

Press Release

Feb 20, 2008 | ID: 14969

VOLVO XC60: THE SAFEST AND MOST STYLISH VOLVO YET

OVERVIEW

- The first crossover in the Volvo range that fuses the sportiness of a coupe and toughness of an XC 'cross country'
- New 'emotional' design language that hints at future Volvo styling direction
- World safety first - new City Safety technology reduces the risk of low speed accidents as standard
- The safest Volvo yet
- Mixes sports handling with typical Volvo standards of space and functionality
- Sits below the seven-seat XC90 in the Volvo model range
- Two five-cylinder diesel and British-built straight-six petrol engines all offer strong performance and good fuel efficiency
- Diesel engines offer excellent 37.7 mpg economy and sub-200 g/km CO₂ performance
- Top-of-the-range six-cylinder T6 engine produces 285 PS and delivers 0-60mph in 7.1 seconds and 130mph performance
- Advanced electronically controlled All-Wheel Drive with Instant Traction is standard
- Strong residual values put the Volvo XC60 in the top of the small premium utility sector

The Volvo XC60 is the safest and most stylish Volvo yet. It fuses SUV-like toughness and practicality with coupe style and driving dynamics, and heralds a new design direction for Volvo. The XC60 is the most stunning car ever to wear the Volvo badge and it offers more space and practicality than rivals in the small premium utility segment.

The XC60 is the first production Volvo designed, from scratch, by the company's British design director Steve Mattin, who joined Volvo in 2005 from Mercedes-Benz. 'Volvo has a marvellous design heritage which encompasses the very best of Swedish design - simple, functional, attractive,' says Mattin. 'My job was to build on that, while dialling up the emotional design language. I set out to design the most striking and beautiful Volvo so far, a car that people would want not just for its functionality and design simplicity, but also because of its sheer emotional appeal.'

The interior also celebrates the best of modern Swedish design, with its attractive natural colours, its fine materials - including Nordic Light Oak - and its airiness. 'We wanted an interior where any customer feels instantly at ease and at home,' says Mattin. 'It is a very driver-focused interior and is more enveloping, more of a cockpit, than the typical Volvo or small premium utility vehicle. However it is also a very comfortable place for all passengers. Our motto was great to drive, yet also very comfortable to travel in.'

Volvo is also convinced it is the safest car in its class, and the safest Volvo ever made. A 'world first' new safety technology - City Safety - lowers the risk of crashes below 19 mph, reducing injury (especially whiplash) and cutting repair costs. 'This is not only the safest Volvo ever made - showcasing 80 years of Volvo safety knowledge - it is also the most stunning. That is an extraordinary combination,' says the CEO and president of Volvo Cars, Stephen Odell.

City Safety helps the driver avoid, or mitigate, the most common of all accidents - impacts in low speed city traffic or tailbacks. Surveys indicate that 75 percent of all reported collisions take place

at speeds of up to 19 mph. In 50 percent of cases the driver has not braked at all before the collision, mainly due to distraction. If the car is about to drive into the vehicle in front, the XC60 brakes itself. If an accident cannot be avoided, then at least the damage - and any potential injury - will be minimised. 'We are the first manufacturer in the world to offer this safety feature,' says Odell. It comes standard on every Volvo XC60.

The XC60 is also full of other technologies that have made Volvo a byword for car safety. These include Collision Warning with Auto Brake, which is particularly useful at higher speeds, such as on motorways. The introduction of City Safety means Volvo now offers automatic braking assistance, to cut accidents, at both motorway and urban speeds. These safety-supporting technologies are never intrusive; the driver always feels 'in charge'.

As well as City Safety, which is standard on all Volvo XC60s, there are three new safety technologies that debut in the XC60: Pre-Prepared Restraints (PRS) uses laser sensors to detect accidents and then modulates the seat belt and airbags to suit the severity of the collision; Volvo's DSTC (Dynamic Stability and Traction Control) has been further developed in the XC60 to detect roll rate and further improve stability; and new Trailer Stability Assist (TSA) improves control when towing.

The Volvo XC60 competes in the 'small premium utility' segment against vehicles such as the BMW X3 and Land Rover Freelander. Yet it is very much a crossover vehicle, mixing sporty on-road dynamism with the toughness and versatility of an XC (cross country) vehicle. It is 20 cm shorter than an XC70, and 17 cm shorter and 7 cm lower than an XC90. Yet it offers a large amount of carrying space and its roomy cabin is designed to offer excellent comfort for five adults. Practicality is further boosted by Volvo's clever 40:20:40 split folding rear seats. The seats fold down, offering a perfectly flat load space, thanks to simple-to-use one-touch levers.

'The XC60 feels small and light,' says Odell. 'It offers a truly sporty driving experience yet does not compromise comfort, one of the cornerstones of any Volvo.'

All versions get advanced electronically controlled All-Wheel Drive with Instant Traction as standard, which boosts on-road handling and country lane prowess. The electronic clutch automatically distributes drive between the front and rear wheels, depending on conditions. The Instant Traction function, furthermore, boosts grip when starting on slippery or loose surfaces.

'The XC60 is designed for people who enjoy driving,' says Lars Blenwall, project director. 'It is deliberately set up to be sporty to drive yet also offers excellent levels of comfort. It's designed for the motorway, the winding road and the rough country lane.' Volvo's optional Four-C active suspension further boosts handling and comfort. The high ground clearance (230mm) and large 17-, 18- and 19-inch wheels also ensure it can tackle terrain unsuitable for a conventional car. 'It is certainly not a conventional SUV,' says Blenwall. 'It is a far more road-oriented vehicle. It is not only unique within Volvo, it is also unique in the crossover market - a true mix between sporting coupe and functional all-roader.'

Environmental protection is another foundation stone of all Volvos. The XC60 is one of the most economical small premium utility vehicles, and all engines are easily Euro 4 compliant. Next year an even more economical 2.4-litre front-wheel drive turbo diesel version goes on sale targeting 170 g/km CO₂ emissions. A hybrid XC60 is also under development.

At launch, three engines (163 PS 2.4D, 185 PS D5 and 285 PS T6 petrol) and three trim levels (S, SE and SE Lux) are offered. The two five-cylinder diesel engines are frugal yet offer strong performance. They both deliver 37.7mpg on the combined fuel cycle when fitted with standard six-speed manual transmissions, and emit 199 g/km of CO₂. The British-built T6 engine is a powerful straight-six unit, delivering greater smoothness and refinement than a conventional V6. Unusually for a straight-six, it is fitted transversely, boosting safety. This is only possible thanks to the extremely compact design of the engine.

During 2010, when the XC60 will enjoy its first full sales year in all major markets, the UK is likely to be the third biggest world market for the XC60, after the USA and Germany. International sales are targeted at 50,000 cars a year, with Europe as a whole and North America taking about 40 percent of production each.

'We expect a majority of customers to be new to Volvo,' says project director Blenwall. 'They'll come from hatchbacks, saloons and SUVs because this is a car that should appeal to all those

groups. Larger crossover and SUV buyers are also targets. The XC60 is a vehicle into which these owners can downsize but not lose prestige.'

DESIGN CONCEPT

- Coupe style fused with cross country (XC) functionality and toughness
- The most striking Volvo ever, offering the best of modern Scandinavian design
- Evolves classic Volvo design language while showcasing new styling direction led by British design director Steve Mattin
- Youthful 'emotional' design - a car that appeals to the heart as well as to the head

Background to the design

The XC60 is the third XC (cross country) Volvo model, after the XC70 and XC90. It is the smallest of the XC family and competes in the small premium utility market.

Like all XC vehicles, the Volvo XC60 is versatile, highly functional and tough, at home on the motorway or on muddy country lanes. It is not an off-roader. Yet it is superbly capable on slippery or rough roads, and its toughness and ground clearance (230mm) means it can venture to places that normal vehicles cannot reach. Rather than an off-roader, it is an all-roader.

The Volvo team set out to make the Volvo XC60 a much sportier drive than either the XC70 - the premium estate - or the larger XC90. The steering is sharper, the handling more agile, and the whole driving experience more sports-oriented. It is designed for people who love driving; the result is the sportiest XC model in the Volvo range, a car that marries coupe style and all-road capability.

