VOLVO

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VOLVO V70

OVERVIEW

- Versatile and luxurious estate car
- 815 litres of boot space, extending to 1,600 litres with the rear seats down
- Designed to be the world's safest estate
- Ingenious 40:20:40 split rear seat that allows long items to be carried while two adult passengers are sitting comfortably in the back
- Innovative safety technology includes integrated, dual-stage child booster seat
- New 1.6D DRIVe engine to offer CO_2 emissions of 129 g/km
- New 2.4D features 175 PS, an improvement of 12 PS, and 420 Nm of torque
- New D5 engine offers 11 percent improvement in performance over outgoing D5 and 8 percent reduction in CO_2
- The Volvo V70 is built in Torslanda near Gothenburg in Sweden
- Sporty R-DESIGN specification available

Volvo's boldly styled and intelligently configured Volvo V70 estate offers copious amounts of load carrying versatility and an engaging driving experience combined with class-leading safety features and refined passenger comfort.

The Volvo V70 is a versatile, luxurious estate car designed both for demanding families and keen drivers. With its sleek and athletic lines, rakish windscreen, blacked-out side pillars, C30-inspiried taillights and dynamic tailgate angle, the V70's head-turning style hints at its on-road dynamism.

With easy boot access and copious load carrying space, the Volvo V70 offers 815 litres of boot space, extending to 1,600 with the rear seats down. A powered tailgate - for both opening and closing - is available for extra convenience.

‘The V70 is the heart and soul of the Volvo brand, the vehicle that, more than any other, defines us as a maker of premium, practical and safe Swedish cars,' says president and CEO of Volvo Cars Stephen Odell. ‘Volvo is the world leader in the large estate car segment. We pioneered this market more than 50 years ago and we are determined to continue to dominate. On so many fronts, the Volvo V70 is a crucial model for us.'

The Volvo V70 was designed from the outset as an estate - so, unlike nearly all its rivals, it is not an estate version of a saloon. This purer and more focused approach leads to a car with fewer compromises. It was also designed, first and foremost, as a comfortable, functional family estate. It is therefore unlike many rival premium estates, which have been designed to be sporty as much as spacious.

A Volvo would not be a Volvo without class-leading safety innovations and, unsurprisingly, the V70 excels in this area. Technology includes a new design of child car seat with a height-adjustable booster cushion that ensures optimal seatbelt geometry for maximum safety and protection but also offers good visibility out of the windows - making children (and parents) happier. ‘When children complain less, parents drive more safely,' says Tomas Ahlborg, project director. Small children would use the higher booster setting, which allows them to see out of the windows. Larger children, who still need a boost, now ride in unmatched safety.

Primary safety is also improved thanks to an innovative new Adaptive Cruise Control and Collision Warning with Auto Brake, which warns drivers when they are getting dangerously close to the car in front and then primes the strong disc brakes for maximum braking force.

All engines are transversely mounted for maximum safety in a frontal impact. The top-line engine is a 3-litre T6, 285PS, 400Nm, turbocharged six, capable of propelling the T6 version of the V70 to a top speed of 152 mph and from 0-60mph in 6.7 seconds. Other Engines include two new 2.4-litre, five-cylinder turbodiesels (205PS D5 and 175PS 2.4D), a 2.0-litre, 136PS turbodiesel and a new 1.6D DRIVe engine capable of a frugal 57.7mpg (129g/km) on the official combined cycle. A second petrol engine available is a five-cylinder, 2.5-litre, turbo featuring 231PS.

The T6 comes as standard with Volvo's unique All-Wheel Drive (AWD) system, which is also available on the D5, which automatically distributes power to the wheels that have most grip, assuring superb traction. Front-wheel drive - for a perfect balance of predictable cornering, safety and good traction - is used for the other powertrains. Volvo's Dynamic Stability and Traction Control (DSTC) is standard. Numerous dynamic sensors monitor the vehicle's behaviour so that, when necessary, the system can reduce engine torque and apply carefully calculated braking power to stop skids.

The T6 AWD is mated exclusively to Volvo's Geartronic gearbox, which offers both full automatic and manual clutchless changes. The T6 gets a sport mode, for even sharper performance. The 2.0D, 2.5T, 2.4D and D5 come as standard with a six speed manual gearbox, while the DRIVe engine is mated to a 5-speed manual gearbox. The 2.4D and D5 are available with Geartronic as an option.

Volvo's innovative Four-C active suspension is available as an option on SE and SE Lux models. Computer control automatically firms up dampers as speeds increase, improving handling and steering response. The R-DESIGN variants get a Lowered Sports Chassis (lowered 20mm at the front and 15mm at the rear).

DESIGN CONCEPT

- Highly functional estate featuring great versatility and space
- Expressive Swedish design
- Raked windscreen and steeply angled upper tailgate give the car a sporty character
- Aimed at premium family market yet car is also sporty and fun to drive

The design team started the design process by closely examining the world's most successful premium estate car - the previous V70. Says Stefan Jansson, chief designer, exterior: ‘The previous V70 is a fabulous car. The duality in its personality made it successful. It was immensely practical yet it had an edge to it - it was stylish and desirable. You could go on a family holiday or dress up and go to the theatre. It was just the right size of vehicle.'

The new Volvo V70 had to be better in every way: more practical, more spacious, more reliable, safer, more dynamic. A key demand was to make it look more upmarket and prestigious and, in keeping with its greater dynamic ability, to make it look sportier too.

Says Stefan Jansson: ‘There were some design elements from the old car that we knew we wanted to retain, like the shoulder line, the V shape in the bonnet and the upright tailgate - all classic and easily identifiable V70 features.

