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MASERATI

Quattroporte S - V6 Twin Turbo Engine and Performance

The Quattroporte's V6 Twin Turbo engine bears a close relationship to the V8, sharing most of its core components, as well as EURO 6 homologation. With 302 kW (410 hp) of power at 5,500 rpm, the V6 Twin Turbo lacks little for speed, providing a tremendously powerful driving experience with 550 Nm of torque between 1,750 rpm and 5,000 rpm.

While it shares much with the V8 Twin Turbo, it has a character of its own, revving to a 6,000 rpm maximum speed and delivering its torque peak 500 rpm sooner. While its specific power output is slightly lower (at 137 hp per litre), its specific torque is higher than that of the V8, at 183 Nm per litre.

The four-wheel drive configuration (Quattroporte S) is also a lighter car, weighing 1,860 kg. In its rear-wheel drive layout, the V6 Twin Turbo accelerates to 100 km/h in 5.1 seconds up to a maximum speed of 285 km/h.

The V6 achieves 9,6 litres/100 km on the combined with 223 grams of CO_2/km. Like the V8 Twin Turbo, the V6 Twin Turbo, with its parallel turbo chargers, was developed by Maserati Powertrain in partnership with Ferrari Powertrain and built by Ferrari in its world-leading high-performance engine construction facility in Maranello.

The V6 engine shares the V8's bore dimensions, the same variable valve technology, almost the same turbocharging, manifold and engine block technology.

It uses high-tumble cylinder heads and four-phase variators (double the number of a traditional V8) in a concept refined by Maserati Powertrain for optimal combustion control to deliver high performance and low consumption. With two continuous cam phasers for each cylinder head, it can advance or retard the inlet and exhaust valve timing independently in real time.

As on the V8, the engine also uses an ECU, with integral high-speed processors which handle an array of functions in real time. Maserati Powertrain has also switched to on-demand ancillaries, with a variable displacement oil pump that works under electrical control for improved consumption and performance.

It also uses an innovative, computer control of the alternator, which monitors the vehicle's electricity consumption and manages the alternator's workload to suit.

Exterior Design

In 1963, the Quattroporte blended the qualities of speed, style and luxury in a body by Pietro Frua and Maserati has been considered a master of sports sedan design ever since.

The second-generation version in 1974 was designed by Bertone, while Giorgetto Giugiaro tackled the 1979 Quattroporte; Marcello Gandini redefined the model with his compact 1994 Quattroporte and Pininfarina's 2003 Quattroporte set the design standard for the segment for almost a decade.

Now, as it has always been, the Quattroporte's potent engines and the large cabin are at the core of its design, dominated by a long, impressive nose and a short front overhang.

The design of the Quattroporte is distinctive and exclusive, a harmonious combination of elegance and sportiness which expresses a definite tension. The design of the Quattroporte is inspired by Maserati's core stylistic principles: attractive shape, extremely dynamic lines and Italian elegance.

The car, much larger than the previous Quattroporte, has a sinuous external design that underlines the model's intrinsically sporty and dynamic soul.

The Quattroporte's body shape is characterized by a combination of taut and muscular lines and timeless proportions that lend it a natural elegance. The three-dimensional grille immediately generates the Quattroporte's emotion thanks to its vertical convex ribs. Inspired by the GranTurismo and favourite models of the past, like the A6 GCS, its black colouring contrasts its chrome surround and the Trident symbol at its centre.

The grille's three-dimensional design is accentuated by the movement of the guards, which emphasise the bonnet or hood and run into the headlight mouldings at the front, which draw the eye to the Trident symbol at the centre of the grille.

Its silhouette line begins from the headlights to create a sharp upper edge to the front fender that continues along the car's roofline and creates a coupe-style grace in the C-pillar.

This C-pillar, a feature of four-door Maseratis dating back to the first-generation version of 1963, is enhanced by the Saetta logo, while Maserati's distinctive three side vents proudly denote the volume of the front fender.

New stylistic and functional characteristics have been also introduced: one example includes the emphatic form of the car's side, with an unbroken line running along the entire car to create a very muscular look that is still streamlined and elegant. Other examples are the front and rear lights and the three-window styling with no frames on the doors. The Quattroporte is a high performance sports sedan and it has a light, sinuous external design that reinterprets all the most famous stylistic touches of Maserati in contemporary language.

In terms or exterior differentiation Maserati has taken great care to subtly distinguish the individual Quattroporte variants from each other. The Quattroporte GTS as the top-of-the-range model stands out in particular with its 20'' alloy wheels, red anodized brake callipers, red accents on the logo, engine cover and hub caps as well as with its twin exhaust pipes in trapezoidal design and the GTS badge on the rear. The theme continues also in the interior with a sportier seat cover design and trims as well as the addition of sporty accents on the embroidered carpets and the classic Maserati analogue clock with GTS logo.