The production XC60 follows on from the XC60 Concept, first shown at the 2007 Detroit Motor Show. It is the first production Volvo designed, from scratch, by Volvo design director Steve Mattin, who replaced fellow Briton Peter Horbury in 2005. Before he joined Volvo, Mattin worked for Mercedes-Benz where he was responsible for the design of cars such as the iconic SL.

The first Volvo Cross Country, based on the first-generation V70, was launched in 1996. It was the world's first premium lifestyle all-wheel drive estate, a vehicle that mated ruggedness, reliability, functionality and a go-anywhere ability. The Cross Country model evolved into the XC70. This remains Volvo's most off-road oriented vehicle, despite the arrival of the XC90. Though the XC90 has clear mud-and-rocks ability, as with the XC60, it is used mainly on-road. Drivers of the XC70, by comparison, spend a good deal of their time off the beaten track, seeking adventure, often pursuing sporting hobbies such as skiing, mountain biking, surfing, fishing or sailing.

Coupe style mixed with Cross Country toughness

Design director Steve Mattin set out to design the most stylish and distinctive Volvo yet. 'We wanted to mix the coupe style of a sporting car with the toughness and functionality of a cross country (XC) vehicle,' says Mattin. 'The XC60 is both a sporty vehicle - stylish and fun to drive - and yet also a very versatile and spacious vehicle. We wanted to advertise both aspects of the XC60's character in the design.'

The goal was to design a head-turning crossover - 'but a different sort of crossover. We didn't want something boxy or too aggressive. We wanted a beautiful crossover with more softness, more sensuality than rivals, yet one that still possessed an intrinsic strength.

'This car had to appeal to those buyers who had not previously considered a Volvo. It had to have all the values that people normally associate with Volvo - safe, versatile, strong, functional, spacious and comfortable - yet it had to be more desirable. There had to be a real emotional pull. We wanted a car that people would be instantly attracted to, a car really desirable in its design. We wanted to make this next step and make the car different from all previous Volvos. This was highly appropriate, for this is a new type of vehicle for us.

'I wanted sleekness, a classic coupe form: more tension, more flow and less symmetrical design. The coupe style comes mostly from the window graphics and the high beltline, to get that relationship between body and glass. The strong shoulder line is quite steeply raked but tapers down from the rear door. We also pushed the angle of the A-pillar as steeply as we could and there is a real flow and integration between the A-pillar and the bonnet. These smooth flowing lines

accentuate the coupe style. The integrated roof rails also lower the car. The clean flow of the rear - the extreme rake of the rear glass compared with the XC90 and wagon, and the integration of the rear lights into the rear pillars - accentuate the sporty lines.'

Yet Mattin was acutely aware of Volvo's historic design DNA. 'The crucial DNA we tagged "do not abandon",' says Mattin. 'This included the strong shoulder line, which was an aspect of historic Volvos reintroduced by [former Volvo design director] Peter Horbury with the first S80, and a feature of all subsequent Volvos. Yet the XC60 has an even-more accentuated shoulder line, and those shoulders are as wide as they possibly can be. The wider shoulders give more form and more sculpture and they lead to more sculptured flanks.'

'Other elements of Volvo design DNA include the vertical soft rounded nose. This contrasts to most cars that have more angular noses and wedge-shaped grilles. We have retained both design features on the XC60. Equally, the V-shape nose - when seen from plan view - is a very distinctive character of recent Volvos. This has also been exaggerated on the XC60, helped by the more swept-back headlamps. The rear taillights continue to snake up the rear pillars but on the XC60 we use LEDs that accentuate their shape and improve safety. They also follow the flare of the shoulder line in a very beautiful curve.'

Mattin describes the new Volvo XC60 as a great example of modern Scandinavian design. 'Functionality, simplicity and elegance have always been cornerstones of Scandinavian design,' says Mattin. 'Yet great Scandinavian and Swedish design has often been understated and conservative. Modern Scandinavian design combines these classic qualities with greater style. We are adding more boldness, more expressiveness, more sensuality, more visual volume. We are shouting a little bit louder.'

Mattin wants Volvos to be even more distinctive, in their design. 'I want people to know that the XC60 is a Volvo even if you took off the badges. It has to be distinctively Volvo, and thus different from all other cars on the road.'

Not that Mattin has taken off the badges. In fact, he has made them bigger. The 'iron mark' Volvo badge on the nose has grown and has lost its surrounding box. The Volvo spaced-out lettering on the tailgate has got bigger. This style was reintroduced on the latest V70 and XC70 and harks back to the classic Amazon model from the Fifties.

Stylish yet also highly functional and versatile

The XC60 is not just a 'little brother' to the XC90. Its proportions are quite different: it's lower and has a sportier stance and looks less SUV-like. It is 17 cm shorter and 7 cm lower than an XC90 and 20 cm shorter than an XC70. Overall length, at 4628 mm, is longer than the class average (BMW X3 4569 mm, Land Rover Freelander 4500 mm), and this is translated into extra cabin and carrying length. The boot reveals a wide and high entry space, making loading easy.

The XC60 is available in 13 different exterior colours, including two new colours; bold Terra Bronze metallic and Lime Grass Green metallic.

INTERIOR DESIGN

- Spacious elegant interior
- Designed to seat five adults in great comfort
- Modern Swedish design means drivers and passengers feel 'at home' instantly
- Cockpit feel for greater driver enjoyment
- Unrivalled practicality and functionality in class, including 40:20:40 rear seat split
- Innovative integrated two-stage booster seat improves child safety

The Volvo XC60 is a stylish and sporty car, yet it is also very roomy and functional. The cabin style is described as 'modern Scandinavian', which means it is luxurious and uses premium materials. It has a light and airy cabin, which can be further boosted with the optional panoramic sunroof (part of which can be opened). Luxury touches include the availability of leather upholstery and natural wood trims, including Nordic Light Oak.

The rear seats fold forward in an ingenious 40:20:40 split - so you can carry skis and two rear seat occupants - and when the rear seats are folded the long rear carrying area is perfectly flat. Thus the XC60 has excellent carrying capacity - in length, width and height.

Epitome of modern Scandinavian style

Volvo designers are very influenced by their Scandinavian heritage; the goal with the XC60's interior was to make it rather like the interior of modern Swedish house.

'It connects with the modern values of Scandinavian design - functionality, simplicity and everything being in the right position,' says Steve Mattin. 'We wanted a harmony and a balance and to create an environment where the driver and passengers are always at ease. They should never be overpowered by an abundance of graphics or switches or forms. When they feel at home, they can concentrate on the pleasures of driving.'

The cabin is luxurious - leather and natural wood is available - and stylish, due to colour contrasts and bold design. Although a wide range of interior colours is available, many are light, accentuating the airiness of the vehicle.

There are also noticeable contrasts, both in texture and colour. 'In Sweden, the contrasts are very strong, as in the darkness of winter compared with the lightness of summer, or the cold versus the heat. So we contrast our grains and our colours.' A good example is the sandstone beige interior contrasting with espresso (dark brown, like the coffee). This also includes bold 'X' patterns in the upholstery, as espresso seat backs and sides and upper and lower sections contrasts with soft beige inserts. Colours are also invariably natural - another characteristic of great Swedish design.

The big panoramic roof is also very Swedish. 'There is no place like Sweden in the summer,' says Jonathan Disley, chief designer for the XC60's interior. 'The sky feels like it is way higher than anywhere else and there is a feeling of great space and openness. The panoramic roof helps to replicate this feeling.'

Memorable, asymmetric design

'We wanted to design an interior that was memorable,' says Mattin. 'We studied what makes someone or something distinctive and concluded that asymmetry was a key quality - big lips, a raised eyebrow, some other distinguishing feature. The faces we studied included Angelina Jolie, Sean Connery with raised 007 brow, Robbie Williams and Mick Jagger. We tried to get a similar level of interesting asymmetry in the XC60's cabin.'

Examples include the raised instrument binnacle - 'like Connery's brow,' says Mattin - and the angled asymmetric 'floating centre stack' console. In previous Volvos, the distinctive slim floating centre console has been symmetrical and flat. In the XC60 it is angled noticeably to the driver, has distinctive chamfering and a brightwork metallic border of varying thickness. 'Throughout the cabin there are many examples of dynamic intriguing design - varying thicknesses, unusual chamfering, dynamic shapes - that give the interior more character,' says Mattin.