‘Proportions are crucial. We worked hard on getting the stance and the whole attitude of the car just right. We wanted more of a wedge. We lifted the rear of the car a little to make it look more dynamic. The climbing waistline gives a forward-leaning, dynamic stance. Premium is the balance of luxury and dynamics - we wanted both with the V70, a perfect balance.

‘The chrome frame around the window-line of the SE Lux model adds a premium feel - it really highlights the window graphics. The old V70 had body-colour B- and C-pillars whereas, on the V70, they are blacked out. The blacked-out pillars cause the windows virtually to flow together in one single element. This, and the chrome moulding, creates an aura that is luxurious yet sporty at the same time.

‘The old car also had unusual concave surfaces - it helped with reflections - whereas the new car has all positive body surfacing. We wanted a more muscular, athletic surfacing finish for the new car.'

The more reclined windscreen adds to the sporty feel, and so does the more steeply raked upper section of the tailgate. Instead of a flat tailgate, the V70 has a kink where metal meets glass. ‘It looks sportier but does not compromise load carrying or load access. Quite the contrary. Load-carrying space is bigger, by 55 litres, and boot access is better than on the outgoing V70. This is partly because the upright tail-lights have moved from the rear pillars to the tailgate, so the opening is bigger than ever. The tailgate glass is also deeper at the sides, improving rearward visibility. A powered tailgate - for both opening and closing - is available for extra convenience.

All the rear lights above the waistline - including the high-mounted third brake light - are LED lights, which are brighter and react faster than conventional tail-lights. If the load is so large that the driver is forced to drive with the tailgate slightly open, the lower lights on the body sides become supplementary brake lights - another delightfully clever detail on the meticulously conceived Volvo V70.

At the front, the grille displays the large iron mark. The nose is heavily rounded, in keeping with the soft edges of the car. ‘Volvos are never aggressive in style,' says Jansson. ‘Mind you, if you saw a V70 coming up behind you in the rear-view mirror, you'd definitely get out of the way.'

The more rakish appearance doesn't just suggest a sportier character. It helps the V70 cleave the air more cleanly: its Cd drag co-efficient is just 0.31.

‘An honest, practical car'
‘We have such a strong heritage here - it's like handling the Swedish crown jewels,' says Stefan Jansson. ‘The V70 is the core of the brand. Part of Volvo's brand is our form-follows-function honesty. There is nothing contrived or artificial about Volvo. So the V70 had to be practical and look practical. We also want to produce a very honest car. What you see is what you get.'

The Volvo V70 is 4823mm long and 2106mm wide (including wing mirrors) which contributes to a vast amount of cabin space. ‘Of course we look at rival cars to see what they're doing,' says project director Tomas Ahlborg. ‘But we take a different position with our estate. We do not compromise space and functionality for sportiness. We also know that the old V70 was appreciated because it wasn't too long. We decided to go a little longer to improve legroom and safety, both at the front end and at the rear.'

INTERIOR DESIGN

- Luxurious elegant cabin
- Innovative integrated two-stage booster seat improves child safety
- Simple Swedish architecture using premium materials
- Great versatility including folding rear seats that concertina in a single motion
- Front passenger seat also folds, for even greater carrying capacity
- Superbly comfortable seats offer internal ventilation as well as front and rear heating
- Highly functional luggage area includes under-floor storage space and side rails to secure items
- Up to 1,600 litres of boot space (seats down)

The Volvo V70 is a brilliant synthesis of functionality and Swedish luxury. It is the roomiest and most versatile estate that Volvo has ever made and also the most upmarket.
In both front and back seats, you are riding in a luxury car - leather seats are available, as is wooden trim and all manner of high-end specification. Yet the enormous rear load area and the versatility of the cabin - not least the easy-to-fold seats - transform the Volvo V70 into one of the world's most effective carryalls.

Improved carrying capacity and even greater functionality
The outgoing Volvo V70 was recognised for its legendary spaciousness and versatility. Yet this V70 is even better. Rear load area is increased by 55 litres. Rear access is improved by a bigger aperture, thanks partly to locating the rear tail-lights on the tailgate rather than the rear pillars. Total load length, with rear seats folded, is 1878mm (up 30mm).

The ingenious new 40:20:40 split rear seat offers unrivalled versatility. Unlike conventional 60:40 or 50:50 split rear seats, the set-up means that long items such as skis can be accommodated while two adults sit in comfort in the rear. When all three seats are folded, the load area is completely flat. The backrest of the front passenger seat can also be folded, further improving carrying capacity.

The rear seats fold easily. In one movement they fold flat into the floor without the need to remove headrests.

The rear load bay itself is also extremely versatile. There is a large, 46-litre, lockable storage area under the floor for valuable goods. Aluminium rails are fitted to the floor and their adjustable anchorage points make it easy to secure items. The anchorage points can be tucked down into the rails when not in use. The boot's side panels also have built-in load anchorage eyelets, further to help fasten goods. In addition, the side panels can be fitted with multifunctional rails to attach hooks, load-anchoring nets and cargo space dividers, to name just a few of Volvo's many loading accessories. In effect, the V70 offers a 3D load-securing system. A sliding floor is also available.

Cabin has greater length, shoulder-room and legroom
The long cabin means more room for all passengers. ‘One of the goals was to ensure that all five occupants travel first-class, not just the two people in the front,' says project director Tomas Ahlborg.

