

car

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ASTON RISING!

**On the road in new Vantage, 2018's hottest sports car
PLUS: Reborn DB4 GT driven! Valkyrie's F1 tech secrets!**





A SENSATIONAL NEW VANTAGE
EPIC ENGINES AND ELECTRONICS FROM AMG
A COSY RELATIONSHIP WITH RED BULL
A NEW EX-MCLAREN TEST PILOT
DB11 SALES SUCCESS, A NEW FACTORY
AND FULL-YEAR PROFITS IN 2017
A V12 HYPERCAR TO REDEFINE THE CLASS
HERITAGE TO DIE FOR...

...WHY 2018
IS ALREADY
ASTON'S YEAR

DB4 GT
THEY'VE
FAITHFULLY
REPRODUCED
THEIR ICONIC
RACER - WE
DRIVE IT



VANTAGE
AN EXCLUSIVE
RIDE IN
2018'S MOST
EXCITING
SPORTS CAR



VALKYRIE
YOUR GUIDED
TOUR OF
ASTON'S
HYPERCAR BY
THE MEN WHO
MADE IT



10 REASONS

why
Aston's
new
Vantage
has been
worth the
wait



AFTER 12 YEARS' sterling service, the old Vantage has finally been put out to pasture. Its replacement is this vision in eye-melting lime green, and it's by no means just a styling refresh – the new Vantage is powered by a 4.0-litre twin-turbo V8 from AMG (as deployed in the V8 DB11), uses a new aluminium architecture with a shorter wheelbase than a 911's and boasts a gorgeous interior with infotainment pinched from the latest Mercedes-Benz S-Class.

Admittedly the new car shares parts with the DB11 – suspension, for example – but 70 per cent are bespoke. The days of Aston photocopying old blueprints and changing the scale are gone.

Take a look at the personnel involved and your hopes drift even further skyward. Marek Reichman (ex-BMW and Land Rover, father of DB11 and also responsible for Aston's stunning Vulcan hypercar) crafted the exterior form, while the Vantage's engineering team was headed by technical officer Max Szwaj, formerly Ferrari's head of body engineering. As for suspension tuning, the Vantage is a product of the seat of Matt Becker's pants, the man who spent 26 years at Lotus churning out really sweet-handling cars.

Suffice to say the omens are good... ▶

We hit the road in Aston Martin's crucial new Vantage, the AMG-powered, 911-ready sports car of your dreams

Words Ben Pulman | Photography John Wycherley & Charlie Magee

1

IT LOOKS EVEN BETTER THAN BOND'S DB10

WE'LL COME TO the 007 comparisons in a moment, but what strikes you first about the new Aston Martin Vantage isn't the similarity to the DB10 that Daniel Craig stuck in the River Tiber, but rather the colour. It's almost radioactive in its intensity, and very un-Aston.

The lime creates a distinct contrast with the optional carbonfibre, the grille almost discrete from the nose, the swooping carbon curve that winds up over the exhausts and down below the numberplate creating a dark chasm in which only the nuclear waste-dipped diffuser blades are visible.

Let's backtrack a moment, though. Before chief creative officer Marek Reichman and chief technical officer Max Szwaj even pull back the dust sheet it's the curvaceousness of the shape beneath that hits you like a sniper's round. The nose is low, the tail high, and the wheelarches so prominent you half expect a race car without a wing to be hiding beneath. And is that a hint of a double-bubble roof under the fabric...?

As the cover comes back – and once you've processed the colour – you start to take it all in. Suddenly the outgoing Vantage looks sedate, and painfully conservative. Its nose was near vertical, Aston's trademark grille pushed high to meet the leading edge of the bonnet. No longer. Now it's pulled down towards the floor, creating a clear separation between the gaping grille and the heavily contoured bonnet. Gone too are the delicate side vents with their single strakes, and the nipped waist, replaced now with dark pockmarked panels (which reduce air pressure in the front wheelarches) and angular sills that push the hips out towards the rear wheels.

The future's bright
Since day one Aston CEO Andy Palmer has been adamant on the need to differentiate – no longer shall Aston Martins all look the same. Vantage is its own car, not a shrunken, budget DB11



THE WORLD MAY HAVE FAWNED OVER CRAIG'S DB10 BUT THE NEW VANTAGE COMFORTABLY ECLIPSES IT

Reichman refers to the new Vantage as a hunter. 'The DB11 is a Savile Row suit, a great GT, everything that is expected of Aston,' he says. 'The Vantage is different. It is a spirited drive, assertive but not aggressive. It is hedonistic, and all about the driver and driving.'

President and CEO Andy Palmer has decreed that every model must look different – and the company now has the cash to allow Reichman and his team such freedom – so the days of identikit, Russian doll Astons are gone. Only the door handles and rear badge are shared with the DB11, meaning the bigger GT's controversial floating C-pillar has vanished.

In fact, the whole rear end is a huge departure for Aston. There's now one vast light blade that sweeps across the width of the Vantage, kicking up with a hatchback bootlid. The peppered finish to the panels that surround the exhausts mirror the design of the side vents, and the pipes that show through are the real deal – no false tips stuck on for effect.

And how does Daniel Craig's DB10 fit into this? *Spectre*

director Sam Mendes and producer Barbara Broccoli visited Gaydon to see the DB11 that was to be Bond's company car. But Mendes spotted a scale model of the Vantage (the full extent of the new coupe project at that point) and convinced Reichman to build 10 cars for filming just six months later.

'It was a fantastic way of gauging the market, two years before launch,' reveals Reichman. 'The reaction was incredibly positive – and the new Vantage is better. The proportions are improved, with shorter overhangs and a longer wheelbase. Its bloodline is the DB10 and the Vulcan.'

See the Vantage and suddenly the DB10's glitzy grille looks like overkill, its headlights somehow less elegant, its bonnet insufficiently muscular, and the width of the rear wheelarches out of proportion.