Cockpit feel for driver

'The cabin feels more dynamic than any other Volvo,' says Jonathan Disley. 'The instruments and controls are angled to the driver. The whole cabin feels more like a cocoon. This gives the interior a far more sporting character and improves driver enjoyment.'

Yet the passengers have not been forgotten. 'Volvos have always been renowned for their comfort and spaciousness and the XC60 is no different,' says Disley. 'Tremendous effort went in to giving all passengers a great sense of well-being and comfort.' Legroom and headroom are both well above class average, and Volvo is renowned for the comfort of its seats. The rear seats are higher than the front seats, improving the view of those sitting in the rear. The curvature of the forward edge of the rear seat cushion has been designed for easier entry and exit.

Luxury cabin

Like all Volvos, the XC60 is very well equipped as standard. The entry-level S trim gets 'lomma textile' fabric - finely woven with a very modern feel and look - plus sporty aluminium trim. Other standard features include cruise control, leather steering wheel with remote audio controls, and electronic climate control air conditioning.

The SE adds Eriksberg T-Tec/Textile upholstery - a sporty looking trim that combines a finely woven fabric with a synthetic skin inspired by wet suits and durable outdoor gear. It also gets a

powered driver's seat with memory settings.

The top of the range SE Lux adds Nordic Light Oak natural wood trim - classic dark wood is an option - plus leather upholstery and powered and heated front seats. The SE Lux also gets handsome chronograph-style instruments.

The two main trim colours are sandstone beige and anthracite black, and these can be contrasted with espresso brown (with sandstone beige) or lemon green (with anthracite black). Roof linings in both trims are light, to increase the feeling of Scandinavian airiness.

Practical, spacious interior

This is a roomy and highly functional car. Cabin space is generous, and the load area is large and highly versatile. The load opening is also the widest in the class.

The ingenious 40:20:40 split rear seat allows for two adults to sit comfortably in the rear while long items, such as skis, can still be carried safely. When all three seats are folded, the rear area is completely flat. It is also long - at 1789mm (almost six foot) with rear seats folded and 972mm with rear seats upright.

The folding mechanism is also extremely easy to use. Push one lever and the seat pops forward. There is no need to remove headrests. A large lockable area - it is impossible to open it with the tailgate closed - under the floor area is ideal for hiding valuables. The rear bay is also wide - 1165mm between wheel arches and 1403mm wide in the rear seat area - and high (802mm). Access to the boot is by a simple single hatchback and the boot opening is unusually large, facilitating the loading of bulky items.

For extra carrying versatility, the front seat backrest can also be folded flat, enabling very long loads to be carried.

Excellent visibility

Though the Volvo XC60 has a lower roof and a higher beltline than a normal SUV, visibility is excellent. The slim A-pillars help forward visibility and rear vision can be supplemented by the availability of a Park Assist Camera (PAC). Volvo's unique Blind Spot Information System (BLIS) further improves effective visibility to either side.

Visibility is also helped by the high seating position, which gives driver and passengers a commanding view of the road. A major boon to visibility, for younger children, is Volvo's integrated two-stage child booster seat. This innovation, first fitted to the latest Volvo V70 premium estate, allows small children to sit higher; larger children also receive a height boost. In both cases, seat belt angles are optimised, boosting child safety. The booster can be fitted to both outer rear seats.

'Another benefit of the integrated two-stage child booster seat is driver safety,' says project director Lars Blenwall. 'Because children will have better visibility, they will be more engaged by the drive. Modern cars tend to have higher beltlines so younger children can't see out of the back very well. They get bored. The greater visibility offered by our integrated two-stage child booster seat should keep children happier and make parents drive safer, with fewer distractions.'

DRIVING DYNAMICS: ENGINES

- Two five-cylinder turbo diesel engines give an excellent balance of performance and economy
- Turbo six engine develops 285 PS and gives T6 scintillating performance
- All engines located transversely for improved safety

The Volvo XC60 comes with a choice of three state-of-the-art engines. The big sellers in the UK will be the two five-cylinder diesel units - the 2.4D and D5 units deliver 163 PS and 185 PS respectively, both turbocharged to offer excellent performance, and deliver identical mpg and CO₂ figures (37.7mpg/199 g/km). The high performance version is the turbocharged petrol T6, which delivers 285 PS, 0-60mph acceleration in 7.1 seconds and a top speed of 130mph.

Turbocharged T6

Designed by Volvo in Sweden but built in Bridgend, Wales, the SI6 (short in-line 6) is powerful and

extremely compact. It is also very clean, easily meeting the latest Euro 4 exhaust emission standards.

In 3-litre T6 turbocharged form, as used in the XC60, it produces 285 PS and 400Nm of torque over an incredibly wide rev band (1500rpm-4800rpm). So the car can be driven at low revs, economically, and the T6 will still deliver enormous urge.

The turbocharger is an unusual twin-scroll device that allows for excellent low-rev pick-up, eliminating traditional turbo 'lag', and yet also delivers enormous thrust when maximum performance is desired. The twin-scroll technology allows the turbo to operate in two stages. The inflow is divided into two lots of three cylinders, allowing for swifter response and a smaller turbo unit. Ever after 4800rpm, there is only a small drop-off in torque.

There are twin overhead camshafts and 24 valves (four per cylinder) to provide optimal engine breathing. A Variable Intake System (VIS) - which varies both intake tract length and, more unusually, plenum volume, through two throttle flap valves - boosts low-end torque and high-end power, further helping the breathing capability of this astonishing engine. For instance, in normally aspirated guise, 80 per cent of the vehicle's maximum torque is available across the entire rev range.

Unusually in this sector, the six-cylinder engine is a straight-six not a V6, which is usually cheaper to build and easier to package. A straight-six engine, as used on the T6, is intrinsically the smoothest and most refined of all engine configurations.

The biggest problem with a straight-six is that they're long and difficult to package transversely. 'Transversely mounted engines are safer - that's why we use them,' says project director Lars Blenwall. 'They reduce the risk of an engine penetrating the passenger load space and also can be designed with more crumple space in front and behind, allowing the safety systems to work more effectively.'

Most straight-six engines would not fit into a car's engine bay crossways; they're too long. Volvo engineers overcame this problem by making the new SI6 engine extremely compact and much shorter than the straight-six norm.

The key was a new and innovative drive system known as READ - Rear End Ancillary Drive. All ancillaries, such as the power-steering pump and air-conditioning compressor, are driven by gears at the rear end of the crankshaft in the space above the gearbox. The alternator is direct-driven and fitted on the engine block. The flywheel damper, which compensates for vibrations in the six-cylinder engine's relatively long crankshaft, is inside the engine block.

The result is an extremely short engine, of just 625mm - only 3mm longer than Volvo's five-cylinder engine. This substantially increases engine bay space, so the straight-six can be fitted crossways and the excellent crash structure can be configured around it.

The SI6 has an aluminium block and head, and both are structurally optimised to balance low weight and stiffness. Even the camshaft cover is structural, allowing it to incorporate the camshaft bearing caps for further weight reduction.

Two five-cylinder turbo diesel units

Two high-tech five-cylinder turbodiesel engines are offered in the Volvo XC60. They are both versions of Volvo's 2.4-litre common rail diesel unit, which were recently heavily revised for improved performance and reduced emissions.

It is one of the cleanest and most advanced diesel engines in the world. The engine easily exceeds Euro 4 emissions. Particulates of the D5 are only 0.002g/km compared with the Euro 4 standard of 0.025. A particulate filter, which traps 95 percent of soot particles, requires no servicing and is fitted as standard.

The D5 produces 185 PS and a massive 400Nm of torque from 2000-2750rpm. Maximum speed is 127 mph in manual form and 0-60 mph takes only 9.0 seconds, outstanding for a diesel four-wheel drive crossover. Average fuel economy on the official combined cycle is 37.7 mpg.

An entry-level 2.4D version of the diesel engine, producing 163 PS and 340Nm of torque from only 1750rpm to 2750rpm, is also available. Top speed is 121 mph and 0-60 mph acceleration takes

10.0 seconds in manual form. Combined fuel consumption is the same as the D5, at 37.7 mpg.