Interior Design

The interior of the Quattroporte unites refined, clean styling with high technology and a timeless sporting character. With its dimensions, the Quattroporte have set a benchmark in roominess for the front and, especially, the rear passengers. Its wheelbase allowed Maserati to add more rear legroom, more shoulder room for all passengers.

The interior design achieves elegant simplicity, with clean lines and user-friendly instrumentation, while the functional features are camouflaged to allow the attention to focus on the soft curvaceous surfaces of the dashboard and the central tunnel. The combination of classy and elegant colours makes the interior and exclusive sumptuous lounge for its occupants and it can be rendered unique with a tailored approach for each customer.

The interior delivers streamlined, wraparound forms, which give the dashboard and tunnel an unprecedented feeling of lightness. The dashboard features a wide central area in a variety of exclusive woods, with its full-width wooden surface underlining the refined character of the Quattroporte and giving it the widest dashboard insert in its class.

The upper part of the central tunnel, completely covered in wood, also confirms the prestige of the Maserati flagship; to round out the abundant use of precious woods, the front and rear door panels are finished with inserts. The client can choose between modern woods with open grain, lacquered woods and a sporting glossy carbon finish.

The Quattroporte's interior pivots around a driver interface that is intuitive and simple to use. The instrument cluster features a large rev counter and large speedometer, both analogue, that flank a 7" TFT display for many of the car's operational features. The leather-finished steering wheel is electrically adjustable for both reach and height, while the pedals are also adjustable, moving towards the driver at the touch of a button mounted at the front of the driver's seat.

Many of the vehicle's settings are oriented towards the driver and are controlled with the buttons alongside the gear shifter, while other on-board settings can be set by the driver via the Maserati Touch Control (MTC) at the centre of the dashboard.

The standard equipment includes leather, 8+4 way electric lumbar support, a navigation system and a reversing camera, while the upper and lower dashboard and the interior upholstery are wrapped in fine leather. While the standard equipment is sumptuous, Maserati also provides an exceptional degree of personalisation with a vast range of materials for the client to choose from, including wood, carbon fibre, leather, Alcantara as well as coloured stitching in contrast with the leather colour, for areas such as upper dashboard, doors, seats

including the headrest and many other numerous optional choices. The personalisation exclusively styled for Maserati by Ermenegildo Zegna is the most luxurious of all.

Befitting its position as flagship of the range, the Quattroporte GTS was treated to a special interior upgrade featuring a sportier and more luxurious interior look, specific trims as well as sporty accents on the carpets and the classic Maserati analogue clock with red pointers and GTS badge embedded.

Ermenegildo Zegna Interiors

The Ermenegildo Zegna interior exclusively for Maserati combines fine grain leather with 100% natural fibre Zegna Mulberry Silk inserts on the seats, door panels, roof lining, sunshades and ceiling light fixture. Available in three colour variants for the interiors of the Quattroporte, this exclusive outfit will be the most exquisite of all Maserati customisations.

The interior is designed around the passenger compartment’s two-colour, two-material concept, with fine grain leather combined with Ermenegildo Zegna 100% natural fibre Mulberry Silk inserts, which give it a distinctive, elegant personality.

Silk, an inherently sophisticated material, is further embellished by the hand-stitched macro-chevron; on the door panel, too, the matching salt and pepper silk jersey is enhanced by an alternating rib embroidery.

As for the seating, the extra fine grain leather with contrasting, light grey stitching, is matched to a central silk insert with a micro-chevron weave of vertical rolls on the central seat and backrest area, within which the central roll, with leather tapes on the sides, features a special macro-chevron weave adding to its three-dimensional feel and technical look.

On the door panels, the central parts are covered with Zegna silk Jersey and embellished by a diagonal roll pattern, with ton-sur-ton ornamental stitching and alternating rib embroideries. The same fabric is used to cover the car's roof lining and sunshades, the latter carrying grosgrain “Ermenegildo Zegna Exclusively for Maserati” brand labels on the inside. The sophisticated, luxury finish of the car interior is also expressed by the headrests, featuring an embroidered Trident emblem and contrasting stitching.