That the Vantage has this effect on the DB10 says a great deal about just how right the new car is. The world may have fawned over Craig's DB10 but the new Vantage – the car you can actually buy – comfortably eclipses it. ▶



All-new rear end
Light blade has hints of Honda Civic but here mirrors the line above the tailpipes. Diffuser part of a far superior aero package for increased stability over the previous car

2

BECAUSE WE'VE EXPERIENCED ITS ON-THE-ROAD BRILLIANCE



THE ASTON FEELS SHORT AND AGILE – ITS V8 MIGHT SIT AHEAD OF YOU BUT THE VANTAGE IS UNMISTAKEABLY MID-ENGINE

3 BECAUSE IT HAS SOME SERIOUS SPECS



ASTON MARTIN VANTAGE

That badge, AMG power, style to prompt a GQ magazine supplement and a seriously good chassis – what's not to like?

> Price £120,900 > Engine 3982cc 32v twin-turbo V8, 503bhp, 505lb ft > Transmission 8-speed auto, rear-drive > Performance 3.7sec 0-62mph, 195mph > Weight 1530kg



PORSCHE 911 CARRERA GTS

Aston smashes far cheaper 911 Carrera GTS on power. Magic 911 GT3 is close on price but requires Porsche dealer Brownie points to get your hands on one.

> Price £98,725 > Engine 2981cc 24v twin-turbo flat-six, 444bhp, 406lb ft > Transmission 7-speed twin-clutch, rear-drive > Performance 3.7sec 0-62mph, 192mph > Weight 1470kg



MCLAREN 540C

'Entry-level' McLaren has engine in The Right Place (rear mid-engined). Trumps Aston on speed and has a trick carbon tub.

> Price £128,055 > Engine 3799cc 32v twin-turbo V8, 533bhp, 398lb ft > Transmission Seven-speed twin-clutch, rear-drive > Performance 3.5sec 0-62mph, 199mph > Weight 1311kg

Coupe curves
Looking rather like the Mitsubishi FTO's high-velocity uncle, the Vantage prototype feels compact and agile... from the passenger seat. We'll get to drive it this spring

BEHIND THE wheel of our camouflaged prototype is Matt Becker, the ex-Lotus chief engineer. Aston CEO Andy Palmer chased down as soon he got the top job at Gaydon. Becker spent years working on Elises and Evoras, but Lotus's consultancy arm means he's more familiar with a variety of bigger, more powerful sports car than you might think.

As the Vantage barks into life its new character is immediately obvious. Aston engines of old, be they V8 or V12, always sounded strained on start-up, and there was too much mechanical thrash in the background before the bellowing exhaust took over. Now, though, the V8's magic is instant, and the noise all-consuming, even as we rumble out of Gaydon and onto a local test route.

'Marek was given a clear brief by Andy Palmer to make all of the cars look different, and I have my brief,' says Becker. 'Our cars have to drive differently, and drive how they look. Our GT cars have a sporting nature but this looks more aggressive so it drives more aggressively. I wanted it to feel agile without being uncomfortable. It had to retain a level of comfort but it could be more focused on circuit driving. The Vantage is not a sports GT, but a sports car.'

Both the dampers and the powertrain can be adjusted by the driver, cycling through three settings, but whereas the DB11 features GT, Sport and Sport+, the Vantage moves

the spectrum, dropping comfort-orientated GT for a more focused Track mode. Toggle the powertrain setting and you adjust the throttle pedal map, gearshift aggression and exhaust; adjust the dampers and the chassis set-up changes.

There are bespoke Pirelli P Zeros (255/40 ZR20 at the front, and 295/35 ZR20 at the rear) instead of the DB11's Bridgestones, and a shorter final drive ratio. The Vantage generates 'a significant level' of downforce at both ends, where big brother produces a little lift at the front. There's a new brake master cylinder and booster too, for a more aggressive pedal feel, and carbon brakes will be on the options list.

'We use the same steering ratio as the DB11 but because the wheelbase is 100mm shorter it's effectively much faster,' reveals Becker as the Vantage slices through a quick roundabout with a roll of his wrists. 'The solidly mounted rear subframe makes for a stiffer chassis and increased agility, plus we have torque vectoring via braking and our powerful new electronic rear diff. The Vantage is the first Aston to be fitted with it, and we unlock it at low speeds to aid agility, increasing the locking at higher speeds for stability. It can go from fully open to 100 per cent locked in milliseconds.'

'I wanted this car to have a really strong front end, but that doesn't mean the rear will oversteer instantly. Instead our damper settings – Sport, Sport+ and Track – change



the whole dynamic of the car, making it progressively more playful and involving the driver more and more. The e-diff is linked to the dampers and complements their settings, and the steering map changes too, with two modes, one common to Sport and Sport+, and another for Track.'

On the road the Vantage feels short and agile (its V8 might sit ahead of you but the Vantage is unmistakably mid-engined), flitting through direction changes like a Cayman – to what extent, you wonder, is the rear axle being kept in check by either Becker or his finely tuned electronics? And with every throttle application you feel the torque of the engine, with a punch that will leave any 911 with a Carrera badge far behind. You really had to work the old Vantage's V8 – from low revs the new one just flies. It doesn't rumble like the AMG GT either, or feel so, well, American. Instead it roars, its exuberance less synthesised. Aston has dialled out the bassy tones and added more high-frequency music to encourage you to rev it rather than driving it like a diesel.

The new Vantage does feel wide, though, and what we don't yet know is how good that electrically assisted steering is, or how sharp the V8's throttle response. Those answers will come early in 2018, though, and right now we're betting that Aston has got it right, that Porsche is worried and that Mercedes-Benz is wondering just what it's unleashed... ▶

IT DOES SPORTS CAR CHIC BETTER THAN THE GERMANS

4

THE NEW VANTAGE'S INTERIOR is gorgeous – no caveats, no small print. Drop into the snug seat, pull the lightweight door closed with the leather strap, grasp the flat-bottomed steering wheel and fondle the elongated paddles: this is a seriously desirable sports car.

The centre of the dash is undercut to make it appear lightweight, the door handles are small but perfectly sculpted – the jewel-like fixtures for the leather straps exposed – and the armrests on the doors and in the centre console are slim so you sit upright behind the wheel, rather than slouching over on your elbow and driving it one-handed like you might when you're cruising in the DB11. Carbonfibre, leather, metal and painted finishes will be offered: if you want wood you'll have to go to Aston's bespoke department, Q, and ask nicely.