Both versions of the engine get twin overhead camshafts and four valves per cylinder for optimal breathing and efficiency.

During 2009, a Euro 5 compliant version of the five-cylinder turbo diesel engine - fitted in a front-drive version of the XC60 - goes on sale. It will produce 175 PS and has a CO₂ target of 170g/km.

DRIVING DYNAMICS: CHASSIS

- Sporty crossover puts emphasis on driver enjoyment
- Excellent handling yet comfortable ride
- Further development of DSTC (Dynamic Stability and Traction Control) further reduces likelihood of skids
- Four-C active suspensions further boosts handling and ride qualities

The Volvo XC60 has fully independent coil-sprung suspension tuned for sporty driving. 'We targeted the BMW X3 for driving enjoyment,' says project director Lars Blenwall. 'But we wanted to improve on the X3's ride comfort. I believe we have succeeded.'

'Just as important, the XC60 has to be absolutely safe and predictable in all situations. It must never present any nasty surprises for drivers. This is a fundamental rule for all Volvos. The handling is very responsive yet also beautifully neutral. The driver feels instantly at ease behind the wheel of an XC60.'

The XC60 has a suite of primary safety features, designed to help drivers avoid accidents and improve handling. These include improved DSTC (Dynamic Stability and Traction Control) and Roll Stability Control (RSC). Handling and ride are also improved by Volvo's innovative active suspension - Four-C.

Sporty handling

The XC60 has coupe genes in its styling and coupe genes in its driving, too. Alongside the C30, it's one of the sportiest cars in the Volvo range. It is an agile, sharp-handling vehicle that is a pleasure to drive hard down winding roads. Handling is helped by a wide track, firmly tuned sports suspension, and by excellent steering feel and linearity. The host of electronic chassis controls reduces roll and skids, and further aids agility.

The on-road behaviour had to be agile, predictable and fun. This was achieved by new fully independent suspension - MacPherson struts at the front, multi-link rear, coil springs all round - and an exceptionally stiff body (20 kNm/deg). Front and rear anti-roll bars provide excellent anti-roll control, and big 17-, 18- or 19-inch wheels increase on-road response.

'Because this is a car that will appeal to many people trading up from a saloon or hatchback, it has to drive like a really good normal "car",' says project director Lars Blenwall. 'It drives like a top quality compact sporting car - exactly as we intended. But with the added benefit of an elevated driving position.'

Great comfort on smooth or rough roads

On-road ride comfort was a key consideration. The Volvo XC60 offers better ride comfort than most compact premium saloons - let alone rival crossovers or SUVs - due to its supple long-travel suspension, its excellent torsional body stiffness and its large diameter struts.

'The ride quality is not only very supple,' says Blenwall. 'In addition, it is a quiet car, very well isolated from bumps. This is all the more important on a car that could spend a lot of time on narrow and rough tracks.'

Four-C 'active' suspension

Volvo's innovative active suspension Four-C chassis, available as an option, uses electronic sensors continually to monitor the car's behaviour. The dampers then readjust in a fraction of a second to offer optimal handling and ride. This technology reduces the car's tendency to squat, dip or roll under firm acceleration, hard braking or fast steering manoeuvres.

The advanced multiplex control systems update the suspension settings 500 times every second. The system is especially useful when the car's handling balance is naturally upset - for example during fast take off (with Four-C, the rear dampers are set to maximum stiffness to reduce squat and optimise front-end traction), during hard braking (the front dampers are stiffened to reduce nose dive) and when cornering (outside dampers are stiffened to reduce roll and improve roadholding).

Dampers are also automatically stiffened as speed increases. 'With Volvo's active chassis, the car's driving behaviour improves in all situations,' says Blenwall. 'It is both safer and more entertaining to drive.'

Though dampers are adjusted automatically, drivers can also programme in their desired driving behaviour. Three chassis settings, all at the touch of a button, alter the car. Available settings are:

- Comfort - which provides the most comfortable ride with smooth and gentle body movements
- Sport - for more tightly controlled body movements and a firmer 'hunkered down to the road' feel. Steering response is sharpened, body roll is reduced
- Advanced - the maximum sports choice that noticeably firms up dampers and would be the desired setting for brisk drives on smooth winding roads

In an emergency situation - when the driver needs maximum control - the ingenious Four-C system overrides the personal settings to deliver maximum stability and tyre grip. Equally, as the speed builds, the dampers automatically become firmer to improve handling, response and safety.

The Four-C chassis is especially useful on uneven or gravel roads where the unpredictable nature of the surface may catch out unwary drivers.

Hill Descent Control for safer downhill driving

Slippery downhill tracks are among the most dangerous of all off-road situations. The XC60's Hill Descent Control (HDC) allows drivers to descent slippery slopes with peace of mind. Speed is modulated irrespective of conditions. The electronic one-touch system, standard in SE and SE Lux and an option in the S specification, utilises the ABS anti-lock brakes to control speed and maintain stability, ensuring a steady and safe 6mph descent. Touching either the brake or accelerator pedal will speed up or slow down the descent. Simply press the HDC button again to return to 6mph maximum speed. The HDC also works in reverse, making it ideal for tricky manoeuvres such as launching a boat on a steep slipway.

Some off-road cars have an extra low gear for crawling or an extra-low range. Volvo believes that Hill Descent Control is a more sophisticated solution that better suits the XC60 crossover. Combined with the All-Wheel Drive system it gives great control at very low speed, helped by the torque and throttle response of both the six-cylinder and turbocharged five-cylinder engines.

DSTC - Dynamic Stability and Traction Control - is further refined

DSTC is standard on all Volvos and has been further refined for this latest model. This electronic stability and traction system stops skids and slides, using sensors to detect if any of the wheels is losing traction or grip. If so, power is cut to the relevant wheel. If the sensors detect early signs of a skid, the system automatically brakes the relevant wheel to reduce speed and regain control. It's an important primary safety aid.

For the Volvo XC60, the system has been further refined to offer even more stable driving. Roll rate is now registered. If roll is detected, the DSTC system is able to start modulating the power at an earlier stage, and with greater precision. The revised DSTC facility is especially useful in spirited driving when the car is exposed to high lateral forces.

Roll Stability Control (RSC)

The Volvo XC60 is low by SUV standards, but higher than a normal car. To ensure absolute stability, even in tight emergency manoeuvres, the XC60 is fitted with RSC (Roll Stability Control) as standard. A gyroscopic sensor registers the vehicle's lean angle and rollover risk. If required, RSC will cut engine power or brake one or more wheels long enough to reduce centrifugal force and help regain balance.

New Trailer Stability Assist

Another new active safety technology showcased on the Volvo XC60 is Trailer Stability Assist (TSA). Aimed at those who plan to use the XC60 to tow a trailer or caravan, TSA dampens the swaying 'snaking' motion that can occur when towing, which can sometimes lead to serious accidents. TSA operates with the DSTC system to stabilise the rig by braking one or more wheels while at the same time restricting the engine's torque. When an accessory tow bar is ordered the TSA forms part of the cost of the tow bar.

DRIVING DYNAMICS: STEERING, BRAKES AND TRANSMISSION

- Sharp, sporty steering feel from rack and pinion system
- Three-level speed dependent power steering standard on T6 and optional on other engines
- Big four-wheel disc brakes provide superb stopping power
- Anti-lock Braking System (ABS) combines with HBA (Hydraulic Brake Assist) and RAB (Ready Alert Brakes) to provide optimal braking ability with no skids
- Choice of six-speed Geartronic automatic or six-speed manual transmissions
- All Wheel Drive with Instant Traction is standard for great four-wheel-drive grip on dry roads or on slippery surfaces

The XC60 is the sharpest steering Volvo of all, says project director Lars Blenwall. 'The steering is responsive and linear. It complements the sporty chassis of the XC60 superbly.' The brakes of the XC60 are based on those of the heavier, larger XC90, so they are more than powerful enough to cope with the sporty demands of the XC60 driver. Brakes are further improved thanks to a host of electronic aids. Two transmissions are offered: the automatic Geartronic is standard on the T6 and optional on the five-cylinder diesel engines, which get a six-speed manual as standard. All-Wheel Drive is also standard, for extra traction and safety in all conditions.