The interior offering includes a choice of colour combinations: the Ermenegildo Zegna silk, always in Anthracite colour, can be combined with three different shades of luxurious fine leather, for three individual looks:

- **Black** colour fine grain Leather / **Anthracite** Ermenegildo Zegna Silk / contrasting grey stitching on seats, dashboard, door panel and headrest
- **Natural** colour fine grain Leather / **Anthracite** Ermenegildo Zegna Silk / contrasting grey stitching on seats, dashboard, door panel and headrest
- **Red** colour fine grain Leather / **Anthracite** Ermenegildo Zegna Silk / contrasting grey stitching on seats, dashboard, door panel and headrest

This extended, exclusive product offering for the Maserati sedans is available for all markets with effect from autumn 2015, on all Quattroporte and Ghibli versions.

Some key features include:

Blind Spot Alert & Rear Cross Path

The Blind Spot Alert, through visual and audible signals alerts the driver when a vehicle enters the blind spot zones; this important safety feature has been introduced to avoid unwanted collision while the driver changes the lane. This system, conceived to reduce the risks involved in changing lane, monitors the blind spot areas using two radar-based sensors, located inside the rear bumper fascia; when a vehicle approaches from behind, the LED warning signal embedded in the side mirrors lights up while a chime alert also sounds.

The area beside and behind the car is monitored at speeds above 10 km/h, in order to avoid unwanted collisions with vehicles such as automobiles, trucks, motorcycles, etc…

The Rear Cross Path function issues the same alerts also when backing out of a parking space; this feature is intended to help drivers back out of parking spaces where their view of oncoming vehicles may be blocked. Using sensors located on either side of the rear bumper, it detects any vehicles or objects that are moving towards the side of the vehicle with a minimum speed of approximately 1 to 3 km/h to a maximum of approximately 16 km/h, such as in parking lot situations.

Power Boot Lid with Hands-Free Mode

With the introduction of the Power Boot lid, the already light constructed aluminium boot lid is now autonomous in its closing phase. With its electric actuators and a motorised latch, the system allows to open or close the boot automatically, ensuring that the lid is locked upon closing.

In addition, it is possible to open and close the Power Boot Lid by simply moving your foot under the rear bumper. In this case and for safety reasons, the lid will open or close only if the “Passive Entry” system acknowledges the presence of the key.

Maserati Touch Control (MTC)

By utilising the MTC’s 8.4" Touch Screen display, the user can control almost all of the Quattroporte’s on-board equipment simply and intuitively.

The system includes features like the radio, the navigator and the DVD player. It also has Bluetooth connection for telephones to connect to external sources like cell phones and Apple devices.

Using its Aux-in, USB sockets or the SD card reader, the user can play music, watch films or even view images. Its menus have options to configure the car's main settings and the system's various menus are always available from the icons displayed at the bottom of the

screen.

The MTC also controls the front seat heating and ventilation if equipped, the steering wheel heating and the operation of the optional rear window shade, as well as providing the screen for the reversing camera.

Siri Smart Personal Assistant

Due to the Apple chip contained into the MTC, from MY16 a usable feature that exploits iOS functionality - an intelligent personal assistant - has been introduced. Based on Bluetooth technology, Siri allows users to perform iOS connected devices tasks and make requests using voice commands. For this in-car application and for related safety reasons, while driving, responses that contain visual information or require user interaction will be blocked and Siri will only respond with suitable audio feedback and voice commands. The advantage is that Siri uses natural language to understand commands.

Audio systems

The Quattroporte's standard audio system, which is totally new from MY16 and brings on-board the Harman Kardon brand as a standard feature on all versions, gives outstanding power and sound quality, based around 10 speakers and a 900 W amplifier. The extra 300 Watts compared to the previous system, the esthetical differentiation with the black finish grille pattern on the door's woofer with the Harman Kardon logo, the new 12-channel amplifier in conjunction with a high-performance subwoofer represent the best trade-off between sound clarity and performance. Maserati also offers hi-fi enthusiasts the optional Bowers & Wilkins Premium Surround system, as good as it gets in production car hi-fi systems thanks above all to the new features introduced from MY16. The components, the layout of the 15 speakers, and a perfect configuration of the QuantumLogic™ Surround Sound required long and very demanding sound engineering studies.

The result is a system that reproduces every subtle shade of the sound to perfection, with unbeatable dynamic purity, for total realism and a completely new level of music enjoyment on the road.

New from MY16 is the technical Clari-Fi function; an advanced solution thought for digital music and capable to restore the artistic details lost in your digitally-compressed songs. Clari-Fi scans all types of compressed audio files for lost music details, supporting MP3, AAC, Satellite Radio, Playback and Streaming Music Services and intelligently corrects waveform deficiencies based on existing music information and audio source quality. By recapturing the missing highs and lows, restoring the vocals to their natural tone, returning to a true stereo sound and removing unwanted distortions and artifacts, these features exclusive for the Bowers & Wilkins Premium Audio system set a new benchmark in automotive audio.

