VANQUISH S
THE ULTIMATE ASTON MARTIN

"The fastest road car in the history of Aston Martin. A car that fuses hand-crafted tradition with the highest calibre of automotive technology. Appropriately it is our flagship car... the Vanquish S... the ultimate Aston Martin."

Dr Ulrich Bez, CEO, Aston Martin
ALL ASTON MARTINS ARE RARE
VANQUISH S IS VERY SPECIAL
VANQUISH S IS THE FLAGSHIP OF THE WORLD’S MOST EXCLUSIVE SPORTS CAR MAKER
In 1914, the founders of Aston Martin, Lionel Martin and Robert Bamford, began building handcrafted, high-performance sports cars. They believed sports cars should have a distinctive and individual character, be built to the highest standards and be exhilarating to drive and own. More than 90 years later these values remain true today.

Aston Martin has earned a reputation for another speciality: building lifelong one-to-one relationships with each of its cars and with every owner. This is due to meticulous records and archives, plus personal attention from experts at the factory.

The Vanquish S effortlessly combines 21st Century technology and 200mph (321 km/h) performance, with understated elegance and craftsmanship.

To build such an extraordinary car, the company has used British expertise in aerospace and race-car engineering. Conventional automotive industry materials and manufacturing techniques were not good enough for the fastest road car in Aston Martin’s history.
The lightweight aluminium and carbon fibre structure of Vanquish S is unique to Aston Martin. It is this special combination of materials that gives the Vanquish S such enormous strength and torsional rigidity for superior handling, safety and durability. This technology has become the Aston Martin signature of today; just as hand-formed aluminium panels were in the past. (The aluminium body panels are still hand finished. It is the best way to achieve a superb finish.)

As Aston Martin spearheads developments of its innovative construction techniques, so it also leads with its sophisticated engine and Formula One-style transmission. The Vanquish S uses the most powerful version ever of Aston Martin’s highly acclaimed 6.0-litre V12. The six-speed manual transmission is operated by F1-style paddles mounted on the steering wheel column. It can change gear in approximately 250 milliseconds – or the blink of an eye.

The Vanquish S is unmistakably an Aston Martin. It is elegant, powerful and dynamic. But there is also a hint of menace in this classic Aston Martin design, with a dynamic tension in its shape accentuated by the rear flanks and their almost animal-like ‘muscularity’.

The Vanquish S offers traditional Aston Martin style and a real depth of time-honoured British craftsmanship. But these skills are combined with modern ingenuity. The result is the Vanquish S – a car unlike any other.

DRAMATIC STYLING ADVANCED TECHNOLOGY

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Aston Martin’s hand-built 6.0-litre V12 is renowned as one of the finest engines in the world: enormously powerful, smooth and beautiful. It can also lay claim to being the world’s best-sounding high performance car engine.

In the Vanquish S, it reaches its zenith. Maximum power is 520 bhp (388 kW) at 7000rpm, with maximum torque of 425 lb ft (577 Nm) at 5800rpm.

Such power delivers sterling performance. Indeed, this is the fastest-ever road going Aston Martin. Top speed is more than 200 mph (321 km/h), the 0-62mph (100km/h) dash is accomplished in only 4.8 seconds while 0-100 mph (160 km/h) takes just 9.8 seconds.

But it is the mid-range acceleration that is truly sensational; 50-70mph (80-112 km/h) takes only 6.5 seconds in sixth gear. Overtaking is effortless.

There is no mechanical link between the Vanquish S throttle pedal and engine. Instead the movement of the throttle is electronically measured to gauge how fast the driver wishes to go. This information is then fed to the engine management system which makes the engine respond accordingly.

Engine changes in the Vanquish S include new cylinder head castings with revised inlet ports and combustion chambers with revised profiles to improve airflow. A remapped engine management system, together with new fuel injectors and spark plugs, takes advantage of this improved airflow. Finally, new hot forged connecting rods have been designed to handle the increased cylinder pressure.

The driver has a number of gear change modes to choose from. In SSM (Select Shift Manual) mode, the driver shifts gears up and down using the steering column-mounted shift paddles (right to upshift, left to downshift). The only time the system intervenes for the driver is at the red line, when the engine automatically upshifts. Additionally, there is ASM (Auto Shift Manual) mode, in which the computer takes care of all gear selections according to engine and road speed without driver intervention.

As a matter of convenience and safety, the Vanquish S is equipped with a sophisticated tyre pressure monitoring system. If the air pressure in any tyre drops below a level optimal for maximum driving speeds, a facia-mounted warning light will instantly illuminate.

An optional ‘Sport’ mode in both settings. In SSM Sport, the system allows the driver to ‘bounce’ against the rev limiter without shifting automatically. ASM Sport allows the gearbox to rev higher to use more of the engine’s power, and shifts more quickly.