Sporty steering with speed sensitive assistance available

The standard rack-and-pinion power is sharp and beautifully linear, and allows the Volvo XC60 driver to steer the car with great precision and enjoyment.

Speed-dependent power steering - standard on the T6 in SE and SE Lux specification and available as an option on all other models - provides extra assistance at low speeds, making parking simpler. The power assistance gradually declines as road speed increases, disappearing entirely at high cruising speeds. To give all drivers their own optimum road feel, the level of steering servo assistance can now be adjusted via the car's set-up system. Power steering assistance can be set at one of three levels, depending on personal taste.

Highly advanced interactive braking system

The Volvo XC60 has ABS anti-lock brakes to stop skids and aquaplaning and big disc brakes - ventilated at the front - all round. It also has a suite of advanced interconnected braking features to deliver the best possible stopping performance. They include:

- Hydraulic Brake Assist (HBA). This is an update of Volvo's previous EBD (Electronic Brake Distribution) and EBA (Emergency Brake Assist). This new generation system, first shown on the latest S80, helps the driver to stop in the shortest possible distance in emergency situations. Unlike the previous system, which only used vacuum assistance to boost braking strength, HBA reinforces brake pressure hydraulically. In an emergency, when the driver does not press the pedal sufficiently firmly or quickly, HBA ensures that maximum braking pressure is applied, always giving the driver the greatest chance to reduce the likelihood, or seriousness, of an accident.
- Optimised Hydraulic Brakes (OHB). In heavy braking, vacuum pressure in the brake servo can become low, reducing braking effort. OHB compensates by using hydraulic pressure to boost braking effort.
- Ready Alert Brakes (RAB). If the accelerator is released suddenly or the adaptive cruise control registers an obstacle in front of the car, RAB is deployed. The brake pads are instantly positioned very close to the discs, reducing braking response time and braking distance.
- Fading Brake Support (FBS). In long, hard braking, such as on a lengthy, mountainous descent, there is a risk of brake fade. FBS uses the hydraulics to gradually build brake pressure, maintaining pedal feel.

Six-speed automatic or manual gearboxes

The T6 model is mated exclusively to Volvo's Geartronic gearbox, which offers both full automatic and manual clutchless changes. The 2.4D and D5 are available with Geartronic as an option, and come with a six-speed manual gearbox as standard.

The modern Geartronic transmission can be used either as a full automatic or as a clutchless manual. In automatic mode, gear changes are so smooth as to be almost imperceptible. The sports button allows higher revs before each gear change and slightly faster shifts, and also sharpens kickdown.

The six-speed manual improves both performance and fuel economy, and is a smooth-shifting clutch-and-stick shift aimed at those who prefer changing gear themselves.

All-Wheel Drive

All Volvo XC60s get All-Wheel Drive (AWD) as standard. The AWD system improves the handling and road holding by apportioning torque to all four wheels. The computer-controlled set-up automatically sends torque to the wheels with most grip, ensuring maximum possible traction and primary safety. The front-to-rear torque split changes constantly, as the sophisticated electronics control a hydraulic clutch that determines the most effective distribution of torque.

Sensors monitor the road surface and the positions of the steering, brake and accelerator. In normal conditions on a dry tarmac road, almost all the power is distributed to the front wheels. However, as soon as slippage occurs, torque is diverted to the rear wheels to boost grip.

This system also features Volvo-patented Instant Traction that detects loose or slippery surfaces and switches drive from front to rear (or vice versa) to help with standing starts.

AWD not only improves traction on slippery surfaces, such as gravel, mud or ice, but also improves the overall handling balance of the car. The powerful T6 engine, in particular, presents a problem for a front-drive chassis. Torque steer can occur as the steering has difficulty controlling the powerful driven wheels. Four-wheel drive improves steering feel on such a powerful car, as well as improving traction and handling balance.

Power Parking Brake

The 'smart' parking brake is released automatically once the accelerator is pressed (and the driver's seatbelt is fastened), making hill starts easier, especially for cars fitted with manual gearboxes. The parking brake is automatically engaged once the key is removed from the ignition. It can be manually engaged or disengaged by pulling a lever.

SAFETY

- The safest Volvo yet
- New City Safety is standard
- Engineered to be the safest car in its class
- Advanced electronic traction, stability and braking systems deliver superb primary safety
- Airbags include curtain side airbags for head protection and dual-stage side airbags
- Child safety boosted by integrated two-stage booster seat
- Safety cage (a Volvo invention) boosted by SIPS (Side Impact Protection System)

Safety is the key quality of any Volvo. Ever since the first Volvo was built in 1927, the overriding priority has been to develop cars that help prevent accidents and, if the accident does happen, to offer maximum protection. 'Cars are driven by people. Therefore the guiding principle behind everything at Volvo is, and must remain, safety,' declared co-founders Assar Gabriellsson and Gustaf Larson.

Volvo has been a safety pioneer ever since the company was founded. Innovations include the three-point seat belt (1959) - the greatest advance in car safety of all time, according to Thomas Broberg, senior technical safety adviser for the XC60. They also include the safety cage (1944), padded instrument panel (1960), rear seat belts (1966) and side impact airbags (1994). To this rollcall of safety milestones, can now be added another: City Safety.

City Safety cures, or at least mitigates, the most common type of accident

The most common type of accident occurs at speeds below 30 km/h (19mph). Surveys indicate that 75 percent of all crashes take place at these low speeds, and in 50 percent of cases - mainly due to distraction - the driver has not braked at all. These accidents typically happen in towns and they typically involve tailbacks of traffic. City Safety, a new safety technology developed in-house by Volvo, either eliminates such accidents or at least reduces the severity of the impact. 'The biggest safety benefit is to reduce whiplash,' says Thomas Broberg. 'We are also reducing the damage to the cars involved and probably preventing further accidents further down the line of traffic.'

City Safety has already won the Technology category at the 'Fleet World Honours Award 2008' and the American 'Traffic Safety Achievement Award' at the 2008 international traffic safety symposium in New York.

City Safety: How it works

City Safety works at speeds below 30 km/h (19 mph). A laser sensor, fitted behind the rear-view mirror and looking through the windscreen, keeps an eye on traffic in front of the vehicle. It can detect vehicles and other objects up to 6 metres (approximately 30 feet) in front of the car's front bumper. City Safety reacts to vehicles in front of the XC60 that are either stationary or moving in the same direction.

Based on the gap to the vehicle in front and the car's own speed, the system makes 50 calculations a second to determine what braking force would be needed to avoid a collision. If the calculated braking force exceeds a certain level without the driver responding, the system determines that the risk of a collision is imminent.

City Safety helps either avoid or reduce the severity of the collision by automatically braking the car and reducing the throttle opening. At the same time, the brake lights are automatically activated to warn other traffic.

According to Thomas Broberg, 'City Safety automatically brakes at the last possible moment, at the point of no return. If City Safety were not activated, there would be an accident. Our studies show that if the speed difference with the car in front is under 15 km/h (9mph) then City Safety should avoid an accident entirely. If the speed difference is greater, then an accident will probably happen, but the severity will be substantially reduced.'

'There is no system like it anywhere else in the world,' says Martin Distner, active safety engineer responsible for City Safety. 'The big challenge was not to intimidate the driver by being intrusive. I believe we have done this. You will never notice City Safety in normal driving. Also, we never want drivers to feel they have a reduced level of personal responsibility. Rather, City Safety is only activated in an absolute emergency - when the only other alternative is to crash.'

The result of 80 years of safety research

'We have been studying safety, and how to make cars safer, for more than 80 years,' says Thomas Broberg, senior technical adviser on safety. 'We have a traffic accident research team in Sweden that investigates all accidents involving Volvos where repairs exceed 4500 Euros in cost (£3600). We also co-operate with insurance companies and governments around the world. You learn a lot about accidents that way.' The traffic accident research team has been operating since 1970 and has collected data from more than 36,000 accidents, to help make tomorrow's Volvos even safer.

It was partly this approach that alerted Volvo to the common nature of low-speed urban accidents. 'Surveys show it is at least 75 percent of all accidents but in fact the figure is almost certainly higher because some low-speed bumps are not even reported,' says Broberg.