Volvo has an excellent reputation for seating comfort. The seats on the V70 are new and even better than the outgoing model's and the electrically operated front seats can be upholstered in perforated and ventilated leather. Front seat ventilation is supplied by the car's air-conditioning system: the air flows through the upholstery and seat cushion, reducing any stickiness caused by warm weather. The system also comes with heated front seats for chilly days, while heated rear seats are now available.

Integrated two-stage child booster seat
Another major seating innovation is Volvo's integrated, two-stage child booster seat.

‘Modern cars tend to have higher belt lines [where the bottom of the windows meets the body] so younger children tend not to be able to see out of the window in the back these days,' says Karl-Johan Ekman, technical project leader. ‘It's a big problem because if they're bored and causing trouble then you won't drive so well.' The two-stage booster allows small children to sit higher and larger children to also receive a height boost. In both cases seatbelt angles are optimised, so safety is improved. The booster can be fitted to either of the outer rear seats.

Luxury cabin befitting a premium saloon
Though the V70 has been designed as a practical family workhorse, it is also a consummate luxury car. The cabin is simple, elegant and functional, and seamlessly combines beauty and technology. It is a less complex and warmer environment than that typically found in rival German cars. High-quality materials are used extensively, including different grades of leather, two different types of wood and brushed aluminium. Apart from the different leather upholsteries, the Volvo V70 is also available with T-Tec - a modern, sporty finish that is attractive, hard-wearing and practical and is standard on the entry-level SE model.

One of the most elegant pieces of interior design is the sleek, ultra-slim centre console, which contains most of the important switches and controls. It contributes to the understated simplicity of the interior, avoiding a plethora of confusing switchgear.

DRIVING DYNAMICS: ENGINES

- All engines located transversely for improved safety
- Turbo six engine develops 285PS and gives T6 scintillating performance
- Choice of four economical diesel engines, including an especially frugal 1.6D DRIVe, 2.0D and two new brawny, five-cylinder, 2.4 units
- Introduction of new 1.6D DRIVe model for reduced fuel consumption and emissions

There were three new diesel engines introduced in 2009 - two 2.4 five-cylinder units and a 1.6D DRIVe. These ultra-modern, common-rail diesel engines combine excellent fuel economy - 57.7mpg on the combined cycle for the DRIVe, 47.1mpg for the 2.4D and 44.1 mpg for the D5 - with fine performance.

New five-cylinder diesel engines - 2.4D and D5
There are two versions of Volvo's 2.4-litre, five-cylinder common-rail direct injection diesel engine available for the Volvo V70. Both have been revised to deliver more power and torque to increase driveability - the 2.4D now offering 175PS, 420Nm of torque from 1500-2750rpm and 0-60mph in 9.0 seconds (9.4 sec Gearronic). The D5 has 205PS, 420Nm of torque from 1500-3250rpm and 0-60mph possible in 7.7 seconds (8.2 sec Geartronic).

Both engines deliver excellent fuel economy with up to 58.9mpg and 47.1mpg for the 2.4D on the extra-urban and combined cycles, and 55.4mpg and 44.1mpg respectively for the D5.

With CO_2 emissions of 159g/km, the 2.4D powerplant also slots in beneath the all-important 160g/km threshold governing new Writing Down Allowances for company cars that were introduced in April 2009.

"This is yet another step in our determination to reduce the combustion engine's environmental impact, at the same time as we give customers even more refined and sophisticated engines with excellent performance," says Derek Crabb, Vice President, Powertrain Engineering at Volvo Cars.

New high-performance D5 engine

The performance and drivability requirements in the high-performance D5-engine have been solved with twin turbochargers of different sizes that operate in sequence to provide added power over a broader rev range. The result is an engine that delivers an immediate response from the lowest engine revs without any perceptible turbo lag. It also offers rapid acceleration at all speeds, with smooth power delivery between the power bands of both turbo-charger ranges.

This twin-turbo technology in the D5 has also made it possible to introduce higher levels of exhaust gas recirculation (EGR) across a wider rev range. This harnesses the two turbochargers' different properties to deliver a combination of high performance and low fuel consumption.

The advanced fuel injection technology uses piezoelectric fuel injectors. This provides precise distribution of the atomised fuel in the combustion chamber, resulting in efficient combustion and low emissions.

New single-turbo 2.4D

The main focus for the new 2.4D engine was to reduce fuel consumption and consequent emissions. The injection system features a different type of piezoelectric fuel injectors to the D5, which aims to cut fuel consumption through extremely rapid and precise injection sequences. The high injection pressure results in an effective combustion. To promote the driveability, the single turbocharger has been optimised to produce high torque from low revs.

Mutual technology

The two new diesel engines share a number of technology solutions. The engines have lower compression, more efficient combustion and the latest generation of engine management. Volvo Cars' powertrain experts have reduced internal friction and pump losses in the diesel engines. The pressure drop in the intake and exhaust system has also been reduced.

The new turbo diesels have also been equipped with ceramic glow plugs, a high-tech solution that delivers improved starting properties owing to very quick warming up. They reach a temperature of 1,000 degrees Celsius in just two seconds, making the engine easy to start and helping to cut emissions. In certain driving conditions, such as at really low engine revs, the ceramic glow-plugs can also be used to increase the temperature in the cylinders, further improving combustion efficiency.

1.6D DRIVe

The Volvo V70 will also be offered with a DRIVe option for the first time. Power will come from a 109PS four-cylinder 1.6D turbodiesel engine and manual gearbox - the same as the smaller C30, S40 and V50 but with specially tailored engine software and different ratios in third, fourth and fifth gears - to deliver a car with the comfort and luxury expected of a premium estate, but with the emissions of a much smaller vehicle. The V70 DRIVe will return up to 57.7 mpg on the combined cycle while emitting just 129 g/km CO_2.

