>	£77,005
<b>On sale</b>	Now
<b>evo rating</b>	★★★★☆

### JAGUAR XFR-S SPORTBRAKE

<b>Engine</b>	V8, 5000cc, supercharged
<b>Power</b>	550PS @ 5000rpm
<b>Torque</b>	680Nm @ 2500-5500rpm
<b>Transmission</b>	Eight-speed automatic gearbox, rear-wheel drive, electronic diff
<b>Front suspension</b>	Double wishbones, coil springs, dampers, anti-roll bar
<b>Rear suspension</b>	Multi-link, coil springs, dampers, anti-roll bar
<b>Brakes</b>	Ventilated discs, 380mm front, 376mm rear, ABS, EBD
<b>Wheels</b>	9 x 20in front, 10.5 x 20in rear
<b>Tyres</b>	265/35 R20 front, 295/30 R20 rear
<b>Weight</b>	1967kg
<b>Power-to-weight</b>	280PS/tonne
<b>0-100kph</b>	4.8sec (claimed)
<b>Top speed</b>	300kph (limited)
<b>Consumption</b>	12.7L/100km (NEDC Combined)
<b>Basic price</b>	£82,495
<b>On sale</b>	Now
<b>evo rating</b>	★★★★☆

### MERCEDES-BENZ E63 AMG S ESTATE

<b>Engine</b>	V8, 5461cc, twin-turbo
<b>Power</b>	585PS @ 5500rpm
<b>Torque</b>	800Nm @ 2000-4500rpm
<b>Transmission</b>	Seven-speed automatic gearbox, rear-wheel drive, limited-slip diff
<b>Front suspension</b>	Multi-link, coil springs, dampers, anti-roll bar
<b>Rear suspension</b>	Multi-link, coil springs, dampers, anti-roll bar
<b>Brakes</b>	Ventilated discs, 360mm front and rear, ABS, EBD
<b>Wheels</b>	9 x 19in front, 9.5 x 19in rear
<b>Tyres</b>	255/35 R20 front, 285/30 R20 rear
<b>Weight</b>	1880kg
<b>Power-to-weight</b>	311PS/tonne
<b>0-100kph</b>	4.2sec (claimed)
<b>Top speed</b>	250kph (limited)
<b>Consumption</b>	10.5L/100km (NEDC Combined)
<b>Basic price</b>	£85,900
<b>On sale</b>	Now
<b>evo rating</b>	★★★★☆



# CONTI IN CROATIA

*A serpentine line spotted  
on a road atlas inspires  
a 1000-mile (1600km)  
journey by Bentley  
Continental GT V8  
through the unfamiliar  
and captivating beauty  
of Croatia*

*by* HENRY CATCHPOLE

PHOTOGRAPHY *by* ASTON PARROTT



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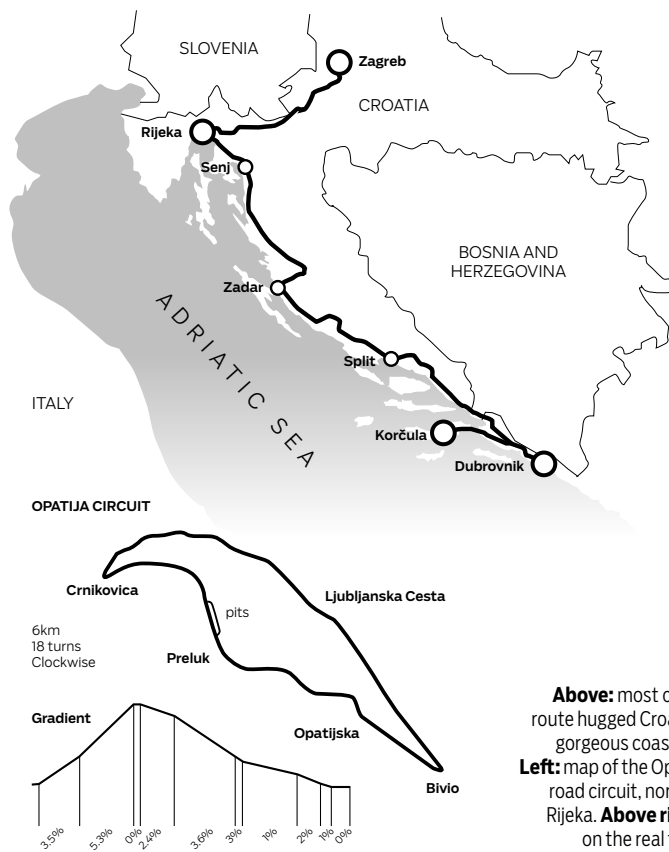
**HIGH ABOVE ZAGREB ON A LATE**

October afternoon there is no one around on Mount Medvednica. A light breeze runs through the surrounding beech trees divesting the branches of a few more unwanted leaves, which then drift down like autumnal snow and settle on the thick, copper-coloured carpet at the base of the

trunks. The rustling subsides and silence returns. Perhaps it's just an overactive imagination, but it feels like Smiley, Bond or Reacher ought to be standing here, turning the collar up on their coat and driving their hands a little deeper into their pockets as they wait for contact to be made. The long drive down from Vienna, crossing through Slovenia on the way, would have made them glad to get out and stretch their legs if they had been in anything other than a Bentley.

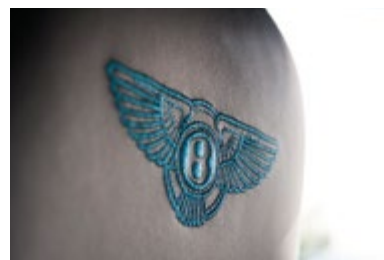
Our mission isn't quite the stuff of Le Carré or Fleming (although the Bentley is obviously Bond-appropriate), but we are on another voyage of discovery in our never-ending quest to find the world's greatest driving road. Our target stretch of tarmac this time is somewhere that I've wanted to go for about three years. Currently it's still around 960km away, but I'm hoping that the journey to get there will be something to savour in itself. Apart from its spotty hounds, the Dalmatian coast has become known as a glamorous summer playground for the rich and famous (one of the reasons why we thought the Bentley would fit in rather nicely). But as well as the beaches, the yachts and the historic Roman remains, there is also a road. It's called the D8 and it tracks the coastline doggedly along the Adriatic in what I hope is a sort of European equivalent of California's Pacific Coast Highway.

We'll get to the seaside tomorrow, but the adventure has already



**Above:** most of the route hugged Croatia's gorgeous coastline. **Left:** map of the Opatija road circuit, north of Rijeka. **Above right:** on the real thing





**Clockwise, from left:** classy touches throughout Conti's cabin; V8 lighter than W12, helps agility; 100-octane fuel about a quid a litre; overlooking Zagreb from top of Mount Medvednica; Catchpole likes a road atlas; first hairpin on the Opatija circuit; tuneful pipes

begun well. Photographer Aston Parrott and I picked up the Kingfisher Blue Continental GT V8 S in Vienna (the nearest Bentley dealership!), and about the time we discovered that the seats not only cooled as well as heated, but also back massaged, we decided that we'd chosen well. I've done lots of country crossing in track-biased, aero-screened lightweights in the past, so enjoying a bit of fast-paced, chiropractically sympathetic luxury feels entirely justified this time.

As we arrived in Croatia a couple of hours ago, the first thing I did was stop at a petrol station and buy a road atlas. Useful though satnav is, I still like the ability to pore over a bit of solid cartography. I hadn't intended to stop at Zagreb, but there's something enticing and exciting about a name beginning with a Z. So, when a quick perusal of the atlas showed a viewpoint on the northern edge of Croatia's capital with squiggly lines leading up to it, it was too much to resist.

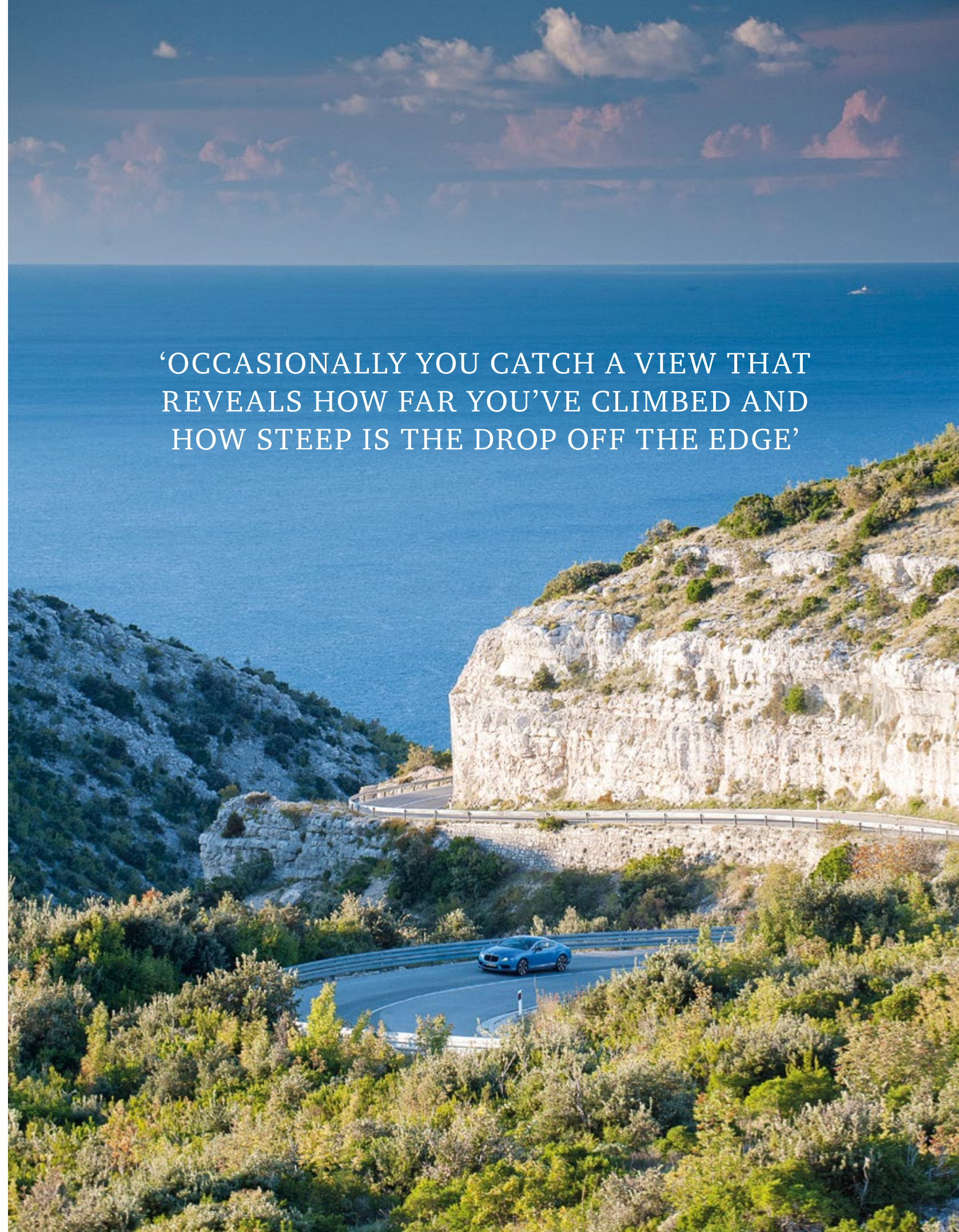
Bear Mountain (which is what Mount Medvednica roughly translates as) rises up over 1000m and the climb on the north side is very good. It's a two-lane road but it feels tight – a sensation exacerbated by the dense forestation that hems you in. The tarmac rarely runs straight for more than a few seconds and the kerbing has been given stripes here and there so it has the feel of an abandoned circuit. Just occasionally the trunks recede and for a few fleeting seconds you catch a glimpse of a view that reveals just how far you've climbed and how steep is the drop off the edge.

On the map it looked as though there were two ways down the other side of the mountain, but as we reached the junction at the top there was a no entry sign standing guard over one of the roads. It turns out that an extensive one-way system is in place. Over 20 hairpins are packed into the eastern road that climbs up from Zagreb, then there's a beautiful run westwards along a ridge to the adjoining spur before you plunge back down through the forest towards the outskirts of Zagreb on a narrow single-track ribbon. If you set off from the city and realised you'd left the oven on, you'd have a 16.5-mile round trip via the summit to go back and turn it off.

It's that return ridge where I'm standing now. The air is clear and crisp but Zagreb far below is wreathed in a thin mist. The old Renault Clio that was here when we arrived has potted off and the mountain seems deserted now. Perhaps it's the feeling of teetering on an invisible border where Eastern and Western Europe meet, but there's definitely a slightly strange atmosphere up here. Once Aston's finished taking photos it feels even more comforting than usual to shut the hefty door and settle back into the quilted and heated surroundings of the Conti GT.

Our target for the rest of the day is to reach the city of Rijeka, which sits at the northernmost point of the coast. It's rush hour in Zagreb and to be honest the Bentley sticks out like hernia in the belly of the suburbs. It's at least £100k more expensive than any other car we see and there's sometimes the feeling that because the other traffic is trying to give the Conti a wider berth than normal, an accident seems even more likely. A particularly worrying moment occurs where the screeching sound of locked budget tyres rises above the general drone of traffic and I fear that an elderly Xsara is about to rear-end us at a roundabout. Fortunately a gap in the traffic appears just before the crunch (which would probably have demolished the Citroën) and I extricate us with a healthy amount of throttle. The rest of the 160km to Rijeka passes uneventfully and after a couple of laps of a one-way system we settle on the Hotel Continental, which seems

'OCCASIONALLY YOU CATCH A VIEW THAT REVEALS HOW FAR YOU'VE CLIMBED AND HOW STEEP IS THE DROP OFF THE EDGE'





## ‘TRAFFIC IS SPARSE, AND WHAT VEHICLES THERE ARE, THE BENTLEY DISPATCHES WITH DISDAIN’

like an appropriate place to kip for the night (even though it turns out to be somewhat less luxurious than the car).

The following morning we head north. This is not a mistake. Before I head off to a country I usually do a bit of investigation. Sometimes it's as easy as typing something like 'motorsport Croatia' into a search engine, but sometimes it takes a bit more work to dig up some sights to see. This was one such occasion. The Preluk/Opatija circuit is an old road circuit situated right in the crook of Croatia's coastline. It was first used in 1939 for the Adriatic Grand Prix, then held sports car races in the 1950s and Formula 3 races up until 1968. Latterly it was only used for two-wheeled antics and was known as the Monaco of the Grand Prix motorcycle world until the last race was held there in 1977. Like so many places, it was eventually shut simply because it was deemed too dangerous, with two deaths in '77 being the final nails in the coffin.

The reason it wasn't easy to stumble upon online is that the original 1939 race took place while this bit of land was part of Italy, and from the end of the Second World War to June 24, 1991, this area (like the rest of Croatia) was in Yugoslavia. Old maps of the circuit reveal that the layout of the roads remains exactly the same today as it was 37 years

ago, so it's relatively easy to drive a lap of the 6km track. Set off from the pits in a clockwise direction and the road curves left around the bay with its bobbing boats. A huge stone wall appears on your right with a faded 'AutoMotor' mural on it and then you have to turn back on yourself around an extremely acute hairpin that apparently had cars reversing if they didn't get it exactly right back in the day. From here you climb precariously (rock face one side, no barriers the other) and quickly until you're high above the pits. An oblique junction marks the summit and the start of a terrifyingly fast run back down to the second switchback of the lap. This hairpin is a no-right-turn for traffic today, so either you have to pick your moment carefully or carry on and turn round.

Hairpin negotiated, the road continues in a headlong rush back downhill, with a lengthy straight to build up speed then two sets of tricky esse-bends that dive fast right, then tighten for the left and threaten to give you a soaking in the Adriatic if you get them wrong. If you had time to look at the view, you'd see the slightly faded glory of Opatija across the bay and instantly understand the comparisons with Monte Carlo. Back in what used to be the pits, we spend an hour or so taking a few more photos and drinking in the atmosphere. It must have been so fast, and the 81

metres of elevation change only add to the intimidation. There's nothing much left to tell you it was once a circuit, but if you're a sentimental sod like me, then once you know what occurred you can't help but look at everything through sepia spectacles, imagining ghostly grids.

By midday we've retraced our steps past Rijeka and the Bentley's big bluff grille is pointing south on the D8. Initially there are relatively frequent towns and villages that we have to slow for, but once we're south of Senj the Continental really couldn't wish for a better road. Fast, flowing and well surfaced, the tarmac constantly ducks in and out of the coastal headlands sweeping around inlets and coves. Sometimes the road seems to be cut into the rock halfway up a cliff, moments later you find you've descended almost to sea level, waves practically lapping at the asphalt.

The V8 has been our engine choice for a Conti GT ever since it was introduced two years ago. Lovely though the big W12 is, the lighter V8 improves agility noticeably and brings the whole package alive. The Continental never tacks through direction changes with the incisiveness of an out-and-out sports car, but good grief it can cover some ground. As long as you don't ask too much of the front tyres on the way into a corner you can get on the power remarkably early thanks to the four-wheel drive

and you'll be fired out with a secure but definitely rear-biased attitude.

Mile after mile we thunder south. Away from the motorways there don't seem to be any speed cameras and traffic is sparse. What vehicles there are, the Bentley's 680Nm dispatches with the disdain of crumbs brushed from a tablecloth. With so little around, you get a sense of what it must have been like to do a big journey in the days when Benji and Woolf were racing against trains and throwing parties. We even have a slightly carefree attitude to our fuel consumption – not only are we cruising on just four cylinders whenever the engine is unstressed, but 100 octane fuel is only about 11 kunas a litre, with about 10 kunas to the British pound.