Vantage feels more focused *and* more spacious than DB11 because there's no vast leather-lined transmission tunnel rising up to meet the top of the dashboard. Compared with the old Vantage it's a huge step on, not least because that car should have been replaced six years ago. And compared with the Mercedes AMG GT, it doesn't feel like you're being squeezed up against the door by a vast transmission tunnel and four splayed air vents.

And that Mercedes-AMG is particularly relevant because the Vantage's contemporary cabin is made possible by the tie-up with the Germans. For over a decade Aston was handicapped first by a Volvo sat-nav system, then with a Garmin – neither was ever integral to the infotainment system. Now though, everything is essentially current-generation S-Class tech, re-skinned with Aston graphics.

We already know how well it works in the DB11. 'When we launched the last Vantage our technology was contemporary,' says CEO Andy Palmer, 'but we didn't have the billions required to keep it up to date. Thanks to our collaboration with Daimler we'll upgrade when they do, and we'll always be contemporary with electronics that have had hundreds of millions invested in them. It has future-proofed us. While we pay a margin for that privilege, we can spend the money we save on aspects of the car you feel as the driver, and your connection with the car.'

A case in point? Moving the infotainment controls on the transmission tunnel further back for those opting for the manual gearbox.



PULL THE LIGHTWEIGHT DOOR SHUT, GRASP THE FLAT-BOTTOMED WHEEL AND FONDLE THE ELONGATED PADDLES: THIS IS A SERIOUSLY DESIRABLE CAR

Tech designed in
At last Aston has integrated infotainment, not a bolt-on sat-nav. It's a re-skinned S-Class system from that fruitful Daimler deal



5

BECAUSE IT HAS A MANUAL GEARBOX

ASTON MADE much of the outgoing Vantage being available with stick shift and hydraulic steering, championing itself as the enthusiast's choice – when the reality was it didn't have the cash to develop either dual-clutch gearboxes or electric power steering.

However, while the new Vantage inevitably ditches the hydraulic rack, CEO Andy Palmer has insisted it's still offered with a manual transmission. 'There will always be a manual gearbox in this company,' he says. 'It's in tune with people wanting to connect with our cars.'

It's the same seven-speed transmission as before, but more refined. It'll be slower in a straight line than the eight-speed auto, and make do with a mechanical rear differential rather than the new, all-singing, all-dancing e-diff. Also, changes to the weight distribution require specific suspension tuning, and the interior layout has to be reshuffled to accommodate the gearstick. All this for what might account for just five per cent of sales when it becomes available at the end of 2018.

To Aston, that sacrifice is worth it. 'We want to provide a solution for all our customers,' says Reichman. 'We support the enthusiast who wants to drive up an Alpine pass using both feet. Those customers are rare, but they will appreciate the effort that's gone into putting a manual gearbox into a thoroughly modern sports car.' ▶

6 BECAUSE IT'S NOT JUST A DB11 IN DRAG

In with the new
No wonder Max Szwaj is grinning – as Aston's chief technical officer, he's overseen the creation of an Aston that can take the fight to the 911



ASTON'S OLD VH aluminium architecture was a blessing and a curse. Bonded and riveted, with aluminium extrusions, it was highly adaptable and was used to underpin the DB9, Vantage, Rapide and Vanquish. When times were tight – ie, almost always – it meant the company could create a multitude of different cars from the same platform.

But each new iteration didn't seem that different from the last, because Aston's engineers were limited in how much the hard points could change. And when the design team started using tracing paper to create each new model, the result was a raft of Astons that all looked the same.

Not any more. 'There are only 30 per cent of common components in the aluminium structure,' reveals Aston's chief technical officer Max Szwaj (formerly Ferrari's head of

innovation and body engineering). 'Our new aluminium platform features pressings and bondings, so there is more differentiation available for our designers and engineers.'

Suspension components are shared with the DB11, but tuned specifically for the Vantage's shorter, lighter platform – the weight distribution is 50:50, and the dry weight is 1530kg. Aston's expertise with bonding means the use of different materials isn't an issue either – you can't weld aluminium to carbon, but you can glue the optional lightweight, double-bubble carbon roof into the Vantage's structure with no fuss.

The wheelbase is 100mm shorter than DB11's, making the Vantage shorter than a 911. Also, the rear subframe mounts directly to the structure, which, Szwaj says, makes the Vantage feel more connected to the road.



8

BECAUSE THE AWESOME RACE VERSION SIMPLY HAS TO BE A WINNER

THE OUTGOING V8 Vantage hasn't been on par with the Porsche 911 for the best part of half a decade – but that's on the road. On the racetrack it's been a different story. Thanks to the FIA's Balance of Performance (BoP) regulations, which aim for close racing between very different cars, old and new, the Vantage GTE won the 2016 FIA GT Drivers' title and GTE Pro title in the World Endurance Championship (WEC), and took the GTE Pro class victory at 2017's Le Mans 24 Hours.

Those love-them-or-loathe-them BoP regs ensure the new Vantage GTE, developed by Prodrive, won't waltz off into the distance, but it will have a fighting chance. The last Vantage GTE didn't start racing until 2012, eight years after the road car was unveiled. This time, road and race car have been developed in parallel and Prodrive's expertise is well proven.

In a strange quirk, Merc's GT3 racer has AMG's old naturally-aspirated 6.2-litre V8, so it'll actually be Aston who debuts the new twin-turbo 4.0-litre engine at GT racing's highest level. It's Aston that has taken the base engine and developed it to go racing.

The fading of the LMP1 category will give the often spectacular battles in the GT classes the spotlight they deserve. Competition will be tough. There's Ford's purpose-built GT, Porsche's mid-engined 911, BMW's new M8 GTE and of course Ferrari. If Aston is off the pace it'll be tough to develop the car while the long WEC season is in progress. But if it's not, it could be quite a debut season for Aston's new Vantage GTE.

Vantage GT3 and GT4 versions will then follow (the latter to compete against a Mercedes-AMG GT4, which does use the twin-turbo V8) and CEO Andy Palmer wants to expand sales to support both one-make race series and provide the stepping stones to customers who wish to develop their skills and progress from GT4 right through to GTE. What finer car to do it in?