Several other factors also contribute to the reduction in fuel consumption, for example the tyres that have been specially designed for low rolling resistance. The V70 and S80 DRIVe versions are also equipped with an electric power steering pump that delivers exactly the servo assistance the driver requires, in a precise and energy-efficient way. All DRIVe models feature this power steering system. The V70 also features a covered grille to aid aerodynamics and a lowered chassis (20 mm front, 15 mm rear).

"More buyers than ever are focusing on fuel economy and it's important to give them more choice," says Chris Wailes, Product Manager at Volvo Car UK. "The 1.6D DRIVe model enables

customers to enjoy the benefits of a large estate with the reduced fuel consumption and lower emissions, and therefore lower running costs, which have been made possible with the DRIVe technology."

2.0-litre diesel
The four-cylinder, 2.0-litre turbodiesel has a lively 136PS and a massive 320Nm of torque (the same as the normally aspirated six-cylinder engine. This high-technology, eco-friendly engine uses second-generation common-rail diesel technology and is fitted with a maintenance-free, regenerating diesel particulate filter. Top speed is 124mph, 0-60mph acceleration takes 10.5 seconds and, most pleasingly of all, combined fuel consumption is a frugal 47.9mpg.

Turbocharged T6
Designed by Volvo in Sweden but built in Bridgend, Wales, the SI6 (short in-line 6) is both powerful and amazingly compact. In 3.0-litre T6 turbocharged form, it produces 285PS and 400Nm of torque over an incredibly wide rev band. 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 - so there is none of that traditional turbo ‘lag' - and yet also delivers enormous thrust when maximum performance is desired. Maximum torque is available from just 1500rpm all the way to 4800rpm and after that, there is only a small drop-off in torque.

The smaller engine displacement compared with the naturally aspirated SI6 - 3.0 litres compared with 3.2 - is due to a slightly smaller bore and stroke. The smaller capacity is more than compensated by the innovative and remarkable turbocharger. 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 also allowing for a smaller turbo.

The T6's combined fuel consumption is 24.6mpg - commendably efficient for a 150mph-plus car with such enormous capability and carrying capacity.

Five-cylinder turbo petrol (2.5T):
Volvo's familiar and popular light-pressure turbo five-cylinder engine, the 2.5T has been re-engineered for 2010 to deliver more power - up 31PS to 231PS - and 340Nm of torque.

The 2.5T remains an extremely compact unit, partly because the turbocharger has been integrated into the exhaust manifold. Top speed is 130 mph for both manual and Geartronic versions, and 0-60 mph acceleration takes 7.3 seconds (man) and 7.5 seconds (Geartronic). Fuel economy improves to 42.8mpg (39.8mpg Geartronic) and 32.1mpg (29.1mpg Geartronic) on the extra-urban and combined fuel economy cycles and CO_2 emissions are 209g/km (232g/km Geartronic).

	2.5T	T6 AWD	1.6D DRIVe	2.0D	2.4D	D5	D5 AWD
Type	2521cc, 20v, 5cyl	2953cc, 24v, 6 cyl	1560, 16v, 4 cyl	1997cc, 16v, 4cyl	2400cc, 20v, 5 cyl	2400cc, 20v, 5 cyl	2400cc, 20v, 5 cyl
Power	200PS	285PS	109PS	136PS	175PS	205PS	185PS
Torque	300/1500-4500	400/1500-4800	240/1750	320/2000	420/1500-2750	420/1500-3250	400/2000-2750
0-60 mph (seconds)	7.3 man 7.5 Gear	6.7	12.1	10.5	9.0 man 9.4 Gear	7.7 man 8.2 Gear	8.2 Gear
Top speed (mph)	130	152	118	124	130 man 130 Gear	140 man 137 Gear	137 Gear
CO_2 (g/km)	209 man 232 Gear	270	129	157	159 man 179 Gear	169 man 183 Gear	198 Gear
Fuel tank	70	70	70	70	70	70	70
Mpg: urban	22.6 man 19.9 Gear	16.4	47.9	37.7	34.9 man 30.7 Gear	32.5 man 29.7 Gear	27.7 Gear
Extra-urban	42.8 man 39.8 Gear	34.0	65.7	56.5	58.9 man 52.3 Gear	55.4 man 52.3 Gear	47.1 Gear
Combined	32.1 man 29.1Gear	24.6	57.7	47.9	47.1 man 41.5 Gear	44.1 man 40.9 Gear	37.7 Gear
Ins group	16E	18E	TBC	13E	14E	15E	TBC

Min kerb weight (kg)	1730 man 1746 Gear	1895	1667	1728	1755 man 1772 Gear	1755 man 1772 Gear	1853
Towing limit braked	1800kg	2000kg	1300kg	1600kg	1800kg man 1800kg Gear	1800kg man 2000kg Gear	2000kg

DRIVING DYNAMICS: CHASSIS

- Fully independent suspension for a compliant ride and good handling
- Active Four-C chassis available as an option on SE and SE Lux models
- New Lowered Sports Chassis as standard on all R-DESIGN variants
- DSTC Dynamic Stability and Traction Control is standard to prevent slides and skids

The priorities with the Volvo V70 were a comfortable ride, secure road holding and high stability.

Greater torsional rigidity aids ride and handling
Like all monocoque (unitary) body cars, the most important single factor in good dynamics is a rigid body platform. If the platform twists and bends then the handling will become unpredictable, the ride quality will deteriorate and the car will lose primary safety.