Just once we venture inland up a switchbacking climb into the hills, but otherwise we stick to the D8 with our sights set on the city of Zadar, where we're planning to overnight. As we get nearer, the sky is bruising darkly with a gathering storm and by the time I close the curtains in the hotel, the first big drops of rain are beginning to fall.

**THINGS HAVE ABATED A LITTLE BY THE MORNING BUT** it's clear we're in for a rather wet and windy day. The D8 gets more populated between the cities of Zadar and Split, so we cut back onto





the spookily quiet A1 motorway for a couple of hours' cosseted, cruise-controlled comfort before heading back to the coast. The view as we approach the D8 again is the most spectacular yet and even with the stormy skies it looks stunning. The roads feel as slippery as you'd expect given that this is probably the first rain they've seen here for weeks or even months, and although the Bentley's steering is a little lacking in feedback, you get the confidence to push on from the sheer traction that the car musters out of corners.

Possibly because there was a VW factory across the border in Sarajevo, Croatia seems fascinated with early VW Golfs. This is an obsession shared by Aston. Much of Wednesday afternoon is spent playing Golf. Not the noble pastime presided over by the Royal and Ancient, but a new sport where Aston has to photograph every Mk2 Golf we pass. Such is the frequency of the angular hatchback that in days gone by when it was Fujifilm not memory cards, this would have been a game as expensive as donning plus fours and swiping at a Titleist. After a while it becomes a little tedious so the game evolves into me trying to spot upcoming Golfs before Aston does and then distracting him so he misses the photo. Such fun.

As the scores rack up and the miles slip beneath the Bentley's huge 21-inch wheels, the D8 quietly slips away from the coast a little and begins passing acres and acres of orange trees. They're growing in serried ranks so vast that they look almost like paddy fields and provide yet another extraordinary view. All the while we have also been drawing inexorably closer to the trickiest part of our whole journey. Back in 1699 the Treaty of Karlowitz was signed at the conclusion of the Austro-Ottoman War and the Republic of Ragusa (where Dubrovnik sits) was separated from Dalmatia (which was owned by Venice) by a buffer of land. Several other wars and treaties came and went, but the end result is that modern-day Croatia exists in two non-contiguous parts and in order to reach our desired piece of road we need to cross through six miles of Bosnia.

I've been a little wary of border crossings ever since I spent 18 tense hours trying to get a McLaren into Morocco a couple of years ago (evo 090). This could be worse. Croatia was accepted into the EU (after a little bit of sulking from Slovenia) in 2013. Bosnia, however, isn't in the EU, which has made this border crossing one of the prime ways of smuggling stolen cars out of the EU. Obviously two slightly scruffy chaps in a £150,000 Bentley that isn't theirs shouldn't have any problems at all...

Sure enough we get hauled over at the border and have to stand next to the car while four stern-looking uniforms open the whole car up and rifle through the paperwork. I'm getting a bit worried but then I remember I've got a copy of *evo* with me, and after showing that to them by way of explanation, everything improves markedly. Which is a relief.

We don't risk stopping in Bosnia and they seem happier to let us back into Croatia again on the other side, so just as the sun is setting an hour later, we roll across a spectacular suspension bridge into Dubrovnik. Walking into the fortified old city in search of pizza it feels like we've wandered onto a film set (I've never watched it, but apparently *Game of Thrones* is partly filmed here). It's quite incredible. Although Dubrovnik was besieged for seven months in 1991 by the Yugoslav People's Army and suffered significant damage from shelling, you'd never know. It feels like the perfect end to our journey. But there's still one day left...



**Clockwise, from left:** ferry across to the island of Korcula; dramatic sky crowns Dubrovnik; Bentley's cabin helps Catchpole make light of the long journey; two scruffy blokes in someone else's expensive Bentley meant a certain degree of hassle at the border with Bosnia

## TECH ANALYSIS

## CYLINDER DEACTIVATION

As car makers chase fuel efficiency and lower emissions, performance brands need to be clever to find efficiency in high-capacity units. In its Continental V8 S, Bentley employs a technology called 'variable displacement', which enables individual cylinders to be deactivated when only low power is demanded.

It all boils down to pumping losses in large-capacity power units. When cruising, a driver only uses a small percentage of total power output, and this means the throttle plate is almost closed. In this situation, the engine has to work to draw air in, and the more cylinders there are doing this, the more losses you have.

In this scenario, the Bentley system

can move the camshafts across to profiles that close off the valves to four of the cylinders. The fuel injection and ignition on these cylinders are shut down too.

Closing all the valves to a cylinder eliminates pumping losses on that cylinder as there are no gases going in or out. An air spring is created inside the cylinder, and while there is resistance as the piston compresses the gas on its upstroke, this is largely offset by the gas pushing the piston on the downstroke.

Meanwhile, the operating cylinders have to work less hard to draw in air, which increases the pressure in those cylinders, inherently improving efficiency.

**Michael Whiteley**



**Above:** beer and pizza in Dubrovnik. **Above, right:** Parrott's passion for Golfs shared by Croatians. **Right:** warning of wild boars on Korcula didn't deter our merry adventurers



‘THE ROAD BEGINS TO RISE AND 30 SECONDS LATER I’M BREATHING A SIGH OF RELIEF. WE’VE FOUND IT’

**JUST BEFORE 8.30 THE FOLLOWING MORNING I’M** queuing outside a ticket office. We’re catching a ferry. All along the Dalmatian coast there are long thin islands running parallel to the mainland and we’re heading for one called Korcula. A ticket costs about £8 one way for the car and two adults and after a pleasant journey of about 15 minutes we’re deposited amongst a pounce of cats on Korcula.

Two hours later there’s a slightly tense atmosphere in the car. Having driven the entire 47km length of the island and crossed its 7.7km width more than once, we haven’t found what we’re looking for. We have found some good roads (really good roads, in fact) but none of them are *the* road. It should be on the west of the island and there are only a finite number of roads to explore, but nothing looks right.

Aston is beginning to think that we’ve travelled 1000km for pizza in Dubrovnik. I know the road that I’m looking for has a white line down the middle, so it’s out of pure exasperation that I try a single-track road through a vineyard. It has a sign warning of boars, so it sounds fun.

Almost exactly a mile later a white line appears. At the same time, the road begins to rise and 30 seconds later I’m breathing a huge sigh of relief. We’ve found it.

As we get ever higher, the road feels more and more precariously perched, but the view gets commensurately more impressive. At the top we park up, just as we did three days previously above Zagreb, and admire the vista. In the distance, almost lost in the haze, is the craggy grey silhouette of the island of Lastovo. Then comes the azure blue of the sea, sparkling in the sun. The hilly landscape rising steeply up out

of the Adriatic is covered in pine trees and the dark green contrasts wonderfully with the swimming pool-coloured water. And the only interruption in the dark green undulations around us is a thin white pinstripe where the road has been neatly scored into the hillside.

We spend all day here and hardly see another soul. Such is the stillness that the Conti’s exhaust note bounces off the rock faces and can be heard echoing around the western side of the island. It seems extraordinary that the same country that provided the chilly foreboding of a Cold War spy novel at the start of our journey now has the ambience of, well, a Cold War spy novel, but the glamorous bit where they follow the villain to his island hideaway. All we need is some company so there can be a car chase. Something for the sequel, might I suggest... x

## BENTLEY CONTINENTAL GT V8 S

**Engine** V8, 3933cc, twin-turbo **Power** 528PS @ 6000rpm  
**Torque** 680Nm @ 1700rpm **Transmission** Eight-speed auto, four-wheel drive **Front suspension** Double wishbones, coil springs, adaptive dampers, anti-roll bar **Rear suspension** Multi-link, adaptive dampers, anti-roll bar **Brakes** Carbon-ceramic discs, 420mm front, 356mm rear **Wheels** 21in front and rear (option) **Tyres** 275/35 ZR21 front and rear **Weight** 2220kg **Power-to-weight** 238PS/tonne **0-100kph** 4.5sec (claimed) **Top speed** 309kph (claimed) **Consumption** 10.6L/100km (NEDC Combined) **Basic price** £146,000

**evo rating:** ★★★★★

# NO MAD MEN

by HENRY CATCHPOLE

PHOTOGRAPHY by DEAN SMITH

*Ariel's Atom is already just about the most fun you can have on tarmac. Now the intriguing new Nomad promises similar thrills off-road. We meet the men who created it*



**Tubular frame**

Immensely rigid frame of 57mm, 38mm and 25mm-diameter steel tube, bronze-welded and powder-coated

**Suspension**

Double wishbones, lightweight uprights, outboard Bilstein dampers and Eibach coil springs all round

**Left:** Nomad at Ariel HQ with an Atom. **Previous pages, from left:** key men Kelvin Marshall, Henry Siebert-Saunders and Steve Alford

continue using CAD with the next project? It has made some bits easier and some bits more difficult, but predominantly it has made things easier. A lot of the styling was still done in a basic way with the clay and that sort of thing, which is nice because you've got a physical thing to look at.'

When you look at an Atom frame alongside a Nomad's, it's easy to see where the new car deviates in its climbing frame of triangles. They couldn't simply stick a roll-cage on top of the Atom's chassis because it would have been impossible to get in, so the big top-tube finishes at the end of the dash and instead you have this wonderful curving 'roofline' from the pedals to the very back of the car. Torsional rigidity is apparently 'mega' thanks to all the added bracing in the rollover structure, and the Nomad's multi-diameter, CNC-formed steel tubes will all be bronze-welded by Arch Motors, just like the Atom's.

'The suspension was very different for us,' continues Henry, 'because we're used to lightweight inboard short travel. The Nomad's got about 250mm of travel, which isn't huge, but for stuff round this country and most rally events round Europe it's more than enough. If you go much more than that you need massive great radius arms and a live axle, and then you're into what axle do you use and you need a bigger diff and then it gets heavier so you need more power... We just wanted to keep weight and cost as low as possible.'

The suspension on the orange car is fixed-rate at the moment because it's been used for testing, but the production Nomad will adopt a single-way adjustable setup like the Atom. 'Then we'll probably do a two-way adjustable,'

## **N CHRISTMAS EVE, JUST AS EVERYONE WAS BATTLING TO FIND THE**

end of the roll of Sellotape to finish wrapping their presents, the Ariel Motor Company sent out a tweet. It read: 'New Year, New Website, New Car. The Ariel Nomad is coming Tuesday 6th January 2015,' and it was accompanied by two renderings of what could only be described as fun on four wheels. Part recognisable Atom, part Tamiya RC buggy, the Nomad was a complete surprise and everyone loved it.

Ariel duly released pictures and a short video of the real thing on the first Tuesday of the New Year and then unveiled it in the metal on the

Bilstein stand at the Autosport show at Birmingham's NEC a few days later. It didn't disappoint. Several orders were received based purely on the pictures, and things only intensified at the show, with one person actually turning up on the stand with the money for one.

A few days later, I make the journey down to the Ariel HQ in Somerset to have a poke around the car and a chat with the people responsible for it. I'm met by Henry Siebert-Saunders, son of Ariel boss Simon Saunders and obviously a splendid fellow because he's called Henry. He joined the family business in 2007 after studying first photography and then music (specifically drums) at college. Despite being just 28 now, the Nomad has been his baby for the last four years. With a passion for mountain biking (he admits to owning

about nine bikes in various states of repair, is a regular at the Megavalanche downhill race in France, and cycled in today on a carbon On-One Whippet that he bought on eBay) and a love of Land Rovers (Defender with a lift kit, winch and snorkel, plus a 1966 Series II in need of some attention to get it through its MOT – 'all the mechanical bits leak!') it's not difficult to see why he was the right man to head up the development.

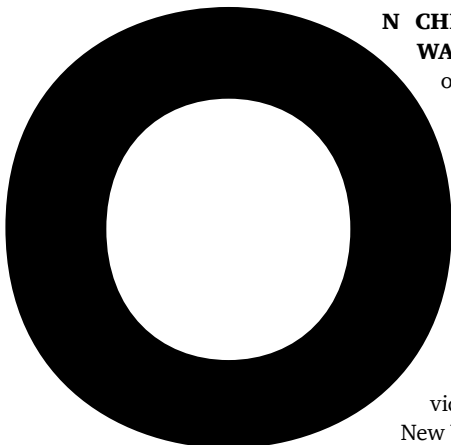
When I ask him where the original idea came from, he says that it was a joint effort really but they'd had quite a lot of customers over the years pondering what an 'Atom with knobby tyres' might be like. 'Some people said we

should just put a set of big wheels on a regular Atom,' he tells me, 'and initially that's sort of what we did. We took an Atom, put some all-terrain tyres on it and went and did some low-speed stuff. Actually it didn't work too badly!'

'From there we came up with the bespoke chassis, with the long-travel shocks [outboard as opposed to the Atom's inboard items] and from there it gathered momentum and got better and better the more versions of it we did.'

'The very first iteration was a bit of a tuck-up with old tubes and different bits of Atom and that sort of stuff. And then because out of necessity we'd done a lot of the Ariel Ace motorcycle on CAD, we thought why not

**'Several orders were received based purely on pics. A man even turned up on the show stand with the money for one'**





## 'A chap has ordered a supercharged Nomad, which will have in the region of 280-300PS. It should be a bit of an animal!'

says Henry, 'and definitely something with hydraulic bumpstops because on a big jump you get a little bit of a bump without them. Then for those that want to compete we'll probably do an all-singing, all-dancing, remote-reservoir, be-all- and-end-all suspension. But even the standard setup will be very, very capable.'

For the Nomad engine, Honda was the obvious choice. 'We tried one with the Atom's K20 Civic Type R engine in it,' says Henry, 'but they're more suited to the road with their high-revving power and not as much bottom end.' The K24 that's ended up in the Nomad is effectively the American-spec Type R engine, which, although still naturally aspirated, is much torquier. The output figures are 238PS at 7200rpm and 300Nm at 4300rpm, which is the same amount of torque as a supercharged Atom, and 0-96kph should be dispatched in 3.5 seconds.

'A chap has ordered a supercharged one,' grins Henry. 'The same Jackson Racing supercharger kit fits, so all we'll have to do is bolt it on, do the coolant pipe modifications, take it up to the dyno and do the map. It should be in the region

of 280 to 300PS and then a load of extra torque as well. It should be a bit of an animal!'

For now the Nomad comes with the standard six-speed H-pattern gearbox. 'But eventually we're all very keen on a mechanical sequential,' enthuses Henry. One option could be the pneumatic system with paddles from the Atom V8 and 3.5R but, although as yet untested off-road, the team thinks the pneumatics might struggle with the conditions. In any case the Sadev 'box with a normal mechanical shift, as you'd find in a WRC car, would be pretty cool and somehow more appropriate. It would also mean the team could put whatever ratios they wanted into it, but Henry reckons that a top speed of about 220kph is all they'll see, simply because there's much more sticking out into the airstream than with an Atom. In any case, most gravel tyres are only rated up to about 200kph.

Brakes are standard Atom items unless you want to upgrade to the optional four-pots, but there are myriad wheel and tyre options. For owners predominantly interested in road driving, there are 18in wheels, and Henry tells

me you could even stick some Yokohama A048s on these and lap a racetrack in a very respectable time. Then there are 15in wheels with a sliding scale of progressively more aggressive tyres for those looking to do more off-road.

You might wonder why people would be interested in a Nomad for the road but, ironically, as well as having an interior that can be hosed out, this is the first Ariel available with full weather protection. A normal windscreen is fitted to this car, but a heated screen will also be available to prevent misting if you're off-roading in the cold and wet. The final specification for the roll-up doors, roof and back panels has yet to be finalised, but the team is toying with a traditional Land Rover canvas solution or some sort of stretchy hydrophobic material.

The more permanent solid body panels differ from the Atom in that where the original car has smooth, glossy-looking glassfibre, the Nomad uses rotationally moulded polyethylene. This incredibly tough plastic is what is used to make traffic cones and those indestructible mudguards on trailers. Henry says he 'jumped

up and down on it' during testing and still couldn't break it. But if you do, it's also cheaper to replace than glassfibre panels. Talking of mudguards, the team did look at a combined mudguard/engine cover/cockpit cover at the rear, but the result looked rather bulky and made the car appear heavy. Which, at 670kg in road trim (and 750kg in off-road trim with underbody protection), it isn't.

Other things on the options list for serious off-roading include the high-mounted Hella lamps and a winch. 'I've got a Warn winch on my Land Rover,' says Henry, 'and I said, "If we're going to put a winch on the Nomad, it's going to be a Warn." I've used mine to get out of so many sticky situations and towed loads of other people out of various difficult places too. It's only a tiny little thing and it's actually an ATV/quad-bike winch, but it's 1200kg-rated so theoretically [and he really does stress theoretically] you could attach it to a massive great tree branch and hang the Atom from it!'

I ask if I can have a sit in the Nomad and, once I've slotted myself slightly awkwardly through the chassis (feet first is best), it all feels nicely familiar. The belly pan, seats, Race Technologies dash, etc, are all the same as in an Atom and, although the Nomad has 300mm of ground clearance, it still feels nicely low, with no sense of being perched miles above the axle line. Look down into the footwell and without the weather protection you can still see the unequal-length wishbones and the wheels just as you would in an Atom, although obviously now there is a spring and damper unit where previously there was just a pushrod.

