

## Press Release

Sep 26, 2002 | ID: 5204

# The new Volvo XC90: the next generation SUV

- Passenger car based, all wheel drive SUV
- Maximum flexibility for up to seven passengers
- New safety solutions for roll-over and compatibility
- Three engines with outputs ranging from 163 hp to 272 hp
- Rear Seat Entertainment
- Clean inside and out

The passenger car-based Volvo XC90 is the top of the line model in the Swedish carmaker's new XC-range.

"Our all-wheel drive XC90 is a next-generation SUV, aimed to be one of the safest and most exciting on the market," says Hans Wikman, Project Director.

### Muscular design

"Masculine, but not macho; muscular, but not aggressive," is how the new Volvo XC90 is described by Peter Horbury, Vice President and Chief Designer at Volvo Cars.

The muscular stance is the synthesis of a number of traditional yet unique Volvo features:

the upright front with its dark, egg-crate grille

the V-shaped hood, further emphasised on the Volvo XC90

the broad, pronounced shoulders

the characteristic tail lamps

"Nobody should be in any doubt that this is a modern Volvo," says Peter Horbury.

The muscularity of the Volvo XC90 is matched by chamfered corners front and rear, promoting a gentle, non-aggressive impression, helping the vehicle to look more homogenous.

### "Cockpit forward design"

Peter Horbury is happy to talk about the "cockpit forward design" in the Volvo XC90, where the passenger compartment has been moved as far forward in the vehicle as possible, and where the sloping windscreen is positioned further forward than in most other SUVs.

This has allowed Volvo to make a seven-seater SUV within compact overall body dimensions.

The Volvo XC90 is 4.80 metres long, just 87 mm longer than a Volvo V70.

The interior of the Volvo XC90 is characterised by airiness, space and quality materials.

Facing the driver is one of the car world's clearest and most ergonomically designed instrument panels.

It is characterised by Scandinavian simplicity of line and functionality: plenty of information from a small number of meticulously designed instruments.

### Top level safety

Customers expect Volvo to retain its lead in the field of safety – irrespective of vehicle type. With the launch of its first-ever SUV, Volvo Cars enters an entirely new segment, and the goal is perfectly clear: to lead the way in terms of safety.

With the entry of Volvo Cars into the SUV market, there is increased focus on several new areas. One of them is roll-over accidents, where the vehicle rolls over onto its roof one or more times.

In order to help reduce the risk of a roll-over situation, the Volvo XC90 is equipped with an active stability-enhancing system known as Roll Stability Control or RSC. The system uses a gyro-sensor to register the vehicle's roll speed and roll angle. Using this information, the terminal angle is instantly calculated and thus also the roll-over risk.

If the calculated angle is so great that there is an obvious risk of rolling over, the DSTC (Dynamic Stability and Traction Control) anti-skid system is activated. DSTC responds by reducing the engine's power and also by braking one or more wheels as necessary until the vehicle understeers and stability is regained.

This help reduce the risk of a roll-over accident initiated by extreme manoeuvres.

RSC is the only active stability-enhancement system on the market to measure the car's roll angle. It was developed jointly by Volvo and Ford Motor Company.

### **Special steel in a reinforced roof structure**

If the Volvo XC90 experiences a roll-over the passive safety systems step in.

The goal is to reduce the risk of the occupants' heads from coming into contact with the vehicle's interior roof panel or sides. Volvo has reinforced parts of the roof structure in the Volvo XC90 with extremely tough Boron steel, which is four to five times stronger than normal steel.

All the seats are equipped with seat belt pretensioners to hold the occupants securely in place.

In order to help prevent the head from striking the car's sides, the Volvo XC90 is equipped with Volvo's IC or Inflatable Curtain. IC also helps prevent the occupants from being ejected in an accident.

In the Volvo XC90, all three rows of seats in the 7-seat version are protected by the IC.

### **Selfless compatibility**

The problem of compatibility – when a tall SUV collides with a car that sits closer to the road surface – was in firm focus throughout the development of the new Volvo XC90. The typical SUV has a high ground clearance and thus often comes with high-positioned bumpers. This may create a greater risk of damage to the oncoming passenger car and more serious injuries to its passengers, since the lower car's protective beams and crumple zones simply slip below the front of the SUV without being activated.

In order to reduce the risk of this type of injury, the front suspension subframe in the Volvo XC90 is supplemented with a lower cross-member, positioned at the height of the beam in a conventional car. This lower beam is integrated into the XC90s structure and is neatly concealed behind the spoiler.

This construction reduces risk of injuries in frontal collisions as well as in rear-end impacts and side impacts. The lower cross-member strikes the oncoming car's protective structure, activating its crumple zone as intended so the occupants can be given the maximum level of protection.

### **Chassis for all challenges**

The Volvo XC90 is a vehicle designed for all types of roads, irrespective of the surface beneath the tyres and the weather conditions.

Even though it is not focusing on off-road driving, the combination of electronically controlled four-wheel drive and 218 millimetres of ground clearance creates the right preconditions for continued progress when the going gets tough.