As you would expect, the Vanquish S meets all emissions requirements worldwide, including California’s stiff LEV (low emissions vehicle) standards.
Despite the high-technology specifications, the Vanquish S is built in the same manner as other Aston Martins before it, one at a time, by hand. An individual craftsman takes responsibility for the creation of every car.

In preparation for production of the vanquish, the factory at Newport Pagnell received a multi-million-pound refurbishment that included an all-new assembly line, environmental paint shop, rolling road and water test facility, and a state-of-the-art finish line to ensure a watertight interior. Today, technicians who used to hold old-fashioned welding guns now wield dual-feed adhesive guns to bond together composite components, crash structures and aluminium panels.

Bonding, which doesn’t distort the structure in any way, leads to a more dimensionally accurate chassis than traditional welded steel. Aston Martin engineers have ensured that these 21st century aerospace skills and materials come together to form a car that raises the standards in performance, quality, safety, durability and comfort.

The assembly process begins in a special bonding jig housed in a temperature and humidity controlled environment. The specially developed braided carbon fibre ‘A’ posts are first bonded to the aluminium core, followed by the carbon fibre ‘backbone’ tunnel.

Next, the rear structure, plenum assembly, body sides, rear wings, and roof are all bonded to the aluminium monocoque using a special polyurethane adhesive. From there, the body shell moves to the front-end simulator jig, where boot lid, doors, bonnet, front wings and bumpers are fitted to check alignment.

In the paint shop, each body receives five coats of surface primer, two coats of colour and two coats of clearcoat. The painted bodies, which are hand-buff after each application, take two days to finish.

In the final assembly area, the twin-pump fuel tank is first fitted in its own safety cell in a cavity above the rear axle. Next, engine and transmission, fuel and brake lines, underbody heatshielding, air conditioning, electrical harnesses and interior sound deadening are fitted. Meanwhile the front-end structure, which will carry the front suspension and engine, is assembled, as is the rear suspension. These are then bolted to the ‘marriage jig’ where the painted body is lowered into place and the front crash structure bonded on.

Once the car is on its wheels, craftsmen begin to hand-produce the cabin. This process takes more than 70 hours of labour and eight hides of leather.

When finished, steering and suspension alignment are checked using laser-alignment tools. The glass ‘start’ button on the dashboard is then pressed for the first time. Testing on the rolling road, on nearby roads, in the water booth, and a final inspection, complete the build process.

In all, it takes just over 396 man hours to create each Vanquish S, or around six weeks from raw materials to the finished article.
An Aston Martin, especially the ultimate Aston Martin, needs to delight its driver like no other car. It needs fast, predictable handling, and superb roadholding. It needs to thrill, yet never surprise. The Vanquish S is one of the best handling and most predictable cars in the world. It communicates to the driver with utmost faithfulness, and yet with total entertainment.

The suspension is light, and race-car like in design. Forged aluminium double wishbone suspension is used front and rear, combined with springs and dampers biased for superb handling. Precise ‘quick ratio’ steering improves nimbleness and driving precision. Specially developed high-performance unidirectional tyres mounted on lightweight 19-spoke 19-inch aluminium alloy wheels, further improve handling.

The key to its nimbleness, and predictability, is its light yet massively stiff body structure. Nothing dulls performance like weight. The lower the weight, the sharper the response. No great athlete is overweight. Nor is a truly great sports car.

The aerospace-style body structure also imparts superb torsional strength, much greater than a conventional steel body. So the car stays in shape, no matter what the conditions. This lack of body flex means the suspension and braking system can be designed without the compromises implicit in a body structure that is more pliable. The result is greater sharpness, great driver feedback, a richer driving experience.

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RECOMMENDED READING

SUPERB HANDLING
HIGH TORSIONAL RIGIDITY WITH OPTIMUM STEERING & SUSPENSION
The Vanquish S has one of the most advanced construction techniques of any road car, using composite materials and processes similar to the aerodynamics business but rarely seen in the motor industry. Each car starts as a heat-cured aluminium bonded monocoque, known as the ‘tub’, which uses a combination of extruded and folded aluminium panels that are bonded and then riveted together. The tub is bonded to a nine-layer carbon fibre tunnel, which gives the Vanquish S an extremely rigid yet lightweight backbone. The benefit of a carbon fibre tunnel over aluminium is its high strength-to-weight ratio. To provide the same levels of strength and rigidity, an aluminium tunnel would be approximately twice as heavy. Carbon fibre also provides superior insulation from transmission and exhaust heat in the passenger cabin. It is this unique combination of tub and tunnel that gives the Vanquish S its structural rigidity and allowed engineers to develop a suspension that combines precise road behaviour with unrivalled ride quality.