The Nomad's testing has been done at rally venues like Walters Arena and Sweet Lamb, on Salisbury Plain, at various proving grounds and on the road, but Henry reckons they've still only scratched the surface of what it can do. He even mentions fitting paddle tyres for the sand, where it should be good because it's light. The test driver was by all accounts a perfectly normal rally driver (i.e. totally unhinged). They've jumped it and it flew well. It goes sideways without threatening to spin, and every time I ask someone in the factory if they've driven it, they grin from ear to ear.

The one thing the test driver did say it was missing was a fly-off hydraulic handbrake. 'We tried to use the mechanical cable-operated parking brake out of an Atom,' says Henry, 'and it worked... for a period. But it's just not designed to go round a rally stage and be yanked on. So we are going to do a proper in-line hydraulic handbrake for those that want it to go and do proper serious stuff.' Should look good next to the sequential shifter.

Competition is definitely on the agenda, with the team planning an MSA-homologated version. We might even see a Nomad on the



Dakar one day, though there is the issue of where you carry stuff. 'I've thought about it,' Henry muses, 'and it would be fairly straightforward to do solo, because you just have your fuel tank next to you in the passenger seat. But if you need to have a co-driver then we'll have to come up with something ingenious. Which I'm sure we can do. We've done crazier things!'

For now, Ariel's achievement in producing the standard Nomad shouldn't be underestimated. As Caterham has discovered numerous times over the years, it's all very well having one unique and successful car, but adding a second string to your bow is another matter entirely. It's a staggering achievement to have produced such a polished looking package, especially when you consider that from Kelvin Marshall, who did all the hard graft chopping bits off and welding other bits on during development and testing, to Ariel's 'resident boffin' Steve Alford, Henry reckons the core development team numbered only about four or five.

Obviously enthusiasm needs to be tempered a little until the Nomad has been driven and its dynamics independently assessed, but something tells me there's not much to worry about. One of the biggest thrills of driving is the sense of adventure you get. Everyone remembers the heady buzz of freedom and possibility on their first solo drive after passing their test. And I think one of the reasons that the Nomad appeals so much is that it rekindles that sense of freedom. With its off-road ability, the driving possibilities extend beyond the confines of tarmac and a whole new world of opportunity is opened up. The canvas for going sideways is suddenly ten times broader. I can't wait to plan an adventure in one. ☒

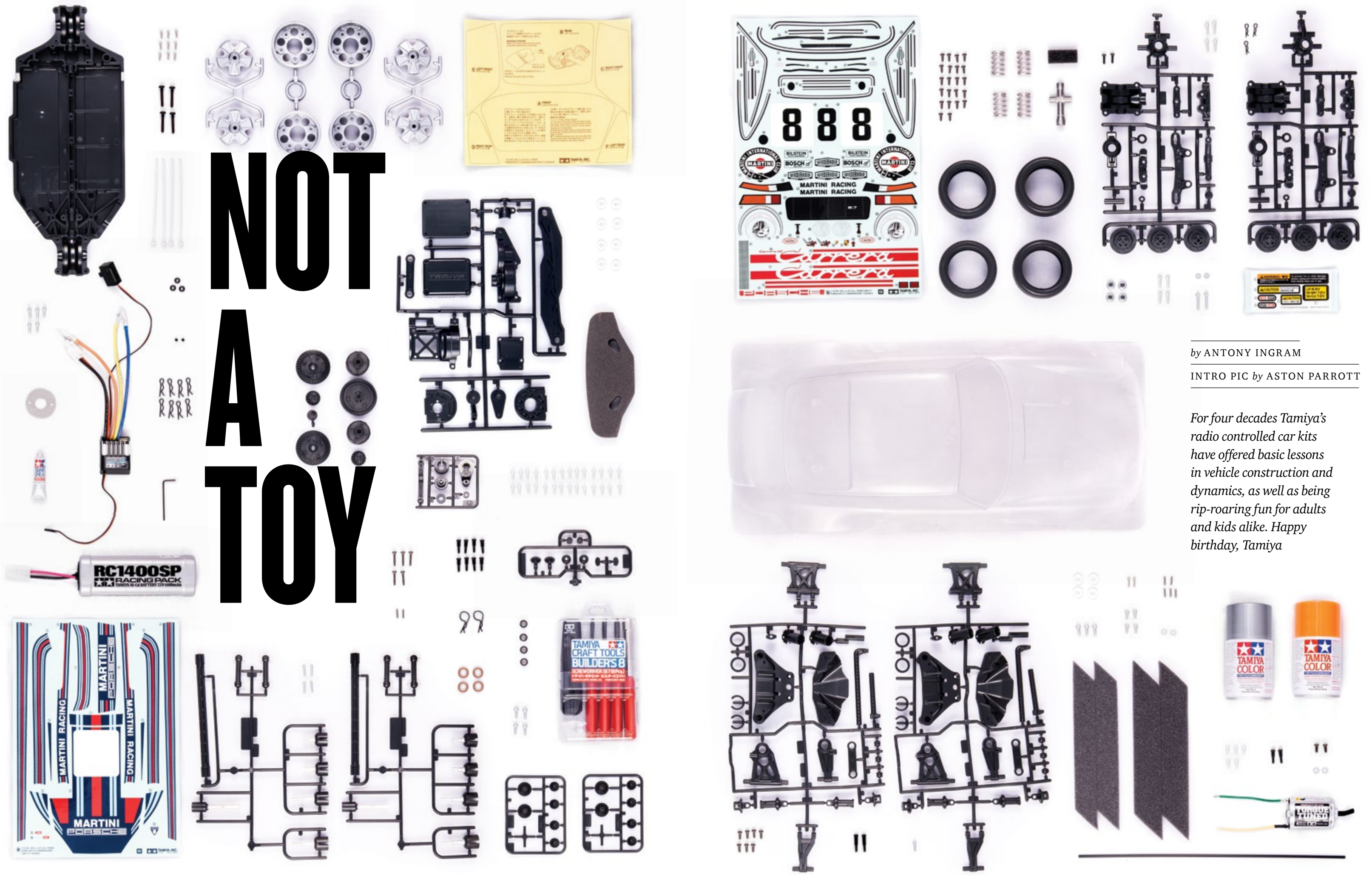


### Specification

#### ARIEL NOMAD

<b>Engine</b>	In-line 4-cyl, 2354cc
<b>Power</b>	238PS @ 7200rpm
<b>Torque</b>	300Nm @ 4300rpm
<b>Transmission</b>	Six-speed manual gearbox (possible sequential option), rear-wheel drive, limited-slip differential
<b>Front suspension</b>	Double wishbones, coil springs, dampers
<b>Rear suspension</b>	Double wishbones, coil springs, dampers
<b>Brakes</b>	Ventilated 240mm front discs, solid 240mm rear discs
<b>Wheels</b>	15in front and rear (other options available - see text)
<b>Tyres</b>	235/70 R15 front and rear
<b>Weight</b>	670kg (750kg in off-road trim)
<b>Power-to-weight</b>	355PS/tonne
<b>0-96kph</b>	3.5sec (claimed)
<b>Top speed</b>	220kph (road tyres)
<b>Basic price</b>	£33,000

# NOT A TOY



by ANTONY INGRAM  
INTRO PIC by ASTON PARROTT

*For four decades Tamiya's radio controlled car kits have offered basic lessons in vehicle construction and dynamics, as well as being rip-roaring fun for adults and kids alike. Happy birthday, Tamiya*



**IF YOU RECEIVE YOUR COPY OF** evo a little late this month, we can only apologise. It's just that since we learned that this year marks the 40th anniversary of Tamiya radio controlled cars, we've been rather distracted. Christmas gift budgets are being strained at the prospect of unforeseen Super Champs and Lunch Boxes under the tree, and lunch breaks are running long to squeeze in one final race around the car park.

Nostalgia is big business right now, but Tamiya's enduring popularity can be attributed to far more than big kids attempting to recapture their youth. 'Tamiya's strength and uniqueness has always been the kit-building experience,' explains Pete Binger, managing director of Tamiya's UK importer, The Hobby Company. 'You buy a kit, you build it, and because you've built it you understand how the vehicle works, how to set it up, how to tune it up and how to repair it if it breaks. It's an educational experience.'

It was Pete's father David who originally introduced Tamiya to the UK. It was a risk. He travelled to Japan in 1966, as a young man, and sat through several meetings full of Japanese businessmen deciding his commercial fate before they awarded him the exclusive distribution contract for the United Kingdom and Europe. The challenge continued on UK soil, where model shops were initially sceptical about the new kits.

'At that time there was no radio control market other than very specialist, high-cost kits,' explains Pete. 'But as the cost came down, I think the dealers started to see the opportunity. The product was of a quality that ensured reliability too, and they quickly realised there was a market for selling tune-up parts. Just like the automotive industry, there's a good margin to be made on spare parts...'

Tamiya itself dates back to 1946, founded by Yoshio Tamiya. Yoshio-san had owned a transportation business before the Second World War, and turned to timber following the war. In 1953 the business evolved from timber to specialised wooden model kits. It was Yoshio's son Shunsaku who encouraged the jump to plastic kits, having discovered those made by American firm Revell in 1958.

Overwhelmed by the detail and quality possible from plastic, he introduced the plastic kits to his father. Tamiya's first plastic kit was a battleship, Musashi, but another company beat it to market at a lower price. Tweaked in the hope of better sales, Musashi became Yamato,



## 'THE CARS TAUGHT USERS A GREAT DEAL ABOUT VEHICLE PHYSICS'

but despite superior quality it, too, struggled.

The turning point came with Tamiya's plastic model of a German Panther tank. To make it stand out in the market, Shunsaku made it a motorised model – and sealed its success by hiring top Japanese illustrator, Shigeru Komatsuzaki, to draw the box art. It was an inspired move, and Tamiya's box art, with its illustrations, technical drawings and two-star logo, has become as iconic as the vehicles contained within.

Tamiya's first radio control kits appeared in 1975. But those initial kits were a far cry from the hardy models sold today. 'The story goes that there was a guy in the accounts department of Tamiya who was always tinkering with radio controlled cars, playing with them in his lunch break,' recounts Binger. 'Mr Tamiya saw what he had created, and asked him to develop one the company could manufacture and market. He took a regular Porsche 934 plastic kit bodyshell and fitted it to a flat chassis, which became the first model. Of course it looked absolutely beautiful, but the first time you crashed it just disintegrated because it was so fragile...'

Tamiya's RC kits quickly developed. By the time the Rough Rider and VW Baja Bug-like Sand Scorcher arrived in 1979, the kits featured a specialised chassis to which a more robust body was fixed. The cars were more rugged, more useable and less prone to spectacular destruction when erroneously steered into objects. The basic cars taught users a great deal about vehicle physics, too, with realistic suspension, rubber tyres specific to surfaces such as asphalt or dirt, and eventually the choice between front-, rear- and all-wheel-drive powertrains.

When it comes to technology though, Tamiya's racing machines really

## TAMIYA'S MOST POPULAR MODELS



**1. THE GRASSHOPPER**  
As the name suggests, a proper off-road weapon. Rear-drive and a tough polycarbonate body

**2. SUBARU IMPREZA WRC 2008**  
Not one of Subaru's more successful rally cars, but Tamiya has long replicated the firm's rally vehicles

**3. VANESSA'S LUNCH BOX**  
Tamiya's most iconic model, launched in 1987. Since reintroduction in 2005, an annual best-seller

**4. LANCIA DELTA INTEGRALE**  
A classic design, but the Delta now sits on Tamiya's brand new TT02 all-wheel-drive chassis

**5. SUPER CHAMP**  
Launched back in 1982, the Super Champ is now a limited-run reissue

**6. FORD ESCORT WRC**  
The Escort was in its twilight by the time this model debuted, but it's now highly collectable

**7. KAMEI GOLF MK1**  
A front-wheel-drive model

based on the Group 2 European Touring Car of the 1970s

**8. HORNET**  
Another long-running kit. Rear-wheel drive and a fluid-filled rear damper

**9. WILD WILLY WR-02**  
One of Tamiya's less serious kits, the two-wheel-drive Wild Willy has four-wheel independent coil suspension

**10. SAND SCORCHER**  
The iconic Baja Bug and one of Tamiya's most popular kits since its introduction in 1979

**11. SUBARU BRAT**  
A cult classic, illustrating the variety of Tamiya's current range. Two-wheel drive and 'designed for fun off-road running'

**12. MINI COOPER**  
Another front-wheel-drive kit and one of the longer-running Tamiya favourites

**13. HOT SHOT**  
Re-released in 2007, the Hot Shot is a four-wheel-drive interpretation of Tamiya's popular off-road buggy range

OVER THE FOUR DECADES it has been creating radio control cars, Tamiya has produced a multitude of different models. Here we picture some of the best-sellers, several of which have been reissued by popular demand

are like miniaturised versions of Grand Prix or World Endurance vehicles. It's not unusual to find carbonfibre and titanium among their constituent parts, with prices to match. RC racing has long been a global sport, with teams crossing the globe to compete. Tamiya's official team, Tamiya Racing Factory, has won five years in a row.

Former RC racer Jamie Booth never quite managed to take a title with Tamiya, but his experience with the factory team certainly helped its development in its early years. Racing since he received a Sand Scorcher in 1980, Jamie travelled the UK and eventually Europe, taking several championships along the way.

'During the end of 1989 I was made an offer by the Tamiya factory in Japan to become a professional RC racer for them. Over the next two years I raced in Japan, the USA, and most European countries, while keeping up with my commitments in the British series.'

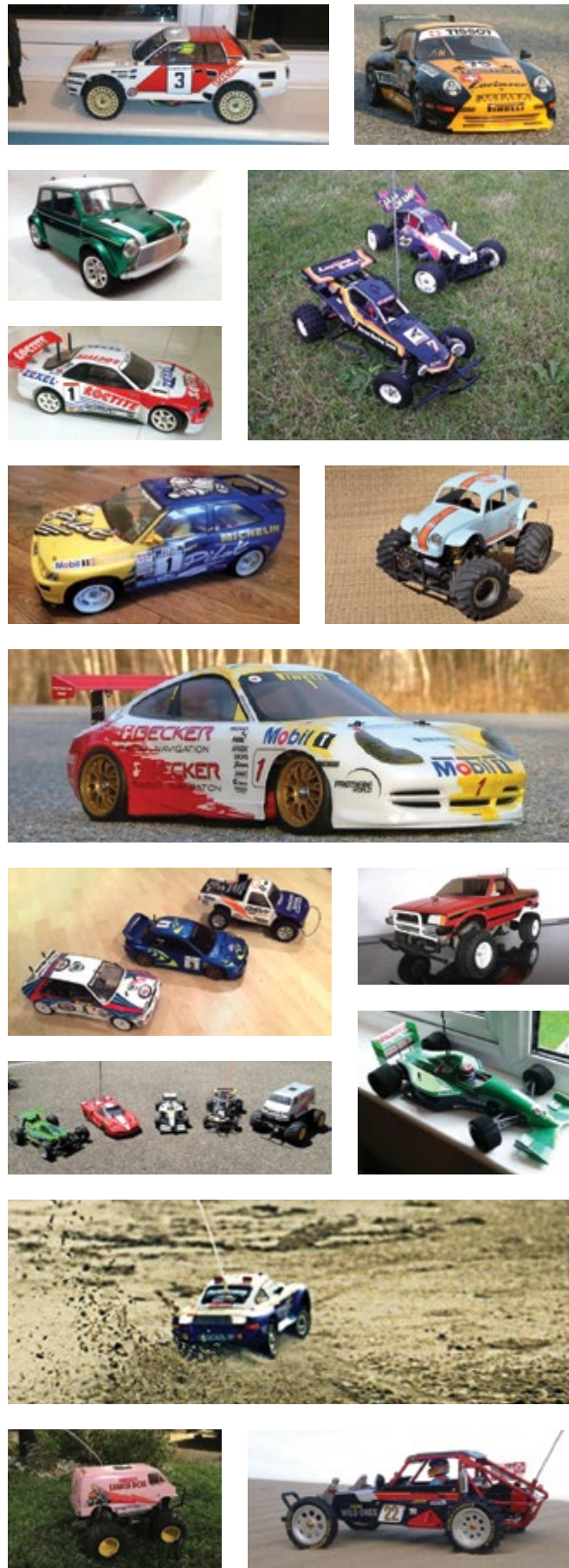
As a Tamiya factory racer, Jamie finished as high as second in the 2WD European championships. While he eventually switched to another team and continued racing until 1998, radio control cars, and Tamiya in particular, have more or less dictated his life since. Today, he runs a small distribution company that imports and sells RC cars.

That ability to get under your skin is what has kept Tamiya a household name despite its products remaining true to its four-decade-old concept. Building the kits, as Binger notes, adds an extra dimension you simply don't get with a pre-built car. 'A lot of other manufacturers have moved towards what we call "ready to run",' explains Binger, 'but they don't encourage that hobbyist understanding. They tend to be playthings – you play with it and then put it away, and you don't develop this intrinsic interest and passion.'

Tamiya hasn't always hit the mark. Back in the 1990s the company sold a range of 'glow engine' kits. Based on Japanese GT cars and Le Mans vehicles, the tiny internal combustion engines made the cars hugely fast. Unfortunately, they also encouraged a little too much of that 'hobbyist understanding'. 'They sold extremely well,' explains Pete, 'but they became a big problem for us, as the customer couldn't help tinkering. The engines used to run under immense strain with a few tune-ups and they'd quickly expire...'