Volvo's incredibly high safety standards were further boosted in 2000 when it opened the Volvo Cars Safety Centre in its home town of Gothenburg, Sweden, regarded as the most advanced automotive accident research centre in the world. More than 100 tests are performed on each upcoming new model. Before the car has its first crash in the Safety Centre, it has also been 'crashed' several thousand times in virtual simulators.

Pre-Prepared Restraints: Another new XC60 safety feature

City Safety is not the only new safety technology that makes its world debut on the XC60. As well

as improvements to DSTC (Dynamic Stability and Traction Control) and the innovative new Trailer Stability Assist (TSA), comes PRS (Pre-Prepared Restraints). PRS uses laser sensors to detect accidents and pre-prepares the safety belts and airbags for any imminent crash.

Child safety improved with integrated two-stage booster seat

Volvo has also been a long-time pioneer in child safety - an area of car design that is frequently overlooked. The XC60 is the only car in its class to offer a height-adjustable booster cushion, as first seen on the latest Volvo V70. Integrated into the rear seat, it can be set at two heights, allowing children of different sizes to see out of the car while also getting optimal seatbelt support. The lower setting is intended for children between 115-140cm in height and weighing between 22-36kg. The upper setting is designed for children measuring 95-120cm and weighing between 15-25kg. The integrated child booster cushions can be used on both outer rear seats.

The seats are specially designed so that the seatbelt geometry is optimum irrespective of the child's height. The safety belts also have specially adjusted force limiters so they restrain the child with just the right amount of tensioning force in a collision.

'The least well protected occupants in many cars are often children,' says Thomas Broberg. 'Child seats often don't fit them properly, the seat is not properly secured or the belt does not fit them correctly. This new Volvo innovation optimises safety for children who have grown out of rear-facing baby chairs but who are too small to sit in a normal adult seat.'

Volvo also fits ISOFIX attachment systems, making it easier to fit children's seats correctly. Volvo was one of the leading drivers behind this joint international project to standardise children seat attachment systems.

SIPS side impact protection offers even greater safety

Volvo has also further developed its SIPS side impact protection system thanks to a stronger side body structure. The body's entire side structure is both strong and light thanks to a well balanced combination of high-tensile steel of different grades (High Strength Steel, Extra High Strength Steel and the extremely strong Ultra High Strength Steel). The various components and grades of steel interact to reduce penetration into the passenger compartment.

The inflatable roof curtains in the XC60 offer excellent head protection for children and adults alike while the side airbags get two separate chambers - one for the hip section and one for the chest. The hips can withstand greater force than the chest, so the lower chamber inflates with up to five times more pressure than the upper section. The side impact airbags interact with the inflatable curtains and the car's network of safety beams to provide the most effective possible protection.

Crumple zones made using different grades of steel

The patented front body structure in the XC60 is divided into zones, each of which has a different task during the crash sequence. The outer zones are responsible for most of the deformation. The closer the collision forces get to the passenger compartment, the less the material deforms. In order to give each zone the right properties, different grades of steel are used in different structures. In all, there are four different grades. Apart from regular body steel, three different grades of high-tensile steel are used: High Strength Steel, Extra High Strength Steel and Ultra High Strength Steel.

Compact transverse engines improve safety

Like all other models in the Volvo range, the XC60 has a transversely mounted engine. A transverse installation gives the engine more space inside the engine compartment to allow the crumple zones and other safety systems to work more effectively. It also reduces the risk of the engine penetrating the passenger compartment in a frontal impact. Even the in-line, six-cylinder engine is installed transversely, thanks to its extremely compact format and efficient packaging in the engine compartment.

Second-generation WHIPS system

WHIPS (Whiplash Protection System) reduces the risk of neck injuries in a rear-end collision. The front seat backrest accompanies the passenger's initial body movement and dampens the incoming force rather like one's hand does when catching a ball.

The XC60 features the same generation of WHIPS mechanism as was launched on the new S80 model. This generation was further developed to ensure that the damping motion is gentle and to provide good contact between the head and head restraint throughout the impact sequence.

Protection for pedestrians and cyclists

The rounded front end of the XC60 has a large, energy-absorbing soft structure that helps reduce leg injuries to other road users in the event of a crash. The flush headlamps also reduce injuries. The bonnet is energy absorbing to cushion any blow, partly thanks to its honeycomb structure to distribute force.

Protection for other motorists

City Safety not only makes driving safer for Volvo drivers - it lessens the chance of XC60 drivers damaging other cars and injuring other drivers.

In addition, typical SUVs typically inflict added damage to conventional cars due to their greater height; they hit other cars higher, often above the level of their protective safety systems. To overcome this, the XC60 has a lower cross member on its front subframe. This lower beam strikes the other car's protective structure, activating its crumple zones and safety systems as intended by its manufacturer.

Protective safety solutions

- Collapsing steering column that moves horizontally upon deformation for the best possible interaction with the airbag
- Pedals that limit the risk of penetration into the passenger compartment
- Driver and passenger airbags with two-stage function for superior cushioning and ultimate protection
- Seatbelt pre-tensioners for all five seats
- Seatbelt reminders for all five seats
- Force-limiters for the seatbelts
- Reinforced, transversely fitted tubular beam between the A-posts

'The best way to stay safe is to avoid accidents'

The Volvo XC60 has an extraordinary combination of safety protection devices, but its suite of accident avoidance devices is no less impressive. These include numerous advanced braking and chassis functions (see Driving Dynamics section).

Active Bending lights

Good headlamps are essential for safe night driving. The standard halogen headlamps give an excellent light spread on low or high beam and are automatically height-adjusted to avoid dazzling oncoming cars, irrespective of load.

For even better illumination, the XC60 can be equipped with Active Bending lights - swivelling headlamps that follow the sweeps and bends of the road. The headlamps can be swivelled up to 15 degrees in either direction, totalling 30 degrees, and can light up a longer stretch of road as it twists and turns. In order to save wear and tear on the system, it is automatically deactivated in daylight.

Like the standard halogen headlamps, the Bi-Xenons are automatically adjusted depending on how heavily the car is loaded and also on whether the car is accelerating or braking. So the headlamps always point at optimal 'level' height.

The headlamps are cleaned using an electromagnetic, high-pressure system that washes one headlamp at a time - another ingenious Volvo safety feature - so as to always provide the best possible illumination under all conditions. Bi-Xenon lights are brighter at both low- and high-beam than conventional halogen lights and have a wider spread. Active Bending lights increase the driver's night vision by about 230 % compared with conventional non-active headlamps.

Advanced driver information systems boost safety

The Volvo XC60 can be equipped with BLIS (Blind Spot Information System), DAC (Driver Alert

Control) and LDW (Lane Departure Warning).

Using cameras integrated into the door mirrors, BLIS registers whether another vehicle is in the blind spot offset to the rear of the car. If there is a vehicle there, a lamp lights up at the relevant mirror to alert the driver.

DAC monitors the progress of the car on the road. If its on-board digital camera detects erratic driving - by monitoring the direction of the road and comparing it with steering wheel movements - then information is sent to the electronic control unit that then calculates whether the driver is at risk of losing control of the car. If the risk is assessed as high, the driver is alerted via an audible signal, while a text message and coffee cup symbol appear in the car's information display to urge the driver to take a break.

Like the Driver Alert Control, the Lane Departure Warning is activated when the car reaches 40mph. Using the same digital camera and sensors as the DAC, LDW detects any weaving between lanes, such as might occur through tiredness or fatigue. If weaving is detected, an audible warning is sounded. If you intentionally cross a lane using direction indicators, no warning sound is given.

IDIS (Intelligent Driver Information System) is an electronic information system that helps prevent the driver from becoming distracted by irrelevant information in busy situations. By continuously monitoring certain functions in the car, such as brake application and movements of the steering wheel, accelerator pedal and turn indicators, IDIS can assess the complexity of the driving situation. The information is processed and at a certain level of complexity, any information that is not essential to safety is delayed, for instance incoming phone calls or SMS text messages.

Adaptive Cruise Control with Distance Alert

To help the driver maintain a safe distance from the car in front, Volvo has developed Adaptive Cruise Control (ACC). It uses a radar sensor to measure continuously the distance to the vehicles in front and automatically adapts the speed of the car to help ensure the distance is not too short. This technology also forms the basis of several of Volvo's advanced driving and support systems, including Collision Warning with Auto Brake.