As the QuantumLogic™ Surround Sound system processes each track; individual elements of the track, including musical instruments, voices and the interior's reverb, are identified, separated and processed into a surround sound field which is exceptionally realistic and precise and gives a crystalline, perfectly defined audio image.

The system has 15 speakers and a 1,280 W amplifier. It features a central 100 mm Kevlar cone for midrange sound and three 25 mm tweeters at the centre and sides of the dashboard. The front doors house a 165 mm woofer and 100 mm Kevlar cone midrange speaker, while the rear doors each carry a 165 mm Kevlar woofer and 25 mm tweeter. The rear shelf has two 100 mm Kevlar midranges and a 315x200 mm subwoofer.

Keyless Entry

Incorporating the “Keyless Go” technology, the body of the Quattroporte’s key is made from polished aluminium and looks and feels heavy, elegant and confidently technical. When the car is locked, it is enough to keep the key in a pocket or a handbag and simply open the car by pulling on the door handle or luggage compartment button.

Wi-Fi Hotspot

The Quattroporte can contain optional WLAN technology that effectively turns the car into a Wi-Fi Hotspot. Owners can place a SIM card into its WLAN router to receive Internet signals, which can be resent around the car as a wireless Internet signal. Up to three devices, such as laptops, cellular phones or tablets, can be connected simultaneously. The system supports HSDPA, UMTS, EDGE and GSM.

Space

One objective was clear right from the start: to maximise the space available to the occupants. Special attention has been paid to the rear passengers, and the legroom available to them is the highest in the standard wheelbase class.

Two individual rear seats have also been developed as an option to deliver outstanding comfort and prestige, and they offer unbeatable relaxation by featuring ventilation and electrical movement.

Furthermore, the interior features two front cupholders, a box for the phone storage, three 12 V power sockets (one in the luggage compartment) and a very useful USB charging port into the rear armrest; a number of large compartments is available: two at the bottom of the dashboard (a climate controlled, illuminated passenger glove compartment, and another for the driver), a large front armrest illuminated and climate controlled.

The rear seats are available heated*, like the door panels, which may include electrical sun blinds, alongside that of the rear window. The rear seats are also modular: they can be folded down in a 40% pattern, thus allowing long objects to be stored in the back and the 530 litre luggage compartment.

* standard on Quattroporte GTS

Seats

The leather seats are comfortable, supportive and luxurious. In the rear, the roomy,

comfortable three-seat bench has excellent legroom. The V6 and Diesel models feature an I-Shape seat design; the V8 a distinctive Y-Shape.

To highlight the attention paid to outstanding comfort and prestige, two individual seats have also been developed as an option, featuring ventilation and electrical movement, to offer unbeatable relaxation during long working trips. They can also be fitted with individual entertainment screens. The rear armrest has a USB socket for charging mobile devices and two foldaway cup holders. Finally, the seats are equipped with ISOFIX fittings, the universal child seat mounting system.

The interiors of the Quattroporte not only feature unique styling and valuable materials, but also use light to further enhance the look of the interior and the quality of the occupants' experience when driving in the dark. The system uses an optical fibre running along the dashboard and the doors and even in the door handle cavities and door pockets, to give the interior a modern, classy look.

The front and rear ceiling lights mount a diffused lighting lamp and two separate reading lights; along with these, two LEDs concealed in the ceiling light give constant, soft light for the area beneath them; even the foot area is illuminated. The brightness of the light can be adjusted with a dimmer.

Rear Seat Entertainment

With the option of the Rear Seat Entertainment unit, the Quattroporte will feature two 10.2” LCD displays and rear seat occupants can either view the same content simultaneously, individually or watch completely different content. The system allows users to reproduce audio, video or photographs from external sources and it can deliver them in formats ranging from MPEG, WMV, Avid, MP3, MP4, WMA and AAC.

It also has an A/V-IN connection for devices like video game consoles, cameras, video cameras and laptops. In addition, it can be equipped with a television tuner in the majority of the European countries, and in China. Each monitor comes with individual battery-powered remote and highly refined wireless headphones.

Windows

The Quattroporte is intended to be not only safe and technically superb, but also comfortable.

The windscreen and the rear window are both made from double laminated acoustic glass. As 51% of a car’s external noise enters the cabin through the windscreen, the use of acoustic glass means Maserati could make the cabin more comfortable and focus on delivering the type of noise Maserati owners prefer.

The side windows employ similar technology with single-layer lamination and acoustic damping. All this adds up to reduced external noise and excellent temperature stability, along with more robust windows, all of which increases the occupants' comfort and safety. In addition, the all three rear windows can be fitted with darkened glass for greater privacy

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Climate control

The automatic climate control operates on a dual-zone system and delivers huge amounts of air through 13 ventilation ports. Four of its ventilation ports are in the rear of the car and it balances its output through a sunlight sensor to provide outstanding levels of comfort and the seamless maintenance of the chosen temperature.

