

ANCAP Safety Rating: VOLVO XC90 (Sep 2015 onwards?)



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Frontal offset test at 64km/h

This ANCAP safety rating applies to:

Make / Model	Volvo XC90
Year Range	September 2015 onwards
Variant(s)*	Diesel variants
Vehicle Type	LARGE SUV

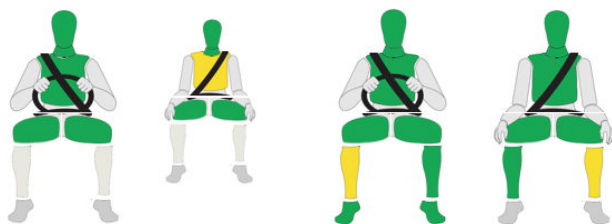
The tested model of Volvo XC90 was introduced in Australia and New Zealand in September 2015. This ANCAP safety rating applies to diesel variants.

Dual frontal, side chest and side head airbags (inflatable curtain for all three rows) and a driver knee airbag are standard. Electronic Brake Distribution (EBD), Emergency Brake Assist (EBA), Autonomous Emergency Braking (AEB) and Lane Support Systems are also standard. Advanced seat belt reminders are fitted to all seats.

Euro NCAP awarded the European XC90 full marks for Intelligent Speed Assistance (ISA) but the Australasian model currently lacks the speed limit data and speed limiter functions of this system.

Injury Outcomes.

Full Width Frontal **Frontal Offset**
Driver Rear Passenger Driver Front Passenger



Side Impact
Driver



Pole
Driver



Whiplash Protection

Rear Front



Test Results Summary.

Airbags	Dual Frontal, Side, Head, Knee
Adult Occupant Protection	97% (37.02 out of 38)
- Full Width Frontal Test	7.76 (out of 8)
- Frontal Offset Test	7.81 (out of 8)
- Side Impact Test	8.00 (out of 8)
- Pole Test	7.60 (out of 8)
- Whiplash Protection Test	2.85 (out of 3)
- AEB (City)	3.00 (out of 3)
Child Occupant Protection	87% (43.00 out of 49)
Safety Assist	73% (9.55 out of 13)
- Speed Assistance System	0.50 (out of 3)
- ESC	3.00 (out of 3)
- Seat Belt Reminders	3.0 (out of 3)
- Lane Support System	0.5 (out of 1)
- AEB (Interurban)	3.0 (out of 3)
Pedestrian Protection	72% (25.93 out of 36)
ANCAP Safety Rating	★★★★★
Rating Year[^]	2015

Adult Occupant Protection.

Full Width Frontal Test

Each body region is scored out of 4 points (total is halved)

Driver		Rear Passenger	
Head:	4.00 points	Head:	4.00 points
Neck:	4.00 points	Neck:	4.00 points
Chest:	4.00 points	Chest:	3.03 points
Upper legs:	4.00 points	Upper legs:	4.00 points

Frontal Offset Test

Each body region is scored out of 4 points (total is halved)

Driver/Front passenger (lesser of each)

Head / neck:	4.00 points
Chest:	4.00 points
Upper legs:	4.00 points
Lower legs:	3.63 points

The passenger compartment held its shape well in the offset test. Pedal and steering wheel displacements were well controlled. Driver and passenger contact with the airbags was stable. All doors remained closed during the crash.

Side Impact Test

Pole Test

Each body region is scored out of 4 points (total is halved)

Head:	4.00 points	Head:	4.00 points
Chest:	4.00 points	Chest:	3.20 points
Abdomen:	4.00 points	Abdomen:	4.00 points
Pelvis:	4.00 points	Pelvis:	4.00 points

There was a slight risk of serious chest injury in the pole test. Otherwise driver protection was good.

Whiplash Protection

Front / Rear:	1.85 points
Rear:	1.00 points
AEB (City):	3.00 points

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Child Occupant Protection.

