



Vulcan force

Buyers of Aston Martin's 800bhp hypercar got their first sample of its performance at Paul Ricard – and Octane was there

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IMAGINE THAT you're a Vulcan customer. Just close your eyes and think yourself into one of the 24 to be built; the most powerful Aston Martin ever made. Feels good?

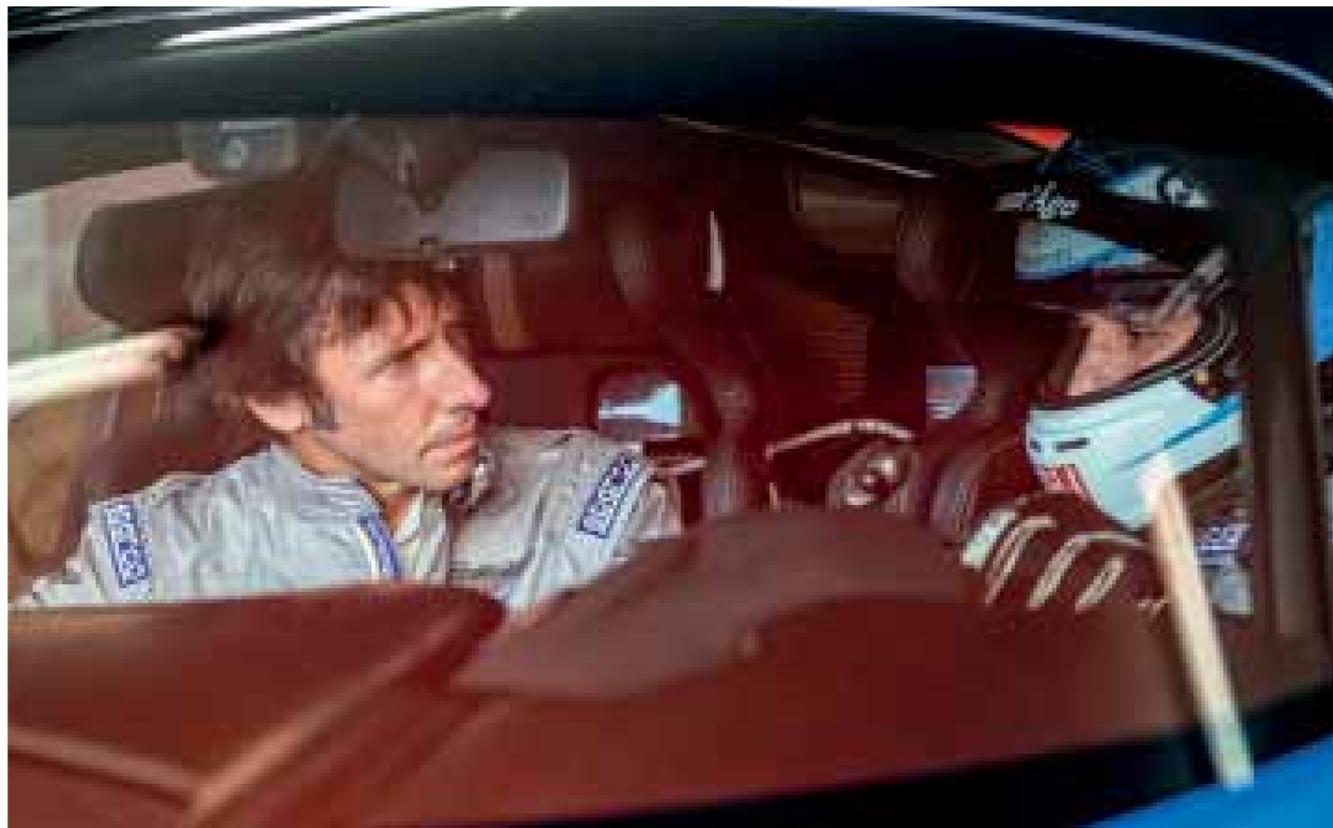
Now take a moment to plan where you'll take it; which one of the world's circuits will suit it best. Dream of how you'll unleash the 800bhp V12 down the straights, only to tame it again with those monstrous carbon-ceramic brakes before you work the race-developed suspension hard into every corner. Fantasise that, at the speeds you'll be travelling – over 200mph is possible in theory – what's currently one of the most aerodynamically sophisticated cars ever made could be generating more than 1000kg of downforce. Quite a dream.

But wait. What's that, a flicker of self-doubt? Might your talent run dry while mid-corner? Or worse, at the end of a fast straight? What then

happens to your £1.8m hypercar, more powerful and advanced than any of Aston Martin's current works race cars. The dream turns into a nightmare...

In reality, of course, Aston Martin has got this 'nightmare' scenario covered. Those few lucky Vulcan customers will buy into not just the car itself but a training programme that will take them from widely varying skill levels to being capable of handling the Vulcan on any track in the world.

