

VANQUISH S



ASTON MARTIN

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





AM 520

Vanquish
S



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.

POWER, BEAUTY & SOUL
A DISTINGUISHED HERITAGE





DRAMATIC STYLING ADVANCED TECHNOLOGY

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.







V12 POWER & PERFORMANCE DESIGNED TO STIR THE SOUL

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.

A key factor in the engine's efficiency is its high-speed multiplex communications system, called PTEC (Power Train Electronic Control), which is capable of transmitting information in four one-thousandths of a second. There are two PTECs, one for each bank of cylinders, linked by a high-speed system that controls the fuel injection and spark timing.

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.

As you would expect, the Vanquish S engine meets all emissions requirements worldwide, including California's strict LEV (low emissions vehicle) standards.

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.

The PTEC system links constantly to the six-speed manual transmission, which is operated by an electro-hydraulic gearshift. Unlike some systems, the Vanquish S allows the driver to 'skip' down changes from say, sixth to fourth or fifth to second with a pull on the paddle for each gear change. A failsafe system ensures the engine will not over-rev and will automatically opt for the next highest ratio.

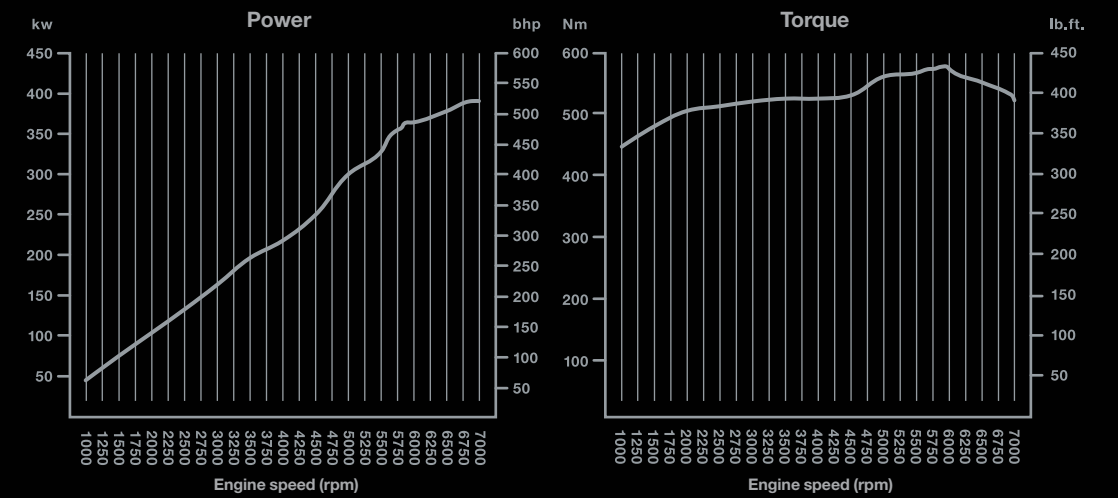
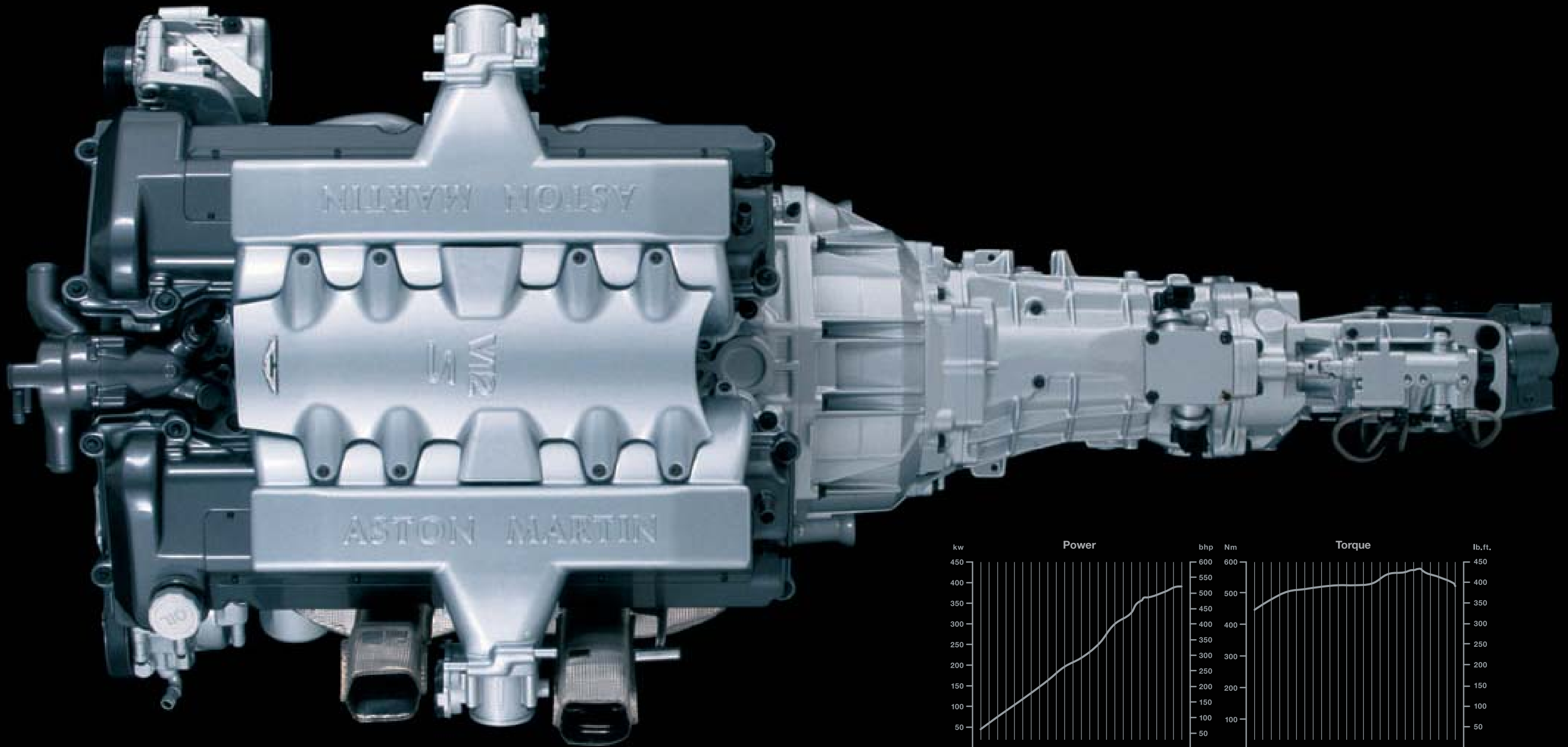
The driver has a number of gear change modes to choose from. In Select Shift Manual (SSM) mode, the driver shifts gears up and down using the steering column-mounted shift paddles (right to upshift, left to downshift). The only time the system intervenes for the driver is at the red line, when the computer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

