

## Press Release

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# The Volvo XC90: 'next generation' safety, luxury, flexibility in 2004

For immediate release

The first sport utility vehicle from Volvo, the Volvo XC90, is a luxurious, comfortable, flexible vehicle with clever architecture for seven-passenger capacity, innovative safety technology for enhanced roll-over protection, a choice of turbocharged engines, and refinement in ride, handling and interior space that earned it an immediate place in a crowded marketplace.

With nearly two dozen national and international awards from media, engineering and consumer groups, and steadily increasing sales, the XC90 goes from strength to strength as it heads into the 2004 model year.

The XC90 is the top of the line model in the Swedish carmaker's new XC range. The Volvo XC90 is available in Canada in 2.5T and T6 versions, with standard all-wheel-drive and seven seats. Price for the XC90 2.5T is \$54,995 while the XC90 T6 is \$61,995.

For 2004, XC90 enjoys a new selection of colours, optional tinted rear windows and a new remote lock control, while new 18" wheels and the popular Bi-Xenon headlights are now available for the 2.5T.

### Muscular design

"Masculine, but not macho; muscular, but not aggressive," is how the new Volvo XC90 was described by Peter Horbury, Vice President and Chief Designer at Volvo Cars when it first appeared at the North American International Auto Show. The muscular stance is the synthesis of a number of traditional yet unique Volvo features:

- the upright egg-crate grille with Volvo diagonal and emblem
- the V-shaped hood, accentuated on the XC90
- the broad, pronounced 'shoulders'
- the characteristic tail lamps incorporating design language of previous sedans and wagons

"Nobody should have any doubt that this is a modern Volvo," says Horbury. The muscularity of the Volvo XC90 is accented by chamfered corners front and rear, promoting a gentle profile while giving the vehicle a more compact appearance.

### Intelligent vehicle architecture

"The beauty of the transverse, in-line engine architecture is that it gives you more space to work with. This is why we have managed to create a compact SUV with three rows of seats," explains Horbury. The Volvo XC90 is a seven-seat SUV with compact overall body dimensions. It is 4798mm long, just 86mm longer than a Volvo V70.

### Volvo XC90 /2

The interior of the Volvo XC90 is characterized by its airiness, space and the feeling of comfort

and elegance. Facing the driver is one of the car world's clearest and most ergonomically designed instrument panels. It is a product of 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. With the launch of its first SUV, Volvo Cars enters an entirely new segment with the goal perfectly clear: to lead the way in safety.

There is increased focus on several new areas. One of them is roll-over protection.

In order to help reduce the risk of a roll-over, the Volvo XC90 is equipped with an active stability-enhancing system known as Roll Stability Control (RSC). The system uses gyroscopic sensors to register the vehicle's roll speed and roll angle. Using this information, the terminal angle is instantly calculated and, with it, 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 helps reduce the risk of a roll-over initiated by extreme manoeuvres.

RSC is the only active stability-enhancement system on the market to measure the 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 of Volvo's Roll Over Protection System, ROPS, helps protect occupants.

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

In order to help prevent an occupant's head from striking the vehicle sides, the Volvo XC90 is equipped with Volvo's Inflatable Curtain (IC). IC also helps prevent the occupants from being ejected in a crash. In the Volvo XC90, all three rows of seats are protected by the IC. The XC90 is currently the only SUV to offer such protection.

Also unique to Volvo is that all seats, including the third row, are equipped with seat belt pretensioners to help hold the occupants securely in place

#### Volvo XC90 /3

#### Impact 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 a passenger car in a collision 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 injury in this type of collision, the front suspension sub-frame 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 XC90's structure and is neatly concealed behind the spoiler.

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

#### Chassis for all challenges

The Volvo XC90 is a vehicle designed for all types of roads. Even though it is not intended for extreme off-road driving, the combination of electronically controlled all-wheel-drive and 218mm of ground clearance contributes to continued progress in rough road conditions.

The independent, multi-link rear suspension is completely insulated, with the shocks and springs attached directly to the sub-frame. This results in a quieter ride, since road and transmission noise is largely filtered out before it reaches the bodywork. The independent MacPherson front suspension, together with the new ZF steering gear, promotes increased precision and sharp response.

The Volvo XC90 has an extremely wide track -- 1634mm front, 1624mm rear -- and a long wheelbase (2857mm), coupled with a near 50/50 weight distribution. This makes for exceptional stability, with the vehicle behaving very consistently and dependably even on twisty and uneven roads.

#### Electronically controlled AWD

One important ingredient in the recipe for safe and enjoyable driving in the Volvo XC90 is its electronically controlled AWD system, developed in close cooperation with one of the foremost experts in this area -- Haldex of Sweden.

#### Volvo XC90 /4

This all-wheel-drive system in the XC90 automatically distributes power between the front and rear wheels for the best possible grip on all types of road surfaces. The electronically controlled AWD system monitors the vehicle's traction and assesses the signals that the driver receives through the steering wheel, brake pedal and accelerator. This information then helps determine whether, and how, the system should respond.

In normal driving on dry roads, about 95 per cent of the 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 controlled all-wheel-drive, engagement takes place extremely quickly, after just one-seventh of a wheel revolution, which limits wheel spin and helps ensure reliable road grip.

#### Engines for every need

The Volvo XC90 is available with a choice of two aluminum engines:

- An optional in-line 6-cylinder engine with a displacement of 2.9 litres, equipped with twin turbochargers. It produces 268 bhp and has 280 ft-lb of torque from just 1800 rpm.
- A standard in-line 5-cylinder 2.5 litre engine with a light-pressure turbocharger. It has a power output of 208 bhp and 236 ft-lb of torque from 1500 rpm.

#### Environmental care

Environmental care is one of the core values at Volvo Cars. Since SUVs are relatively large vehicles with powerful engines, the engineering team faced an extra tough challenge when developing the Volvo XC90.

The Volvo XC90 will take the lead in the SUV segment for both fuel economy and emissions control. The 6-cylinder engine meets the ULEV (Ultra Low Emission Vehicle) requirements, while the 5-cylinder engine already meets the highly stringent ULEV II standard, which manufacturers are not obligated to follow until 2004. The Volvo XC90 meets these standards in 50 American States, a clear demonstration that Volvo Cars regards the environment as equally important everywhere.

#### Cutting edge audio system

In the Volvo XC90, considerable importance has been attached to providing comprehensive and innovative "infotainment." 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 a 305-watt surround sound system, with up to 13 loudspeakers, one of which is a 20cm, 140-watt active subwoofer for better bass quality.

#### Volvo XC90 /5

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 up to four headphones and listen to a separate audio source. This means that the front seat occupants can listen to the radio, while the rear seat occupants can listen to the CD function - 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. For the benefit of the passengers in the second and third row there is a roof-mounted DVD player with a 17.7cm wide, retractable colour monitor.

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.

#### Interactive in your XC90

The available navigation system is an important part of the "infotainment" in the Volvo XC90. The crystal-clear 16.5cm, colour, wide screen display is recessed into the upper face of the dashboard, from where it pops up at the touch of a button in the steering wheel. It utilizes DVD media for faster route calculation and better map coverage.

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