7 BECAUSE IT HAS AN ENGINE FROM AMG (WITH TWO MORE CYLINDERS THAN A 911)

DON'T GET HUNG up on the fact that the engine in the front of the new Vantage is German and comes from AMG, because the engine in the front of the last Vantage was built in Cologne, in the grounds of a Ford factory. Instead, remember that this is one of the best engines on the planet, and that AMG's idea of downsizing is a 4.0-litre twin-turbo V8.

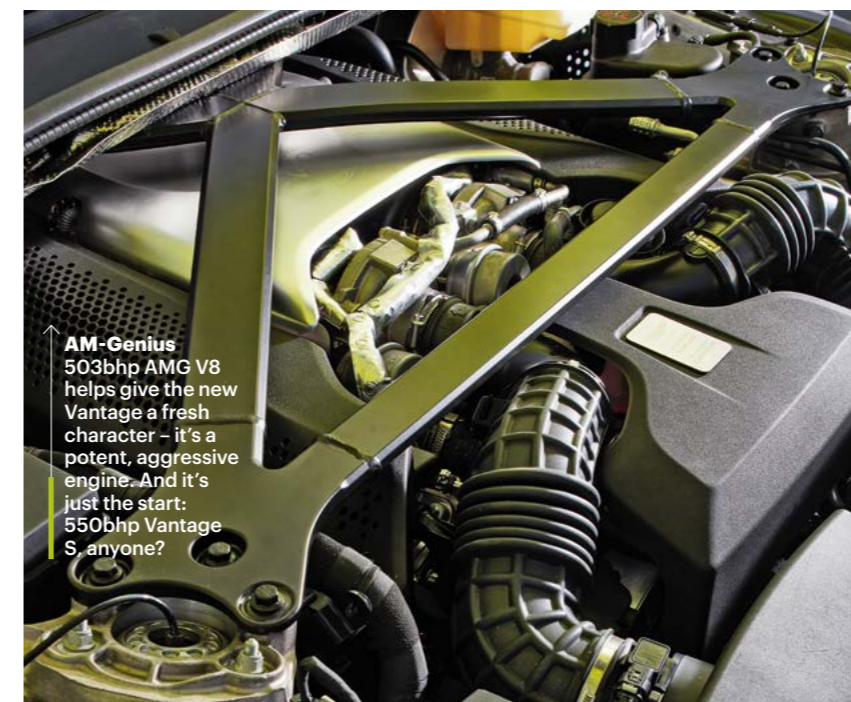
It's the fruit of a partnership between Aston and AMG (and parent company Daimler) that's both a business relationship and a technical collaboration. Selling engines to Aston helps AMG with its economies of scale; Gaydon is able to spec its own version with subtle but important differences. The crank,

block and basic architecture remain the same as that used in the Mercedes-AMG GT, but the Vantage sports its own turbos (nestled between the cylinders in a hot vee), a revised wet sump to mount it lower and further back (for a front-mid layout behind the front axle) and a bespoke exhaust. There's unique calibration too – it's linked to an eight-speed ZF auto rather than a Mercedes gearbox – and it has more torque than you'll find in the DB11 V8. Okay, it's only 7lb ft more, but expect an altogether more aggressive character.

In its current 503bhp guise it's barely trying – remember that in Merc's fastest E-Class this engine tops 600bhp. Expect a Vantage S with at least 550bhp within two years.

'We don't have the breadth to be a full engine provider,' admits CEO Andy Palmer, 'but the V8 allows us to invest in our own V12. No one else has that V12 – it allows us to express our individuality.'

So far that V12 has only been seen in the DB11, but the firewall in the Vantage is the same, and Aston has a history of stuffing its largest engine into its smallest car...



AM-Genius
503bhp AMG V8 helps give the new Vantage a fresh character – it's a potent, aggressive engine. And it's just the start: 550bhp Vantage S, anyone?



AH, THE GOOD NEW DAYS

Want proof Aston Martin is riding a wave? How about the chutzpah to re-make one of its icons, the DB4 GT, and sell them for £1.8m a pop...

Words Gavin Green | Photography Charlie Magee





Gavin's period-correct racing pout makes up for garish '70s cuffs

Its feedback is unfiltered, never muted like most modern fast cars. And it serenades you with its exhaust

W

WE'RE IN A TIMEWARP, back to the days of Stirling Moss, with flimsy open-face helmets, open-back gloves, no seatbelts, goggles and smiling oil-stained faces. The romantic '50s sports car style is perfect, right down to those roundels and racing stripes, patriotic green paint and those gorgeous Borrani wire wheels that sparkle in the bright autumn Norfolk sun.

Then there's the throaty straight-six engine roar and a non-synchro short-throw four-speed gearbox. (Warning: great precision and heel-and-toe footwork are essential for shifts.) Steering is meaty, via a lovely wood-rimmed wheel the size of a ship's helm – naturally there is no power assistance. Did Stirling Moss ever need poncy power steering? No power-assisted brakes, either. Heave to slow down. Inside a sweaty, noisy cabin – smell the oil and petrol – I celebrate the body roll and the propensity to slip 'n' slide of those 'old' high-profile Dunlop crossply racing tyres.

Moss drove and won in a car like this. Jim Clark, too.

Except... Hold fire on the '50s nostalgia because this Aston Martin DB4 GT is new. It was built when Stirling Moss was a ripe old 88 and poor Jim Clark had been dead for almost half a century. It's newer than the 67-plate Aston DB11 parked outside the garage, complete with its sat-nav, heated front seats, premium B&O audio and blind-spot monitoring.

What curiosities these continuation cars are. They are celebrated by those who can now buy 'new' some of the greatest British classic cars of the '50s and '60s – DB4 GT, and

Jaguar's Lightweight E-type and XKSS, with more to come. Yet they are castigated by some owners of originals and by a few historic racing drivers, mindful that these new old cars may have an advantage over old old ones.

Replicas of classics are not new, of course. We have seen copies of AC Cobras, Porsche 356s, Lightweight E-types and many more before, undertaken by independent companies of varying capability. Some replicas are remarkable, some risible. Some were even factory-approved, including a series of DB4 GT Zagatos made in 1991.