Tuning has always been a part of the Tamiya kit experience though, and thankfully most of it enhances the experience. New suspension parts, different motors and upgraded gearboxes further refined the way kits drove and Tamiya continued refining the components itself. It's reached a head with the latest Super Champ, a limited reissue of the 1980s original. The off-road buggy features mono-shock rear

## EVO READERS' TAMIYA MODELS



IT SEEMS THAT IT'S NOT JUST EVO STAFFERS who have a passion for Tamiya's kits – when we put out a call for readers' radio controlled rides we were inundated with replies and some very good pictures...



**Above:** Tamiya's off-road buggies allow you to unleash your inner rally driver, without the big repair bill when you crash... **Below:** the detailing of Tamiya's kits is exquisite, as on this Kremer 911



## MEETING MR TAMIYA



I MET SHUNSAKU Tamiya at the Nuremberg Toy Fair in 2009. I made the trip specifically to interview him – a publicity-shy 75-year-old billionaire who rarely gave interviews and barely spoke English. Add this to the fact that Shunsaku, along with my father, fired my passion for cars and you had a very nervous journalist. I remember breaking out in a sweat during the interview as the reality struck that I was interviewing an absolute hero

of mine – the man whose name adorns the boxes of my treasured Silver Sabre, Celica GT-4, Avante and Baja Buggy. Shunsaku was warm, humble, inquisitive and worked carefully with his interpreter to answer my questions. Sharp too, despite his years. I hear he's still going strong today. At the end, he signed my copy of his fascinating book (see left) – something I treasure. **Nick Trott**

'BUILDING THE KITS ADDS AN EXTRA DIMENSION THAT YOU SIMPLY DON'T GET WITH A PRE-BUILT CAR'

suspension with a separate oil reservoir and a metal gearbox. The firm's newest chassis, the TT02, is formed from the latest plastics. Like modern automotive platforms, it's essentially modular – the TT02B allows off-road buggies to share the same chassis as an on-road Porsche 911 or Ferrari kit.

People still love the old kits, too. The Lunch Box van, perhaps Tamiya's most iconic model, originally launched in 1987. It was eventually discontinued, but since its reintroduction in 2005 it has been the company's biggest-selling model every year.

Despite competition from an increasingly vast video game market and the constant distraction of touchscreen iThings and omnipresent internet access, the appeal of the Japanese firm's kit-based radio controlled cars hasn't waned. By sticking to one formula and only changing where improvements are truly required, it's not hard to see Tamiya creating the same buzz in another 40 years.

Tamiya, *tanjoubi omedetou!* 🎉





# STAGE AGAINST THE MACHINE

by HENRY CATCHPOLE

PHOTOGRAPHY by  
ASTON PARROTT

*It's been a long time coming – and the story is not without some last-minute drama – but finally Catchpole lines up for a rally in his own Mk2 Escort. Fingers crossed...*



**IT'S 8:45 AM AND** there's a small but anxious queue forming outside Midway Motor Parts in Ludlow. I can't imagine there's usually much demand for early opening on a Saturday morning, but right now there's an awful lot of looking at watches and checking of mobile phones as the minutes tick past until 9am. A Peugeot estate parks on the other side of the street and hopes are momentarily raised, but nods are exchanged as two more people join the line outside the doors. Today is the day of the Woodpecker Stages Rally, and it appears we're not the only

ones suffering last-minute mechanical issues. I'm standing here with Kevin from Rally Prep and our own personal shopping list comprises an alternator, plus some jump-leads and a new battery as back-up. It's almost exactly an hour until the Escort is due at the first time control down on Ludlow Racecourse...

The alternator broke last night, but even up to that point it hadn't been a good day for Neil, Will and Kevin, who had been trailering the Escort up from Rally Prep's HQ in Newquay. The M5 had been a car park since about 11am and, in an attempt to reach Ludlow in time for the evening's scrutineering, they'd taken the executive decision to unload the Escort from the trailer and drive it up the motorway (flying solo it could use the outside lane, which was moving marginally more freely). Then the alternator thoughtfully gave up the ghost early in the evening at the Severn Bridge tollbooths. Once the trailer had caught up again, they loaded the Mk2 back on and eventually reached Ludlow at about 1am – just in time to sleep in the van.

With a bit of ingenuity, the chaps got the Escort through scrutineering this morning and there was a slim hope that it might just be some poor wiring rather than the alternator itself. After some more under-bonnet investigations, however, there was nothing doing, so Kevin and I beetled off for MMP, where, with 8:59 and 53 seconds showing on my Casio, the proprietor appears to have just arrived.

It's a wonderful Aladdin's cave inside the shop but there's no time to browse today; once we've secured an LRA 101 (surprisingly heavy) we rush back to the racecourse. While I hop into my Nomex romper suit, the alternator goes in



**'WE SPIN ON THE FIRST HAIRPIN. THIS DOESN'T FILL MY CO-DRIVER WITH CONFIDENCE'**



120 evo

under the bonnet and then, with a surprisingly healthy amount of time to spare, the Escort is lining up behind a splendid Hillman Avenger in the queue of cars waiting to cross the ceremonial start-line at minute intervals. To be honest I'm slightly incredulous.

Despite my insistence over the last three years that I would one day go rallying in my own Escort, even I've had my doubts. With every month that's passed, the Mk2 has unquestionably been slipping further and further into the fine tradition of **evo** project cars with agonisingly long gestations. I'm sure plenty of you thought that one day it would just quietly become a bathroom or a new roof. Most of the office did. Probably my fiancée too. But no. Things have moved rapidly in the last few months. After initial discussions with Neil Yates, first on the phone and then over a pint of Leffe at Le Mans, the car was trailered down to Newquay about six weeks ago for Rally Prep to set about the small list of jobs that I thought needed doing.

Inevitably that list grew. I had hoped to keep costs down, and I know that Neil did his very best, but with a bit of fabrication here and a bit of unexpected bottom-end fettling there, the £5000 bill that eventually arrived last week was, I admit, enough to make the old Catchpole blood go distinctly chilly. Whoever said motorsport was cheap? Oh, that's right, no one. Rationally I keep telling myself that, given the £10,500 I paid for the car originally, I've still got a very good solid clubman Mk2 for the money... provided I don't wrap it round a silver birch.

Thankfully all thoughts of invoices and uncomfortable numbers in bank balances were forgotten the moment I saw the Escort sitting on its blue Minilites this morning. There wasn't time to sticker it up (apologies to Kumho, Cobra, Adrian Flux, Desjoyaux and anyone else I've missed...) but it looks absolutely fantastic in its plain PET livery. Despite my original desire for some forest arches, I even think it looks very cool with its slim, standard RS2000 bodywork. In fact it looks almost too good to throw down a muddy gravel track. Almost.

**WE SPIN ON THE FIRST HAIRPIN. THIS** probably doesn't fill Glyn Thomas, my valiant co-driver, with much confidence. We only met for the first time yesterday, Glyn having been super-subbed into the silly seat by my friend Gethin, who fell ill at the last minute. Approaching said hairpin he had warned me of the brief surface change to some unnaturally greasy tarmac and I thought I'd heeded the cautions but, despite my timid approach and an engine that feels like it's good for no more than a tepid 150PS, the Escort pirouetted neatly within its own length before you could



**Opposite:** Eventsigns Woodpecker Stages Rally is based at Ludlow Racecourse and includes several stages in the forests of Shropshire and Powys. Entries include everything from Mitsubishi Evos to Fiestas and Focuses to Land Rovers to gorgeous Mk1 Escorts. **Above:** Kevin from Rally Prep does some last-minute fettling to the Mk2, installing the replacement alternator.



**Above right:** anxious moments as Henry's Ford passes through scrutineering. **Below right:** lining up for the first stage behind a contemporary Hillman Avenger. **Below left:** a rather serious-looking Catchpole brings the Rally Prep crew up to speed after the early stages. The car's fine, but Henry's finding it tricky to get back into the groove. That's about to change though...





Jonathan Suter

# 'THE ROCKS CLATTERING IN THE ARCHES MAKE ME FLINCH, BUT THE ESCORT JUST SOAKS IT UP'

say locking diff. Thankfully turning it back the correct way is just as easy and we're off again quickly, but it only cements my intention to take things very steadily during the morning stages.

I haven't driven a gravel rally since 2008 and I know it's going to take a while until I can once again match what the pace notes are telling me to what the road is doing out ahead. With my preferred system, a 'six' should be flat-out and a 'one' is the opposite, but the nuances of everything in between just take a bit of time to dial into. I'm feeling my way with the car, too. Without any testing I have no idea how it will react to cambers and holes and braking and jumps and slides. Looking back at the video later, it doesn't actually look too slow, but at the time it feels it and the competitive part of me hates being so careful and cautious because I want to be fast and spectacular. However, I'm hoping I'll have years of fun to come with the Mk2, so I'm trying to be sensible and treat it as a shakedown for both me and the car.

Outright speed aside, there is still plenty to enjoy. I'd forgotten how satisfyingly tight and precise the little four-speed rocket 'box is, and as the miles tick by I realise how good the damping feels, too. The old Bilsteins are soaking up the terrain really well and when we

take off over a crest on a 'six right' it lands with an almost pillowy compliance. Turn-in is also good and, even more encouragingly, it feels nicely predictable and unflustered through the quicker stuff. The thought had crossed my mind that rallying a 35-year-old car might feel too brutal for words and the cacophony of rocks clattering in the arches make me flinch, but the Escort just seems to soak up the punishment.

We're back in service by early afternoon and Neil immediately sets about cleaning the car up and checking it over. It all seems fine and I've been pretty gentle on the tyres so they don't need swapping. We've got about half an hour for a breather so I grab something to eat, text my nearest and dearest to let them know that I'm alive, check out a few of the other Escorts nearby and then make a few notes.

'Are you alright?' asks Neil after a few minutes. 'Yeah, I'm fine. All good. Why?'

'You're just not smiling very much.'

This hadn't occurred to me. But I suppose I'm not exactly bounding around beaming. When asked, I've been telling people that I'm having a fab time and I am, but the morning stages have been tricky and I've really struggled in a couple of places. I know I shouldn't have expected to jump straight in the car and be back to where I

was in 2008, but a bit of me hoped I would.

Half an hour later we're pottering along the road section with the regular Saturday traffic on our way to stage four, engine thrumming, gearbox whining, knobbly tyres gently squirming on the brakes and through the roundabouts despite the modest speeds. Hays Park is a repeat of stage two but run in the opposite direction and it's a typical Woodpecker stage, with some really fast sections and a good (albeit slippery) surface – exactly the reason I wanted to do this particular rally. Once we've signed in with the marshals, put helmets and HANS devices on, plugged the intercom in and tightened the belts, Glyn says: 'Come on, let's make this a good stage.' It's an off-the-cuff remark, yet this small bit of encouragement seems to flick a switch inside my head.

The lights count down, the revs build and we slew off the line. Within the first half a mile it's clear that I'm a different driver to this morning. Suddenly it's all clicked. The confidence is there and I'm committing to corners with proper pace and aggression, sliding into, through and out of the bends, managing the slip angles like I mean it. After my indiscretion on the very first hairpin, I'd overcompensated and been much too cautious on all the other switchbacks, not being aggressive enough with the throttle so the engine was bogging down. Now when we get to the first two hairpins in Hays Park I'm pushing hard from early in the corner, getting the engine up onto its (fairly mild) cam and it's



Tom Irvn



**Above:** Steve Perez was overall runner-up in the ex-Marcus Grönholm Focus WRC, behind Paul Bird in a similar car. **Left and below:** slightly further down the field, Henry's finally getting into the swing of it





Rally Sport Media



**Top:** forest stages are in DNF's DNA. **Above:** no time to apply sponsors' logos for this event, but watch this space. **Left:** Mk2 stood up to the rigours of its first rally in years remarkably well. **Below:** well, he really wasn't expecting this. Second in class is just a bonus for a happy Henry



pulling so much more sweetly and strongly, rear tyres spitting gravel into the undergrowth. 'That's more like it!' says Glyn cheerily.

I'm still leaving margins, trying not to get too giddy, but the flow is suddenly there beneath the wheels of 557T and we're in a rhythm. The Escort is balanced but eager to oversteer, so it always feels like it's on your side from the moment you initiate the turn, flicking it into the corner early and then getting back on the throttle, searching for that stable sideways stance that lines you up for the exit of the corner. Then you get the car swinging the other way for the next bend and so on. I've never driven a racing hovercraft, but that's about the only thing that I think would get close to the sensation of gliding and sliding through a set of gravel bends. It's so much fun and I am convinced that there is no better automotive feeling than being belted in tightly and floating through a forest, precisely controlling the angle of a car with the throttle and steering.

There is something very exciting about driving to notes as well. Hammering through a forest that you've never visited before and committing to a blind corner over a crest, without lifting in fourth, takes a bit of resolve, but it's a hell of a buzz. Blind corners on circuits are always tricky yet satisfying to get right, because even when you've sussed it there remains a small sense of plunging into the unknown on each lap. In rallying that feeling is replicated on almost every corner thanks to trees, hedges and banks all getting in the way. But when pace notes are going well you feel like you can see through bends, looking briefly into the future courtesy of the *Matrix*-like stream of numbers being fed into your head.

It is a blissful afternoon and Neil has no trouble spotting the elation on my face as we come back into service at the end of the day. The last three stages have justified my decision to buy a rally car a hundred times over. And after the anxious moments outside Midway Motor Parts this morning, when I thought DNF might DNS, the little Mk2 has run brilliantly. I'm still enthusing and thanking and generally tottering around somewhere near cloud nine when Glyn walks over with the results sheet. We haven't looked at a single stage time today, because that was absolutely not what it was all about, yet somehow we've ended up second in class. It's not the biggest class (but yes there are more than two cars in it!) but nonetheless engraved glassware is not something I'd anticipated.

So, what next for the Escort? Well, the wiring loom could do with replacing, the LSD could lock more tightly, the engine could do with a hotter cam... but before any of that I just want to go and do some more rallies. ☒

**'COMMITTING TO A BLIND CORNER OVER A CREST, WITHOUT LIFTING IN FOURTH, TAKES A BIT OF RESOLVE, BUT IT'S A HELL OF A BUZZ'**



# MEEKE



# NOT MILD

*Kris Meeke's rise to the top of World Rallying hasn't been easy, but he's always had the drive – and the pace – to mix it with the best. Now he's finally getting the results. We find out what makes him tick*

by HENRY CATCHPOLE

PORTRAITS by DEAN SMITH

**As I'm doing up the six-point harness for my passenger ride with Kris Meeke in his DS3 WRC he asks: 'You've been in a WRC car before haven't you?'**

'Yes, I drove your old Mini on tarmac,' I say, trying to turn to look at him before remembering I've got a HANS device on, 'but I've only been in a WRC car on gravel once before. A few years ago, in a Citroën C4, with Loeb. No pressure!'

Meeke laughs. 'Ah, you get that quite a lot in this job!' he says with a big grin.

I first met him just after his breakthrough championship win in the IRC in 2009 when I had a drive and a passenger ride in his championship-winning Peugeot 207 S2000. I've been lucky enough to sit next to a lot of professional drivers, but it was instantly obvious that day just how talented Kris was. So precise, so fast. He was clearly something a bit special.

That knowledge has made it all the more agonising watching his career in the five years since. First there was the Mini WRC debacle that had so much promise but ultimately left him high and dry. After that he slipped off the radar slightly into a role as a

test driver for both Citroën and Peugeot. At the age of 33 (he only started rallying at 21 after winning a competition with Peugeot) there was a fear that time had run out for the Ulsterman.

Then, in 2013, with Loeb moving across to WTCC and Hyundai starting a new WRC team, Meeke's name resurfaced as a possible contender for a full seat in a team. Outings with Citroën towards the end of the year in Finland and Australia were tantalising but agonising, with Meeke showing huge pace (he was fastest in qualifying in Australia), but ultimately crashing out of both rallies. Had he blown it? Thankfully Citroën had seen the pace and promise that they were after and gave him a contract for 2014.

The year started like a dream with a podium place on a hugely tricky Monte. Then things started to go slightly awry. Sweden saw a crash from sixth place, Mexico saw two crashes, and then came Portugal. With Meeke simply in need of a finish, he crashed on the first day. Watching the on-board footage, you hear co-driver Paul Nagle warn him of a 'big stop, easy' coming up to a right-hander where Elfyn Evans had crashed a few minutes before. Kris turns in but it's immediately obvious the car is sliding too wide and he oversteers off the edge down into the trees. Sitting there in the silence afterwards as the dust and leaves settle, there's a pause and then you just hear

the utterly dejected voice of Meeke quietly say: 'That's my career over, Paul'.

'It's so easy to think that,' says Kris in his soft Northern Irish accent when we sit down to have a chat on the Wales Rally GB media day, 'especially when you're in your first full season with a number three on the door. You have to score points, you have to finish, but you've only a one-year deal and so you want to show your speed to get the deal for the following year. It's a very, very fine line to tread. Portugal is one of the gravel rallies that traditionally drivers have done the most, because it's a European event, it happens at the beginning of the year and lots of drivers tackle it when they're young. I had never done it before and I was coming there with a level of expectation which was way too high. To be honest I remember getting split times into the car of plus 20, plus 25, plus 28sec to Hirvonen and then I crashed and you just think "that's it".'