The driver activates the cruise control, setting the desired maximum speed at between 18 and 125mph, and chooses the minimum time interval to the cars in front. There are five different time intervals to choose from.

Distance Alert is another feature included in this option. The system helps the driver maintain a safe distance to the vehicle in front even when Adaptive Cruise Control is not in use. Activated via a button on the centre console, the driver can choose between five settings. If the time gap to the car in front gets shorter than the selected speed, the driver gets visual information in the head-up display on the lower section of the windscreen.

ACC with Distance Alert forms an option along with Collision Warning with Auto Brake.

Collision Warning with Auto Brake

Unlike City Safety, this automatic braking technology is designed for higher speed, such as that encountered on motorways. A radar sensor fitted behind the grille, and a digital camera behind the windscreen, automatically monitor the distance to the vehicle in front. If the vehicle in front suddenly brakes, or is stationary, or you are travelling too close to it, a red warning light flashes on the windscreen and a warning buzzer sounds. The braking system is also automatically pre-charged to prepare for panic braking: the pads move very close to the discs and the hydraulic brake pressure is increased. If the driver does not react to the warnings and a collision is imminent, automatic braking is applied to reduce the severity of the accident.

Emergency Brake Light

EBL (Emergency Brake Light) senses the difference between normal and panic braking. In a panic stop, the brake lights will flash at a rate of four times a second. Once your speed drops below 30 km/h (19mph), the brake lights stop flashing and the hazard lights flash instead.

Water Repellent Side Windows

These side windows repel water as you drive. The hydrophobic surface treatment turns water into small drops that are easily blown away by the force of the wind. A further benefit is less ice and frost on the windows in winter.

QUALITY AND EQUIPMENT

- High level of standard equipment includes cruise control and All-Wheel Drive
- Swedish premium design
- Allergen-free high quality cabin materials
- S, SE and SE Lux trim levels
- New natural Scandinavian wood interior finish - Nordic Light Oak
- Excellent in-car entertainment
- Three year/60,000 mile warranty

Volvos - all Volvos - come much better equipped as standard than rival German premium cars. The XC60 is no exception. Even the entry-level S model is a luxurious well equipped car, offering much higher level of standard specification than equivalent entry-level BMW, Audi or Mercedes models. Volvos also have warm, inviting cabins, using premium materials and natural (often light) colours. Volvos also tend to be very long lasting, as proof of their ultimate quality.

XC60 S

The entry level S model comes very comprehensively equipped. Standard specification includes All-Wheel Drive with Instant Traction, electronic climate control air conditioning, cruise control, front foglights, headlamp levelling, home safe and approach lighting, leather steering wheel with remote audio controls, leather gearknob, height and reach adjustable steering column, front centre armrests, information centre, B-pillar vents for improved rear air circulation, front and rear powered windows, brushed aluminium trim, 17-inch alloy wheels, integrated roof rails and rear spoiler. There is a high quality 'performance' audio CD system with auxiliary input jack (in the front centre armrest) for MP3 players. Volume can be controlled by the steering wheel remote controls or in the centre console. Standard trim is the attractive finely woven 'lomma textile'. Centre seat panels are finely patterned while outer panels are plain, providing a distinctive design contrast.

Safety levels are extremely thorough and include front driver and passenger airbags, dual chamber side airbags, and side inflatable curtains to reduce head injury. Volvo's innovative new City Safety technology is also standard, as is DSTC (Dynamic Stability and Traction Control) to improve stability and reduce skids, Roll Stability Control (RSC) to reduce lean and prevent rollover, Roll Over Protection System (ROPS) which activates seat-belt pre-tensioners and the curtain airbags in the event of the vehicle turning over to reduce injury, SIPS (side impact protection system) to reduce the likelihood of injury in side collisions and WHIPS (Whiplash Protection System) which reduces the likelihood of whiplash injury in a rear-end collision. ABS anti-lock brakes including HBA (Hydraulic Brake Assist), Electronic Brake Distribution (EBD) and EBA (Emergency Brake Assist) are also standard. 'It's a sign of Volvo's focus on protecting human life that so many safety features are standard,' says project director Lars Blenwall.

All cabins, irrespective of colours or trim, are emissions and allergen free.

XC60 SE

The SE version has all the features of the S model while adding Hill Descent Control (HDC) that offers smooth and controlled descents on the steep hills, an electric driver's seat with three memory functions and Autofolding powered door mirrors with ground lights for easy access at night. The distinctive and sporty Eriksberg T-Tec/Textile upholstery is offered, the rear view mirror auto dims and also contains a compass. Exterior design is complemented by chrome window trim.

XC60 SE Lux

The top-of-the-range XC60 has all the features of the S and SE while adding beautifully stitched leather upholstery, Nordic Light Oak natural wood trim (classic dark wood is also available) and powered and heated front seats. There are luxury floor mats and chrome detailing, 18-inch alloy wheels are standard (19-inch wheels are optional), there are active bending headlamps that help see around corners and rear park assist to help with reverse parking.

Further options and accessories

A huge number of further options and accessories are available to personalise the XC60, to enable it to complement your lifestyle. These include:

- Four C 'active' chassis that improves ride and handling
- Panoramic laminated power-operated glass tilt-and-slide sunroof
- Front and rear park assist, for extra parking ease
- Park Assist Camera (PAC) for even greater assistance when reverse parking
- Tyre Pressure Monitoring System (TPMS) to get early notice of punctures or air pressure loss in the tyres
- Rear centre armrests with cup holders and storage
- Classic wood steering wheel
- Wood and leather gearknob
- Load securing net attached to floor mounted load loops. This elastic net keeps luggage securely in place in the cargo area. It is colour co-ordinated to the interior
- Side net storage keeps loose items from shifting in the cargo area
- Bike holder: as well as bike roof racks there is also a specially designed holder that enables you to transport two bikes upright in the cargo area
- Complete dirt protector: a durable vinyl cover for the floor and sides of the cargo area, and the rear seat backs, to protect against grime and water
- Safety grille is made from steel and helps protect occupants from unsecured loads in heavy braking. It's also good for keeping dogs in their place
- Running boards enhance the style of the vehicle, they can be stood on to help load goods onto the roof racks, and they make it easier to step in or out of the vehicle
- Roof carriers: to use the roof of the XC60 to carry goods, a number of specially designed load carrying accessories have been developed. These include roof boxes and holders for bikes, skis, surfboards and kayaks
- Mudflaps, plus front and rear skid plates for extra under body protection

Audio systems

The Volvo XC60 comes standard with the excellent 'performance' sound audio system that uses a CD and radio, four 20W amplifiers, auxiliary input jack for MP3 player and six speakers. Remote radio controls are fitted to the steering wheel.

A six stack CD player is optional, as is a DAB (Digital Audio Broadcasting) radio.

The optional 'high performance' sound system uses CD, radio, four 40W amplifiers, auxiliary input jack for MP3 players, a USB port and eight speakers.

The top-of-the-range Dynaudio 'premium' sound system has Dolby Pro-Logic II surround sound, 5 x 130W amplifiers, auxiliary input jack for MP3 players, USB port and 12 Dynaudio speakers. It is one of the finest car hi fi systems in the world.

Rear headphone sockets are also available.

Bluetooth compatibility plus advanced satellite navigation

Bluetooth connectivity is available. This advanced wireless system enables your mobile phone to be connected to the car's loudspeaker system. This allows for perfect sound and minimises the interference often experienced when a mobile is used while driving.

Volvo's RTI (Road and Traffic Information) navigation system has a super-fast processor, which means alternative routes are plotted quickly, and there is highly detailed information, including local speed limits when a national border is crossed. This new sat-nav system features RDS-TMC (traffic message channel) that displays up-to-date information on traffic problems.