The V70 has a chassis architecture that offers a very high degree of structural integrity. Thanks to its careful, computer-aided design and the use of different grades of high-strength steel, the V70 has 15 per cent greater torsional rigidity than the outgoing V70, itself an immensely strong and stiff car.

The suspension has been set up to give a comfortable low- and high-speed ride, ensuring great agility and feedback from car to driver. The steering system - speed-sensitive power steering is available - is carefully honed and fully independent suspension help give what Tomas Ahlborg calls a ‘high-class driving feel and superb control whatever the situation'.

The suspension uses coil springs all round. The front uses MacPherson struts while the rear has a multi-link arrangement.

Four-C active suspension
The SE and SE Lux variants can be specified with Volvo's innovative active suspension Four-C chassis. This is an advanced, self-adjusting chassis where electronic sensors continually monitor the car's behaviour and the dampers readjust in a fraction of a second. 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 an almost unbelievable 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 road holding).

Dampers are also automatically stiffened as speed increases. During quick steering manoeuvres, the V70 takes on an agility and composure that belie its size and carrying capacity.

Though dampers are adjusted automatically, drivers can also programme in their desired road 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 calm, harmonious 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

speed builds, the dampers automatically become firmer to improve handling, response and safety.

R-DESIGN chassis
The R-DESIGN variant features a Lowered Sports Chassis as standard. Lowered by 20mm at the front and 15mm at the rear, the chassis reduces the centre of gravity providing enhanced stability and a more sporty drive. The sporty chassis offers plenty of driving pleasure and immense control in every situation and has been optimised with the help of features such as stiffer anti-roll bars and bushings and lower ground clearance for more direct road contact and more responsive and rewarding steering feedback.

"The big challenge with the R-DESIGN chassis was to combine crisp driving pleasure with Volvo's renowned secure properties in poor road conditions such as heavy rain or snow. I'm convinced we've found exactly the right balance," says Ekkehard Schwartz, Vice President Chassis and Vehicle Dynamics.

DSTC - Dynamic Stability and Traction Control
This is standard on all models in the Volvo range. An electronic stability and traction system that stops skids and slides, it uses 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.

DRIVING DYNAMICS: STEERING, BRAKES AND TRANSMISSION

- Speed-dependent power steering is offered, ensuring good high-speed feel and easy parking
- Easy-to-use Power Parking Brake
- Highly advanced braking system includes HBA (Hydraulic Brake Assist), RAB (Ready Alert Brakes), FBS (Fading Brake Support) and OHB (Optimised Hydraulic Brakes) - all to ensure shortest possible stopping time and maximum control
- Collision Warning with Auto Brake reduces risk of rear-end collisions
- Six-speed Geartronic gearbox allows for full automatic or manual shifts
- All-Wheel Drive (AWD) standard on T6 and D5

The Volvo V70 balances sharp, agile handling with renowned Volvo safety features. ‘Enjoyable driving is important,' says Tomas Ahlborg. ‘But for us, enjoyable driving is not about being aggressive. It's about always being in total control and a real first-class experience.'

Sharp steering, strong brakes that always stop in the shortest possible time irrespective of road conditions, and smooth-shifting transmissions are all important factors in the total driving experience. A number of primary safety technologies are available on the V70, including Volvo's innovative Collision Warning with Auto Brake, which monitors the distance to the car in front and then optimises braking strength to help you avoid accidents.

Six-speed automatic or manual gearboxes
The T6 and D5 AWD are mated exclusively to Volvo's Geartronic gearbox, which offers both full automatic and manual clutchless changes. The T6 also gets a sport mode, for even sharper performance. The DRIVe, 2.0D, 2.5T, 2.4D and D5 come as standard with a manual gearbox. While the 2.4D, 2.5T and D5 are available with Geartronic as an option.

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. On the T6 model, the Geartronic box has a sports button, which allows higher revs before each gear change and slightly faster shifts, while also sharpening 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
The T6 gets electronically controlled All-Wheel Drive (AWD) as standard and it's an option on the D5, while all other V70s are front-wheel drive. The AWD system improves the handling and road holding of the powerful, turbocharged, six-cylinder model 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 unique 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 handling balance of the car. The T6's powerful engine 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.

Other V70 models all use front-wheel drive, as fitted to the vast majority of Volvos since the 850 was launched more than 15 years ago. Front-wheel drive offers more predictable and safer handling, plus better traction, than conventional rear-wheel drive.

Highly advanced interactive braking system
The V70 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 system 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.

Collision Warning with Auto Brake
This clever new technology reduces the risk of rear-end accidents and where an impact is inevitable, it should reduce its severity.

A radar sensor, fitted behind the grille, continually monitors the area in front of the vehicle. If the sensor detects that the car in front has braked suddenly, or that you are too close to the vehicle in front, or that there is an obstacle in your path, a red warning lamp flashes on the windscreen and a warning buzzer sounds. In many situations, this will be sufficient to alert the driver and the danger will pass. However, if the risk of collision increases, the brake support system is activated. The pads move very close to the brake discs and the hydraulic brake pressure is increased. Thus the brakes are fully prepared for a panic stop. Even if weak pressure is applied to the brake pedal, maximum brake pressure will be automatically used to cut stopping distance. The driver's reactions remain crucial, however - the car will not apply the brakes automatically.

To warn traffic behind, the brake lights will start to flash when the brakes have been applied in this way. Once the speed drops below 19mph, the hazard warning flashers are also automatically activated.