Yet no major car maker had seen fit to resume manufacture and sell new versions of its old cars, until Jaguar in 2014. Of the original 18 Lightweight E-types envisaged in 1963, only 12 were finished. So why not, 50-odd years on, complete the set using the original chassis numbers planned?

Soon after, Jaguar launched its Classic division. This operation, set up partly to preserve Jaguar's heritage, would service and restore old Jaguars, and ensure a parts supply for all the E-types, XKs, Mk2s etc that still provide noble service for lucky owners. It would also look after the continuation vehicles, including a new car. Nine XKSSs – a limited-edition road racer based on the Le Mans-winning D-type – were destroyed in the Browns Lane factory fire of 1957. Why not recreate them, from scratch?

Both new Lightweight E-type and XKSS are faithful replicas of the originals and both sell for over £1 million each. And both sold out. More continuation Jaguars will follow.

Little wonder Aston Martin saw the opportunity. Its Works division already serviced and restored old Astons, and had done so long before Jaguar Classic was founded. Why not make new old cars, too? The new DB4 GT was born.

Which is why I'm at the Snetterton circuit on a bright late-autumn day, and why a new DB4 GT – a precise replica of the 1959 original, made by Aston Martin – stands before me. The '50s and '60s was surely the pinnacle for car design, and few cars of the period were lovelier than the DB4, especially in its most comely short-wheelbase GT guise.

The DB4 – precursor to the James Bond DB5 – was unveiled in 1958 as the fastest four-seat sports car in the world. It was also the first road car to use the Tadek Marek-designed straight-six twin-cam engine, which we'll be meeting shortly.

There were many versions of this beautiful car. Five different series of the DB4 were produced, and in many ways the DB5 was really a Mk6 DB4. There was a convertible and a faster Vantage, too.

The DB4 GT was the street-legal racing version. Its wheelbase was reduced by just over 120mm and its aluminium body was thinner and lighter (a terrifyingly fragile 1.2mm thick – I'm warned not to lean on it). The rear screen, rear quarterlights and side windows were made from lightweight Plexiglas. Suspension was unchanged and brakes upgraded to bigger Girling discs to handle the significant boost in power – 302bhp compared with a normal DB4's 240. The hike was due to three big Weber twin-choke carburettors (rather

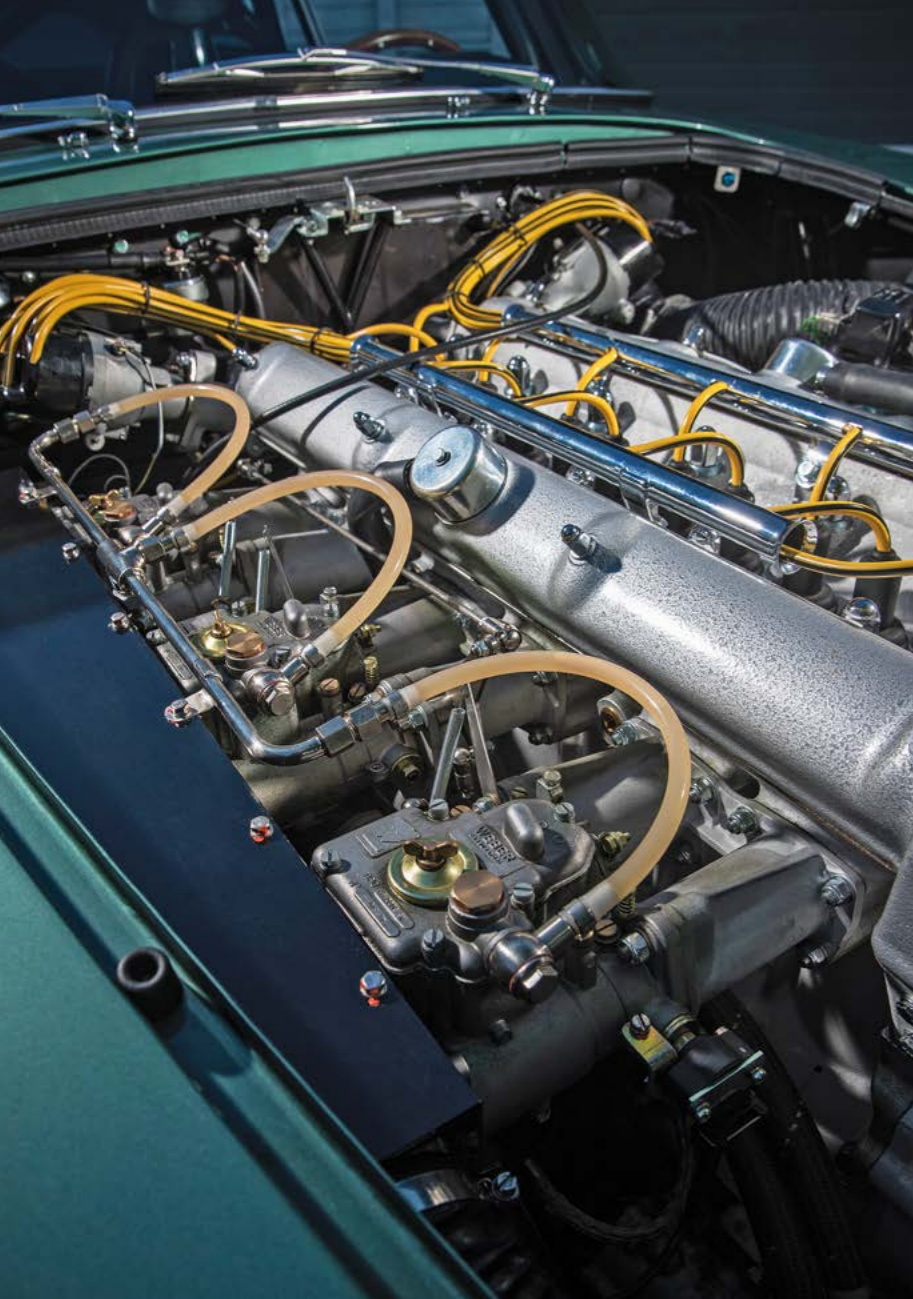
than SUs), a new cylinder head including high-lift camshafts, and twin spark plugs per cylinder. Boot space was sacrificed to make way for a large 30-gallon fuel tank, ideal for long-distance sports car racing.