Option Packs

Some of the more popular options are grouped into packs, offering the customer better value for money. These packs include:

- Winter pack, which includes heated front seats, headlamp cleaning system, luxury floor mats and heater headlamp washer nozzles; Active Bending headlamps are also available
- Family pack, which includes child integrated two-stage booster cushions, power child locks and

- passenger airbag cut-off switch
- Communications pack, including RTI navigation plus remote control, personal car communicator (PCC) with heartbeat sensor, keyless drive, Bluetooth hands-free
- Driver Support pack, including BLIS (Blind Spot Information System), Autofolding power door mirrors with ground lights, ACC (active cruise control) with Distance Alert and Collision Warning and Auto Brake, LDW (lane departure warning) with DAW (Driver Alert Control)

Build it online

Customers can configure their own XC60 online in the 'Build Your Own' section of the Volvo website <http://www.volvocars.co.uk/>. The configuration tool enables customers to build and price a vehicle to their exact personal choice of engine, colour, trim level, upholstery and options.

Warranty

The XC60 is backed by a three-year/60,000-mile warranty. There's a three-year, unlimited-mileage warranty on the paintwork and 12 years guarantee against rust perforation. All Volvos have free RAC cover for one year, including breakdown assistance anywhere in Europe.

SECURITY

- 360 degree laminated glass available
- Personal Car Communicator (PCC) enhances security
- Lockable floor for valuables
- Home Safe and Approach Lighting
- Remote control central locking and alarm
- Volvo On Call rings for help automatically

No car company has a better reputation for safety than Volvo. But increasingly safety also involves personal security. The Volvo XC60 is stacked with security features to give owners extra peace of mind.

360-degree laminated glass

To make break-ins more difficult, the Volvo XC60 can be specified with laminated glass in all the windows, including the rear side windows and the tailgate and the panoramic sunroof, giving the whole car, including the luggage compartment, more effective protection.

Personal Car Communicator

Although it looks remarkably like a regular remote control, the PCC can do a lot more than just activate the locks and alarm. A simple push of a button can, within a few seconds, tell the car owner if:

- the car is locked or unlocked
- the alarm has been triggered
- the alarm has been triggered and someone is inside the car (registered by a highly sensitive heartbeat sensor)

The information is available and up-to-date as long as the distance between the PCC and the car is 100 metres or less. In addition, the most recent data is logged so the owner can at any time and any place check whether the car was locked when it was parked.

Volvo On Call

Advanced telematics are used to call for help during an emergency. The system uses the integrated GSM telephone and GPS satellite navigation to automatically call the emergency services when an airbag or seatbelt pre-tensioner is triggered during an accident. Alternatively, you can ring the emergency services by pushing a red SOS button on the GSM phone.

If the car breaks down or you need help, pressing the Volvo On Call button will put you straight through to a Volvo On Call operator who can offer roadside assistance.

Volvo On Call also offers vehicle tracking in case of theft.

Home Safe and Approach lighting

By pressing a button on the remote controller when approaching the car, the driver can turn on the inside lights, the side marker lights and the lights in the rear-view mirror. On leaving the car, a tweak of the headlamp stalk activates the dipped beam headlamps for 30, 60 or 90 seconds (programmable), lighting the path to the door.

Lockable floor area

The spacious storage system under the luggage compartment is locked automatically when the tailgate is locked. It is ideal for hiding and keeping valuables safe.

Deadlocks, immobiliser and alarm

Standard features include a remote-control key fob that activates an alarm and strong deadlocks. Even if a thief does break into the car, for instance through breaking the glass, the deadlocks make it impossible to open the doors from the inside. The key fob also activates an electronic immobiliser that makes starting the car impossible without the correct key.

ENVIRONMENT

- Highly fuel efficient engines
- All engines easily exceed Euro 4 regulations
- Diesel engines both have sub-200g/km CO₂ emissions
- New 170 g/km diesel out next year
- Clean Zone Interior Package (CZIP) gives very clean air inside the car and reduces risk of allergy
- Interior Air Quality System (IAQS) monitors air coming into cabin and will close air vents if pollution levels are high
- Interior trim materials all allergen-free
- All new Volvos are 85 % recyclable and 95 % recoverable
- Backed by an Environmental Product Information (EPI) analysis - see www.volvocars.com/epi

Volvo's environmental commitment extends beyond reducing fuel consumption and CO₂ tailpipe emissions. Rather, they concentrate on a holistic approach to reduce the total environmental impact of cars, including production and disposal.

In 1982 the company took the first step by using residual heat from the nearby refineries to heat the factory in Torslanda, Sweden. In 1988 Volvo started using natural gas, which was the main fuel for heating its European factories (Sweden and Belgium) and, from 1 January 2008, Volvo's European manufacturing units including the Ghent, Belgium factory where the XC60 is made, now only use green electricity - hydropower. This is Volvo's latest step in making its production climate neutral and future plans are likely to extend to other energy sources such as biogas and wind-power.

Volvo's record of environmental innovation is also extraordinary. In 1976, it was the first car maker to introduce three way catalytic converters with Lambda sensors; nowadays all petrol powered cars use this technology to reduce tailpipe toxins.

Clean, efficient engines

The engines in the new Volvo XC60 are all pleasingly economical, given the extraordinary abilities of the versatile and sporty XC60. Both direct-injection common rail diesel engines, the 2.4D and the D5, emit 199 g/km CO₂ and average 37.7mpg on the official combined cycle. They easily exceed Euro 4 emissions standards. The particulates of the D5 are only 0.002g/km compared with the Euro 4 standard of 0.025. A particulate filter, which traps 95 percent of soot particles, requires no servicing and is fitted as standard.

The T6 also easily meets Euro 4 emissions regulations. It produces 23.7mpg on the combined cycle and emits 284 g/km of CO₂ - a very reasonable figure considering the high performance and overall vehicle versatility (carrying capacity, strength and all-road potential).

A new version of the XC60, using the 2.4 diesel engine and front-wheel drive rather than All Wheel Drive, will be available in 2009. It will be the cleanest XC60 of all, emitting an estimated 170g/km of

CO₂. A hybrid version of the XC60 is also under development.

Clean cabin environment

Volvo XC60 customers can rest assured they will be breathing the cleanest air possible. Volvo's Air Quality System monitors the cabin, minimising odours and pollutants entering from outside. The air-conditioning system always ensures that the air is cleaner inside the car than outside. A cabin air filter prevents dust, pollen and exhaust gas particles from entering.

Furthermore, Volvo's new Clean Zone Interior Package (CZIP) features an automatic air-purging system. When the car is unlocked by the remote control, the passenger compartment is automatically ventilated for about one minute if the outside air temperature is above 10 degrees C. Carefully selected trim materials, which minimise emissions of harmful substances, further help to provide cabin air of a cleanliness approved by the Swedish Asthma and Allergy Association.

Corporate Citizenship

Volvo was one of the first manufacturers to use tools to evaluate the total life-cycle environmental impact of its products. The system, known as EPI (Environmental Product Information), enables Volvo to evaluate the impact of its products throughout their life on natural resources, ecosystems and human health. Volvo then makes every effort to reduce its total environmental impact. This information is available to the public at www.volvocars.com/epi.

Volvo's annual Corporate Citizenship report is available at www.volvocars.com/citizenship.

Did you know?

1. The XC60 is Volvo's first small premium utility vehicle and will compete in one of the fastest growing market segments in the world.
2. The first Volvo XC (Cross Country) vehicle, based on the first-generation V70, was launched in 1996.
3. Europe as a whole and North America are expected to account for the same number of XC60 sales (about 40 percent of total volumes each).
4. Volvo is the premium market leader in Russia (expected to be the XC60's fourth biggest market, after the UK which is likely to be third).
5. The instrument binnacle hood was modelled on the raised eyebrow of Sean Connery when playing James Bond.
6. A HomeLink device, fitted to the sun visor, allows owners to operate remote control home appliances such as garage door, home alarm and lighting.
7. The XC60 is predicted to have strong residual values, according to EurotaxGlass's and CAP - beating the Land Rover Freelander and matching or exceeding the BMW X3.
8. 2009 is the 50th anniversary of Volvo safety engineer Nils Bohlin's invention of the three-point safety belt, probably the most important automotive safety advance ever.
9. The front passenger head restraint of the XC60 also acts as a perfect coat hanger.

Keywords:

Volvo XC60, Press Releases, 2009

Descriptions and facts in this press material relate to Volvo Car UK's car range. Described features might be optional. All information is correct at time of going to press and may be altered without prior notification.

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