The sensitivity of the collision warning system can be adjusted via the car's settings menu. There are three different positions that can be set according to driving style or road conditions.

Adjustable speed-dependent power steering
All V70s get sharp, power-assisted, rack and pinion steering as standard. On R-DESIGN and all T6 models, speed-dependent power steering is standard. This provides extra power assistance at

low speeds, for example to make parking easier. 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.

Power Parking Brake
This 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 engaged by pushing a lever to the left of the steering wheel and can be manually disengaged by pulling the same lever. The parking brake is automatically engaged once the key is removed from the ignition or, for models with keyless drive, when the driver's door is opened.

QUALITY AND EQUIPMENT

- High level of standard equipment, even on entry-level SE
- High-quality cabin materials and trim, all of which are emissions- and allergen-free
- Beautifully styled interiors typical of Swedish premium design
- SE, SE Lux and R-DESIGN trim levels offered
- Premium upgrade available on all engines and trim levels
- Superb in-car entertainment offers some of the best sounds on the road
- Three-year/60,000-mile warranty

Scandinavia is renowned for its great interior design and Volvo is no exception. Volvos manage to combine high-quality functionality, easy-to-use design simplicity and premium materials. A Volvo has clean surfacing and is pleasing both to look at and to touch. Volvos come much better equipped than rival German premium cars and their quality extends further than materials and design, including longevity, too. Independent studies invariably conclude that Volvos are among the longest-lasting and most durable of all cars.

V70 SE
The entry-level V70, the SE, is a luxurious car. Standard features include an electrically adjustable driver's seat with pre-fixed memory, an eight-speaker High Performance stereo with 160-watt output, automatic rain-sensing wipers and an auto-dimming rear-view mirror. Self-levelling headlamps are standard and so is Volvo's electronic climate control air conditioning. Other features usually found only on upper-level models include standard Cruise Control, power-adjustable and heated door mirrors with Autofolding function, a leather steering wheel and gearknob and the full suite of Volvo safety features, including dual-chamber SIPS side airbags and inflatable side curtains. All Volvo's state-of-the-art electronic traction and braking controls, such as DSTC (Dynamic Stability and Traction Control), ABS (anti-lock brakes) and HBA (Hydraulic Brake Assist) are standard. Remote-control central locking is also standard.

The SE uses handsome cross-brushed aluminium trim and features seats skinned in Volvo's new sporty Sundby Textile/T-Tec upholstery, which offers great comfort, looks and durability.

Outside, 17- or 16-inch alloy wheels and colour co-ordinated front spoiler and side mouldings are fitted.

V70 R-DESIGN SE
The R-DESIGN SE takes all the luxury fittings of the SE and enhances them with sportier styling and handling. Speed-dependent power steering - which firms up as speed builds - is standard and so is the new Lowered Sports Chassis. Larger, 18-inch alloy wheels give greater visual presence and increase the car's footprint, while a rear spoiler also clearly signals that this is the sports model. Other decals include an R-DESIGN badge on the front silver matt grille and silver matt-finish door mirror caps.

Interior upgrades include unique leather faced upholstery in Off Black & Cream embossed with the R-DESIGN logo, leather-trimmed steering wheel with aluminium insert and R-DESIGN logo and unique instrument dials with blue inserts. Other new details include aluminium sports pedals and centre stack, sports gearlever and sports floor mats.

V70 SE Lux
While the R-DESIGN derivative is the sportiest in the V70 range, the SE Lux is the most luxurious. Standard features include leather upholstery, a choice of two wood trims including walnut, heated and powered front seats, and luxury floor mats. Active Bending headlamps are standard, there's a

smart chrome window trim, a powered tailgate for easier opening and closing, silver roof rails and rear park assist for easier reverse parking. Seventeen-inch alloy wheels are standard.

Premium
The premium package is the ultimate upgrade. The combination of Leather-faced upholstery, Satellite Navigation System (RTI), and DAB (Digital Audio Broadcasting) Radio are designed to compliment the existing high levels of specification and is available as an upgrade on all trim levels and engines.

Audio systems
The V70 has been designed to offer the best sound experience in the class. The standard audio is Volvo's acclaimed 'High Performance' system, featuring eight speakers and 160-watt output. The top-of-the-range Premium Sound system - optional on all models - is one of the very best in the automotive world, irrespective of price. It uses an Alpine digital 5x130-watt amplifier, Dolby Pro-Logic II Surround and 12 speakers from renowned Danish speaker manufacturer Dynaudio. It's a 5.1 channel system that provides a true stereo effect. Thanks to the digital amplifier, the system automatically adjusts both volume and tone to compensate for outside noise. The amplifier has a very high damping factor, thanks to the ICEPower technology from Danish hi-fi expert Bang & Olufsen. This system contributes to the powerful sound, which remains clear all the way down to the deepest bass notes.

The High Performance system, standard on the SE, R-DESIGN and SE Lux, offers exceptional sound quality. It gets a CD player, a 4x40-watt amplifier and eight speakers.

For even richer and deeper bass notes, both the Premium Sound and High Performance systems can be enhanced by an optional 12-litre, dual-chamber sub-woofer under the luggage floor close to the rear seat backrest. This Alpine-developed sub-woofer includes two 6.5-inch bass elements and an integrated 2x130-watt amplifier.

All sound systems feature an extra input for connection to portable MP3 players, such as iPods, enabling them to be mated to the car's audio system.

An iPod and USB Interface is available as an accessory on all models and enables the MP3 Player or IPod to be connected directly to the sound system and controlled through the radio controls. Names and information of the songs will appear on the information display on the Centre Console and the devices will charge throughout the time they are plugged in.