'But then you look back at Thierry Neuville or Sébastien Ogier. Coming into the World Championship in 2009, Ogier went to Argentina and was told that it was his last warning – you have to get it through. And he was 10th, 11th, 12th fastest and he crashed. And that was his low point. After that event he turned it around and away he went. There is this teething phase when you go into the World Championship, and especially when you want to be so fast and you don't have the experience to back it up there's a fair chance you'll fall on your face.'

Since Portugal, Meeke has indeed turned things round, with podiums in Argentina, Finland and France. He also seems to be the only driver able to come close to the outright pace of the dominant VWs of Ogier and Latvala. So that's where we begin...

**HC: You're obviously extremely close to the Polos now; do you think they're beatable in a straight fight?**

KM: I'm in my first full season, so I don't think I've hit my full potential yet. There's certainly a bit left in me and if you take a rally like Australia... OK so we got a minute penalty, we lost a few seconds in the super special one night, but take that away and we were 30 seconds down over 300km. That's 0.1sec per kilometre, so we're not a million miles away. And if I can continue next year and continue to learn and to become more comfortable in myself there's no reason why we can't challenge.

**You've said it takes three visits to a rally to really have a chance of winning. Is that purely a pace note thing?**

It's a combination of everything. Obviously they tend to use quite similar roads each year, so there is that pure knowledge of a road, but then there's a knowledge of a type of surface, there's a knowledge of the type of weather, there's a knowledge of how the road deteriorates from first pass to second pass, there's a knowledge of set-up... Everything is just stacked away and every year you return it's like opening a filing cabinet. You go 'right, we have this, this, this and this' and there are just more tools in your armoury, and the more tools you have and the more familiar you are, the more comfortable you feel so the faster you're able to go at a more relaxed pace. If you go to a rally for the first time it's

**'WHEN I WAS 18, 19, 20  
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**Right:** Meeke goes flying in Finland in the Citroën DS3 WRC. **Below:** Kris chats to *evo's* Henry Catchpole (on the left)

possible to drive at the same speed as the other guys, but you're more than likely going to crash because you're so on edge because you can't anticipate anything. And being able to anticipate all these things is what allows you to drive at a higher intensity with a more relaxed atmosphere in the car.

**But if it takes three years, then it makes it very hard for new drivers to come through. You couldn't get a Max Verstappen situation like we have in F1 at the moment.**

That's right, in F1 you can learn on simulators and rallying's not like that. The youngest ever World Rally Champion is Colin McRae at 27 years old, so it's a sport where it takes a lot of years and that's why we see a lot of familiar names at the top for a generation. It's very difficult for drivers to come through because experience is such an invaluable thing. I don't know that there are many sports in the world like that where you can't establish yourself until you're nearly in your 30s.

**You're 35 now and in your first full season. Are you enjoying it?**

It's awesome. It's brilliant. Even when I was 18, 19, 20 years old, I'd no idea I'd even drive a rally car, but I worshipped Colin McRae in the World Rally Championship and to think now that I'm in a factory World Championship team is a bit surreal. But you're so focused on the job – you have to be at this level – that, like many



things in life, you probably don't take time to appreciate it when you're doing it. It's only when you get home and you're sitting on the sofa some night and you think, 'Bloody hell, that was awesome!' It's so intensive week in week out – I was counting up this morning, and when I get home tonight that will be flight number 32 in 29 days, so it's a bit crazy like that. But yeah, it's awesome to be part of it.

**And do you enjoy the driving? Because you get some drivers who say that it's all about the result and that's what they derive enjoyment from.**

I think if you want to get to the top, you have to be results-driven. And for me it's about your performance... the pleasure from driving comes after. The enjoyment comes from the satisfaction of getting it right and getting a good stage time or getting a good result in a rally. If you have to go and fight against the best guy in the world and you have to prove your salt and your job's on the line, it takes away from the actual pure pleasure of driving a rally car – we're not doing it for that. Days where we do demonstrations like the Goodwood Festival of Speed are fun because you can have a play and we can do a few donuts and we can do the Scandinavian flicks. But now the cars are so efficient that keeping it straight and keeping it neat and tidy but completely on the edge is where the time's at. If you just let your hair down and have the big slides, the time disappears. So we don't play with the car on a stage – we're trying to drive it like walking a tightrope.



**Arguably WRC's not as spectacular as it used to be – it's not 'McRae' anymore – so how do the modern WRC cars have to be driven to get the best from them?**

Technology's evolved so much over the years, especially differential technology and tyre technology. Back in the '90s when Colin McRae was coming backways to a sixth-gear corner, commitment outweighed what the car could do and you could set a faster stage time by being over-committed, whereas now the technology is so advanced, if we overdrive we're slower, so we have to put it on this knife-edge, we have to walk this tightrope of purely going in with the front end right on the edge of grip and hanging it there for a long, long corner that tightens. We don't have the luxury of coming sideways as much as we'd like to and we have all learned to drive these cars more efficiently as technology develops.

**So it's predominantly understeer with a transition halfway through the corner?**

Yeah, you pick your point where you make that transition, but for me the most important part of any corner is the exit, so you can enter a corner with a bit of a slide, but you have to temper it so that when you hit your apex the car's neutral and your four wheels are pointing in the direction you want to go. Nowadays you can't come out of a corner with opposite lock or a four-wheel drift and all the energy going at 45 degrees to where you want to go, because it's a waste of energy and you're not getting the full potential from your vehicle.

**In some ways it's a shame for spectators that they're not as extravagant...**

OK, maybe they're not as spectacular in terms of pure sideways, but the speed now is the fascinating thing. You stand and watch the speeds of a 300PS World Rally car coming past and it's mind-blowing. Up against 600PS Group B machinery we're probably six or seven seconds a kilometre faster on a typical stage in Finland purely because of suspension development, aero, etc. Just the raw speed of it now is crazy.

**What do you think of the new R-GT category that has cars like the Tuthill 911 in it?**

I think it's fascinating. It's great. To be honest there's something we could learn from it. In France there were two or three Porsches doing the rally and just the noise of them...! Everybody is just fascinated and it creates a special atmosphere. For me, we need a bit more of that in World Rally cars; we need to make them completely jaw-dropping to look at and we need them to put the hairs up on the back of your neck when you hear them. I don't think an R-GT is a car to do a full world championship in, but I think they've hit the nail perfectly on the head by allowing them to do some of the classics and introducing the category. I think the numbers next year will be huge and it'll draw spectators simply because of a wow factor. It's a bit more what we need when they come to think of the new generation of World Rally cars in 2017.

**'KEEPING IT NEAT BUT COMPLETELY ON THE EDGE IS WHERE THE TIME'S AT. IF YOU HAVE BIG SLIDES, THE TIME DISAPPEARS'**



**If you could pick any rally car from history – and you can't pick your own one – what would it be?**

A Peugeot 205 T16 Evo 2.

**And a stage to drive it on?**

Motu stage, Rally New Zealand, 59km. My dream would be to have a Metro 6R4, an Audi Evo II and the Peugeot sitting at the start of that stage. That would be a proper day out.

**Do you get time to do anything outside WRC these days?**

With a young kid now [Kris and his wife Danielle have just had a baby daughter] there's even less time to do things, but I enjoy my fitness, my training. You don't need to be an Olympic rower or to be able to cycle uphill like Alberto Contador to drive a rally car, but you need the energy to sustain a week of pure pressure. From reces to media to the rally... dealing with it all takes a lot of energy and you need to be fit to handle all that. I enjoy cycling a lot and I do quite a bit on the road bikes and trail bikes. I enjoy downhill mountain biking, but I have to refrain from that because I need my limbs all pointing in the correct direction!

**You did the Baja 1000 on a motorbike in 2012. Do you fancy going back in a car?**

I would love to. Other than being WRC world champion, doing some of that adventure off-road stuff is one of my dreams. Doing the Baja solo on a motorbike was a huge, huge thing for me. I needed something to fill my time in 2012 and I got into my Enduro



**Top:** DS3 WRC's turbo 1.6 develops 300PS. **Above and top left:** Meeke was on good form at Wales Rally GB media day

biking and started to think and plan and thought, 'What's the biggest, toughest single event in the world without Paris-Dakar?' I got a bit of support from Red Bull, but I pretty much self-funded and I went 2060km non-stop, 41 hours on a motorbike through the Baja peninsula, and it was awesome. I loved it. OK, at the finish line I collapsed and I wasn't right for a week after it, but when you wake up and you look back... it creates a toughness.

**Do you think any of that adventure endurance side of things should come back into WRC?**

You know, over the last 10, 15, 20 years, rallies have just been more and more concise and more and more of a sprint. Now we're doing three stages two times each day and it's just about that pure knowledge and pace and speed, and every corner you have to get perfect to be even thinking of getting close to a best time. If you miss a gearchange you're not getting a best time. It's as simple as that. We were talking on the way here about the Safari rally and personally I would love a bit of that. A bit more of an adventure, allowing the rallies to roam. It's very difficult in today's media-driven world where everything has to be short, sharp, concise.

And with that we have to wrap things up. Kris has another flight to catch. He'll be back in Wales in mid-November for Rally GB, giving the British supporters the biggest reason to cheer since the days of McRae and Burns. He might even end up on the top step of the podium if everything falls into place. One thing's for sure, Kris Meeke's career is very definitely not over. It's just getting going.



## Driving the DS3 WRC

*So, what's it like to drive Kris Meeke's Citroën DS3 WRC? Our man is about to find out for himself*

by HENRY CATCHPOLE

### WHAT'S IT LIKE TO DRIVE A WRC CAR?

Freed from the pressures of a pay packet and a stage time, I think it is the most fun you can have in Nomex. In many ways it's actually easier than driving the slower R1, R3 Max and R5 versions of the DS3 (all of which I drove in the hours leading up to my drive in the WRC). The 'R' cars form the ladder up which any aspiring Loeb must climb if they wish to compete at the highest level. The R1 and R3 are fun but front-wheel drive, which brings its own challenge. I assumed that the four-wheel-drive R5 would be

**'THE KEY IS TO INITIATE THE TURN MUCH EARLIER THAN YOU WOULD ON A CIRCUIT'**

pretty similar to the full-on WRC car (it's even billed as a half-price WRC car), but from the moment I pull back for first on the much slicker gearlever of Kris Meeke's DS3, it's obvious the WRC car is a very significant step up.

The first thing you notice is the extra torque. The current 1.6-litre engines are not quite as generous as the old 2-litre units, but nevertheless there is this wonderful abundance of propulsion every time you get on the throttle and you don't have to watch the revs as closely as you do with the R5's more restricted engine. The second thing is the damping. The DS3 WRC has this uncanny ability to deal with a bumpy, rutted gravel track in a way that leaves the car utterly unflustered by, yet totally in touch

with, the surface. This means that although it is faster, the WRC also feels far less physical than the R5 and as a result your inputs to the wheel can be much calmer and more precise.

In slow corners, the WRC car initially feels like it wants to doggedly understeer until the exit. Getting on the throttle only seems to exacerbate this nose push. The key is to initiate the turn much earlier than you would on a circuit, getting the front tyres loaded on turn-in and the rear commensurately unweighted (almost like a subtle Scandi flick). This means

that when you then get on the throttle hard – much harder than you initially think the tyres can cope with – it brings the back round and then holds the car in what feels like a slightly oversteering angle, but with the wheels straight and driving you hungrily out of the corner.

Through faster bends it is much easier to get the car turned-in so that it instantly adopts this magical neutrally drifting attitude. Looking back at the on-board footage, it's funny to see that in long, accelerating slides (with constant throttle) my steering inputs are frequently not the opposite lock you might imagine. Yes the car is 'oversteering' but, because of the way the differentials work, you're often steering slightly into a corner to encourage and maintain a slide as much as you're also often steering into a slide to check it. It's a constant small-input balancing act, as the car floats over but also reacts to the ever-changing surface beneath its tyres. It might not look as spectacular as full-blown lock-stops oversteer, but from behind the wheel I can assure you it feels equally sublime. ✕



**Above:** Catchpole (on the right, serious face) finds out what the current DS3 WRC feels like at the limit. Answer: not as lairy as you might imagine, but still sublime





# CAN'T

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by DANIEL WONG

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PHOTOGRAPHY by DANIEL WONG & BOBBY ANG

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# TOUCH

*It has been running around for half a decade, almost an epoch past by hot hatch standards. To Daniel Wong, the Citroën DS3 Racing holds a special place in the pantheon of hot hatches, and it shouldn't be dismissed on the basis of its age just yet.*

# THIS



**F**OR A MOMENT THERE I CAUGHT A FEW PASSING GLANCES OF onlookers from the corner of my eye. The odd smartphone being whipped out from amongst the crowd, snapping away as I pass them by in the streak of bright orange. It is not every day that you will come across something with such a striking black and orange paintjob, or a Citroën DS3 Racing for that matter as Citroën Malaysia says that this is the only example on our roads. I am pretty stoked to be driving it, not from the stares though, or at the thought that I'm driving something rarer than an Aventador on our streets, but because it is one car that I had admired from a far, or to be more precise, half a world away.

The DS3 Racing isn't a new kid on the block, by hot hatch standards the DS3 Racing can be gunning for classic status by now. By my count it has been running around the roads of Europe for nearly five years by now, and no, you still can't have one here as Citroën is still uncertain if they want to sell it in Malaysia. This solitary unit that I have with me was brought in to test the market, and instead of keeping it stuffed up inside an office block somewhere, Citroën Malaysia is letting me take it out for a spin, bless their hearts.

Long time readers of **evo** and avid hot hatch enthusiasts would be well versed with the DS3 Racing's numbers by now. Its 1.6-litre turbocharged BMW-PSA engine cranks out 207PS and 275Nm of torque, with 0 to 100kph done in 6.5 seconds. By comparison its closest modern-day relative, the Peugeot 208 GTi makes do with 7PS less and gets to the 100kph mark in 3/10th of a second later. So the DS3 Racing (let's just call it the DS3-R) may be a whole car's lifetime older than today's contemporaries, but it certainly can trade punches in today's crop of hot hatches. It certainly feels younger than its age suggests as it buzzes around the streets of the capital city with its generous and accessible torque reserves and agile handling. It is quite a remarkable achievement considering how far the whole hot hatch genre has progressed since the

**'So the DS3 Racing may be a whole car's lifetime older than today's contemporaries, but it certainly can trade punches in today's crop of hot hatches.'**

DS3-R's debut at the 2010 Geneva Motor Show.

Having said that, back then there must have been plenty of raised eyebrows when Citroën unveiled the DS3 along with the whole 'DS' line of 'premium' models back then. For those who aren't familiar with the DS name, pronounced as *déesse* or French for 'goddess', the DS name harks back to the Citroën DS of 1955. Unlike the multi-coloured zesty DS3 hatchback today, the DS-original was a revolutionary luxury car that cemented Citroën's identity as a maker of avant-garde cars that mixed art and technology. One feature in particular, its ground-breaking hydropneumatic self-levelling suspension, not only won over many with its 'magic carpet' ride qualities, but it also became Citroën's signature feature on its large cars right up to the C6 of the early 2000s. The car itself was an icon in Europe and many still regarded it as one of the most beautiful cars ever made. However for all the praise it received, in the intervening years since the DS' first appearance, market trends have moved away from comfortable and cossetting ride to embrace dynamic acuity and sportiness. As such the smooth ride and hilarious levels of body roll that was once seen on Citroën of old, due to their hydropneumatic suspension, belonged to a bygone era. An era that had no place in the DS-revival today.

Not that historical context mattered for Citroën, after all its first DS-range model, the DS3, was about as far removed from the DS' image of being a plush softly-sprung luxury barge as can be. Built to challenge the likes of the MINI and Fiat 500, the DS3 was a fashionable hatchback suited for trendy folk with skinny jeans and who likes tartan on their shirts rather than seats. What it did most notably was eschewing the retro-



**Below left:** sports seats are developed in house, and offers perfect shoulder and thigh support. **Below:** orange rims, and stickers are a love-or-hate touch, but carbon-fibre wheelarch extensions high widened track.





styling trend that seemed to be de rigueur in the industry, and bringing back Citroën's tradition of building avant-garde cars. Back in 2010, this was a bold move by the French car maker who had been, until that point, building dull cars that were based on Peugeots, while the rest of the industry were rolling out models that were harking back to a bygone era, seeking the nostalgia dollar from a cautious market that had experienced the worst economic disaster in decades. Returning to its roots as a maker of left-field cars might sound like the riskiest of gambles, but the DS3 paid off.

Like its European contemporaries, the DS3 was more than just a pretty face. Beneath its wild colour palette and lighting elements like automotive jewellery, the DS3 was quite fun to drive despite having an asthmatic naturally-aspirated engine and sluggish four-speed automatic that failed to deliver any excitement from its praise-worthy dynamics. To give it a bit more poke, and inject a whole lot more excitement to the formula was the job of Citroën Racing.

Despite being dressed from fender to roof in pseudo-military decals, as though it crashed through an RMAF depot upon leaving the factory gates, the DS3 Racing isn't some wannabe



**Left:** this particular DS3 Racing still has its navigation and multimedia system set in French. **Above:** 1.6-litre engine has been massaged to produce 207PS.

boy-racer that was an all-show and no-pants affair. There is a certain motorsports vibe about the way it has been made. Mind you, with Citroën Racing being the same people behind Sébastien Loeb's WRC-dominance, they know a thing or two about making a tepid formula sizzle. Besides dropping in a turbocharged version of the 1.6-litre engine, the Versailles-based outfit also extensively modified its chassis, expanding its front and rear tracks by 30mm wider, lowering the ride height by 15mm, and reworking the suspension system.

