

Press Release

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Heico Sportiv C30 Safety - Safety, above all else

Las Vegas, NV (October 30, 2007) - Above all else, it's a Volvo. Since Volvo Cars began showing concepts at the annual Specialty Equipment Market Association (SEMA) tradeshow five years ago only one rule has been set: all standard safety systems must remain intact and functioning no matter how extensive the modifications made to the vehicle. The Heico Sportiv C30 is no different. Despite its eye-popping orange interior and boldly designed surf pattern exterior, the Heico Sportiv C30 is still a Volvo at heart.

Volvo's Intelligent Vehicle Architecture (VIVA), first introduced in the XC90 SUV, is a key component of Volvo's smallest car. It is a unique approach to building a car that integrates everything from its crashworthiness to its dynamic styling and exciting driving characteristics. This is possible due to several interacting units, including a very stiff chassis, front and rear structures with unique energy-absorbing properties and, as always, a focus on crash protection for the occupants.

Different Grades of Steel

A smaller vehicle such as the C30 has less room for large energy-absorbing structures. Precise deformation modeling is the key to helping bring large-car safety to the C30. The frontal body structure of the C30 is divided into several zones, each with a different task in the deformation process. The outer zones are responsible for most of the deformation. The closer the collision forces get to the passenger compartment the less the materials used deform. The intention is that the passenger compartment should remain intact in most collisions.

In order to give each zone the relevant properties, different grades of steel are used in different areas. Four different steel grades are used. In addition to conventional bodywork steel (mild steel), three different grades of high-strength steel are employed: High Strength Steel, Extra High Strength Steel and Ultra-High Strength Steel.

Well-designed Engines Contribute to Crash Safety

Owing to efficient packaging, the transverse mounted 2.5-liter turbocharged engine features reduced width to create greater space between the engine and passenger compartment. In a frontal collision, the engine can be pushed up to 5.9 inches rearward before the crankshaft comes into contact with the crossmember near the bulkhead.

During a frontal collision, the three-piece steering column can be deformed up to 5.5 inches and moves horizontally to provide optimal airbag positioning. With an unbelted driver the steering column deformation is delayed to allow the occupant to contact the airbag and slow down the column's inward movement. This allows forces to be absorbed by the airbag and steering column earlier than would be with a belted driver. With a belted driver the steering column takes less force to compress completely as the seatbelt pretensioner and spool-out system absorbs the occupant's acceleration forces. The steering column separation is controlled by a pyrotechnically charged separation bolt which is controlled by a seatbelt-position sensor.

Side Impact Protection System (SIPS)

The new Volvo C30 is 0.5 inches wider than the S40. This creates added space for deformation in a collision. In other respects, the Volvo C30 has the same type of side impact protection as found on the S40, with SIPS (Side Impact Protection System) side-impact airbags for the front seat occupants and inflatable curtains for the front and rear occupants. These curtains are designed to provide enhanced protection in side impacts. The side airbags are scaled to provide more

effective protection at the hips and chest.

Several features contribute to the C30's solid body structure and help prevent the side from deforming in a collision:

- The reinforced, transversely installed tubular beam between the A-pillars
- The diagonally installed beams of Ultra High Strength Steel in the doors
- The B-pillars, which have been significantly reinforced and are dimensioned to help provide enhanced protection

Rear Impact Energy Absorption

The Volvo C30 is designed to help provide the best possible protection in a rear-end collision.

Volvo designed the rear section to deform in a downward/inward movement and allows the trunk-mounted spare tire to rotate upward in a controlled manner. The concept is to move the body structure and forces away from the rear seat occupants. Volvo tests at 35 mph have shown this methodology to be effective in displacing impact forces, controlling metal deformation and helping to protect the rear seat occupants.

Volvo's system for avoiding neck injuries - WHIPS (Whiplash Protection System) - is one of the most effective on the market. In the event of a severe impact from the rear, the seat backrest and head restraint accompany the movements of the seat occupant's body. The seats and backrests are of a particularly robust design. They are designed to withstand high loads from items such as unsecured luggage.

More Safety Solutions in Common with other Volvo Models

- Dual-stage airbags
- Seat belt pretensioners for the front seats and rear outer seats
- Force limiter for the front seat belts
- Belt reminder for the front seats

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