



Volvo XC90
Large Off-Road

2015



Adult Occupant



97%

Child Occupant



87%

Pedestrian



72%

Safety Assist



100%

SPECIFICATION

Tested Model	Volvo XC90 D5 'Momentum', LHD
Body Type	5 door SUV
Year Of Publication	2015
Kerb Weight	2040kg
VIN From Which Rating Applies	applies to all XC90's of the specification tested
Class	Large Off-Road 4x4

SAFETY EQUIPMENT

	Driver	Passenger	Rear
FRONTAL CRASH PROTECTION			
Frontal airbag	●	●	—
Belt pretensioner	●	●	●
Belt loadlimiter	●	●	●
Knee airbag	●	✗	—
SIDE CRASH PROTECTION			
Side head airbag	●	●	●
Side chest airbag	●	●	✗
Side pelvis airbag	✗	✗	✗

SAFETY EQUIPMENT (NEXT)

	Driver	Passenger	Rear
CHILD PROTECTION			
Isofix	—	○	●
Integrated CRS	—	✘	○
Airbag cut-off switch	—	●	—
SAFETY ASSIST			
Seat Belt Reminder	●	●	●

OTHER SYSTEMS	
Active Bonnet (Hood)	✘
ESC	●
AEB City	●
AEB Inter-Urban	●
Speed Assistance System	●
Lane Assist System	●

The Safety Equipment includes those items relevant for the year of assessment

- Fitted to test car as standard
 ○ Fitted to test car as option
 — Not applicable
 ✘ Not available
○ Not fitted to test car but available as option

ADULT OCCUPANT

Total 37.0 Pts / 97%

■ GOOD
 ■ ADEQUATE
 ■ MARGINAL
 ■ WEAK
 ■ POOR

Frontal Offset Deformable Barrier 7.8 Pts

Passenger Driver

Frontal Full Width 7.8 Pts

Rear Passenger Driver

Whiplash Rear Impact 2.8 Pts

Front seat Rear seat

Lateral Impact 15.6 Pts

Car Pole

AEB City 3

Performance: ■ Good

 ADULT OCCUPANT

Total 37.0 Pts / 97%

Comments on Adult Occupant

The passenger compartment of the XC90 remained stable in the frontal offset test. Dummy readings indicated good protection of the knees and femurs of both the driver and passenger. Volvo demonstrated that a similar level of protection would be provided to occupants of different statures and to those sat in different positions. In the full-width rigid barrier test, protection of the driver dummy was good for all critical body areas. For the rear passenger, protection of the chest was adequate and that of all other body regions was good. In the side barrier test, the XC90 scored maximum points with good protection of all critical body areas. In the more severe side pole impact, protection of the chest was adequate and that of all other body regions was good. In the original side pole test and to a lesser extent in the side barrier test, the side curtain airbag failed to deploy to its full extent at its rearmost edge. This would have resulted in protection for those in the optional third row seats that was less than Volvo had intended. Volvo investigated the cause and have implemented into production a modified trim panel which allows the airbag to deploy as intended. Euro NCAP's assessment is based on the updated vehicle currently being produced and Volvo will contact owners of cars with three seat rows in order to retro-fit the modified component. The front seats and head restraints provided good protection against whiplash injury in the event of a rear-end collision. A geometric assessment of the rear seats indicated good whiplash protection also for occupants of those seats. A standard-fit autonomous emergency braking system operates from the low speeds typical of city driving at which many whiplash injuries occur. The system scored maximum points in Euro NCAP's tests, bringing the car to a halt before collision at all test speeds.

CHILD OCCUPANT


Total 43 Pts / 87%

■ GOOD
 ■ ADEQUATE
 ■ MARGINAL
 ■ WEAK
 ■ POOR

Crash Test Performance

24 Pts


18 months old child 12 Pts



Tested restraint (Fit):
HTS iZi Kid X3 ISOfix

■ Good

36 months old child 12 Pts



Tested restraint (Fit):
HTS iZi Kid X3 ISOfix

■ Good

Safety Features

7 Pts

	Front Passenger	2nd row outboard	2nd row center	3rd row outboard	3rd row center
Isofix	○	●	✗	✗	
i-Size	○	●	✗	✗	
Integrated CRS	✗	✗	○	✗	

● Fitted to test car as standard
 ○ Not on test car but available as option
 ✗ Not available

CRS Installation Check

12 Pts

● Install without problem
 ● Safety critical problem
 ● Install with care
 ✗ Installation not allowed

■ **Infants up to 13 kg**

Maxi Cosi Cabriofix (Belt)



Maxi Cosi Cabriofix & EasyFix (Belt)



Maxi Cosi Cabriofix & EasyFix (ISOFIX)



CHILD OCCUPANT

Total 43 Pts / 87%

■ **Infants and toddlers up to 18 kg**

BeSafe iZi Kid X3 ISOfix (ISOfix)



■ **Toddlers from 9 to 18 kg**

Römer King Plus (Belt)



Römer Duo Plus (ISOfix)



Maxi Cosi Pearl & Familyfix (ISOfix)



■ **Toddlers over 18 kg**

Römer KidFix (Belt)



Römer KidFix (ISOfix)