Leaving the crowded confines of the Klang Valley I head for the empty roads that drape over the lush green hills of Bukit Tinggi. Along the way the DS3-R was surprisingly comfortable. Its in-house developed semi-bucket seats not only provided adequate support, but it was well padded and comfy for the motorway part of the journey. With its tall gearing, the engine can potter around at 2000rpm doing speeds that are comfortably brushing at the national speed limit. The DS3-R turns out to be a bit of a softie, and maybe tossing it about winding mountain roads might not be the best of ideas at this point in time.

But this is Citroën's first hot hatch in a long time, and it would

be rude to return the DS3-R without giving it a thorough spank on hot hatch roads. Exit the Karak Highway and pass by the security post into hot hatch country. Blip the throttle, flick the slick six-speed manual shifter down a couple of gears and let that engine growl with a characteristic and addictive gruff tone, and just when you thought that the power surge from the engine's maximum torque delivery at 2000rpm would steadily abate, there is a renewed surge from 4000rpm all the way to its redline just north of the 6000rpm mark. It is a grin inducing engine alright, and the rest of the car is even better. From the rim of its carbon-fibre steering wheel to the base of its seats, the DS3-R bristles with feedback. Contrary to what you might believe, the ride is surprisingly compliant, I would even go so far as to say that it is very absorbent for a small hot hatch as well. Though the ride is on the firmer side of things, even over the cracks and through the bumps, the only discomfort to be had in the DS3 Racing had more to do with its short wheelbase rather than its spring and damper rates. It sounds as though that the DS3-R is reliving the original DS' reputation of having a ride that is closer



to a boat, but on Bukit Tinggi's fast sequence of tight corners, the much anticipated body roll doesn't materialise. Instead the DS3-R stays level, its low-profile Bridgestone Potenza RE050A delivering oodles of traction to resist any frustrating understeer or wayward torquesteer, which is something noteworthy considering that the DS3-R relies on its front paws and little mechanical aid to claw its way around.

Up through a long sweeping left-hander followed by a tight right that leads into a steep incline, and the DS3-R's stubby front nose hunkers down, obedient to the inputs from the linear and precise steering. It isn't all about the go, and the DS3-R is accompanied by a pair of large four-piston callipers on the front disc brakes, delivering an impressive amount of braking power, though as I approached the apex of the right hander, I did wish that the brake pedal would be a little more progressive. Give the pedal a brush too much pressure and the brakes do really clamp down hard, the tail gets a little twitchy and sharpens the turn-in. Get on the power early and the Bridgestones grabs hard and pulls the orange bullet up and away into the hills beyond. Five years old, but this is

**Opposite page:** orange dashboard and black trim fits the car's colour theme perfectly.



**'The DS3-R's stubby front nose is obedient to the inputs from the linear and precise steering. Five years old, but this is still one of the most fun hot hatches I have had in recent years.'**

### Specification

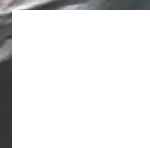
#### CITROËN DS3 RACING

<b>Engine</b>	Inline 4-cyl, 1598cc, turbo
<b>Power</b>	207PS @ 6000rpm
<b>Torque</b>	275Nm @ 2000-4500rpm
<b>Transmission</b>	Six-speed manual, front-wheel drive, ESP
<b>Front suspension</b>	MacPherson struts, coil springs, anti-roll bar
<b>Rear suspension</b>	Torsion beam, coil springs, anti-roll bar
<b>Brakes</b>	323mm ventilated front discs, 249mm solid rear discs, ABS, brake assist
<b>Wheels</b>	18in front & rear
<b>Tyres</b>	215/40 R18 front & rear
<b>Weight (kerb)</b>	1240kg
<b>Power-to-weight</b>	167PS/tonne
<b>0-100kph</b>	6.5sec
<b>Top speed</b>	235kph (claimed)
<b>Consumption</b>	6.4L/100km (NEDC Combined)
<b>Price</b>	N/A

evo rating ★★★★★

still one of the most fun hot hatches I have had in recent years.

To think that this is a product of a racing outfit that has won the WRC several times and is now dabbling in circuit racing, the DS3-R delivers the thrills like a hot hatch should and yet it isn't all that compromised at being a hatchback. What's more is that even with finding plenty of success in the motorsports scene, the DS3-R is surprisingly bereft of motorsports inspired paraphernalia besides a small plaque stuck to the roof that tells of the people responsible for its development and what they are known for. That's it. No big bench wings like an Impreza, or go-faster racing stripes like a Ferrari, Citroën racing seems rather humble about their achievements. Instead its stencil decals, the startling orange and black paint work, the orange dashboard, and the humble lashings of carbon fibre trim on the wheelarches, rear diffuser, and front bumper, is typical of Citroën doing things their way. Even if they have the talent to usurp the mainstream brands, they aren't too boastful about it. And that is what I love about Citroën. Don't follow the pack, don't be predictable, and stay classy. ☒



**FOR A GREAT MANY REASONS, THE 1978**

Formula 1 season is one worth remembering. In an era of impossibly fat slicks and the Cosworth DFV, of Hunt, Lauda and Villeneuve, this was the year that Lotus changed Grand Prix racing forever. Teams had been experimenting with aerodynamics as a means of improving performance for ten years or so, but throughout the 1970s this least tangible of forces was little understood. With the Lotus 79, Colin Chapman and his men finally mastered ground effect with crushing success. The dark art of aerodynamics was beginning to mature into a quantifiable science.

The 79 was introduced a third of the way into the 1978 season. Over the remaining 11 races of the year, drivers Mario Andretti and Ronnie Peterson bagged nine pole positions and six race wins between them. Lotus secured a seventh Constructors' world title with four races still to run, while Andretti would go on to win the Drivers' championship two rounds later.

Ground effect – the method of generating huge amounts of downforce with minimal drag penalty by shaping the underside of the car like an inverted wing – was pioneered by the earlier Lotus 78,

**B L A C K  
G O L D**

by DAN PROSSER

PHOTOGRAPHY by DEAN SMITH

*Marking its 1978 Formula 1 success, Lotus's JPS Esprit is the perfect embodiment of the motorsport-inspired road car specials of yesteryear*

but the technology was very much in its infancy and unreliable to say the least. It was with the later 79 that it really came to fruition, sparking a revolution that would change the very course of Grand Prix car design.

For the significance of that season and Lotus's dominance of it, the limited-edition Lotus Esprit 'World Championship Commemorative Model' was a fitting tribute. Officially, 300 units rolled out of the production hall at Hethel, divided evenly between the domestic, North American and Rest of the World markets, but the best estimates suggest the actual figure could be closer to 150. Based on the Esprit S2, the commemorative model was distinguished by the black and gold paint scheme that had become so iconic during the race team's close association with the John Player Special cigarette brand.

There is, however, a darker side to the story. Lotus's joy at winning both titles in 1978 was tempered by the sad death of young Peterson following a crash at the Italian Grand Prix. With each passing year the JPS Esprit – as it has been christened by enthusiasts – tastes increasingly bittersweet, too, for it doesn't only commemorate that double championship success, it also – inadvertently – marks Lotus's last-ever F1 titles. The distinctive and angular Giorgetto Giugiaro-penned lines age with a certain grace, but they are increasingly of an era long gone by. As the carpets and the steering wheel slowly age and wear, we're reminded just how long it's been since Lotus ruled the roost in Formula 1, and of just how faded that glory now seems.

Beneath a bright mid-summer sun, the JPS Esprit looks impossibly pointy and projectile-like today. It has a low, pure and hard-edged form that we just don't see in modern car design. Those gold graphics seem to gilt edge the sharp crease where the wings fold into the bonnet, and the 'WORLD CHAMPION' scripts on the doors read with a confidence and pride. Stamped onto each flank



**Above:** plate marks all seven of Lotus's F1 constructors' titles – 1978 was to be its last. **Left:** fighter jet-style instruments. **Right:** black and gold cabin is cosy and can be tricky to enter and exit

**Right:** 141PS 2-litre four is unchanged from the standard Esprit of the day. **Below:** five-speed manual 'box needs decisive action from the driver



is '033' to mark this particular car's individual serial number, while a triumphant laurel wreath surrounds the Lotus badge on the nose. The 14-inch gold wheels complete the aesthetic, but they also indicate three and a half decades of sports car development: 14-inch gold wheels seem so improbable today.

The scheme continues inside the cabin, too, with gold cloth inserts within the black leather bucket seats and pinstriping across the dashboard and door cards. A pair of plaques nestles behind the gearlever, one carrying Chapman's autograph and the other listing Lotus's seven world titles. On the lower spoke of the Momo steering wheel, Andretti's inscription marks his own title success.

In mechanical terms the JPS Esprit was unchanged from the standard early S2. The engine remained a 2-litre Vauxhall slant four with a Lotus twin-cam head, good in period for 141PS and 177Nm. The quoted figures of 0-96kph in 8.8sec and 222kph flat-out just don't square with the low-slung, mid-engined shape to a modern mind, but in the context of an average contemporary family car, the Esprit performed like a rocketship.

The rear lights were still borrowed from a Rover SD1 and the door handles lifted from nothing more exotic than a Morris Marina. The inexorable cluttering of the original Esprit's uninterrupted shape – that which would continue unabated right up until the car's retirement in 2004 – had already begun as S1 made way for S2, with air intakes sprouting from the rear flanks and a prominent front splitter jutting out from beneath the bumper.

JPS Esprit #033 is today owned by Graham Capel. A lifelong Lotus enthusiast, his association with the marque reaches back to 1962 when he and a friend bought a Lotus Eleven with which to go racing. Impressed by its handling and performance but wanting to run the open-top car in the GT category, Graham set about designing his own bodywork. He recalls two meetings with Chapman in 1964 at Hethel to first ask for permission to continue with his project, and secondly to show him his early drawings.



*'Sink deeply into the softly padded bucket seat and begin to drink in a wonderful driving environment...'*



*‘The genetic ley lines that connect this Esprit to every good modern sports car are radiant’*

‘The first time I met Chapman he kept me waiting for an hour and a half,’ Graham recalls. ‘The meeting lasted about eight minutes. He was very brusque. I was suitably impressed by all the paperwork on his desk, on the walls, the floors... There wasn’t anywhere to sit. When I met him the second time to show him my drawings, he said, “That’s ugly!” That meeting lasted four minutes.’

With Lotus in his blood and a fleet of eight classic models in his private collection, Graham bought #033 as a restoration project. He hauled it out of storage in pieces, repaired and painted the chassis, then set about restoring every single component to its original glory. The finished project rolled back onto the public highway in 2006 with somewhere between £15,000-20,000 having been spent. Given the car’s value today of around £16,000, the project was a labour of love.

**THERE’S SOMETHING ABOUT HAVING TO CONTORT YOUR** body into unnatural shapes to get into the cabin that puts you in the right frame of mind to drive a Lotus. It’s a reminder that this machine isn’t built for comfort or convenience, that it’s single-minded in its approach. Actually, the Esprit seems a little more accessible than a modern Elise, for instance, but I still have to fold myself in the middle and tuck my head into my chest to clear the roofline. I sink deeply into the softly padded bucket seat and begin to drink in a wonderful driving environment.

Will the world’s automotive designers ever better this instrument binnacle? I doubt it. Wide and low, it wraps around at each edge for the full cockpit effect, six crisp dials sunk deep within. The elevated transmission tunnel makes this a snug, comfortable place in which to sit, the steering wheel a gentle stretch away in an authentic Jim Clark manner. My feet are thrust out ahead, toes pointing towards the direction of travel and my tibias, it soon occurs to me, are now the primary frontal crash structure.

The Renault gearbox is connected to the gearlever via a complex

system of rods and cables that navigate the engine bay, which makes for a wide, imprecise gate. First gear does engage with a satisfying clunk once you force the lever to the left and forward with some effort, though. The car wants a reasonable stab of revs and a smartly lifted clutch pedal to pull away cleanly. Once on the move the gearshift action is actually quite mechanical with a natural spring weight across the gate.

The thrummy, revvy little engine over my left shoulder is surprisingly tractable, pulling third and fourth gears quite eagerly from low speed. It does its best work when spinning over 4000rpm, but to say the Esprit ever feels quick would be far too generous. Several miles down the road it still seems so unlikely that this was what passed for a fast car in 1979, but having never experienced a fully laden Morris Marina I suppose that’s more to do with my own point of reference.

If the level of performance has dated over the years, the genetic ley lines that connect this Esprit to every good modern sports car are radiant. Even after 35 years it is so evidently a car that has been engineered for the express purpose of shifting down a winding road at speed while entertaining its driver. It all comes together when I start to work the car harder; when I shift up later and wind the engine out a little further, when I get back down the gearbox in braking zones rather than holding a higher gear, when I lean on the bulbous tyres to carry more speed into corners, when I stand on the brakes with more purpose. This isn’t a car that needs to be nursed and stroked along; it wants to be hustled and hurried. The gearlever demands a deliberate action and lower cogs won’t slot in until the engine speed has been matched to road speed.

Driven in that manner, the Esprit has the same precision, consistency of response, balance and agility that we celebrate today’s best sports cars for. In many ways it also shows the young guns a thing or two. The unassisted steering, for instance, connects the driver to the road surface so intimately at speed, but even at a crawl there’s a pleasure in



**Top:** with only 141PS, even a kerb weight of 1022kg can’t make the Esprit feel quick by modern-day sports car standards. **Left:** wheels are just 14 inches in diameter. **Above left:** rear lights came from a Rover SD1... **Above right:** ...while the door handles originated from Morris Marina

*‘The lasting impression is that the basic sensations of driving a good sports car really haven’t come that far in 35 years’*



its constant, uncorrupted patter. Those fat tyres also give a beautiful ride quality over the smaller road surface imperfections that the eye can't see, although potholes and bigger bumps crash through the whole structure. The expansive view through the windscreen and over the low scuttle gives the impression of looking along the road rather than down onto it.

For the need to rev-match and for the modest performance on tap, the Esprit is such an engaging thing to drive quickly. The lasting impression, though, is that the basic sensations of driving a good sports car really haven't come that far in 35 years, they just come at you much more quickly these days. The JPS Esprit doesn't only mark an exciting and turbulent time in Grand Prix racing's history, it also reminds us just how perennial the thrill of driving really is. ✕

*With thanks to Graham Capel, Bibs and the Lotus Forums.*

### LOTUS ESPRIT S2 WORLD CHAMPIONSHIP COMMEMORATIVE MODEL

**Engine** In-line 4-cyl, 1973cc **Power** 141PS @ 5800rpm  
**Torque** 177Nm @ 4000rpm **Transmission** Five-speed manual, rear-wheel drive  
**Front suspension** Double wishbones, coil springs, dampers, anti-roll bar  
**Rear suspension** Semi-trailing arms, coil springs, dampers, anti-roll bar  
**Brakes** Discs, 250mm front, 275mm rear **Wheels** 7 x 14in front, 7.5 x 14in rear  
**Tyres** 205/60 VR14 front, 205/70 VR14 rear **Weight** 1022kg  
**Power-to-weight** 138PS/tonne **0-96kph** 8.8sec (claimed)  
**Top speed** 222kph (claimed) **Value today** £13,000-16,000

**evo rating:** ★★★★★

### Racing-inspired specials



#### Martini Porsche 911 Turbo

Based on the later 3.3-litre 911 Turbo of 1978, the limited-run Martini edition was a nod to Porsche's competition cars of the day. Wearing the famous colours of the Italian drinks brand, Porsche's 936 won Le Mans in 1976 and '77, while the gorgeous 911 2.8 RSR won the last proper Targa Florio in Martini colours.



#### Lotus Esprit Essex Turbo

In 1980, the year after the arrival of the JPS Esprit, Lotus released another limited-edition Esprit in the colours of the Formula 1 team's new sponsor, Essex Petroleum. Based on the turbocharged model, the Essex Esprit Turbo had 214PS compared to the JPS Esprit's 141PS, but the racing team only scored one podium in Essex livery.



#### Martini Lancia Integrale

Another nomination for a Martini-liveried car, which reflects the scale of the brand's success as a motorsport sponsor in the 1970s, '80s and '90s. Juha Kankkunen and Lancia won the 1991 World Rally Championship, so 400 Delta HF Integrale Evo Martini 5s were built in celebration. It was Lancia's ninth WRC Manufacturers' title.



#### Gulf Ford GT

To celebrate the 40th anniversary of the first of the GT40's four consecutive victories at Le Mans, Ford produced the Heritage Edition. Wearing the colours of Gulf Oil, production was limited to 343 units. The Heritage model was mechanically identical to the standard car, which was crowned *evo* Car of the Year in 2005.



# OF EXCELLENCE AND EXPECTATIONS

by HANS CHEONG

PHOTOGRAPHY by  
HANS CHEONG & GERARD LYE

*Does the final product match the pre-launch hype?  
Hans Cheong travelled to Chiang Mai to find out.*





**Above:** 1.8-litre engine sets it apart from the competition.  
**Right:** 17-inch wheels not available locally, thankfully.



# D

**DESPITE SHARING THE SAME NAME** with a discontinued Japanese market only SUV from the 1999, the Honda HR-V that you see here has no relation with the high-riding boxy SUV that first wore the HR-V nameplate.

While the first HR-V carries a distinct SUV image, the current model, an offshoot of the Jazz-City's Global Small Car platform, downplays traditional SUV attributes in exchange for styling elements inspired a sporty coupe and the utility of a minivan.

