



Volvo Car Corporation

## Press Information

Forty-year jubilee for Volvo's three-point safety belt

### ACCLAIM AND AWARDS FOR BOHLIN'S BELT

Few people have saved as many lives as Nils Bohlin, the man behind Volvo's three-point belt. Many can thank him for their lives without having any idea of who their benefactor is. Since the 1960s, it can be estimated that the safety belt has saved the lives of several hundred thousand people and prevented or alleviated serious injury for millions. Achievements of this sort deserve recognition, and Bohlin's list of awards is as impressive as the principle of the belt is ingenious in its simplicity.

Nils Ivar Bohlin is the man who went from the aircraft industry to the automotive industry, from catapulting to restraining, with the common denominator of safeguarding the human body.

Bohlin was born in 1920 in Härnösand, in northern Sweden. On completing Senior High School and subsequent military service, he took a job in 1942 at Svenska Aeroplan Aktiebolaget (Saab) as an aircraft designer. At Saab, Bohlin completed his aviation engineering education, as well as taking courses in ergonomics and aviation/traffic medicine.

During his fifteen years at Saab, Nils Bohlin helped to develop all Saab's aircraft from the J21 to the J35. In 1955, he was put in charge of the development of ejector seats and other safety equipment for pilots (parachutes, belts). The design of the ejector seat and associated equipment for the Swedish Air Force's most well-known super-sonic fighter, the J35 Draken, was the last project Nils Bohlin worked on at Saab before moving to Volvo.

#### **Mission: Make Volvo safer!**

In 1958, Nils Bohlin was recruited to Volvo by the President, Gunnar Engellau, as the company's first safety engineer. Engellau had already understood the importance of profiling the company and found it natural to stress safety, which had already become a very important part of Volvo's image.

For Bohlin, this meant switching from the acceleration of the body when ejecting from an aircraft to retardation in a car accident. The diagonal two-point belt was already available as an accessory in Volvo cars, but had proved to be unsatisfactory.

The fundamental need of an effective, physiologically correct multi-point belt was paramount when Bohlin drew up his development programme to meet Engellau's demand for safer Volvo cars.

The prime characteristic of Volvo's V-type three-point belt was that the apex of the lap and the diagonal was anchored low down alongside the occupant. This is the crucial difference between the effective V-belt according to Bohlin's concept and the earlier Y-type belt (Griswold).

During his time at Volvo, Bohlin led the work of constantly improving protection for occupants in Volvo cars. He soon realised the difficulties involved in side impacts and by the 1970s he was already drawing up the technical solutions and systems which were to result in the now acclaimed and patented SIPS Side Impact Protection System - another Volvo world first.

### **Consulted as expert**

Nils Bohlin's retirement in 1985 in no way meant the end of his work in the field of car safety. Time after time, he has been consulted as expert and many safety disputes have been settled with the help of Bohlin's tremendous knowledge.

For his determined work and life-saving genius, Nils Bohlin has received numerous international honours. New tokens of appreciation of Bohlin's and Volvo's determined efforts to improve car occupant safety may still be added to the list, but this is how it stands at the 40<sup>th</sup> jubilee of the three-point belt.

1956 - Scholarship for continued study of aviation medicine in the USA from the Society of Swedish Industrial Engineers

1965 - Award for best sales promoting attribute in 1964 (the Volvo seat), Volvo Dealer Association

1975 - Ralph H Isbrandt's award/medal for best technical report, SAE Society of Automotive Engineers Inc, USA

1977 - Diploma in recognition of Bohlin's pioneering contribution to car safety at Volvo, International Association of Accident and Traffic Medicine (6<sup>th</sup> Int. Conference)

1979 - Safety award for outstanding engineering contributions, NHTSA, USA (ESV Conf. Paris)

1985 - Bohlin's belt patent chosen as one of the eight patents which have been of greatest importance to mankind in the past century (Benz, Edison, Diesel), Patent Office of West Germany

1985 - Award for special contributions, NHTSA, USA (ESV Conf. Oxford)

1989 - Nils Bohlin elected member of International Safety and Health Hall of Fame, USA

1992 - Safety Award, Second World Traffic Safety Conference, New York, USA

1995 - Gold Medal from Royal Swedish Academy of Engineering Sciences

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