Intended as a gentleman's racer, it won its debut race at Silverstone in the hands of Stirling Moss – albeit against weak opposition of Austin-Healeys, little Lotus Elites and Jaguar saloons. Seventy-five examples would be built, including eight 'lightweight' versions using alloy bulkheads and floors and the odd carefully drilled weight-saving hole. It was to prove an effective club racer, although less successful in top-flight racing than the rival Ferrari 250 GT SWB. A further 19 would be built with special Zagato bodies: these DB4 GT Zagatos are now probably the most sought-after of all classic Aston Martins.

A DB4 GT is now typically worth more than £3 million. The new ones, all built to lightweight spec, sell for £1.5 million plus taxes (in the UK that's £1.8 million). Only 25 will be made, and chassis numbers continue from the original series. All are pre-sold.

Owners include keepers of old DB4 GTs. Unlike the originals, the new ones can only be used on the circuit. Legally they are new cars, not restorations, so their failure to meet modern safety or emissions legislation means they aren't road legal. (The two continuation Jaguars are also track only.) It looks just like a beautifully restored 1959 DB4 GT, of course. It's a precise copy in every way, including switchgear and ▶

Though wearing a number plate, the new car is a track-only weapon. Blame modern safety and emissions legislation



What they lacked in safety they made up for in style. Mike Hawthorn raced wearing a bow tie



bushes have also been replaced by more robust rose joints. Inside, a modern roll cage snakes around the cabin, and a six-point racing harness tethers the driver to the small bucket seat, made from modern lightweight plastic composites. Typically, the original drivers raced without harnesses, apart from maybe an aircraft-style lap belt. What they lacked in safety, they made up for in style. Aston driver (and 1958 world champion) Mike Hawthorn raced wearing a bow tie.

The little alloy door is ludicrously light – access is by a conventional chrome door handle – and I’m soon glued to the non-period seat by the non-period racing harness. I turn a little key, and the engine barks into life.

The gearshift is by a delightfully tall stalk: it’s a very short-throw change, firm but precise, four speeds in an H pattern. The wooden rim wheel is vast by modern standards, and behind it is a bank of white-on-black round Smiths instruments sited haphazardly on the simple upright black pressed-metal dash, crowned by vinyl padding.

The clutch is heavy. I give the throttle a stab – revs soar – and gingerly leave the pitlane. Precise, fast change into second, then across the gate into third. It’s a wrist-flick short change. To go back to second gear for the upcoming bend, brake with the ball of your right foot, then kiss the accelerator with your heel, and the engine gives a yelp for joy. Simultaneously slot the shifter down across the gate into second. It’s a lovely shift, but care is needed. There’s satisfaction in those gearchanges, making for a richer driving experience.

It’s a physical, hot, heavy car and a natural understeerer, so you tend to throw it into a bend, feeling it lean and slip and slide. But it’s predictable, and so rewarding as you power out of the corners with the straight-six yowling. Of course, it’s not as quick as a modern supercar – 0-60mph takes just over six seconds, top speed 155. Modern hot hatches can go harder.

It drifts over the tarmac, not glued to the road, and its feedback is unfiltered, never muted like most modern fast cars. It serenades with its exhaust and the induction suck of its carburettors. You strain shoulder and arm muscles to steer, and leg muscles to brake and press the clutch pedal. You can smell a rich old-car fug.

There is no sound deadening, so you hear the tyres, wind, road and motor. A modern car insulates and isolates you from the world. This old-timer hides nothing, which is why it’s so much fun to drive at lower speeds whereas a modern supercar only dances when velocity goes stratospheric.

After many laps I return to the pitlane sweaty and a bit drained, and the Stirling Moss timewarp is over. In a supercar like the DB11 you’d go much faster – air-con on, listening to Radio 4, V12 purring, low-profile tyres guiding you on rails, finger-tipping easy paddleshifting.

But for sheer driving engagement, romance and rawness, it’s impossible to beat a classic sports car. And if that old car is actually new then that doesn’t make it any less pleasurable. **car**

Visually there’s nothing to separate this from an original engine. But the new ones gain 48bhp from an extra 500cc

lights. Many of these smaller parts are sourced from classic car suppliers, which provide replica components to the UK’s huge fleet of historic vehicles, including Aston Martins. But much of the car had to be remanufactured from scratch in a process Aston Martin Works managing director Paul Spiers calls reverse engineering.

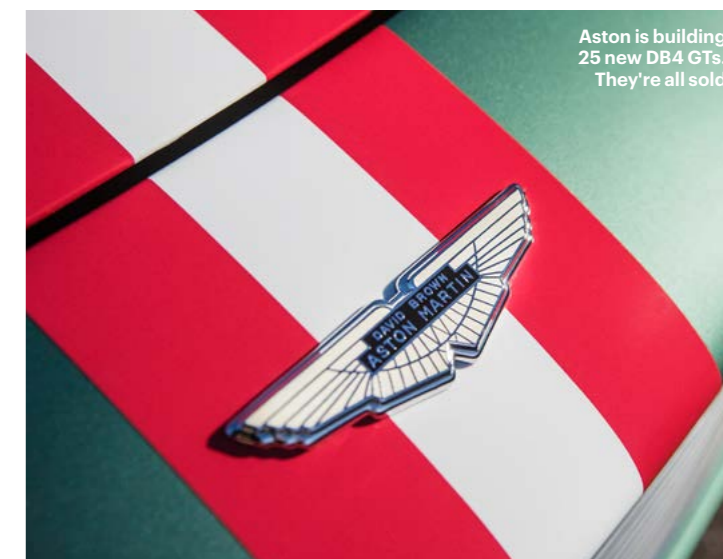
Digital 3D scans were done of key components, including chassis, body panels, engine parts, dashboard and fuel flap. The block and head even underwent hospital-style CT scans, for extra detail. Original drawings were also carefully studied.

In some cases, original suppliers retooled for a new limited-edition batch. This includes Borrani, the Italian supplier of those lovely wire wheels. The Dunlop racing tyres, on the other hand, are widely available for historic motorsport.