For some, this programme started at the Paul Ricard track in the South of France, within ten miles of the Côte d'Azur, and home to the French Grand Prix from 1970 to 1990. It's flat, fast and famously multi-coloured, with its grippy blue and grippier-still green tarmac skirting the corners. Here Aston Martin has taken its best customers, including three of the first Vulcan buyers, and *Octane* for an experience that none will forget. →



So we're shuffled in from the Hotel du Castellet, an oasis of such calm that it makes no sense to find that it's *right* next door to the circuit. Aston Martin has taken over one of the hospitality suites above the pitlane and, after a quick briefing (yellow flags, red flags and the great phrase 'we want to keep your brains ahead of the car') we're ushered downstairs, straight into the pit garages.

And that's where the excitement really starts. Awaiting us are four V12 Vantage S road cars, two One-77s (yes, really), four Vantage GT4s and a Vulcan.

The plan goes like this: an instructor takes each one of us out for a couple of sighting laps in the V12 Vantage S, commenting on gearchanges, track position, braking and more. It's a lot to take in but the measured delivery helps. Then it's back into the pits to swap places. This is where it gets serious.

My instructor is Nick Padmore, Goodwood lap record holder. He takes the rear-view mirror to keep an eye out for the approach of the Vulcan and calmly talks through each section: brake here, third gear, off the brakes, turn, squeeze, harder, go!, go!, well done (or 'next time try a...') when it hasn't gone quite right). A few laps of this and brain is occasionally managing to stay ahead of car, but Paul Ricard is a tough circuit, with the complex at the end of the Mistral straight a mind-boggling combination of tight and flowing corners. 'I couldn't work out where

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to go!' was a common cry after first attempts.

The 565bhp V12 Vantage S feels strong out there, and without other reference points it seems to corner flat and turn-in precisely. It sounds glorious and within half a lap the combination of track and sound-muting crash helmet mean that the seven-speed Sportshift III transmission is changing up automatically as the redline spins into view. Changing just before that point on the paddles makes for a more satisfying experience.

The brakes feel strong and grip is high even on these road tyres. A bit of over-enthusiasm will have the rear end squiggling around but that's not what these early laps are for.

All too soon it's time to go in for a cool-down and a think about those lines before another session in the V12 Vantage S to *really* learn the

circuit – and, already, the S doesn't feel quite powerful, quite racy enough. And this from a car capable of 205mph and a 3.7-second 0-60 time. This is one steep 'n' fast learning curve.

The next step is – wait for it – a few laps in the One-77. So many people have clamoured in vain to drive one of the 77 since the first reveal in 2008, and here sit two, idling, waiting for a session on one of the all-time great circuits. Even pootling down the pitlane, the One-77 feels special, more direct than the Vantage S, with more transmission noise, firmer suspension and a more aggressive bark from the exhaust. For the first lap the Sport button remains untouched, but there's still 560bhp from the 7.3-litre V12 to play with.

Into the first corner and it's instantly turning-in more positively. It's too soon to judge how much grip is available – cold tyres, watchful instructor... you know the stuff – but the One-77 feels as epic as you'd expect.

And then, after a couple more laps, I'm allowed to hit the Sport button, unleashing the full 700-odd bhp. Instantly the acceleration picks up and the exhaust note changes to a yet more scintillating howl. This is quite a machine! It feels racier than the V12 Vantage S, not just because of the increased noise levels and its older, less sophisticated six-speed transmission, more down to the performance (220mph top speed!) and how much more positive is the turn-in on the sharper corners.

One section in particular sticks in the mind:



2015 ASTON MARTIN VULCAN
ENGINE 7.0-litre V12, DOHC, fuel injection
POWER 800bhp (max, three settings) **TRANSMISSION** Six-speed Xtrac transaxle, paddleshift, rear-wheel drive
STEERING Power-assisted rack-and-pinion **SUSPENSION** Double wishbones, pushrod-operated coil-over-dampers, four-way adjustable damping
BRAKES Brembo calipers and carbon-ceramic discs, adjustable ABS **WEIGHT** 1350kg
PERFORMANCE Top speed 206mph, 0-60mph sub-3.0sec

Clockwise from left Octane's David Lillywhite listens and recovers after the fast laps with works driver Darren Turner; Vulcan, Vantage GT4, One-77 and V12 Vantage S on track at Paul Ricard; interior layout and steering wheel design was by Darren Turner – though he points out that the styling is too good to be his...



after the Sainte Beaulme esses the circuit opens out onto Mistral straight, and where the V12 Vantage S felt fast, this thing is simply ballistic, building up speed and then – as the braking board appears out of nowhere only to disappear again in a split second – shedding that speed as though it's hit a brick wall when the carbon-ceramic brakes are applied, to the point that it's easy to lose too *much* speed before the turn-in to the chicane.

After just a few laps in the One-77 we're back in, but the point has been made, and the progression in performance is clear. Only an hour or so previously we were new to this track, and now we've circulated in Aston Martin's most powerful road car ever, guided at every point by professional instructors.