Bluetooth compatibility and Satellite Navigation System (RTI)
Bluetooth, the 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 fast processor, which means alternative routes are plotted quickly, and features detailed information, including local speed limits and when a national border is crossed. Volvo's sat-nav system features RDS-TMC (traffic message channel) which displays up-to-date information on traffic problems. The large colour screen display rises from the top of the dashboard, safely positioned in the driver's view. When not in use it retracts, helping to keep the car's interior design less cluttered and more Swedish minimalist.

Rear seat DVD
The V70 can be fitted with an advanced rear seat entertainment (RSE) system. An integrated DVD player, eight-inch flat-screen monitors built into the front seat headrests, wireless headphones and remote control are all included. An extra socket means it is possible to connect an additional DVD player or video game. The two screens can then be used independently. Introduced in May 2008, a Digital TV option is also available to supplement the RSE system. This new option enables passengers to watch Freeview channels.

Extensive options list
The V70 includes hundreds of options to allow owners to personalise their cars. For better value, some of these options are grouped in packs:

- Winter pack: heated front seats, headlamp cleaning system, luxury floor mats and heated washer nozzles.

- Winter pack with Active Bending Headlamps.
- Family pack: two, two-stage, integrated booster seats, power child locks (rear doors only) and passenger airbag cut off switch.
- Communications pack: RTI navigation system with RDS-TMC, remote control, European DVD maps, PCC (Personal Car Communicator) with Heartbeat sensor and Keyless Drive and Bluetooth® handsfree system.
- Driver Support pack (not available on 2.0D, and 1.6D DRIVe): BLIS (blind Spot Information System), ACC (Adaptive Cruise Control) with Distance Alert and Collision Warning with Auto Brake and LDW (Lane Departure Warning) and DAC (Driver Alert Control).

Warranty
The V70 is backed by a three-year/60,000-mile warranty. There's a three-year, unlimited-mileage warranty on the paintwork and 8 or 12 years against rust perforation. All Volvos have free RAC cover for one year, including breakdown assistance anywhere in Europe 24 hours a day.

SAFETY

- Engineered to be the safest car in the class
- Improved child safety integrated dual-stage booster cushions and extended inflatable curtain
- New stronger side structure
- Second-generation WHIPS system avoids neck injuries
- Active Bending Lights ‘see around corners'
- Advanced electronic traction, stability and braking systems deliver superb primary safety

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 Gabrielsson and Gustaf Larson.

Child safety improved with integrated two-stage booster seat
Volvo has also been a pioneer in child safety - an area of car design that is frequently overlooked. A world first for the V70 was a height-adjustable booster cushion. 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 and 140cm in height and weighing between 22 and 36kg. The upper setting is designed for children measuring 95-120cm and weighing between 15 and 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.

‘It's a sad fact that the least well protected occupants in many cars are children,' says project leader Tomas Ahlborg. ‘This is because the child seats don't fit them properly, the seat is not properly secured or the belt does not fit them correctly. This 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.'

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 stronger and lighter 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 V70 have also been extended by 60mm, offering greater head protection for children and adults alike.

The V70 also gets a new type of side airbag. These new side impact airbags have 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 Volvo V70 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.

These crumple zones are:

- Zone for deformation at low speeds: The front bumper is attached to a cross-member made of aluminium. The attachment points at the body's longitudinal beams are designed as collapsible ‘crash boxes'. They absorb low-speed collision forces without damaging the rest of the body's beam structure.
- Zone for deformation at high speeds: The straight sections of the longitudinal beams are made of High Strength Steel, a very tough grade of steel optimised for high energy absorption. This zone accounts for most of the deformation.
- Back-up zone: The beam section that curves out towards the A-posts serves as a barrier protecting the passenger compartment and also as a back-up to reduce deformation. Its shape also helps minimise the risk of the front wheel penetrating the passenger compartment. Instead, the wheel helps absorb the collision forces. This section is very rigid and is made of Extra High Strength Steel.
- Three-point attachment: A rigid cross-member links the two A-posts and the lower side-members so that they form a particularly sturdy three-point attachment on each side. This design is particularly effective at protecting the passenger compartment in a severe impact.

Compact transverse engines improve safety

Like all other models in the Volvo range, the Volvo V70 has a transverse driveline and front- or four-wheel drive. 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 in the Volvo V70, 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 Volvo V70 features the same generation of WHIPS mechanism as was launched on the all-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 round front end of the V70 has a large, energy-absorbing soft structure in front of the bumper that helps reduce leg injuries to other road users in the event of a crash. The spoiler's lower edge has also been reinforced and moved forward, almost on a level with the bumper. The area of contact on a pedestrian's or cyclist's leg should be distributed across a larger area, reducing their risk of injury.

The bonnet is raised on impact to help cushion any blow and its underside has a honeycomb structure that absorbs crash energy and reduces injury.

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
- Strong SIPS tubes in the seats and a sturdy magnesium bracket in the middle of the car
- Diagonally fitted beams of Ultra High Strength Steel in the doors

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

The Volvo V70 has an awesome array of safety protection devices, but its suite of accident avoidance devices is no less impressive. The Volvo V70 incorporates a host of innovative safety features. These include numerous advanced braking functions (see 'Driving Dynamics: Steering, Brakes and Transmission'), Volvo's DSTC (Dynamic Stability and Traction Control - see 'Driving Dynamics: Chassis') and Collision Warning with Brake Support (see 'Driving Dynamics: Steering, Brakes and Transmission') - Volvo's clever new technology that reduces the risk of rear-end accidents.