There are a few changes from the original spec. The new cars have enlarged engines, up to 4.2 litres from the original 3.7. This boosts power, now elevated to 350bhp. More importantly, it inflates torque, making the car easier to drive and more usable. The four-speed gearbox uses the original design for the casing but the actual gears, from racing gearbox maker Hewland, are different. The old cars had fragile synchro; the new cogs are straight-cut and synchro-free. Gear shifting is faster but demands more precision. Suspension



No flappy paddles here. Huge wheel supplies huge feedback



Aston is building 25 new DB4 GTs. They’re all sold



Sound insulation is non-existent, so driver gets the same soundtrack as spectators



Is there nothing ugly on this car? Even the filler cap is exquisite



Borrani made the original wheels and has retooled to make these

ENTER VALHALLA



Aston's ambitions for 2018 and beyond are embodied in the astonishing Valkyrie, F1 genius Adrian Newey's rule-breaking road car

Words Gavin Green | Photography John Wycherley

TWENTY-FIVE YEARS after the McLaren F1 reinvented the supercar, so another British sports car maker is set to do it again. As with the McLaren, the new Valkyrie uses cutting-edge Formula 1 technology to elevate speed and driver appeal. This time, though, it's an Aston Martin that's tearing up the template.

Aston Martin has never had a reputation for technical ingenuity. In fact, for a big chunk of its history, it's been something of a laggard. Those meaty V8 Vantages of the '90s, for instance, had the engineering sophistication of an old-school American muscle car, whose lantern-jawed styling they also mirrored. They also revelled in their olde-worlde heritage, from hand-wrought construction to Blower Bentley-style tally-ho supercharging.

But the timewarp maker has gone high-tech, and the new Valkyrie is being built to showcase the seismic shift. Plus, CEO Andy Palmer wants to expand Aston Martin's range of super-sports cars, and a mid-engine Ferrari 488 rival forms part of the plan. As Palmer told me recently, the Valkyrie helps 'to legitimise' Aston Martin as a serious maker of mid-engine sportsters. 'It is an important area of the luxury car market where we have no track record,' he says.

Yet the most important factor in the Valkyrie's gestation was Palmer's close relationship with Red Bull Racing and with its chief technical officer, Adrian Newey. Newey had long wanted to design a road car.

'I've been wanting to do something like this for years,' Newey tells me. 'Sometimes when I had a few idle moments I would doodle some ideas and throw them in a box where they have slowly gathered dust over the years. In 2015 I thought it was time to do something with them so I agreed with Christian Horner [Red Bull Racing team principal] that I would start work part time on such a project.'

'We assembled a very small team, a chief designer, an aerodynamicist and a surface designer to start work on it from a mechanical package and aero shape point of view. We worked through the autumn of 2015 and then started discussions into what we do next. Do we find a private investor to partner with or do we approach a car company? In the end both Christian and I thought it best to partner a car maker. They know all about things like distribution, sales, servicing, emissions regulations and door seals – all the areas in which we have no experience.'

'Aston Martin was clearly the favourite, only half an hour or so drive away and clearly a very appropriate company. That was an easy choice and we already knew Andy Palmer, Aston Martin's CEO, which made it a very simple deal.'

Red Bull and Aston Martin got talking, as did Newey and Aston design boss Marek Reichman. The upshot is the Valkyrie, which will be the fastest and most advanced supercar – or hypercar – in history. The high-speed tech is mostly Red Bull's and Newey's, the top-hat design is by Aston Martin. The difficult jobs of developing, manufacturing, styling and servicing the car were Aston's responsibility. It would wear an Aston Martin badge, after all.

There are numerous parallels with the McLaren F1, the best supercar I have driven, and the single biggest advance in high-speed sports cars to date. Just as the Valkyrie is the brainchild of Newey, the most successful Formula 1 designer

in history, so the McLaren was the creation of Gordon Murray, the most successful F1 technical brain of his time. In 1988, Murray's MP4/4 had just finished winning 15 of the 16 GPs in the hands of Senna and Prost. Like Newey, Murray wanted another challenge.

Murray was dismissive of contemporary supercars. Newey today is similarly uncomplimentary. He describes the current 'state of the art' hypercars – the McLaren P1, LaFerrari and Porsche 918 Spyder – as 'big, clumsy and heavy. And it's not just supercars. It's the way the car industry has gone, from old Mini to new Mini, from old Ford GT40 to the newer Ford GT. I wanted to avoid this and keep the car compact. I wanted, in effect, a two-seat Formula 1 car in its underlying architecture.'

As with Murray and his McLaren, he told me he also wanted a car of 'two characters. It will have a new level of performance on road or track compared with any other road car. At the same time, it's comfortable if you're stuck in traffic or cruising the motorway.'

The objectives were bold, to say the least. The most ambitious was a desire to produce a car with one horsepower for every kilo of weight – for some years now a hypercar Holy Grail. The McLaren F1 was just over 55 per cent as efficient (627bhp/1140kg). The 25-year newer LaFerrari Aperta, driven in the January issue, is no better.

The Valkyrie will be the fastest road car ever. In track guise (on slicks) it aims to match the lap times of a Formula 1 car.

Final specifications of the car are still being finalised – first deliveries are still a year away – but the power output is likely to be between 1050 and 1100bhp, and weight between 1050 and 1100kg. Newey says they were hoping for 1000kg, but ▶



...AND THEN TURN IT UP TO 11

AMR Pro version gains power, loses weight. Oh yes!

The on-track potential of the Valkyrie is let loose in 2020's £3m+ AMR Pro, a limited edition of 25 cars, all sold already. And what potential that is: lap times comparable to an F1 or LMP1 race car, with a 250mph top speed.

It was developed at the same time, by the same people, including Adrian Newey. He says: 'While the core elements of the road and track versions are shared, every aspect of the AMR Pro has been optimised to significantly extend the performance envelope. It offers a level of track performance significantly beyond any previous two-seat closed-roof car.'

How's this been achieved? Revised aero, including larger front and rear wings, for increased downforce. More power and torque. Smaller wheels. LMP1-spec tyres. Carbon brakes. Ditching the air-con and infotainment. Using polycarbonate instead of glass. Different suspension components. Moulded race seats. And a lighter, louder exhaust.