The aluminium body panels are shaped using a patented Superform process invented for the aerospace industry. The aluminium forms are submitted to 480-degrees C temperatures and 150 psi air pressure to create the deep-drawn profiles of the Vanquish S which are extremely difficult to mould from traditional aluminium stampings. Final shaping and detailing of each body panel are done as they always have been at Aston Martin - by hand, to ensure flawless edges and finish. This is not done just for sentimental reasons of heritage. It is still the best way to finish complicated panels.

Aston Martin was not content with complying with the most stringent crash criteria. The Vanquish S comfortably exceeds them, thanks in part to the front end’s two broad-mounted technically innovative composite rails. The rails consist of three elements. The first is a layer of glass fibres aligned in one direction. A second layer of carbon fibres is laid at 90 degrees to the first layer to maintain the integrity of the glass fibres in a crash. A third corrugated glass fibre composite element is used in the carrier structure to hold the crash rails in position. Similar composite parts are used in the boot floor to protect the car from rear impacts.
The Vanquish S is full of technological innovation, designed to improve strength and safety. The advanced aluminium and carbon fibre body is replete with world firsts. One example is the specially developed braided carbon-fibre used for the ‘A’ posts and the engine bay cross brace.

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Passive safety is only part of the equation. Equally vital in any car, and especially one with the performance of this Aston Martin, is dynamic safety. The Vanquish S optimises this with superbly responsive handling, giving the driver every chance to avoid any dangerous obstacle or situation.

The brakes provide enormous stopping power. The huge 378mm ventilated front discs are gripped by new six piston calipers. The rear discs are thicker to help heat dissipation and give better side assistance. Both front and rear discs are mounted on a patented floating mechanism designed to maintain consistent pedal feel under sustained heavy braking. The brake pads use competition friction material tuned to the disc and caliper to provide enhanced performance and stability.

Security in an unpredictable world

A Formula One-style venturi and flat underbody increase aerodynamic efficiency while also increasing the car’s balance and stability at high speed, essential in a 200mph supercar. At the rear, an aerodynamically profiled boot lid reduces lift. Even the classic grille plays its part – on the Vanquish S, its rounder, more open appearance does more than enhance cooling. It is complemented by an aerodynamic ‘splitter’ at the front, which improves high-speed stability.
Great design is an Aston Martin hallmark. The company has made some of the world’s most beautiful sports cars. While other road users enjoy the external beauty of the Vanquish S, both driver and passenger will be equally impressed by the interior, a stunning blend of future and tradition.

Dominating the cabin is a fabulous leather centre console that arches from the top of the facia down to the transmission tunnel.

Grab handles and gear shift paddles are finished in matching cast aluminium, while other interior styling materials, such as full grain leather, Alcantara and Wilton carpet, are used to echo Aston Martin heritage.

So does the black-on-cream instrumentation, with numerals changing to a soothing blue at night.

Owners have the choice of two interior configurations: a 2+2 with rear seats or a pure two-seater with a rear shelf to accommodate a golf bag or personal items of luggage. As with all Aston Martins, customers are free to select whichever colour they choose either from Aston Martin’s extensive palette, or their own imagination and taste.
The exhaust note of the V12 Vanquish is generally acclaimed to be the most glorious of all sports cars. The sound unleashed by the car’s audio system is equally stirring.

Linn, a Scottish company founded in Glasgow in 1972, has become internationally renowned for creating exceptionally high quality entertainment systems for home and commercial use, as well as supplying systems for luxury yachts and cruise liners.

The Linn Audio System engineered for the Vanquish has been created as the ultimate in-car entertainment package.

All of the loudspeaker drive units have been developed uniquely for the Vanquish S. There are two door-mounted speaker units each containing a mid-range speaker, tweeter and super tweeter. The door speaker units are fully encased to maintain high levels of sound control while containing the sound inside the car.

The two rear shelf-mounted speakers each contain a mid-range speaker, tweeter and super tweeter. The door speaker units are fully encased to maintain high levels of sound control while containing the sound inside the car.

The bass drive unit, centrally mounted in the rear shelf, incorporates a precision accelerometer providing instantaneous feedback of the unit’s movement to a dedicated 300-watt bass servo system. This arrangement results in totally controlled bass without resonance and with minimal distortion.

The bespoke case housing the boot-mounted amplifier also includes the switch mode power supply and two cooling fans. The cover is machined from solid aluminium and hard anodised for a natural, durable finish. A blue light emitting diode indicates normal operation.

The high power capacity and use of individual amplifiers for each frequency range and speaker delivers the exceptionally high quality sound for which Linn audio systems are renowned.
**Coloured brake calipers**
Adding a flash of colour to the brakes, and as an alternative to the standard graphite grey colour, optional brake calipers in red, silver or black may be specified.