There are separate temperature adjustment functions for the driver and the passenger, which can be controlled through the MTC or via a physical control panel under the screen.

This power is driven by a variable-displacement compressor that is electronically controlled to ensure that its operation matches perfectly to the exact demands from the car's occupants. A wide array of sensors help the system to maintain its internal environment, including a humidity sensor that governs the flow from the defrosting and demisting ports and the sunlight sensor that regulates the temperature of the air from the ports that cancel the effects of the sunlight and outside temperature.

A four-zone climate control system is optional, which increases comfort for the rear passengers. It contains a dedicated nebuliser and two additional ports on the B-Pillars to increase airflow to the rear of the car. It also delivers a separate temperature control unit for the rear passengers.

Chassis & Body

The chassis of the Quattroporte has been precisely designed to meet the performance and comfort demands of Maserati buyers, and meets all foreseeable safety regulations.

With the longest wheelbase in the class at its core, the Quattroporte's architecture lends itself both to extreme interior comfort and an exciting handling platform.

Based around a rigid and extremely secure steel safety cell, it uses an array of different steel and aluminium alloys, each designated a precise task to maximize strength, minimize weight and retains the sports sedan's perfect weight distribution.

The front of the chassis is based around an aluminium casting, with a reinforced cross-strut which helps deliver outstanding rigidity in all directions, while the rear of the chassis is made from rolled steel.

The choice of aluminium for the bulk of the Quattroporte's body panels was based around the delivery of the maximum possible occupant safety for the lowest possible weight. Accordingly, all four doors, the bonnet (hood), the front quarter panels and the boot (trunk) lid are all made from aluminium.

Along with the freedom it allowed Maserati's designers, the choice of aluminium has also had a positive impact on reducing the Quattroporte's weight, reducing its fuel consumption and lowering its emission.

Other exotic materials are also used in the Quattroporte's body, including ultra-light weight magnesium, which is used in the dashboard's cross strut.

Aerodynamics

The Quattroporte body design isn't just about looks, a large part of the Quattroporte's aerodynamic work was out of sight, beneath the car. It has a flat floor that contains several aerodynamic features, including a NACA duct to help cool the differential without increasing drag and flaps on the rear suspension arms to channel airflows.

Suspension

Double wishbone suspension layouts are a race-bred tradition at Maserati and the Quattroporte continues with this heritage but also incorporates some new technologies for greater accuracy.

The front suspension uses high-mounted all-aluminium double wishbones to guarantee light and precise handling characteristics.

Aluminium is the dominant metal of the front suspension system, with the dome nuts, the hub carrier bars and uprights all made from forged aluminium, while the springs are steel. This matches up to constantly adaptive Skyhook dampers and an anti-roll bar.

The geometry of the system has delivered a quadrilateral architecture, which has enabled Maserati's handling team to deliver steering that is precise, communicative and comfortable.

The rear suspension employs a five-bar multi-link system, with four aluminium suspension arms, and has achieved the conflicting targets of executive ride comfort and extreme sports performance.

The suspension package also uses anti-roll bars and steel springs damped by a faster and more accurate development of the Skyhook adaptive damping system. All four Skyhook dampers can be electronically controlled independent of the each other.

One of the standout features of the Quattroporte, the default Skyhook mode prioritizes comfort, and then becomes more sporting and athletic if the driver presses the suspension button, separated from the SPORT button. This extra stiffness transforms the Quattroporte's handling and was developed in both extreme test scenarios and on the race track. Essentially, it drastically reduces both longitudinal and lateral load transfers and minimizes body roll to bring out the sportiest side of the Quattroporte's character.

Wheels and tyres

Featuring 19" rims as standard equipment on the Quattroporte, Quattroporte S, S Q4 and Diesel and 20" on the Quattroporte GTS, all models can be specified with various 20" and 21" wheels, even with forged technology.

While flow-forming technology reduces the core thickness of the wheels and optimizes light weight without sacrificing stiffness and strength, the forged alloy wheels emphasizes light weight.

All the Quattroporte's rims have been designed and engineered to enhance both the visual design of the body and to lower the unsprung masses to improve grip and handling.

The 19" wheel, with its 245/45 front and 275/40 rear tyres, is geared towards reduced fuel consumption combined with low road noise and long, comfortable journeys and with a long tested compound capable to offer the expected sporty performance.