Chief instructor Les explains the next stage: the Vantage GT4 race car on slick tyres. 'It's a big step in mechanical grip, you'll really notice the difference [a smile as the Vulcan tears past, sounding more F1 than GT]; and then it's another step again into mechanical grip and aero,' he says, gesticulating towards the Vulcan, now a distant but fearsome howl away.

For the GT4, we have to tog-up in racesuits and HANS devices, which adds to the sense of occasion. These are proper race cars, and the interior is all FIA cage, tubes everywhere and adjustable struts criss-crossing the loadspace behind the seats. Funny thing is, though, the GT4 looks so much smaller and less aggressive than the One-77 that it's a shock to find a much

livelier, noisier machine right from the first trundle down the pitlane.

Tyres and brakes are cold but, all the same, the difference in the way the GT4 turns-in at the first corner is mind-boggling. Suddenly the road cars seem cumbersome as the GT4 responds to every input, transmission competing with exhaust in the evocative soundtrack. It uses the same 4.7-litre V8 and semi-auto six-speed as the road car, but 300kg less weight, extra aero and stiffer, rose-jointed suspension make a huge difference. By the end of the day, two customers have bought GT4s, to practise in before taking delivery of their Vulcans...

And so to the grand finale: hot laps in the Vulcan with Aston Martin works driver Darren Turner, who has been involved in its development from the start, and who today

has been circulating the track for hour after hour in typically committed style.

It's a phenomenal-looking machine, the Vulcan. Over-the-top, undoubtedly, but there's a beauty to it that doesn't translate entirely to photographs. Darren has been involved with all the testing and development, but the initial walk-around is by Graham Humphreys, an aerodynamist whose credits include Hesketh F1s, the 1999 Le Mans BMW V12s, the Spice Group Cs, the Le Mans McLaren F1s, the Vauxhall Vectra Touring Car, the 1998 Le Mans Viper and the current Bentley GT3.

'This has better aero than any other vehicle I've worked on,' he says. 'The challenge was to make the car benign aerodynamically [to keep it predictable even over bumps or under heavy braking]. That means minimal changes to

ASTON MARTIN VULCAN

central pressure, regardless of pitch and ground clearance, and to keep the centre of pressure under control and behind the centre of gravity. There are long diffusers under the car, and where they start [in line with where the exhausts exit] is where the centre of pressure is. Mid/front-engined cars can use much bigger diffusers [than mid/rear-engined cars].

'The secret,' continues Graham, 'is to dial out the front downforce – the vents in the front wheelarches help this by exhausting the air. At the back, the style dictated the duckbill tail, and the flap in the rear spoiler keeps flow attached to the rear wing.'

The body itself is all-carbonfibre, similar but not the same as the One-77's, and with a full FIA rollcage filling the insides. Despite its track-car functionality there are some striking touches, none more dramatic than the 30 individual LED rear light tubes, closely followed by the spaceship-like dashboard.

Suspension is via pushrod-operated coilovers, mounted longitudinally up-front and laterally at the rear, for minimum unsprung weight. High- and low-speed bump and rebound are independently adjustable. The transmission is the same Xtrac six-speed that Aston's World Endurance Championship cars use, and the engine is a new development of the V12, based on the GT3 race engine; a naturally aspirated 7.0-litre, pushing out over 800bhp, according to which of three power settings is selected. Customers start with 500bhp.

Darren Turner, of course, is on full-power maximum attack. He's completed more than 6000 development hours in the Vulcan and

was responsible for the final set-up, and for the layout of the interior controls and steering wheel. But today, he's simply demonstrating how fast the Vulcan can circulate Paul Ricard.

The answer, of course, is *ridiculously* fast. I'm strapped in so tight I can hardly breathe, and yet at the first corner, arrived at already-too-fast for comfort, I'm slammed forward as Darren hits the brake and turns-in, using every bit of the kerb, accelerating hard through the gears, then onto the brakes again, in, foot down, a little slide, faster now, faster still, providing that rollercoaster-ride mix of 'give-me-more!' and 'for the love of God stop now!' lap after lap after lap.

After many, many laps – to be honest I lost count – Darren's line seems to change a little out of the final corner, though we're still

travelling horrendously fast, and we dive into the pitlane, hard onto the brakes again, and then gently cruise down to the pit garage, where Darren engages the built-in jacks, and technicians change the wheels while I recover, and Darren calmly downloads his thoughts.

'You can push it right to the edge of the envelope and it never takes you by surprise. I'll be happy to teach someone from the passenger seat; if it wasn't like this I'd be teaching from the data! I've lost count of how many miles I've racked up, but it's a brilliant thing to drive.'

So this is what Vulcan owners will experience, when they take delivery of their new machines next year at Yas Marina circuit in Abu Dhabi for their first in-car training with Darren. For them, at least, the dream will become one heck of a reality. **Car**

Right and below
Darren Turner brings in the Vulcan ready for its next victim/passenger; the aim of the aerodynamics is to keep the Vulcan stable in all conditions. Only 24 will be built – compare that with the 26 DB4 GT Zagatos made, if you include the six Sanction II and III models.