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

If the sensor light flashes, it means that pressure in one of the tyres has become dangerously low. A boot-mounted LCD readout enables the driver to identify the faulty tyre. Additionally, rain-sensing wipers and automatic lights are standard.







INDIVIDUALLY HAND-BUILT WITH CARE & CRAFTSMANSHIP

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, which simulates monsoon conditions 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, bodysides, 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-buffed 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 heat-shielding, 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 loaded 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.



SUPERB HANDLING HIGH TORSIONAL RIGIDITY WITH OPTIMUM STEERING & SUSPENSION

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 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.

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 11-spoke 19-inch aluminium alloy wheels, further improve handling.

STRUCTURAL STRENGTH FOR PERFORMANCE & SAFETY

The Vanquish S has one of the most advanced construction techniques of any road car, using composite materials and processes familiar to the aerospace 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 forward-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 as 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.



INTELLIGENT ENGINEERING REASSURANCE IN AN UNPREDICTABLE WORLD

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.

Engineers from Aston Martin invented a novel braiding process that encases a polyurethane foam core with triaxial carbon fibre. The result is an immensely strong yet light structure capable of withstanding the force of a crash or rollover.

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 epitomises 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 fade resistance. 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.

The antilock brake system (ABS) incorporates electronic brakeforce distribution (EBD) which re-balances front and rear braking forces under different loads. This helps optimise the braking performance of the car, cutting stopping distances in an emergency.

Traction control monitors wheel spin and adjusts engine power accordingly. When engaged, the Wheel Slip Protection (WSP) mode operates the clutch and gearbox, auto-shifting at 3200 rpm in low-grip conditions to prevent sliding.

But it isn't just the mechanicals that make a car safer. The design team spent many hours in the wind tunnel honing the car's profile to ensure stability throughout its speed range and adequate airflow for power and cooling.

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.



PERSONALITY & STYLE HAND TRIMMED IN NATURAL MATERIALS

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 fascia 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.





VANQUISH S

THE LEADER IN SOUND

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 and each of these 12 loudspeakers is driven by a separate 75-watt amplifier channel.

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.



PERSONALISATION

AN EXCLUSIVE SPORTSCAR TAILORED FOR INDIVIDUALS

Satellite Navigation system*

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

The system uses GPS and advanced map 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. Installed 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 key pad 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.

