

Press Release

Jan 25, 2005 | ID: 2577

Interior climate control the key to safe, comfortable winter driving

FOR IMMEDIATE RELEASE

Effective interior climate control plays an important part in safe winter driving because when you're hot, Volvo researchers have discovered, you're not.

Beyond keeping the windows and mirrors free of ice and snow, the climate control system should regulate interior temperatures to a comfortable level. But it's possible to be too cozy inside your car. Being too warm can jeopardize driving safety.

A Volvo Car Corporation research project examined two groups of test drivers over the same route, with two different temperatures inside the cars. The temperature in the first car was 70° F (21° C); the second car was kept at 80° F (27° C). The number of mistakes and missed actions were dramatically higher for the drivers operating in the higher temperatures. It is clearly more than a summer issue; similar dangers exist for drivers operating in excessively high temperatures inside cars in winter.

The Volvo Electronic Climate Control (ECC) system (standard equipment or an available option in all Volvo models) helps maintain comfortable temperatures through the use of two temperature sensors, a solar sensor and a sophisticated interaction with the system's computer. The climate control computer not only determines how the air is to be heated, it determines where it should be sent in the passenger compartment to produce comfortable temperatures and to remove mist from inside windows in the shortest possible time. More than 90 per cent of Volvo cars are equipped with the ECC system.

At temperatures above 37° F (3° C), the system employs the air conditioning system to act as a dehumidifier to remove moisture from interior windows more quickly. A duct in the forward edge of the dash directs warm air to help keep windshield wipers free from ice. Heat is also distributed to the floor and windows to dissipate moisture brought into the car on snowy shoes. In some versions, the system employs high-level air vents in the cars' B-pillars to de-mist windows in winter and provide cooling air to rear seat passengers in the summer.

Volvo climate control systems are designed to be simple and easy to operate, with clear, logical symbols and controls that can be operated with gloves on. In the automatic mode, the ECC system can maintain the desired temperature selected by the driver, adjusting fan speed and air distribution to match the conditions. Where the system provides thermostatic controls for both driver and front seat passenger, it is possible to set the temperature at different levels on different sides of the car.

On wintry mornings, it is always good policy to remove snow and ice from the windows and around mirrors before getting behind the wheel. Once the engine is started, simple, one-button controls activate the rear window and sideview mirror heaters. Available driver and front passenger seat heaters are also activated by one push of a button, offer two-level heating, and contribute to a stable temperature environment -- important for maintaining driver concentration. The Volvo interior warms up quickly: the climate control system begins to produce heat once the engine coolant temperature has reached 95° F (35° C).

The quality of the air inside the car is also an important comfort and health factor. Since cold temperatures have a negative effect on fuel combustion, the ambient air outside the car contains more unburned particles from other vehicles during the winter than in the summer. All Volvo models are equipped with effective filters for incoming air. In cars equipped with ECC, an optional air quality system includes a gas filter with active carbon, which purifies both re-circulated air from the cabin and air coming in from the outside.

The system also features a sensor that detects gases such as nitrogen oxide, ground-level ozone and hydrocarbons in the air, and can direct the system to block incoming air. The system is time-controlled to minimize the risk of the windows 'fogging'. Occupants are protected from unpleasant and harmful vapors from gasoline, diesel, washer fluid and oil. The system also monitors the carbon monoxide content of incoming air and closes the air vents before carbon monoxide reaches unhealthy levels, such as when following trucks, driving in heavy traffic or in tunnels.

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