**Front wheel stone guards**
When driving over loose or gravel surfaces these optional stone guards are designed to provide additional protection to the leading edge of the car’s sills.

**Powerfold exterior mirrors**
For ease of manoeuvrability in tight spaces and for peace of mind when parked, these optional electronic folding door mirrors retract at the touch of a button, and include an electrochromatic function which links to the car’s interior electrochromatic rear view mirror for synchronised automatic ‘dipping’ at night.

**Reversing sensors**
Optional body coloured reversing sensors are discreetly mounted within the surface of the rear bumper.

**Heated front seats**
For those cool evenings and even colder mornings, optional heated front seats warm up quickly to provide extra comfort.

**Smokers’ pack**
For smokers, the standard central oddments tray may be replaced with an optional cigar lighter and ashtray.

**Exterior chrome door handles**
Available at no extra cost to replace standard body colour door handles.

**Cup holder**
A single cup holder, trimmed with a leather outer and fitted with a removable rubber inner sleeve, can be specified in place of the console storage box at no extra cost.

**Satellite Navigation system**
With the optional satellite navigation system, guidance is provided by means of auditory instructions (voice guidance), complemented by diagrammatic information, which is displayed on the LCD panel of the radio.

The system uses GPS and advanced image matching algorithms for pinpoint accuracy.

**Integral GSM telephone**
The optional Motorola fixed integral telephone system has an 8 watt output for clarity and excellent overall call quality. It is integrated into a cradle in the central cubby-box, the integral telephone interfaces with a microphone in the roof console and may be controlled either through a keypad and buttons on the radio, or by using the handset itself. Telephone-related messages are shown on the audio system display when the telephone is active. The system’s roof console also features spatial lighting, which illuminates the centre console with a low light for ease of operation.

**Colour keyed leather trim steering wheel**
Designed to coordinate with your interior leather colour, sections of this optional wheel may be specified in the colour of your choice.

**Aluminium trim steering wheel**
Designed to coordinate perfectly with the platinum interior details, the optional aluminium trim steering wheel provides a contemporary alternative to the standard all leather steering wheel.

**Personalised sill plaques**
Manufactured from high quality stainless steel, these optional personalised sill plaques may be engraved with your name, title or special message or wording.

**Heated front screen**
For the ultimate in convenience on those frosty winter mornings, the optional heated front screen defrosts in seconds at the touch of a button.

**Performance Driving Course (PDC)**
The Performance Driving Course (PDC) is about two things – helping you understand the capability of your car in a safe and controlled environment and making you a safer, better driver. Tailored to the driving dynamics of the car, at our courses are designed to be one to one in nature and are conducted by our team of highly experienced instructors. Combining theory with hands-on practice, the course is all about having fun! The course comes as a no cost option with Vanquish S and can be taken at a number of driving centres around the world. Please contact your supplying Dealer for more details.

*Not available in all markets. Please consult your Dealer for details.*

**PERSONALISATION**
**AN EXCLUSIVE SPORTSCAR TAILORED FOR INDIVIDUALS**

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**BODY**

Two door coupe with 2+0 or 2+2 seating. Extruded aluminium and carbon fibre bonded body structure. Composite front and rear crush structures. Aluminium and composite body panels. Extruded aluminium door side impact beams.

**ENGINE**

All alloy, quad overhead camshaft, 48-valve, 5935cc 60° V12 Front engine, rear-wheel drive Twin TEC engine management system. Controlling fuel injection, ignition and diagnostics. Fully catalysed stainless steel exhaust system with active by-pass valve.

**TRANSMISSION**


**STERING**

Rack and pinion, variable power assistance. 2.1 turns lock to lock. Column tilt and reach adjustment.

**SUSPENSION**


**BRAKES**

Twin vacuum assisted anti-lock braking system. Electronic brake and engine intervention traction control system. Front: Ventilated and grooved steel discs 378 mm diameter with six piston calipers. Rear: Ventilated and grooved steel discs 330 mm diameter with four piston calipers and separate handbrake caliper.

**WHEELS & TYRES**

Lightweight aluminium alloy wheels.

- **Front**
  9J x 19
  Yokohama tyres
  255/40 ZR19

- **Rear**
  10J x 19
  Yokohama tyres
  285/40 ZR19

**IN-CAR ENTERTAINMENT**

Linn Audio 1200W, 13 speaker, 13-channel system with stereo radio cassette and six CD autochanger.

**FUEL CONSUMPTION**

Urban 28.2 (10.0) Extra Urban 21.0 (13.4) Combined 18.9 (14.9)

**CO2 EMISSIONS**

448 g/km

*Not applicable to North America.