THE CANOPY
LOOKS MORE LIKE
A FIGHTER JET'S
THAN A SPORTS
CAR GREENHOUSE

Instruments are on steering wheel. Touchscreen is for sat-nav and audio. Smaller screens show feed from cameras, replacing mirrors



They couldn't get it below 1000kg, so they upped the power instead

Aston special Valkyrie

IN MANY WAYS, THE
VALKYRIE IS MORE
ADVANCED THAN A
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Newey dismisses
rivals as big, clumsy
and heavy – unlike
Valkyrie

Near-finished product is the fruit of creative friction between Newey's pursuit of purity and Reichman's belief in beauty

won't quite achieve it. (So was Murray with the F1: he told me it was the only metric he failed to deliver.)

Naturally the car has a carbonfibre monocoque, bodywork and suspension, made using Formula 1-standard materials and construction. The all-new engine is a bespoke naturally aspirated 6.5-litre V12 from Cosworth. No confirmation of the redline, but it will be way north of 10,000rpm.

'The engine had to be bespoke,' Newey says. 'We spent a lot of time looking at the obvious alternatives to a normally aspirated V12 or a turbo V6 or V8. We came to the conclusion that from a technical standpoint a V12 was the best solution because although the engine itself is heavier it is actually a much easier package to install. You haven't got the turbos and the charge coolers to clutter up the back end of the car. It's a naturally very well balanced engine that means it can become a fully stressed member without putting excessive vibration into the chassis structure.'

'I was concerned that if we mounted a V6 or V8 the vibration would be excessive and make it unpleasant from both a comfort and noise point of view in the cabin. When it comes to the acoustics, which is important, a V12 with a 12-into-1 exhaust system – which this car has – is a much more exciting sound than a turbocharged V6 or V8 will ever make.'

'To get that much power, the naturally aspirated engine needs to rev very high,' notes Aston Martin engineering chief David King. 'To compensate, we're also using electric hybrid power for extra low-speed torque.' This also happily inflates total power.

'Only a small proportion of the power comes from the electric motor, sited within the powertrain. Any more, and the

lithium-ion battery pack would be too heavy,' says King. The electric motor will help with pull-away from a standing start – so the clutch doesn't get stressed – and will help smooth out gearshifts. It will also offer reverse gear.

The gearbox is a Newey-designed single-clutch sequential 'box, engineered and built by Ricardo. It has seven ratios and shifts are by F1-style paddles. The transmission drives the rear wheels and is very compact to allow plenty of room for the big underbody venturi tunnels, crucial for good aero.

The underbody is astonishing. Kneel down low to look through the nose and it's like peering at an F1 car close up: high nose, big front wing hovering above the tarmac and wide aero tunnels channelling air through the car's smooth underside. From the rear, it's even more amazing: there are two vast underbody venturi tunnels incorporating a rear diffuser with mechanicals suspended from a smooth-surfaced pod in the middle. It's an F1 car with a slither of a sports car body. It's low, small and very sleek.

The canopy looks more like a fighter jet's than a sports car greenhouse. It's small and narrow, and so is the cockpit. Reichman ushers me behind the wheel. The doors are gullwing and the door opening apertures are small. Although vaulting the high carbon sill does take some athleticism, it's easy to get comfortable on the exiguous seat (all owners, naturally, get bespoke fittings). There is a choice of left- or right-hand drive.

You sit very near the car's centre-line and very close to your

passenger alongside. There is decent fore/aft room, though. Reichman is 6ft 3in tall and fits in just fine. You sit angled 2° inwards. You're aware of the feet-up driving position, necessary as air gushes under your feet to work the underbody aero magic.

The vast single wiper lies upright in the middle of the wrap-around windscreen (Newey expects owners to unscrew it the moment they get home). The interior is minimalist, stark and efficient. It has some creature comforts but little decoration. Air-con will be essential. The windows don't open.

Of the 150 cars to be built, at approximately £2.5 million each, King expects about 50 per cent of owners to 'wrap them in cotton wool', and the other half to use their cars regularly, including trackdays.

In many ways, the Valkyrie is more advanced than a Formula 1 car. It has active aerodynamics and active suspension including variable ride height (both proscribed by F1 rules). 'These are all the things Adrian would love to do on an F1 car but can't,' says King.

'It's Adrian's vision we are trying to deliver,' adds King. 'We need to get as close to this as we can without doing the impossible. Adrian has pushed us to places we couldn't have gone otherwise and that will benefit us in the future.'

Reichman admits the relationship with perfectionist Newey has been difficult at times. Newey wanted to preserve the car's performance, Reichman wanted to make it look beauti-

ful, 'and like an Aston Martin should. We both learnt along the way. For example, Adrian didn't want number plates – it'll screw up the frontal area and the aero, he thought. "Adrian," I said, "It's a road car. It's a legal requirement." And guess what? That front number plate plinth actually improved downforce.'

'Adrian is so dedicated to his ideas. But by the same measure, I didn't want this car to look like an LMP1 car that was a slave to aero. It had to have an Aston Martin aesthetic. But we have achieved function and beauty together. And that's what's so important about this car.'

The Valkyrie also informs the shape of the new mid-engine Aston Martin super sports car, likely for 2020. Reichman wanted a different language from Ferrari and McLaren. 'The cooling comes from below and above, not from big side radiators. That gives a very different aesthetic.'

He describes the new look, as 'agile, lithe, elemental and with a unique Aston Martin form language, and a real bloodline from the Valkyrie. It'll be a lighter and more efficient supercar.' So the Valkyrie may well transform the supercar, just as the McLaren F1 did. It will also influence a whole new generation of Aston Martins. **car**

LOW, SMALL AND SLEEK, IT'S AN F1 CAR WITH A SLITHER OF A SPORTS CAR BODY



ASTON MARTIN VALKYRIE

- **Price** £2.5m (approx)
- **Engine** 6.5-litre naturally-aspirated V12 with e-motor, 1050-1100bhp (est)
- **Transmission** Seven-speed sequential, rear-wheel drive
- **Performance** Sub 3.0sec 0-62mph, 200mph+ top speed
- **Weight** 1050-1100kg (est)
- **On sale** First deliveries 2019 (all sold)



ASTON MARTIN

car

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