Crash Test Performance

18 month old child: 12.00 points
3 year old child: 12.00 points

Child Safety Features

Safety features: 7 points
Installation check: 12 points

NOTE: The child restraints tested by Euro NCAP are relevant to the European market. For Australasian consumers, this information should be used as a guide to vehicle features only. For more detailed information about Australian child restraints visit childcarseats.com.au.

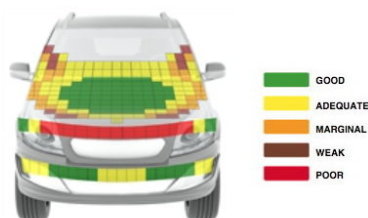
Pedestrian Protection.

Pedestrian Test

Scored out of 36 points

Adult & child head impacts: 18.59 points
Upper leg impacts: 1.36 points
Lower leg impacts: 5.98 points

This vehicle scored 25.93 out of 36 points (Acceptable). 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. The XC90's standard-fit autonomous emergency braking system recognises pedestrians and cyclists as well as other cars but it not part of the pedestrian protection scoring in 2015.



(Tested by Euro NCAP v8)

Score Deductions.

Deductions from full width frontal test scores

Neck:
Head:
Chest: No deductions
Upper legs:

Deductions from frontal offset test scores

Head / neck:
Chest: No deductions
Upper legs:
Lower legs:

Deductions from side impact test score

Chest: No deductions

Deductions from pole test score

Head: No deductions

Safety Features & Technologies.

Descriptions of each of these safety features and safety assist technologies (SAT) and detail on fitting requirements for each star rating level can be found at ancap.com.au.

Safety Feature / Safety Assist Technology	Availability
Seat belts (three-point) for all forward-facing seats	S
Seat belt pretensioners (all seats)	S
Intelligent seat belt reminder (driver)	S
Intelligent seat belt reminder (front passenger)	S
Intelligent seat belt reminder (2 nd row seats)	S
Intelligent seat belt reminder (3 rd row seats)	S
Airbag - Front (driver)	S
Airbag - Front (passenger)	S
Airbag - Side, chest protection (front seats)	S
Airbag - Side, chest protection (2 nd row seats)	X
Airbag - Side, head protection (front seats)	S
Airbag - Side, head protection (2 nd row seats)	S
Airbag - Side, head protection (3 rd row seats)	S
Airbag - Knee (driver)	S
Airbag - Knee (front passenger)	X
Head restraints for all seats	S
Adaptive cruise control (ACC)	O
Adaptive front lighting systems	S
Antilock braking system (ABS)	S
Attention assist (fatigue reminder)	S
Automatic headlights	S
Automatic high beam	S
Autonomous emergency braking (AEB)	S
Blind spot monitoring	O
Daytime running lights (DRL)	S
Electronic brakeforce distribution (EBD)	S
Electronic stability control (ESC)	S
Emergency brake assist (EBA)	S
Emergency stop signal	S
Hill launch assist	S
Integrated child booster seats for 2 nd row	S
Lane support system (LSS)	S
Pre-crash systems	S
Reversing collision avoidance (camera & sensor)	S
Roll stability system	S
Run-off road protection (seat design mitigates spinal injury)	S
Secondary brake assist (braking after collision)	S
Speed assistance - automatic speed limiting (ISA)	E
Speed assistance - manual speed limiting	E
Speed assistance - speed sign recognition & warning	S
Tyre pressure monitoring system (TPMS)	O

These specifications are subject to change. Please check with the manufacturer for the latest specifications.

S = Standard on all variants.
O = Optional on base variant. May be standard on higher variants.
V = Not available on base variant but standard or optional on higher variants.
X = Not available on any variant.
E = Available in Europe / USA but not available on any Australasian variant.

Safety Assist.