The rear door handles are even hidden within the window frame lining to give it a coupe-like look. While the ride height (ground clearance is 170 mm, same as the CR-V) is high enough to emulate the feeling of security of driving an SUV, the HR-V's cabin is quite a minivan-like and features multi-configurable seating positions.

Some cars just have this ability to give off an air of superiority over the competition by just doing nothing. Long before the HR-V made its

local debut, I've had the opportunity to view on the Japanese market model, marketed there as a Vezel, at the show stand of the 2013 Tokyo Motor Show. Even without knowing its specifications and price, you were able to sense, at a guttural level, that this car is going to be a major hit in the market place. There was a whiff of success about the ingredients behind it.

Nearly 13 months later, having seen the final specifications and prices for the car, it is obvious that there is a lot going for the HR-V.

With a fiercely competitive price that ranges from RM99,800 to RM118,000, boosted by the trusted Honda badge, a larger 1.8-litre engine that pulls it far ahead of the competition and an interior whose usability rivals that offered by a CR-V, never mind about the competition - this HR-V absolutely massacres the 1.5-litre RM103,888 Ford EcoSport and the 1.6-litre RM119,888 Peugeot 2008.

The aging but more powerful 2.0-litre

RM118,015 Mitsubishi ASX has a modest fighting chance but ultimately its less refined powertrain and cramped interior wouldn't be working in its favour.

The only car that can stop the Honda from getting a free home run is the upcoming Mazda CX-3, which is rumoured to come with a SkyActiv-G 2.0-litre engine but that is not going to reach our local Mazda showrooms until July this year.

So between now and then, this feisty little Honda is just going to thinly slice the competition apart, and plating them onto little sashimi plates, serving them with soy sauce and wasabi back to their respective competitor brands, as a gentle reminder of who is kingpin in this business. Let's not forget that the mighty Bank of Toyota don't even have an answer to the HR-V, not just in Malaysia, but globally.

I want to find something bad to say about the HR-V, but every time I found something to pick

on, I am rudely reminded that the competition isn't doing any better either, making my point of contention moot. Inside, the HR-V's interior is surprisingly well appointed - the dashboard is lined with leather, albeit of the lower grade variety but still much appreciated over what the competition is offering.

I particularly like the two-tier transmission tunnel. It reminds me of a Porsche Cayenne but minus the ugly clutter of buttons, while the two-tier layout offers an easy place to keep your wallet, house keys, etc. I do however find it to be a tad too shallow to keep larger items like a Smart Tag (especially the larger first generation units) lest they fall out of their place should you get over excited and took a sweeping corner too fast - at this point, scenes from the Final Destination movie where everyday objects got lodged behind a brake pedal started playing in my mind.

There's also a cleverly designed pocket that holds your smartphone while hooking

**‘So between now and then, this feisty little Honda is just going to thinly slice the competition apart’**



**Above left:** electric parking brakes frees up more space. **Above:** cabin feels nicely trimmed, spot-on ergonomics. **Left:** small on the outside, big on the inside.



it up to the USB port. Further back along the transmission tunnel are a pair of cleverly designed cup holders than can be adjusted to accommodate various different cup/bottle sizes and heights.

The 437-litres boot can be expanded to 1,032-litres with the rear seats folded flat. The seats are essentially Honda's signature Ultra Seats in all but name. Honda has elected to not market the seats as Ultra Seats because they can be configured only into three rather than four different modes, as in the Jazz. The missing fourth configuration is the 'Refresh Mode,' where the front seat's backrest can be folded flat to be joined with the rear seats, forming a makeshift bed.

Legroom in the rear is excellent and believe it or not, the HR-V's wheelbase is merely 10 mm shorter than the CR-V. That's barely the width of one finger!

I do however find the shoulder room to be a tad too tight but Sato-san assured me that the HR-V's cabin space is class leading in all

measurements - a claim which I am not going to challenge - adding that unlike the Jazz, the HR-V's more curvaceous sides along the interior may give the illusion it shoulder room is tighter.

"Interior space is actually equivalent to SUVs from one segment above it," said the soft spoken Sato.

On the move, the HR-V's 1.8-litre engine is lifted from the Civic but the HR-V is between 14 to 24kg (depending on variant) heavier than the Civic 1.8S, not enough to make big difference in performance but since it is paired to a rather lazy CVT rather than a 5-speed automatic, one can't expect the same level of driving performance as in the Civic.

In this application, the engine has been tweaked slightly to offer 1PS more power, at the expense of 2Nm of torque. No change in their respective peak points though.

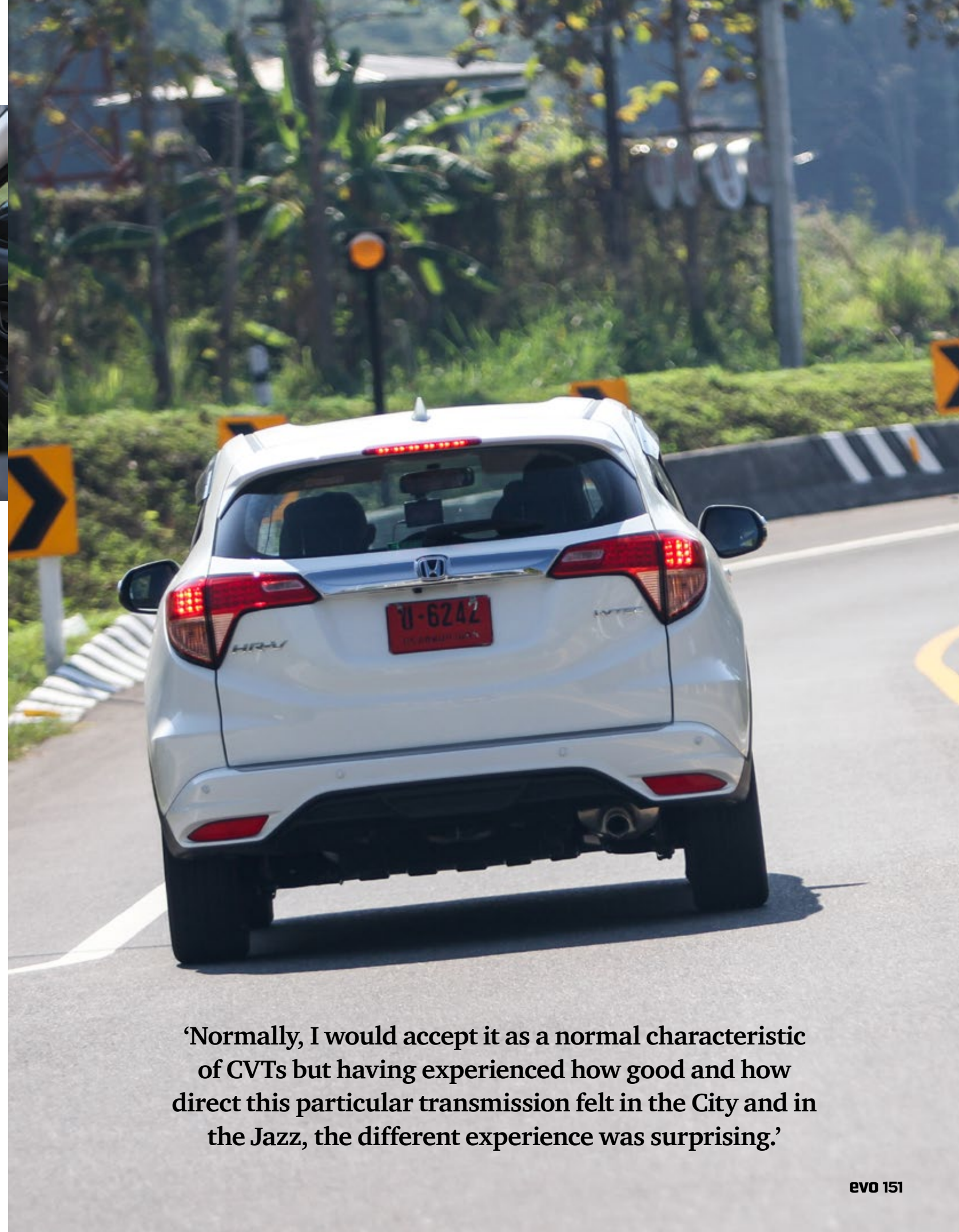
Performance is what you would expect - nothing much to shout about, and the engine runs out of breath once past 5,000 plus rpm so don't bother chasing for any VTEC kick,

because there isn't any. However still drives better than anything else in its class.

I do however find the CVT to respond quite slow in standing starts. Launching from stationary, there is this odd sense that the transmission isn't quite catching up with the engine's speed. Normally, I would accept it as a normal characteristic of CVTs but having experienced how good and how direct this particular transmission felt in the City and in the Jazz, the different experience was surprising. It accelerates fast enough during in-gear accelerations though, so no worries overtaking slow moving lorries. Just stay away from traffic light duels.

Honda did not provide any 0-100kph acceleration time for the HR-V but Sato acknowledged that subjectively, the CVT's smooth shifting character may give the illusion that it is slower than it actually is, adding that the HR-V has the best in class acceleration (based on Honda's internal testing).

A big plus point for the HR-V is its steering.



**‘Normally, I would accept it as a normal characteristic of CVTs but having experienced how good and how direct this particular transmission felt in the City and in the Jazz, the different experience was surprising.’**



Unlike other Honda models, the HR-V's electric power steering is refreshingly communicative, and unlike the Jazz and the City, is not overly light. The steering ratio feels rather quick too and on the twisty stretches of our test drive route in Chiang Mai, it was actually quite confidence inspiring.

Like many recent Honda models, the HR-V's chassis feels positively rigid and there is no doubt that the car can easily handle far more power. May we suggest a HR-V Type-R for Honda's skunkworks team then? Over a series of switchback corners, reducing radii turns, there is not a hint of any flexing from either corners of the car. It just held on to its line, hampered only by its engine power.

Ride is a little on the firm side, but that's partly due to our Thailand specifications test car's 17-inch wheels (Malaysia gets more sensible 16-inch wheels).

Honestly, I want to find a kink in the HR-V's armour to counter this over the top pre-launch

### Specification

#### HONDA HR-V 1.8L V

**Engine** 4-cylinder, 1799cc, petrol

**Power** 142PS @ 6500rpm

**Torque** 172Nm @ 4300rpm

**Transmission** CVT, front-wheel drive, ESP

**Front suspension** MacPherson Strut

**Rear suspension** H-Shape Torsion beam

**Brakes** Ventilated disc front,

solid disc rear, ABS, EBD

**Wheels** 16 x 6in front & rear

**Tyres** 215/60 R16 front & rear

**Weight (kerb)** 1249kg

**Power-to-weight** 114PS/tonne

**0-100kph** N/A

**Top speed** N/A

**Consumption** N/A

**Price** RM118,800

**evo rating** ★★★★★

**‘I want to find a kink in the HR-V's armour to counter this over the top pre-launch hype that the HR-V has been enjoying, but it is very hard to find any fault in the car.’**

hype that the HR-V has been enjoying, but it is very hard to find any fault in the car.

Yes, I do wish the CVT was more responsive but compared to the EcoSport's jerky dual clutch transmission or the 2008's archaic 4-speed automatic, or the ASX's droning CVT, the HR-V's transmission is clearly superior. I would prefer the utility shelf below the transmission tunnel to be deeper but that's about the only menial things I can pick on.

Honda's recent products, from the City, to the Jazz, to the CR-V, and the Accord, have all been very easy cars to live with. They may not stir my soul as much as the screaming banshee Hondas of yore, but live with one day to day, and you will understand the deeper appeal of brilliantly designed cars that you can just get in and drive, and don't give much thought about just how excellent the car is going about its task. As a daily car, the HR-V is an excellent choice, because even enthusiasts need fuss-free cars to battle the daily grind. ☒



## HR-V ADDS THE COMPACT SUV FLAVOUR

**A**fter the City and the Jazz, Honda has rolled out the third and latest addition to its compact car family, the HR-V compact SUV. Though this being a front-wheel drive SUV, the HR-V doesn't use the familiar 1.5-litre engine that is used in the City/Jazz, but the 1.8-litre i-VTEC engine lifted from the Civic. In the HR-V the 142PS/172Nm engine is coupled to a CVT that is similar to that used in the City/Jazz, albeit with a different programming to suit its weight and SUV applications.

As it is with the City/Jazz, the HR-V is an excellent example of packaging, boasting an interior cabin space that is similar in size

to that of an SUV in a class-above. Available in three variants, prices for the HR-V starts at RM99,800 for the entry-level 'S' variant, which comes with dual front airbags, electronic braking assistance, and stability and traction control systems. A step up to the RM108,800 'E' variant will add keyless entry and ignition, climate control, and a better multimedia system. The range-topping RM118,800 'V' variant on the other hand comes with six airbags, LED headlights and daytime running lights, multi-angle reverse camera, six-speaker multimedia system with voice recognition, and Honda's slick touch panel climate control. ☒





# The NX Step In The Pursuit of Perfection

**F**OR A BRAND THAT pioneered the luxury 'soft-roader' segment with the first generation RX, Lexus is surprisingly late into the luxury compact crossover segment.

Up until now, the battle ring for baby soft-roaders has pretty much been a three way fight between Ingolstadt's Q3, Munich's X3 and Solihull's Evoque, with Lexus happily sitting out on the sidelines, until now.

The measurement tape shows that the NX matches the X3 and the Q5, with comparable pricing, but oddly enough the NX's 2660mm wheelbase is shorter than even the X1's 2760mm.

Turbocharged engines are a standard feature in this segment but the NX's 8AR-FTS unit is a first for Lexus. It even added a 'Turbo' suffix to the NX's nameplate, which to me is like sticking a '5-speed' or 'fuel injection' badge on the boot lid, in this time and age.

However don't for one moment think that just because Lexus has odd ideas on what badges to stick

on their cars, that there is nothing special about the NX's engine. Not all turbocharged engines are the same and this Lexus does raise the innovation bar a couple of steps higher.

Unlike its German peers - the NX 200t's VVT-iW (Dual Variable Valve Timing with intelligence Wide) engine has a unique valvetrain that allows it to switch between two different combustion cycles on the fly - a standard Otto cycle for maximum performance, or a Lexus hybrid-like fuel sipping Atkinson cycle.

At light throttle conditions, running on Atkinson cycle, the intake valves will close later than normal, thus reducing pumping losses during the compression stroke while still maintaining a higher expansion ratio during the power stroke. The downside of Atkinson cycles are that they don't do high rpms very well, at which point it switches over to Otto cycle to work the BMW-like single twin scroll turbo better.

Fuel system is a Toyota 86-like D4S type that combines both direct and port fuel injection.

Other interesting bits that are an active wastegate control for optimal low-end response and a water-cooled intercooler that is mounted directly to the engine.

All these combine to achieve a very respectable output of 238PS (from 4800 rpm to 5600 rpm) and 350 Nm of torque (1650 rpm to 4000 rpm), transferred to all four wheels via a front-wheel bias (up to 50 percent torque transfer to the rear axle) electromagnetically coupled Dynamic Torque Control system.

In comparison, the conservatively tuned BMW X3 xDrive20i pushes out just 184PS and 270Nm while the Audi Q5 2.0 TFSI cranks out 228PS and 350Nm.

The transmission is a new six-speed automatic unit that's been developed to match the characteristics of the turbocharged engine.

My short preview drive is limited to just a few minutes run on a gymkhana-like course laid out on a parking lot, and a few more rides to experience the NX's 360 degree panoramic view camera-based

parking assist system, as well the car's blind spot monitor. As such, there really isn't much that one can tell about the NX's driving dynamics.

The steering wheel appears to be nicely weighted, albeit on the light side, but feels natural enough although the steering rack's ratio feels a tad too slow for this tight course. Body control is kept well in check even when hustling through hairpin turns. Frankly you can't expect to uncover any weaknesses within a short, parking lot test drive, on a course that's designed by Lexus themselves.

Lexus is known for its user-friendliness and there are two features in the NX that I appreciate - a power-operated folding second row seat - very appreciated on an SUV, and a puddle light that's positioned within the door handles. It makes you wonder why everyone else puts puddle lights under the wing mirrors when what you want is to illuminate your entry path to the door!

We look forward to experiencing the NX in greater depth in the coming months. ☒

# Sharp New NX Brings Out the Turbo



**T**HOUGH LEXUS' NEW compact SUV, the NX, comes with the brand's headlining brand new 2-litre 4-cylinder turbocharged petrol engine, the NX is available here with two powertrains. The first is the NX Turbo with the aforementioned turbocharged engine, and the other being the NX Hybrid with Lexus' stalwart 2.5-litre 4-cylinder hybrid drivetrain.

The NX Turbo itself is available in four variants, with the RM292,000 NX200t, RM323,000 NX200t Premium, RM343,000 NX200t Luxury, and the RM369,000 NX F Sport. All four variants come with the turbocharged engine which produces 235PS and 350Nm of torque. Strapped to a 6-speed automatic transmission and Lexus' Dynamic Torque Control AWD that sends power to the rear wheels when necessary, the NX Turbo is capable of achieving a 0-100kph sprint time of 7.1sec, and a top speed of 200kph.

Whilst there are plenty variants

to choose from, the base NX is already well equipped with the Premium and Luxury getting 10-way powered driver's seat with ventilation, memory, and lumbar support adjustment features, a Blind Spot Monitor safety feature, and Rear Cross Traffic Alert. At its base specification the NX comes with eight airbags, and the full suite of safety features from electronic braking assistance to stability control and traction control.

