Volvo Car Corporation

Public Affairs
PVH50
SE-405 31 Göteborg, Sweden
Telephone +46 31 59 00 00
Fax +46 31 54 40 64
www.media.volvocars.com

Press Information

Originator Per-Åke Fröberg, pfroberg@volvocars.com
Date of Issue 2008-01-13

Volvo Cars introduces new systems for alerting tired and unconcentrated drivers

Studies show that up to 90 percent of all traffic accidents are caused by driver distraction. Now Volvo Cars introduces Driver Alert Control – with a technology solution that is a world-first in passenger cars. It aims to alert the driver when his or her concentration level is affected, for instance during long journeys. Another new feature, Lane Departure Warning, alerts the driver if the car crosses one of the road markings without using the indicator.
The features are available in the Volvo S80, V70 and XC70 in Europe since the end of 2007 and will be introduced in North America in the beginning of 2008.

Lane Departure Warning and Driver Alert Control will be part of the same option package, called Driver Alert.
"Real-life safety is the key to our safety philosophy. When it comes to preventive safety, we have the same approach as when we develop protective systems. In other words that our research and technical development focus on areas where new technology can create significant results in real-life traffic," says Jan Ivarsson, Senior Manager Safety Strategy & Requirements.
Based on the accident statistics above, Volvo Cars is focusing on developing efficient technology to help drivers avoid or reduce the severity of accidents caused by distraction and driver fatigue.

Driver Alert Control (DAC) – a unique innovation
As a result of extensive studies on how drivers operate behind the wheel, Volvo has developed Driver Alert Control – a world-first innovation that registers the car's progress on the road and alerts unconcentrated drivers.
Driver fatigue is a major traffic-safety problem the world over. According to the U.S. NHTSA (National Highway Traffic Safety Administration), drivers who fall asleep at the wheel cause about 100,000 accidents annually in the United States alone, resulting in 1,500 fatalities and more than 70,000 injured drivers and passengers.

The situation is similar in Europe. The German Insurance Association GDV estimates that about 25 percent of all fatal accidents on the German Autobahn are caused by driver fatigue.
Volvo's Driver Alert Control is an important innovation. It is primarily intended for situations where the risk of losing concentration is the greatest and where an accident would have severe consequences. For example a straight, smooth highway that lulls the driver into a sense of relaxation and where the risk of distracting activities or falling asleep is higher. Driver Alert steps in at 65 km/h (41 mph).

Registers what's happening on the road

Driver Alert Control monitors the car's movements and assesses whether the vehicle is being driven in a controlled or uncontrolled way. This method is unique among vehicle manufacturers and is very reliable.
"We do not monitor human behaviour – which varies from one person to another – but instead the effect that fatigue or decreased concentration has on driving behaviour. Our technology is based on the car's progress on the road. It gives a reliable indication if something is likely to go wrong and alerts the driver before it is too late," explains Daniel Levin, project manager for Driver Alert Control at Volvo Cars. He adds:
"We often get questions about why we have chosen this concept instead of monitoring the driver's eyes. The answer is that we don't think that the technology for monitoring the driver's eyes is mature enough yet."
Driver Alert Control can also cover situations where the driver is focusing too much on his/her cell phone or children in the car, thereby not having full control of the vehicle.
"This is a positive side-effect of our concept, and this is possible since the feature evaluates driving behaviour rather than human behaviour," says Daniel Levin.

Text messages and audible signals

From a technical viewpoint, Driver Alert Control consists of a camera, a number of sensors and a control unit. The camera, which is installed between the windscreen and the interior rear-view mirror, continuously measures the distance between the car and the road lane markings.
The sensors register the car's movements. The control unit stores the information and calculates whether the driver risks losing control of the vehicle.
If the risk is assessed as high, the driver is alerted via an audible signal. In addition, a text message appears in the car's information display, alerting him or her with a coffee cup symbol to take a break.
What is more, the driver can continuously retrieve driving information from the car's trip computer. The starting-point is five bars. The less consistent the driving, the fewer bars remain.
"It is, of course, always the driver's responsibility to take a break when necessary, but sometimes you might not realise that you're not alert enough to drive. In such situations, Driver Alert Control can help the driver make the right decision, like taking a refreshing break or a nap, before the concentration level becomes too low," Daniel Levin concludes.

Lane Departure Warning (LDW)

On US highways, single-vehicle road departures account for approximately one fourth of all accidents and one third of all fatalities, statistics that emphasize the risk of losing concentration in smooth driving conditions.
Volvo Cars addresses this by introducing Lane Departure Warning. It helps prevent single-vehicle road departure accidents as well as head-on collisions due to temporary distraction.

Volvo Cars' researchers estimate that the LDW function can help prevent 30 to 40 percent of these types of accidents at speeds between 70 (44 mph) and 100 km/h (62 mph).
LDW is activated via a button in the centre stack and it alerts the driver with a gentle warning sound if the car crosses one of the road markings without an obvious reason such as use of the turn indicator. The function also uses a camera to monitor the car's position between the road markings. LDW steps in at 65 km/h (41 mph) and stays active as long as the speed exceeds 60 km/h (37 mph).

Certain limitations

Some of the described features functionality depends on the visibilility and quality of the road markings. The lane markings must be clearly visible to the camera. Poor light, fog, snow and extreme weather conditions can make the feature unavailable.

For further information, please visit Volvo Cars Newsroom at www.media.volvocars.com
or contact: Maria Bohlin, mbohlin1@volvocars.com, tel: +46 31 325 70 79