Speed Assistance System (SAS)

Scored 0.5 out of 3 points

Speed information (sign recognition):	0.5
Speed assistance (manual):	Not available in Australasia
Intelligent Speed Assistance	Not available in Australasia

Electronic Stability Control (ESC)

Scored 3.0 out of 3 points

AEB (Interurban)

Scored 3.00 out of 3 points

Autonomous emergency braking:	1.5 out of 1.5
Forward collision warning:	1.0 out of 1.0
Human machine interface:	0.5 out of 0.5

AEB Performance

Approaching a stationary vehicle: 18 out of 18 for Forward Collision Warning (FCW)



Approaching a slow moving vehicle: 11 out of 11 for AEB, 11 out of 11 for FCW



Approaching a braking vehicle with short headway: 2 out of 2 for AEB, 2 out of 2 for FCW



Approaching a braking vehicle with long headway: 2 out of 2 for AEB, 2 out of 2 for FCW



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ANCAP
Safety ★★★★★



Injury Values & Measurements.

Body Region	Frontal offset test at 64km/h (v7)		Full width frontal test at 50km/h (v7)		Side impact test at 50km/h (v7)	Pole test at 29km/h (v7)
	Driver	Front Passenger	Driver	Rear Passenger	Driver	Driver
Head						
HIC	132.00	181.00	287.00	202.00	18.00	364.00
Acceleration (g for 3ms)	38.90	43.60	55.70	47.70	17.50	64.17
Neck						
Shear (kN)	0.63	0.35	0.32	0.80	-	-
Tension (kN)	0.93	0.66	1.34	1.50	-	-
Extension (Nm)	5.40	12.10	24.50	11.60	-	-
Chest						
Acceleration (g for 3ms)	-	-	-	-	-	-
Compression (mm)	20.92	19.53	15.41	23.80	6.40	32.37
Viscous criterion (m/s)	0.07	0.04	0.05	0.10	0.03	0.31
Abdomen						
Compression (mm)	-	-	-	-	9.85	24.56
Pelvis						
Force (kN)	-	-	-	-	0.25	-
Upper legs						
Femur force left (kN)	0.58	0.02	1.51	0.09	-	-
Femur force right (kN)	0.91	0.00	1.89	0.16	-	-
Knee displacement left (mm)	0.11	0.22	1.40	-	-	-
Knee displacement right (mm)	0.83	0.96	2.73	-	-	-
Lower legs						
Force left (kN)	1.94	2.01	-	-	-	-
Force right (kN)	2.56	1.18	-	-	-	-
Index (upper / lower) left	0.34 / 0.17	0.20 / 0.23	-	-	-	-
Index (upper / lower) right	0.27 / 0.31	0.19 / 0.16	-	-	-	-
Intrusion Measurements						
Steering column						
Forward (mm)	78	-	88	-	-	-
Downward (mm)	38	-	44	-	-	-
Sideways (mm)	4	-	7	-	-	-
Pedals						
Accelerator - forward (mm)	1	-	-	-	-	-
Accelerator - downward (mm)	27	-	-	-	-	-
A-Pillar						
Rearward (mm)	9	-	-	-	-	-

* ANCAP safety ratings do not automatically extend to variants that have different body styles, engine configurations, driven wheels or occupant restraint systems (e.g. fewer airbags). In these cases, ANCAP considers technical evidence submitted by manufacturers before deciding on extending a rating to additional variants of a model. For further information about the application of ANCAP safety ratings to model variants, see the ANCAP Variant Policy.

^ The Rating Year denotes the year requirements against which a vehicle has been assessed. The Rating Year is determined by ANCAP and may be based on the year in which a new vehicle model is first launched into the Australian and/or New Zealand markets; the year in which the vehicle was tested (if tested by Euro NCAP); or, for vehicles which hold an existing ANCAP safety rating, the year in which the rating was updated (or earlier applicable year).

Assessment Details.

Tested Make / Model	Volvo XC90 Momentum LHD
Tested Vehicle(s) Built	2015
Tested Body Type	WAGON
Tested Vehicle Kerb Weight	2040 kg
Tested Vehicle Engine	D5 diesel
Tested By	Euro NCAP
Assessed By	Euro NCAP
Document Reference	XC90_15
Document Created / Revised	20/10/2015
Rating Published	October 2015

