

Crash Tests

New Car Safety

Volvo XC90

03/2003 on 01/0001 - Frontal+Side+Head

Overall Evaluation



Overall Score

Variant: Wagon

33.81 out of 37

Engine: 2.4 litre diesel

Category: Large SUV

Vehicles tested after 1 January 2008 will require Electronic Stability Control in order to achieve a 5 star rating. This vehicle was tested prior to this date and may or may not meet this new requirement.

The left-hand-drive diesel European model was tested by Euro NCAP. Australasian specifications may vary and therefore models sold in Australasia might provide different levels of protection to those described on this page.

Model History and Safety Features

The Volvo XC90 was introduced in Australia during 2003.

Dual front airbags, side airbags and head-protecting side curtains are standard equipment. ABS brakes and electronic stability control are also standard.

The front seat belt buckles are mounted on the seats and the upper anchorages adjust automatically to the height of the occupant. These features improve the fit of the seat belt. Pretensioners are fitted to the front seat belts to reduce slack in the event of a crash. A three point seat belt is fitted to the centre rear seat. This provides better protection than a two point seat belt. This seat also has an integrated child booster cushion.

Overall Evaluation: 5

The Volvo XC90 scored 13.81 out of 16 in the offset crash test. The passenger compartment held its shape very well. There was a slight risk of chest and leg injury for the driver and passenger.

The vehicle scored 16 out of 16 in the side impact crash test. A further 2 points were scored in the optional pole test and two points were awarded for advanced seat belt reminders.

Frontal Offset Crash Test

Body region scores out of 4 points each: Head/neck 4pts, chest 3.39pts, upper legs 3pts, lower legs 3.42pts.

The passenger compartment was found to be immensely strong in the offset crash test. The brake pedal moved rearwards by 65mm and upwards 4mm. The steering wheel hub moved forwards 1mm, downwards -17mm and sideways 13mm. The front ("A") pillar moved 15mm rearwards. All doors remained closed during the crash. After the crash all doors opened with normal effort.

The airbag cushioned the head of the driver and contact was stable. Dash components were a potential source of injury for the knees of the driver and passenger.

Side Impact Crash Test

Body region scores out of 4 points each: Head 4pts, chest 4pts, abdomen 4pts, pelvis 4pts.

This test simulates a fairly small car striking the driver's door of the vehicle under test. It is based on a regulation test but the regulation does not apply to vehicles with a high seat height like the XC90. Such vehicles can be expected to perform relatively well in this particular side impact test.

The vehicle was eligible for an optional pole impact test, since it had head-protecting side airbags and scored four points for the head in the side impact test. The manufacturer decided to go ahead with the pole test and the vehicle earned a further two points.

Pedestrian rating (v3.1)



9.74 points out of 36.

Child head impacts 4.76pts;

Adult head impacts 4.98pts;

Upper leg nil pts and lower leg impacts nil pts.

Offset crash test at 64km/hr



Injury Measurements

Refer to the information sheet 'How the tests are done'	Offset Crash Test at 64km/h (v3.1)		Side Impact Crash Test at 50km/h (v3.1)
	Driver	Passn	Driver
Head			
- HIC	194	122	273
- Acceleration (g for 3ms)	35.8	29.5	13.3
Neck			
- Shear (kN)	0.43	0.57	
- Tension (kN)	0.54	0.48	
- Extension (Nm)	17.68	7.63	
Chest			
- Acceleration (g for 3ms)	26.3	25.54	9.69
- Compression (mm)	0.07	0.12	0.02
- Viscous Criterion (m/s)			
Abdomen			
- Force (kN)			0.12
Pelvis			
- Force (kN)			0.34
Upper Legs Force (kN)			
- Left	2.38	2.63	
- Right	1.81	0.91	
Knee Displacement (kN)			
- Left	1.98	1.25	
- Right	0.31	1.26	
Lower Legs Force (kN)			
- Left	1.1	1.94	
- Right	2.6	1.7	
Index (Upper Lower)			
- Left	0.23 0.16	0.36 0.17	
- Right	0.53 0.2	0.26 0.23	

Bonus points (maximum 5)

Pole Test: 2 points

Seat Belt Reminders: 2 points

Modifiers for offset test scores

Head

No deduction

Chest

No deduction

Upper leg Variable loading

1 point deduction L&R

Lower leg

No deduction

Foot score

Score 4 points

Structure

No deduction

Modifiers for side impact test scores

Head

Not assessed

Chest

Not assessed

Upper leg

Not assessed

Lower leg

Not assessed

Foot score

Not assessed

Structure

Not assessed



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