VOLVO NEWS & INFORMATION

SIPS: A UNIQUE SAFETY SOLUTION FROM VOLVO

Once again Volvo has advanced the frontiers of automotive safety. For the '92 model year, all 700 and 900 series Volvos will feature a unique Side Impact Protection System (SIPS). The SIPS design is the direct result of research compiled by Volvo's accident investigation team based in Sweden.

Safety is one of the most important design criteria in all Volvo cars. No modification or change is made to the design of a Volvo without its effect on safety being evaluated and verified. Years of study and research have gone into the development of Volvo's SIPS. Side impacts are the second most common type of accident after frontal collisions, accounting for approximately one out of every five accidents. While most side impacts occur at relatively low speeds, they produce an extremely high number of serious injuries. Volvo's design objective was to significantly reduce both the number and severity of injuries in a side impact collision.

Almost everyone is familiar with how the crumple zones in the front and rear of Volvos deform to help absorb the energy of an impact before it reaches the occupants. In a side impact, the distance between the impact and the occupant is very small. Only the doors and the B-pillar separate the occupants from the impact site. Volvo designers realized the solution would require spreading the accident forces over a larger portion of the car's structure and reducing the intrusion into the passenger compartment. Properly done, this would also result in lower acceleration forces acting on the occupants. But how could this objective be met?

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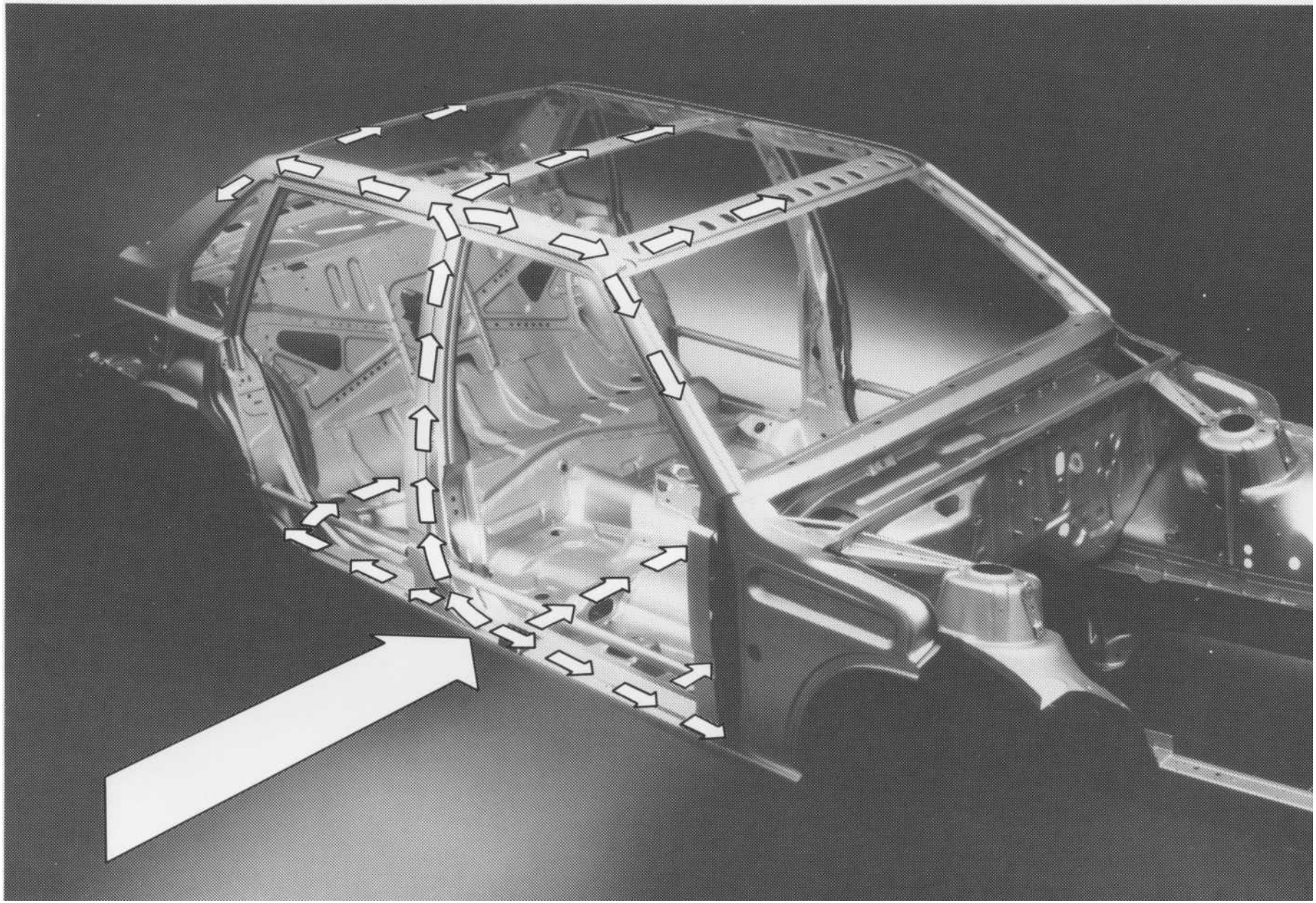
The solution, while largely invisible, consists of a further strengthening of the B-pillar, a reinforced door sill and roof rail, and strengthening of the floor members. These changes play an important role in dissipating the crash forces throughout the car's body by redirecting them around the safety cage. The B-pillar reinforcement also reduces the passenger compartment intrusion. The standard interior door panel on the car is sufficiently flexible to provide additional crash energy absorption.

Once the concept was devised, a mathematical model was constructed to determine which components should be reinforced and by how much. Following the calculations, prototypes were built and tested in Volvo's safety laboratory. The tests confirmed SIPS' ability to transfer the impact energy from the doors and B-pillars to the roof, floor and sills. Passenger compartment intrusion was significantly reduced, as was the acceleration passed on to the occupants. The testing also confirmed that SIPS today, surpasses by a wide margin, the side impact standards which the government will require for model year 1994. Further, the results indicated that in side collisions involving cars, a 25% reduction in the number of fatalities or serious injuries is possible in SIPS equipped cars.

SIPS is a unique Volvo safety development and is the latest in a long line of safety innovations which includes such ubiquitous items as the three-point self adjusting seat belt. Safety has been a primary design criterion at Volvo since the company produced its first car in 1927. If you wonder how a company can remain dedicated to one idea for so long, you should read the letters Volvo receives from its owners, each stating in their own way, `Volvo Saved My Life.`



VOLVO SIPS: SIDE IMPACT PROTECTION SYSTEM