The F Sport variant on the other hand includes special F Sport upper and lower mesh grille, F Sport Leather seats, a boost meter and G-Ball, and sports suspension with adaptive dampers.

Topping the NX range in terms of pricing however is the RM375,000 hybrid NX300h. Armed with a 2.5-litre 4-cylinder naturally-aspirated powered hybrid drivetrain with a total system output of 197PS, the NX300h is said to be able to perform the 0 to 100kph sprint in a rather leisurely 9.2sec and achieve a top speed of 180kph. ☒



# Bridgestone Opens First Select Store in Malaysia

**T**AKING AN ENTIRELY new approach to tyre retailing, Bridgestone Tyre Sales Malaysia has introduced their first Bridgestone Select (B-Select) store in Malaysia. Located in Balakong and wholly owned by Bridgestone's retail sales partner, Racing Z Tyre Sdn Bhd, the B-Select concept store aims to provide premium service through a customer-friendly environment that is dedicated to "Serving the Best for Your Car".

Based on a well-established retail model that was first introduced in Australia in 2006, with similar concept stores now open in New Zealand, India, Vietnam, Singapore, and South Korea, the B-Select store sets itself apart by offering a pleasant and inviting store environment where customers are presented with a more user-friendly information and greater transparency in the purchase process. Beginning with the tyre selection

process, B-Select presents clear pricing and explanation on its products, with personnel present to help customers choose a tyre that suits them and their cars best. The store also provides tyre fitment, balancing, and alignment services for all types of vehicles including newer high-end vehicles equipped with Run Flat Technology tyres, all of which are carried out with professional equipment that follows high safety standards.

According to Bridgestone Malaysia's managing director Jo Takekawa, the B-Select store is more customer-centric with glass panel lounges that allow customers to view their cars, and features a colour coded floor plan to help customers navigate the store safely. To ensure total customer satisfaction, B-Select store personnel will also follow-up on the customer's purchase even after they have left the store. Bridgestone

Malaysia says that they will be expanding their B-Select stores nationwide, with plans to open two B-Select stores annually.

Racing Z Tyre, who has been partnering with Bridgestone Malaysia for the last 15 years, is located at Jalan PDR 5, Kawasan Perniagaan Desa Ria, Balakong.

As part of Bridgestone's on-going nationwide campaign from now till 31st March 2015, customers who purchase any four Bridgestone passenger or 4x4 tyres from a new B-Select store will also qualify for a Petronas Gift Card with a preloaded value of RM40, or an Alain Belon backpack for free. ❧



**Left:** Bridgestone promises a new customer-centric experience at B-Select stores.

# Mazda Opens Pre-Owned Car Centre



**I**F YOU ARE LOOKING for a more affordable way into a Mazda ownership, Bermaz Motor has a solution in the form of their newly unveiled Mazda Anshin Pre-Owned Car Centre. Based on the Japanese word "Anshin", which literally translates to "peace of mind", cars from their pre-owned centers have undergone all of their scheduled

maintenances, and covered by Bermaz's extensive Free Warranty and Maintenance Programme. This ensures that the quality and reliability of cars sold at the Mazda Anshin are just as uncompromised as one would expect of a brand new Mazda. The Mazda Anshin Pre-Owned Car Centre is located at Jalan Presiden F U1/F, Accentra Glenmaire, Seksyen U1, 40150 Shah Alam. ❧

# BMW Retains Top Premium Spot

**W**ITH A TOTAL OF 9046 vehicles delivered in 2014, BMW Group Malaysia has not only retained its No.1 status in the Malaysian Automotive Premium Segment, but also achieved its highest performance record in its history. Of all the vehicles delivered in 2014, BMW Malaysia delivered 7808 BMWs, 655 MINIs, and 583 BMW Motorrad motorcycles, recording an increase of 13.4 per cent as compared to the same period last year. According to Alan Harris (pictured

left), managing director and CEO of BMW Malaysia, strong demand for variants of the 3 Series and 5 Series, as well as the introduction of new BMW, MINI, and Motorrad models were the reasons behind the company's success in 2014.

"The continued and growing support from our customers and dealers has proven to be a key factor for our robust sales performance in 2014, and for that I would like to extend my heartfelt gratitude to our valued customers and dealers for this achievement," said Harris. "Additionally, our further



investment in new locally assembled capabilities for the BMW X5, MINI Countryman, and the BMW F 800 GS and F 800 R motorcycles marked a historical milestone for BMW Group Malaysia not only in the country but also in South East Asia. This further

underlines our commitment here in Malaysia." BMW Malaysia's performance is also reflective of the brand's success worldwide as the BMW Group has successfully reaffirmed its position as the world's largest premium automobile group, delivering a total of 2,117,965 vehicles worldwide in 2014, a 7.9 per cent increase from previous year's record of 1,963,798. With its 2015 plans in place, BMW Group Malaysia will continue to focus on providing its customers with the complete premium ownership experience. ❧

# Maserati Sees 200% Growth in Malaysia

**2**014 SAW MASERATI charting a 200 per cent increase of sales in Malaysia, over the same period in the year prior. According to NAZA Italia, the official distributor of the Maserati brand in Malaysia, the increase in sales has been largely attributed to the introduction of the Ghibli. With the increase in sales, NAZA Italia will be upgrading their showroom to deliver "an even more luxurious experience and give a taste of the exclusivity that comes with a Maserati ownership".

As a whole, Maserati ended 2014 on a high note with the brand selling approximately 36,500 cars worldwide, a 136 per cent increase as compared to the previous year, and six times the sales figure of

2012. Sales in the South-East Asia and Pacific region (SEAP) itself recorded a 252 per cent increase in 2014 as compared to the same period in the previous year. The strongest performing markets in the region in terms of sales volume were South Korea, which grew by a further 469 per cent, and followed by Australia with a 207 per cent growth.

According to Maserati the Ghibli accounted for just over 60 per cent of retail sales in the SEAP region, with sales growth expected to continue with the global market entry of the Maserati's first SUV model, the Levante, which is slated for 2016. The Levante will be the main driver in Maserati's ambition to sell 75,000 cars per annum by 2018. ❧





📍 **Test location:** Milton Keynes, Buckinghamshire, UK **GPS:** 51.973200, -0.757200

## Urban Truck Ultimate

Customised Land Rover Defender gets a raft of performance and interior upgrades

**W**HATEVER THE REASON for the rapid expansion of the modified Defender market in recent years – perhaps it can be explained by the looming discontinuation of Land Rover’s timeless utilitarian workhorse – it’s little surprise that tuning companies are scrambling to claim their slices of the pie. Milton Keynes-based Nurburg Ltd entered the marketplace last summer with its Urban Truck, and by mid-July it had shifted some 70 units since the start of the year.

A small but thriving sub-culture is developing around this type of car and Nurburg is one of the most active players. ‘People are buying them because they’re trendy at the moment,’ explains founder Simon Dearn. ‘Our entry-level model, which costs £34,995, is bought as an only car, but the Ultimate, costing £49,995, is bought by high net worth individuals. It’ll be a fourth of fifth car and they want everything on it.’

‘All our cars are brand-new from Land Rover,’ he continues. ‘We strip them down and rebuild them to our specification.’ The Ultimate gets a performance package, which includes an intercooler, air filter, a stainless steel exhaust and an ECU remap, to give 185PS (up from 122PS) and 430Nm (up from 360). This model is also on new springs, which lower the car by two inches, with a Bilstein damper kit that is switchable inside the cabin. There are also sports anti-roll bars and Overfinch wheels.

‘We fit new grilles, LED lights, underbody protection and colour co-ordinate everything,’ explains Dearn. ‘We also fit stainless steel bolts and apply a full paint package to prevent



corrosion. Inside, we fit sports seats with Nappa leather, an Alpine stereo system, Alcantara headlining and a Momo steering wheel. We get as much performance as we can out of the Defender, but it’s really more about the refinements. It still drives like a Defender, but it gets a lot of attention. It will still go off-road and the clearance is good, but of the 70 cars we’ve sold so far this year only a few have done so.’

The Urban Truck Ultimate drips with presence and the quality and fit of the upgrades is very good. The leather is soft and fragrant and the only interior components that feel workmanlike are the standard Land Rover items. There is no point in deconstructing the car’s driving dynamics as we normally would do – that would be as redundant as discussing a Caterham’s interior fit and finish – but it is worth describing the experience.

Driving the Urban Truck is a busy, involving activity. The gearing is short and the sweet spot of the four-cylinder turbodiesel is narrow, so gearchanges comes thick and fast. The steering is also quite slow, so it takes an armful of lock

to navigate a roundabout or 90-degree corner. Combined with the commanding driving position, that level of activity is actually quite good fun, and there’s nothing about the major controls that’s recalcitrant or awkward.

With 430Nm of torque the Urban Truck pulls strongly enough in its sweet spot that you don’t feel like a moving chicane among traffic. In proper Defender fashion the engine is noisy and unrefined when accelerating hard, but at a cruise it settles and drops out of earshot. The big tyres and relatively soft set-up means it rides comfortably, even with the dampers set to Sport mode. In fact, it’s probably best to use this as the default setting because the ride quality isn’t compromised and the extra support just trims out a little of the roll and slop.

The upgrades can be fitted to any style of Defender and to second-hand cars as well as new. The Urban Truck will divide opinion, but for those who find appeal in this modern reimagining of a British motoring icon there’s little doubt that Nurburg does the business. **X**

**Dan Prosser** (@TheDanProsser)

<b>Engine</b>	In-line 4-cyl, 2198cc, turbodiesel
<b>Power</b>	185PS @ 3500rpm
<b>Torque</b>	430Nm @ 2000rpm
<b>Performance</b>	11.0sec (estimated 0-96kph), 145kph+ (est)
<b>Weight</b>	1771kg (104PS/tonne)
<b>Basic price</b>	£49,995

**evo rating:** ★★★★★

⊕ High quality, sense of fun

⊖ Not to all tastes



📍 **Test location:** B1098, Chatteris, Cambridgeshire, UK **GPS:** 52.465942, 0.092051

## Fensport Toyota GT86

Turbo upgrade brings more than 320PS – and a welcome dose of character

**Photography:** Dean Smith

**T**

### THE TOYOTA GT86'S

weakest link, as has been widely reported, is its flat and uninspiring engine. The 2-litre, four-cylinder unit produces 200PS, which on paper looks like a healthy amount for a 1275kg sports coupe, but in practice feels rather underwhelming. Aside from a lack of straight-line performance, the standard engine also feels pedestrian in a car that is supposed to excite, and it doesn't have the torque to make the most of the Toyota's sweet chassis balance.

The obvious solution is forced induction. We've tried an Abbey Motorsport supercharger conversion (evo 117) and found it to be just the ticket, but at £5441 the 274PS upgrade didn't come cheap. Alternatively, Cambridgeshire-based Fensport offers a turbo conversion, which starts at £4314 and promises a similar power increase at a more reasonable cost.

Fensport's Stage 1 turbo conversion uses an AVO kit and should achieve, as an absolute minimum, 260PS without any other modifications. The added benefit of turbocharging over supercharging, reckons Fensport boss Adrian Smith, is that further modifications can be made over time to release yet more power and torque as and when the owner's bank balance allows.

With ceramic header coatings, uprated intake and exhaust systems and other ancillary upgrades, this set-up can be lifted to 320PS, at which point the fuel system becomes the bottleneck. Add new injectors and pumps and up to 380PS is possible; that's a greater level of



expandability than a supercharger would offer, says Smith. The power increase is also achieved without resorting to the expensive business of upgrading engine internals.

Fensport uses an EcuTek management system, which allows the driver to switch between four different maps using the cruise control stalk, depending on the level of boost required at a given time. It also enables such trickery as launch control and automatic throttle blipping on downshifts.

This heavily modified demonstrator runs at 330PS thanks to its upgraded exhaust, sports cat and closed-loop boost control (around £1500 plus fitting). There's a slight but perceptible added muscularity from just over idle, but the turbo really starts to boost at 3600rpm, after which point the GT86 starts to shift down the road with the urgency of a much more expensive sports car. The engine pulls hard right around to the red line, which makes for a useful power band, but anybody expecting OEM levels of response from the very lower

reaches of the rev range will be left wanting.

Only in low-speed corners does the engine dip below 3600rpm, so for the majority of the time the turbocharger is primed and ready to deliver its urgent performance. Not only does the car now have the straight-line speed to back up the sports car styling, it also has the strength to unstick the rear tyres with a throttle application alone. The standard car needs a determined 'bung' to get the rear end working, after which point it rarely has the muscle to keep the tyres spinning to sustain a slide.

Perhaps more important than the performance increase, however, is that Fensport's upgrade gives the engine the character and sense of fun that the standard car is crying out for. The turbo helps to release the GT86's frustratingly untapped potential so that the engine is no longer its weak link. ❌

**Dan Prosser** (@TheDanProsser)

<b>Engine</b>	Flat-four-cyl, 1998cc, turbocharged
<b>Power</b>	330PS @ 7100rpm
<b>Torque</b>	350Nm @ 5250rpm
<b>Performance</b>	5.0sec (estimated 0-100kph), 225kph+ (est)
<b>Weight</b>	1275kg (259PS/tonne)
<b>Basic price</b>	£4314 (fitted, 260PS upgrade)

**evo rating:** ★★★★★

⊕ Extra performance and character at reasonable cost

❌ Not quite OEM levels of response



# Art of speed



## Renaultsport Clio V6 body kit

by DAVID VIVIAN | PHOTOGRAPHY by KENNY P

**T** **THE IDEA. HOWEVER HUMBLE YOUR STARTING POINT** – and they don't come much more humble than a front-drive shopper – sacrificing the rear seats for a potent motor driving the rear wheels will have all sorts of interesting consequences.

The Renault 5 Turbo and Turbo II were fine early markers for what, 20 years on, would be the ultimate manifestation of the notion. Distorted to a level of almost comical tumescence by their mid-mounted mechanicals, the terrible tots rallied with some success and proved a hoot to hustle down a twisty back road. They also established a kind of 'what if?' mentality at Renaultsport.

As in 'what if we do it again?' Despite a new direction suggested by the 1996 Spider, for its next act Renaultsport returned to the baby-hatch-turned-ultimate-rally-weapon formula. Insert 'fantasy' somewhere in there too, because while there seemed no good reason why the treatment shouldn't work for the second-generation Clio, rallying was off the table. Perhaps more curiously still, in front-drive 2-litre 172 Cup hot hatch form, Renault already possessed a Clio with serious performance and point-to-point chops.

Undeterred and confident its supermini could do the bijou supercar thing, Renaultsport pushed on with the design for a mid-engined V6 Clio racer that would spawn a limited run of road cars. Previewed as a concept at the 1998 Paris

show, three years later (and with more than a little hands-on help from Tom Walkinshaw Racing at its Swedish Uddevalla site) the most outrageous road-going Renault ever hit the road. And, amazingly for a Clio, took up most of it.

Unlike the R5 Turbo, the mission here was to somehow shoehorn a large naturally aspirated engine – a 230PS version of the 24-valve 3-litre V6 from the Renault Laguna – into the midriff area of the normally slim-hipped Clio. To facilitate this, the standard bodyshell was fitted with custom subframes to support the new motor and a remarkable amount of lateral largesse to accommodate a significantly broader footprint and hefty cooling requirements.

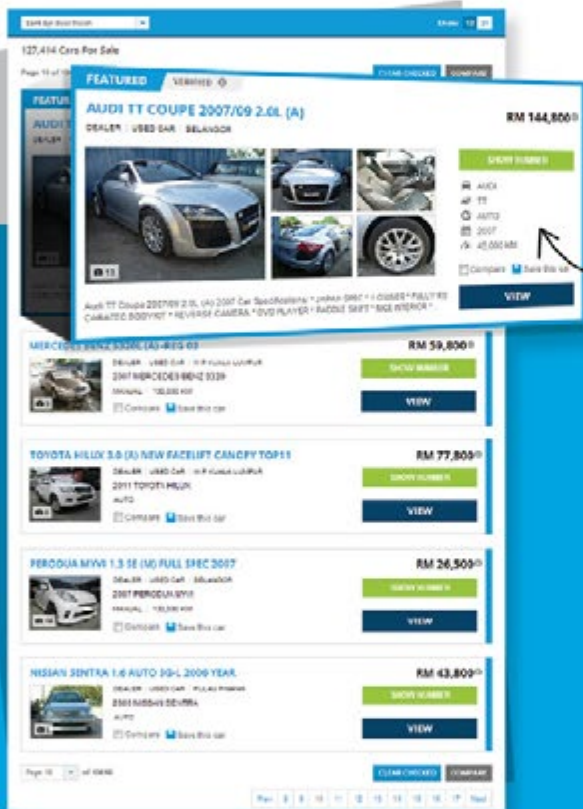
Some 171mm wider and 66mm lower than a regular Clio – with a 38mm increase in wheelbase, and tracks widened by 110mm at the front and 138mm at the back to match – the V6 had cartoonish proportions that seemed both perfect and preposterous. Recognisably Clio were the parts of the donor bodyshell you could still see, but the new bumpers, composite side panels and sill covers, together with the industrial-sized vents, were spectacularly distracting.

In 2003 the Clio V6 was given a facelift and called the 255, denoting an increase in power (to 255 PS). With an even wider front track and sharper lines, it looked madder than ever. It also addressed some of the scarier handling issues of the original. Respect was still advisable, though, especially in the wet. ❧

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