The 20" wheel, with a 245/40 front tyre and a 285/35 rear tyre, is the perfect compromise between sports and comfort, while the 21" wheel, with a 245/35 front and 285/30 rear tyre combination, is focused on sports handling.

All three wheel sizes are available with Pirelli, Dunlop and Continental tyres. While the 19" and 20" wheels can be fitted with winter tyres, no commercially made 21" winter tyre is available.

The Quattroporte also continuously monitors its tyre pressure with a sensor mounted inside the rim, as part of the valve; the pressure can be read off the display on the dashboard. If case of puncture or changing of tyre pressure, the system notifies the driver with visual and acoustic warnings.

Dimensions

The Quattroporte set size benchmarks in its class in almost every dimension.

Critically, these increases versus the previous generation have not created a similar rise in mass, with the Quattroporte weighing 94kg less than the flagship predecessor to weigh 1,900 kg in V8 form.

The V6 Twin Turbo Quattroporte weighs 1,860 kg (or 40 kg less than the V8 Twin Turbo).

Another critical factor is weight distribution and the Quattroporte retains perfect balance with 50:50 front-to-rear weight. This is despite the forward repositioning of the fuel tank to create greater luggage space and the addition of all-wheel drive, bigger radiators and two intercoolers beneath the bonnet.

Brakes

Maserati has continued its long association with Brembo on the Quattroporte and all models feature fixed-caliper braking technology.

The Quattroporte with 330 hp, the Quattroporte Diesel and the Quattroporte S feature four-piston brakes with fixed alloy Brembo calipers and 345x28 mm ventilated discs in the front; floating calipers with 320x22 mm ventilated discs in the rear.

The brakes on the Quattroporte S Q4 model are 360x32 mm ventilated and cross-drilled Dual Cast type with six-piston fixed alloy Brembo calipers on the front axle, while the rear axle is fitted with four-piston fixed alloy Brembo calipers with self-ventilating perforated discs of 350x28 mm. The front axle of the Quattroporte GTS has 380x34 mm ventilated and cross-drilled Dual Cast brake discs and six-piston fixed alloy Brembo calipers, with the same brake system as the S Q4 version on the rear axle.

The brake discs continue to be Dual Cast type, a technology pioneered by Maserati, which allows the weight of the cast-iron braking surface area to be offset with an alloy hat to minimise unsprung mass.

These brakes have an enlarged swept area, highly efficient cooling, are designed for consistent performance in sports driving situations and are oversized for the demands created by even the Quattroporte's extremely high performance potential.

But high-performance stopping power is only one measure of overall braking performance and the collaboration with Brembo also concentrated on evolving the acoustic comfort of the Quattroporte's braking systems. As befitting the rest of the Quattroporte story, the braking development reconciled the seemingly opposing goals of pure performance and pure comfort.

The Quattroporte also uses an electronic parking brake, which operates on all four wheels. The ergonomically placed button on the gear lever bezel activates the brake when the car is at rest.

However, it can also act as a safety device when driving. In this case the system communicates with the stability control ECU and decelerates the car at 0.5 g in full safety until released.

The brakes also operate as part of the Quattroporte's automatic hill starting system. The on-board sensors detect the vehicle's tilt when parked facing uphill, then lock the brakes for a few seconds; this gives the driver's foot time to move from the brake pedal to the accelerator pedal without the vehicle rolling back.

Brake Calipers

Besides being effectively strong, Maserati brake calipers have also always added a significant stylistic effect.

In fact, they available on request in a sporty red, in Maserati blue for a touch of elegance, and in the conventional metallic grey or black. The Quattroporte GTS is fitted as standard with exclusive red anodized calipers, also available in exclusive hand-polished aluminium on request.

Steering System

The Quattroporte uses a technological aluminium steering box, developed specifically for the performant front-suspension geometry.

This has allowed Maserati's suspension engineers to deliver ultimate precision combined with the steering sensitivity needed for turning into corners at speed.

It also has a reduced steering ratio, which delivers an agility that is rare for this class and while it is comfortable in all situations, the steering feel is geared up towards driving enjoyment.

Eschewing the trend to electro-hydraulic steering systems, the Quattroporte employs a servo-powered hydraulic system that prevents unpleasantly artificial assistance when the driver turns the wheel quickly. The power assistance has also been reduced compared to the superseded Quattroporte; the intention being to deliver more feedback to the driver for consistency at high speed, yet maintaining easy manoeuvring at low speed.

Maserati Stability Program

Maserati drivers have long known the benefits of the Maserati Stability Program (MSP) and the system has evolved and improved in the Quattroporte.

Developed in the most extreme test circumstances, the MSP uses a wide array of sensors to detect any need to intervene on the driver's behalf.