CHILD OCCUPANT

Total 43 Pts / 87%

	Seat Position					
	Front	2nd row			3rd row	
	PASSENGER	LEFT	CENTER	RIGHT	LEFT	RIGHT
Maxi Cosi Cabriofix (Belt)	●	●	●	●	●	●
Römer King Plus (Belt)	●	●	●	●	●	●
Römer Duo Plus (ISOFIX)	✘	●	✘	●	✘	✘
Römer KidFix (Belt)	●	●	●	●	●	●
Maxi Cosi Cabriofix & EasyFix (Belt)	✘	●	✘	●	✘	✘
Maxi Cosi Cabriofix & EasyFix (ISOFIX)	✘	●	✘	●	✘	✘
BeSafe iZi Kid X3 ISOfix (ISOFIX)	✘	●	✘	●	✘	✘
Maxi Cosi Pearl & Familyfix (ISOFIX)	✘	●	✘	●	✘	✘
Römer KidFix (ISOFIX)	✘	●	✘	●	✘	✘

● Install without problem
 ● install with care
 ● safety critical problem
 ✘ Installation not allowed


Comments on Child Occupant

Both the 1½ year and 3 year dummies were sat in rearward-facing restraints and the XC90 scored maximum points for its protection of both in the full scale crash tests, with good protection of all parts of the body. The front passenger airbag can be disabled to allow a rearward-facing restraint to be used in that seating position. Clear information is provided to the driver regarding the status of the airbag and the system was rewarded. All of the child restraints for which the XC90 is designed could be properly installed and accommodated in the car, including in the optional third row seats. An integrated child restraint is an option for the second row centre position.

 PEDESTRIAN PROTECTION

Total 25.9 Pts / 72%

■ GOOD
 ■ ADEQUATE
 ■ MARGINAL
 ■ WEAK
 ■ POOR

Pedestrian Protection	25.9 Pts						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Head Impact</td> <td style="text-align: right; padding: 5px;">18.6 Pts</td> </tr> <tr> <td style="padding: 5px;">Pelvis Impact</td> <td style="text-align: right; padding: 5px;">1.4 Pts</td> </tr> <tr> <td style="padding: 5px;">Leg Impact</td> <td style="text-align: right; padding: 5px;">6 Pts</td> </tr> </table>	Head Impact	18.6 Pts	Pelvis Impact	1.4 Pts	Leg Impact	6 Pts
Head Impact	18.6 Pts						
Pelvis Impact	1.4 Pts						
Leg Impact	6 Pts						

Comments on Pedestrian

The bumper scored maximum points for its protection of pedestrians' legs, providing good protection in all areas tested. However, the protection offered to the pelvic region was predominantly poor. The bonnet offered good or adequate protection to the head of a struck pedestrian over almost all of its surface and no poor results were recorded, even on the stiff areas around the windscreen. The XC90's standard-fit autonomous emergency braking system recognises pedestrians and cyclists as well as other cars. Euro NCAP will start to assess the performance of such functionality in 2016 so the system cannot be rewarded here.

SAFETY ASSIST

Total 13 Pts / 100%

GOOD
 ADEQUATE
 MARGINAL
 WEAK
 POOR

Speed Assistance

3 Pts

System Name	Automatic Speed Limiter, ASL & Road Sign Information, RSI
Speed Limit Information Function	Camera & Map
Warning Function	System advised
Speed Limitation Function	System advised

Electronic Stability Control

3 Pts

System Name	ESC	
PERFORMANCE		
Vehicle Yaw Rate @ COS + 1.00 s	0.3%	meets ECE requirements
Vehicle Yaw Rate @ COS + 1.75 s	0.34%	meets ECE requirements
Lateral Displacement @ BOS + 1.07 s	3.3 m	meets ECE requirements

Seat Belt Reminder

3 Pts

Applies To	All seats		
	Driver Seat	front passenger(s)	rear passenger(s)
Warning			
Visual	●	●	●
Audible	●	●	●

● Pass
 ● Fail
 — Not available

Lane Support

1 Pts

System Name	Lane Departure Warning
Type	Lane Departure Warning
Operational From	65
Warning	Audible & Haptic
PERFORMANCE	
LDW Confirmation Test	Meets NHTSA requirements

 SAFETY ASSIST

Total 13 Pts / 100%

AEB Interurban

3 Pts

System Name	City Safety
Type	Forward Collision Warning with Auto-Brake
Operational From	4 Km/h
Additional Information	Default On; Supplementary Warning; Seatbelt Activation

PERFORMANCE | 

Operational Speed	4-230 Km/h	4-230 Km/h
	Autobrake Function Only	Driver reacts to warning
Approaching a stationary car	---	Crash avoided up to 80km/h. Crash speed reduced up to 80km/h.
Approaching a slower moving car	Crash avoided up to 70km/h.	Crash avoided up to 80km/h.
FOLLOWING A CAR AT SHORT DISTANCE		
Car in front brakes gently	Avoidance	Avoidance
Car in front brakes harshly	Avoidance	Avoidance
FOLLOWING A CAR AT LONG DISTANCE		
Car in front brakes gently	Avoidance	Avoidance
Car in front brakes harshly	Avoidance	Avoidance

Comments on Safety Assist

All Safety Assist features assessed by Euro NCAP are standard equipment on the XC90: electronic stability control; a seatbelt reminder for the front and rear seats, including the optional third row seats; a lane assistance system which warns the driver when the car is drifting out of lane and automatically steers the car gently back if needed; a speed assistance system which uses a camera and a digital map to show the local speed limit, allowing the driver to set the speed limiter as appropriate, or allow the system to do so automatically; and an autonomous emergency braking system which scored maximum points in Euro NCAP's tests for inter-urban systems, managing to avoid collision in all of the scenarios and at all of the speeds tested.