The rear suspension of multi-link type is completely insulated, with the dampers and springs attached directly to the subframe. This results in a quieter ride, since road and transmission noise is largely filtered out before it reaches the bodywork.

The front suspension is of MacPherson type and, together with the new ZF steering gear, promotes increased precision and sharp response.

The Volvo XC90 has an extremely wide track (1634 mm front, 1624 mm rear) and a long wheelbase (2859 mm between the front and rear axles). This makes for exceptional stability, with the vehicle behaving very consistently and dependably even on curving, twisting and uneven roads.

### **Electronically controlled AWD**

One important ingredient in the recipe for safe driving pleasure in the Volvo XC90 is its electronic AWD system, developed in close cooperation with one of the foremost experts in this area – Haldex of Sweden.

Just like in previous AWD models from Volvo, the four-wheel drive system in the XC90 operates entirely independently of driver input, that is to say power is distributed automatically between the front and rear wheels for best possible grip on all types of road surfaces.

The electronically controlled AWD system is intelligent. It monitors the vehicle's contact with the underlying road surface and assesses the signals that the driver receives through the steering wheel, brake pedal and accelerator. This information then helps determine whether, and if so how, the system should respond.

In normal driving on dry roads, almost all power is delivered to the front wheels.

If the road surface causes the front wheels to slip, power is proportionately diverted to the rear wheels. With electronically activated four-wheel drive, AWD engagement takes place quickly, after just one-seventh of a wheel turn, which eliminates wheelspin and ensures reliable road grip.

### **Engines for every need**

The Volvo XC90 is available with a choice of three engines, all made entirely of aluminium:

- An in-line 6-cylinder petrol engine with a displacement of 2.9 litres, equipped with twin turbochargers. It produces 272 bhp (200 kW) and has no less than 380 Nm of torque from just 1800 revs/min. With the twin-turbo six and the 4-speed Geartronic transmission, the Volvo XC90 reaches 100 km/h in 9.3 seconds and the top speed is limited to 210 km/h.
- An in-line 5-cylinder 2.5 litre petrol engine with a light-pressure turbocharger. It has a power output of 210 bhp (154 kW) and torque of 320 from 1500 revs/min. The 2.5 litre engine comes with a 5-speed Geartronic transmission. 0–100 km/h takes 9.9 seconds and top speed is 210 km/h.
- An in-line 5-cylinder 2.4 litre common rail turbodiesel engine. It produces 163 bhp (120 kW) and offers 340 Nm from 1750 revs/min. The turbo diesel is available with the 5-speed Geartronic gearbox. 0–100 km/h takes 12.3 seconds and top speed is 185 km/h.

All performance figures are preliminary.

### **Environmental care**

Environmental care is one of the core values at Volvo Cars.

That is why we were faced with an extra-tough challenge when we developed the Volvo XC90, since SUVs are relatively large vehicles with powerful engines.

The Volvo XC90 will take the lead in the SUV segment as regards both fuel economy and emissions. The 6-cylinder petrol engine meets the American ULEV (Ultra Low Emission Vehicle) requirements, while the 5-cylinder petrol engine already meets ULEV II, a standard that does not come into force until model year 2004.

What is more, the Volvo XC90 meets these standards in 50 American states, a clear demonstration that Volvo Cars regards the environment as equally important everywhere.

In Europe, the petrol engines in the Volvo XC90 already meet the Euro 4 requirements which come into force in the year 2005.

The new Volvo Cars 5-cylinder diesel engine is among the very cleanest on the market today, offering top-class fuel economy.

### **Infotainment**

In the Volvo XC90, considerable importance has been attached to providing comprehensive and innovative infotainment. One result of this focus is that Volvo is the first carmaker in the world to launch Dolby Prologic II in a car audio system.

Dolby Pro Logic II creates the conditions for optimum audio perception even for passengers in the rear seat, and the sound profile is both broader and more natural.

The Volvo XC90 can be specified with 13 loudspeakers, one of which is an 8-inch 140-watt active subwoofer for better bass quality.

Rear-seat passengers have access to their own control unit for the audio system, located conveniently in the C-post. There they can plug in their headphones and listen to a separate audio source, so they are not limited to what is coming through the vehicles's loudspeakers. This means that parents and children can each enjoy their different taste in music at the same time – making a long trip in a Volvo XC90 even more enjoyable.

### **Rear Seat Entertainment**

The Volvo XC 90 offers more than audio entertainment – it offers pictures as well. A DVD player with a 7-inch wide screen can be fitted in the roof, where it can be seen by passengers in seat rows two and three.

The design is extremely compact and the screen is lowered on powered hinges. The functions are remote-controlled and wireless headphones can be used to avoid disturbing other passengers in the car. The DVD player plays ordinary CDs as well.

The RTI (Road and Traffic Information) navigation system (option) is an important part of the

infotainment unit in the Volvo XC90. The crystal-clear 6.5-inch widescreen display is recessed into the upper face of the instrument panel, from where it pops up at the touch of a button in the steering wheel.

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Descriptions and facts in this press material relate to Volvo Cars' international car range. Described features might be optional. Vehicle specifications may vary from one country to another and may be altered without prior notification.

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