MSP adds a layer of security on top of the Quattroporte's inherent chassis stability that helps drivers enjoy anxiety-free handling under all driving conditions.

MSP constantly measures the Quattroporte's handling and grip and combines a host of safety and performance systems to maintain the car's ideal handling stance.

Two of the main elements of the MSP's operation are the engine and the brakes. If skidding is detected, the MSP reduces the engine's torque output and can actuate the brakes with finely varied inputs to restore the car's stability within milliseconds.

The other key systems that make up MSP include:

- ABS (Antiblock Braking System), which stops the wheels locking up when braking, thereby maintaining steering control at all times.

- EBD (Electronic Brake Force Distribution), to distribute braking force between the front and rear axles to prevent rear-wheel lock up.

- ASR (Anti-Slip Regulation), which stops the wheels from spinning in low-grip situations.

- MSR (Motor Spin Regulator), which prevents the wheels from locking up when downshifting on low-grip surfaces. It does this by measuring the speed of the driven wheels against the speed of the free wheels and accelerating the driven wheels slightly if needed.

- BAS (Brake Assist System), which uses a variety of sensors to recognise emergency braking situations and increases the pressure in the braking circuit.

- Hill Holder, which automatically connects to the braking system to prevent roll back .

Transmission

All versions of the Quattroporte are fitted with the ZF AT8 - HP70 eight-speed automatic transmission.

Pre-engineered, the transmission delivers increased comfort, fast gear shifting, optimized fuel consumption and NVH.

By delivering two over-driven gears, the transmission alone contributes a lot to overall efficiency.

As befitting Maserati tradition, it is capable of being in five dedicated shift modes: Auto Normal, Auto Sport, Manual Normal, Manual Sport and the I.C.E. mode.

Auto Normal is the Quattroporte's default setting and performs its gear changes with fluid shifts at low engine speeds to emphasize the car's comfort and to minimize fuel consumption.

The Auto Sport mode sees the transmission switch the drive character to change gears with greater alacrity at higher engine speeds and delivers a distinct gear engagement to enhance the powertrain's sporting feel.

In both of these modes, the car recognizes a variety of conditions, such as whether the car is travelling up or down hill, is braking hard or is driving through a corner, and selects the best gear and the best gear-shift style accordingly.

The transmission can also be controlled manually by selecting the "M" button on the transmission tunnel.

In Manual Normal mode, the driver can change gear with either the elongated gearshift paddles besides the steering column or by using the gear lever. The driver is in charge of the gear selection, though the system will intervene and change to a lower gear if the engine revs drop too low or change to a higher gear if the engine revs climb too high.

In Manual Sport mode gearshifts are at their fastest and crispest, giving the driver full control of the powertrain. The system will not intervene, even if the driver strikes the engine's rev limiter. It will only intervene if the engine's revs drop too low to be effective in a given gear.

The I.C.E. (Increased Control & Efficiency) mode is designed for remarkable fuel economy, relaxed driving and also in case of low grip conditions. The transmission changes gear as softly as possible, both going up through the gears and returning back down.

All gearshift modes can be selected via buttons on the left of the gear knob.

Of course, the Quattroporte also utilises a mechanical limited-slip rear differential as well. The bevel-drive, asymmetric unit offers 35 per cent lock-up under power and 45 per cent under

release.

The rear differential is driven via a two-piece, 69mm-thick steel drive shaft with three constant velocity joints and runs through a cross member-mounted bearing for extra rigidity and reduced noise, vibration and harshness levels.

Exhaust system

In the best Maserati tradition, the sound and performance of the Quattroporte's exhaust system is controlled by pneumatic valves in the pipes of each bank, and passing through the unique Maserati Sound Tank to maintain the rich aural tradition of the brand.

In the default Normal mode, the bypass valves are closed up to 3,000 rpm to give a comfortable and discreet engine sound.

In Sport mode, not only does the car adjust a variety of handling parameters, but also the exhaust valves are opened, giving the shortest possible, high-energy route for the exhaust gases, which gives the Quattroporte its maximum engine performance and the unique Maserati engine sound.

Beneath the rear bumper, the V8 models can be identified by their exhaust tips. The V8 engines finish their exhaust systems with trapezoidal tips with two double pipes in polished steel, while the V6 and Diesel models use oval exhaust tips.

Safety

The Quattroporte’s passive safety equipment has been given a tightly focussed overhaul to successfully improve its crash safety without compromising its weight or fuel consumption.

Maserati has balanced these conflicting demands by using hot-formed steels in critical areas of the passenger compartment for added occupant safety, while using aluminium in other areas to save weight.