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 Volvo V70 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.

Advanced driver information systems boost safety

The Volvo V70 can be equipped with BLIS (Blind Spot Information System) and DAC (Driver Alert Control). 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.

Rather than monitoring human behaviour (which varies from one person to another) DAC monitors the progress of the car on the road. Monitoring driving behaviour is more reliable as it assesses the impact that fatigue or distraction has on the car's movements and assesses whether it's being driven in a controlled, consistent manner. This system consists of a camera located between the windscreen and the interior rear view mirror, a number of sensors and a control unit. The camera measures the distance between the car and the road lane markings, while the sensors register the car's movements. This information is sent to the control unit which then calculates whether the driver is at risk of loosing 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 cars information display to urge the driver to take a break. The driver has the opportunity to access driving information throughout a journey, the starting point is five bars and the less consistent the driving, the fewer bars remain.

Both the Driver Alert Control and Lane Departure Warning are activated when the car reaches 40mph and they will stay active as long as the speed exceeds 37mph. The availability of these systems depends on the number and quality of visible road markings. The lane markings must be clearly visible and poor light, fog, snow and extreme weather conditions can make the system unavailable.

IDIS (Intelligent Driver Information System) is standard on all Volvo V70 models. IDIS 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 or 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 (DA) 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, similar to that of the ACC. 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.

SECURITY

- Personal Car Communicator (PCC) enhances security
- Electronic immobiliser
- Remote key fob activates alarm and deadlocks
- Laminated side windows available
- Home Safe and Approach lighting is standard
- Volvo On Call rings for help automatically

Volvo has an unmatched reputation for car safety. But personal protection is also of growing importance, which is why the V70 has numerous features to give owners extra peace of mind.

Personal Car Communicator
This looks remarkably like a regular remote control but it 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 really was locked when it was parked.

Volvo On Call
This ingenious device uses advanced telematics 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 the event 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.

Laminated glass all round
To make break-ins more difficult, the Volvo V70 can be specified with laminated glass in all the windows, including the rear side windows and the tailgate, giving the whole car, including the

luggage compartment, effective protection.

The storage system under the luggage compartment floor has a capacity of 46 litres if the car does not have a spare wheel. It is locked automatically when the tailgate is locked.

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

- Fuel-efficient engines including the new 1.6D DRIVe
- DRIVe Towards Zero
- Particulate filter on diesel cuts 95 per cent of exhaust particulates
- New Clean Zone Interior Package (CZIP) gives extraordinarily clean air inside car and reduces risks of allergy
- All new Volvos are 85% recyclable and 95% recoverable
- Interior trim materials are allergen-free
- Cabin air filter removes dust, pollen and exhaust particles
- Volvo produces an annual Corporate Sustainability report: www.volvocars.com/citizenship

Volvo Cars' commitment to environmental activities and continuous investment to help reduce its carbon footprint goes far beyond lowering CO_2 emissions. Volvo's 'Clean inside and out' programme represents a holistic approach to the environmental impact of the car. It focuses on health, resource utilisation and the ecological consequences of the production, use and disposal of the vehicle.

Volvo Cars' focus on other energy sources than oil has been going on for more than 25 years. Back 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 now only use green electricity - hydropower. This is Volvo's latest step in making its production climate neutral and future plans may also extend to other energy sources such as biogas and wind-power.

DRIVe Towards Zero
2008 saw the introduction of the DRIVe badge, a collective symbol for Volvo Cars' dedication to greener motoring. The symbol reflects the company's commitment to sustainable mobility and zero emissions and a promise of constant improvement. Volvo Car's vision is to develop cars that are entirely free from harmful exhaust emissions and environment-impacting carbon dioxide. This vision is called "DRIVe Towards Zero" and steps are continuously taken to reach that vision. In 2009 alone, Volvo introduced seven high-efficiency diesel DRIVe models with very low CO_2 emissions and the company's ambitious electrification strategy promises that plug-in hybrids will on the market in 2012.

Economical, clean engines
All of the engines available in the V70 are outstandingly economical, given their performance and the vehicle's load-carrying capability. The manual diesel engine models have official combined fuel consumption figures of 57.7 mpg (DRIVe), 47.9mpg (2.0D) and 47.1mpg (2.4D) and 44.1mpg (D5), outstanding figures for a large luxury estate car with 140mph (D5) performance. Even the high-performance T6 achieves a combined figure of 24.6mpg - yet has a top speed of 152mph.

The V70 diesel engines are among the most advanced and cleanest in the world. They have a particulate filter that reduces exhaust particulates by 95 per cent, and meet Euro 4 emissions by a comfortable margin. For instance, the D5 engine has less than half the permitted level of carbon monoxide, beats NOx (oxides of nitrogen) levels by 25 per cent and has only a fraction the permitted level of particulates (0.001g/km when the limit is 0.025).

The T6 engine complies with Euro 5 emissions control standards and also meet the US's strict ULEV (Ultra Low Emissions Vehicle) II standards. The four catalytic converters and new oxygen sensors ensure that engine working temperature is reached quickly when starting from cold, further reducing emissions.

Clean cabin environment
Environmental protection also extends to ensuring that V70 occupants breathe the purest 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 the car.

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
As a result of this policy, the Volvo V70 is built in one of the automotive world's cleanest factories: emissions of solvents from the Volvo Torslanda plant in Sweden have been reduced by over 90 per cent since 1972.
Volvo's annual Corporate Sustainability reports, along with information on all Volvo Car's environmental activities, are available at www.volvocars.com/citizenship.

Ends

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