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.

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.

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.

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, all 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.



VANQUISH S SPECIFICATION

BODY

Two door coupe with 2+0 or 2+2 seating
Extruded aluminium and carbon fibre bonded body structure
Composite front and rear crash 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 PTEC engine management system controlling fuel-injection, ignition and diagnostics
Fully catalysed stainless steel exhaust system with active by-pass valves

Compression ratio
10.8:1

Maximum power
388 kW (520bhp)
at 7000 rpm

Maximum torque
577 Nm (425 lb.ft)
at 5800 rpm

Acceleration
0-100km/h (62mph)
in 4.8 seconds
0-160km/h (100mph)
in 9.8 seconds

Maximum speed
Over 321 km/h (200mph)

TRANSMISSION

Six speed manual transmission with Auto Shift
Manual/Select Shift Manual (ASM/SSM) electro-hydraulic control system
SCP/CAN interface to engine management control system
Limited slip differential
Final drive ratio 4.30:1

STEERING

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

SUSPENSION

Front Independent double aluminium wishbones
Coil springs, monotube dampers and anti-roll bar
Rear Independent double aluminium wishbones
Coil springs, monotube dampers and anti-roll bar

BRAKES

Teves 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 x19
Rear 10J x 19
Yokohama tyres
Front 255/40 ZR19
Rear 285/40 ZR19

INTERIOR

Full grain leather and Alcantara interior
Driver and front passenger airbags
Electrically controlled front seats incorporating optional seat heaters
Air conditioning
Heated rear screen and optional heated front screen
Alarm and immobiliser system with remote central locking and boot release
Tyre pressure sensing system
Automatic rain sensing wiper operation
Blade mounted washer jets
Automatic headlamp operation
Auto dimming rear view mirrors
Trip computer
Instrument pack message centre display
Battery disconnect switch
Battery conditioner
Boot-mounted umbrella
First aid kit

IN-CAR ENTERTAINMENT

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

DIMENSIONS

Length
4665 mm (183.7 inches)

Width
1923 mm (75.7 inches)

Height
1318 mm (51.9 inches)

Kerb Weight
1875 kgs (4133lbs)

Wheelbase
2690 mm (105.9 inches)

Boot space
0.24 cu.m. (8.48 cu.ft.)

Fuel tank capacity
80 litres (17.6 Imp. galls., 22.0 US galls.)
95 RON unleaded fuel only

Cd
0.32

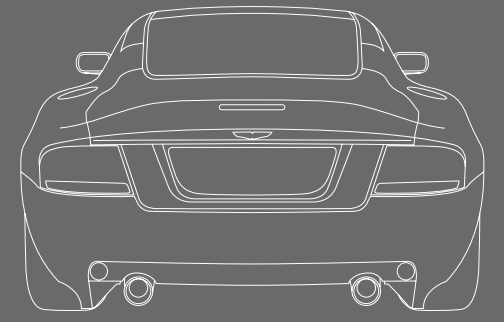
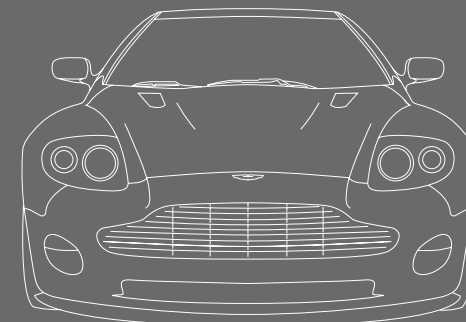
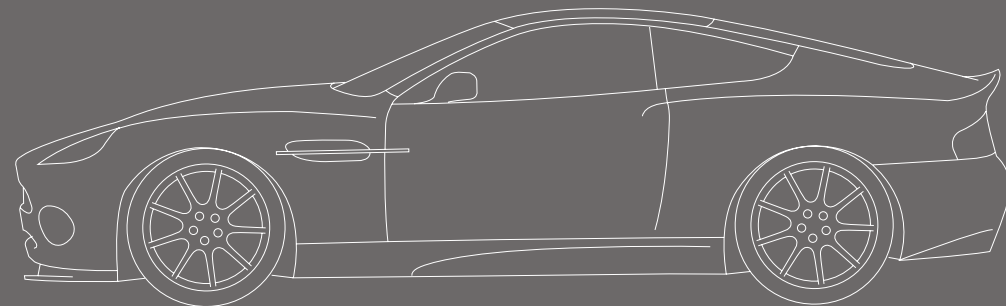
FUEL CONSUMPTION*

Litres/100 km (mpg)
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







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