In particular, the front of the passenger compartment (the pillars and under-door mouldings) features hot-moulded steel components, with a magnesium dashboard strut to save weight, while the rear is stiffened with high strength steel. The crash bars at the front and rear of the car are made of extruded aluminium, while the doors, engine compartment, mudguards and luggage compartment are in aluminium.

Airbag

The Quattroporte is equipped with a six-airbag system to provide maximum occupant safety.

At the front, two-stage airbags are concealed from the occupants inside the steering wheel and dashboard, yet to protect the head in frontal accidents.

The chest and hips of the front occupants are further protected by the side airbags beneath the seat leather.

The sides of the occupants' heads are protected by two head "curtain" bags mounted in the roof of the car, next to the B-pillar. The "curtain" bag protects the heads of the front and rear occupants against lateral impact.

Seatbelt Features

The front seats are brimming with safety equipment designed to reduce trauma to the occupant's cervical vertebrae.

If the car is involved in a rear-end accident, its active headrests automatically reduce the distance between their surface and the passenger's head.

The front and rear three-point seatbelts are equipped with load-limiting pyrotechnic pre-tensioners, which trip in a collision to hold the passengers securely and prevent or minimise injury.

The front seatbelts are fitted with height adjusters; properly adjusting the height of the seatbelts to the occupant's height, which is not only more comfortable but also improves the safety function of the device.

Rear-view Camera

The rear-view parking camera* makes manoeuvring and reversing safer and more comfortable.

Installed next to the luggage compartment's release button, it views the area behind the car, and shows the resulting colour image on the 8.4" MTC display. The system works together with the standard front and rear parking sensors and sounds an acoustic warning as it approaches obstacles behind the car.

* optional on Quattroporte Diesel

Lighting

Part of the reason the Quattroporte's exterior design is so distinctive is, in part, due to its use of Bi-xenon headlights and LED daytime running lights.

The LED tail light assembly is also highly innovative, providing excellent visibility with the style and safety essential to this class of car.

Headlights

The standard headlights contain an Automatic Frontlighting System (AFS), which actively adjusts the headlight depth to combine an outstanding view of the road with very low glare for oncoming traffic.

The bi-xenon headlights combine technology and style, with all of its secondary functions entirely provided by LED.

Each headlight includes LED daytime running lights, with a light shape that provides instant recognisability in both day and night running. Each light also contains a high-pressure lens washer nozzle, direction indicators, LED side position lights and a side reflector.

With a video camera mounted in front of the rear-view mirror, the lighting system offers a beam control specifically for motorway driving which increases the depth of the light beam without the need for manual high beam activation.

Sensors monitor the driving style and speed and if the road is clear, the beam depth offers the greatest depth and width, combined with the directional rotation of the headlights themselves.

In addition, there are four different automatic lighting setups: for city driving, for motorway conditions, for low visibility and for driving on the opposite side of the road in applicable countries. Each of these modes automatically activates a strategy to best illuminate the road surface.

The Town Beam turns on below 45km/h and sets the beam wider and shallower, giving a better view for turning and for peripheral danger zones while causing minimum disturbance for fellow road users.

Country Beam turns on at speeds below 90 km/h and in the driving conditions typical of a normal street, sets the beam to be wider and less deep on the left side but just a little bit more deep on the right side.

There is also a specific function for use in case of rain, activated when the windscreen wipers are in operation. The individual beams are set to different levels to minimise reflections, while the outer beams are set wider and higher to make the Quattroporte more visible to other road users.

Tail Lights

The Quattroporte’s tail lights have been designed to offer maximum visibility and to have a recognisable style. These full LED lights integrate the position light function in an illuminated ring running right around the tail light itself. Inside this ring are the brake lights, the direction indicators, reversing lights and fog lights. The outside reflector and LED side position lights round off the unit.

Quality control

The Quattroporte is built to the latest quality standards, at the very top of the industry, at the

Avvocato Giovanni Agnelli Plant, home to state-of-the-art technologies and production processes, at Grugliasco, near Turin. Every single Quattroporte runs through a quality assurance test as it emerges from the production line.

Tests during the car's development phase included:

- More than six million test kilometres with a fleet of more than 90 Quattroporte units
- Hundreds of thousands of additional test kilometres to validate any upgrades
- Testing every single component for endurance, quality and noise
- Testing in extreme heat in South Africa and Morocco
- Testing in extreme cold in Sweden and New Zealand
- Severe process control, including four in 'Body-in-White', three in painting, four in the assembly process, plus additional electronics, dynamometer and water testing
- A total of more than 700 control checks for each car in production
- Every finished Quattroporte has a final, 30-minute quality audit before being delivered to the customer

Every finished Quattroporte is tested on-road for 40 km before it is delivered to the customer.

-ENDS-

Ends