



Volvo S90
Standard Safety Equipment

2017



Adult Occupant



95%

Child Occupant



80%

VRU Impact Protection



76%

Safety Assist



93%

SPECIFICATION

Tested Model	Volvo S90 D4 'Momentum', LHD
Body Type	- 4 door Saloon
Year Of Publication	2017
Kerb Weight	1828kg
VIN From Which Rating Applies	- all S90s
Class	Executive

✗ Rating Expired

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	●	●	✘
CHILD PROTECTION			
Isofix/i-Size	—	○	●
Integrated CRS	—	✘	○
Airbag cut-off switch	—	●	—
SAFETY ASSIST			
Seat Belt Reminder	●	●	●

SAFETY EQUIPMENT (NEXT)

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

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

Note: Other equipment may be available on the vehicle but was not considered in the test year.


- Fitted to the vehicle as standard ○ Fitted to the vehicle as part of the safety pack
- Not fitted to the test vehicle but available as option or as part of the safety pack ✘ Not available — Not applicable

 ADULT OCCUPANT


Total 36.2 Pts / 95%

GOOD
 ADEQUATE
 MARGINAL
 WEAK
 POOR

Frontal Offset Deformable Barrier 7.6 Pts




Passenger




Driver

Frontal Full Width 7.5 Pts




Rear Passenger




Driver

Whiplash Rear Impact 2.8 Pts




Front seat




Rear seat

Lateral Impact 15.4 Pts



Car



Pole

AEB City 3.0

Performance: Good



ADULT OCCUPANT

Total 36.2 Pts / 95%



GOOD



ADEQUATE



MARGINAL



WEAK



POOR



ADULT OCCUPANT

Total 36.2 Pts / 95%

Comments

The passenger compartment of the S90 remained stable in the frontal offset test. Dummy readings indicated good protection of the knees and femurs for both the driver and passenger. Volvo demonstrated that a similar level of protection would be provided to occupants of different sizes and to those sat in different positions. In the full-width rigid barrier test, protection of the driver was almost entirely good. Chest protection for the rear passenger was marginal but that of other body regions was good or adequate. In the side barrier impact, the S90 provided good protection for all critical body regions and scored maximum points. Even in the more severe side pole impact, protection of the chest was adequate and that of other body areas was good. Tests on the front seats and head restraints demonstrated good protection against whiplash injury in the event of a rear-end collision. A geometric assessment of the rear seats also indicated good whiplash protection. Additional whiplash protection is provided by 'City Safety', Volvo's autonomous emergency braking system. In tests of its performance at low speeds typical of city driving, the system scored maximum points, avoiding collision at all test speeds.

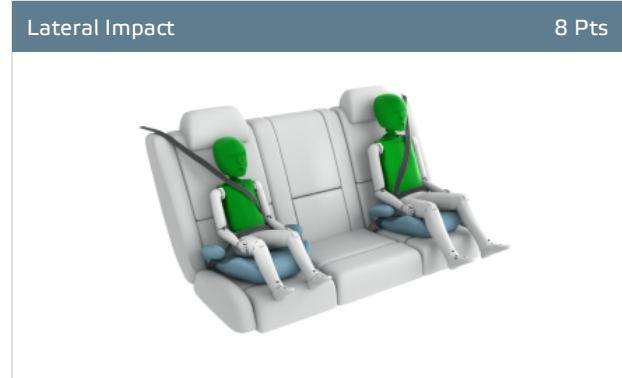
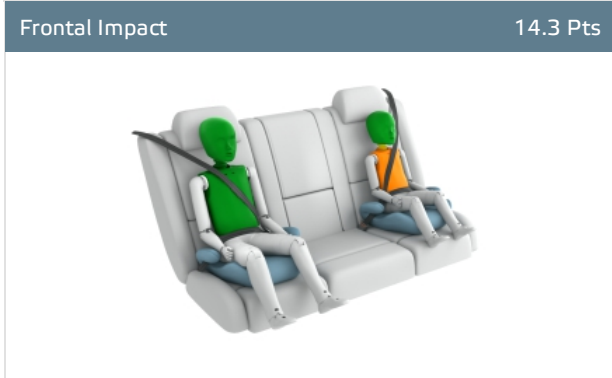
CHILD OCCUPANT

Total 39.3 Pts / 80%

GOOD
 ADEQUATE
 MARGINAL
 WEAK
 POOR

Crash Test Performance based on 6 & 10 year old children

22.3 Pts



Restraint for 6 year old child: *Volvo Integrated Booster Cushion*
 Restraint for 10 year old child: *Volvo Integrated Booster Cushion*

Safety Features

5.0 Pts

	Front Passenger	2nd row outboard	2nd 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

12.0 Pts

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

■ i-Size CRS

Maxi Cosi 2way Pearl & 2wayFix (rearward) (iSize)



Maxi Cosi 2way Pearl & 2wayFix (forward) (iSize)



BeSafe iZi Kid X2 i-Size (iSize)



■ ISOFIX CRS

Maxi Cosi Cabriofix & FamilyFix (ISOFIX)



BeSafe iZi Kid X4 ISOfix (ISOFIX)




Britax Römer Duo Plus (ISOFIX)



Britax Römer KidFix XP (ISOFIX)



 CHILD OCCUPANT

Total 39.3 Pts / 80%

- Universal Belted CRS

Maxi Cosi Cabriofix (Belt)



Maxi Cosi Cabriofix & EasyBase2 (Belt)



Britax Römer King II LS (Belt)



Britax Römer KidFix XP (Belt)



Comments

In the frontal offset test, protection of the 10 year dummy was good for all parts of the body, and maximum points were scored. Chest decelerations in the 6 year dummy indicated marginal performance but protection was otherwise good or adequate. In the side barrier test, protection of both 6 and 10 year dummies was good for all critical body areas and the S90 scored maximum points. The front passenger airbag can be disabled to allow a rearward-facing child 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 restraint types for which the S90 is designed could be properly installed and accommodated.



CHILD OCCUPANT

Total 39.3 Pts / 80%

	Seat Position			
	Front	2nd row		
	PASSENGER	LEFT	CENTER	RIGHT
Maxi Cosi 2way Pearl & 2wayFix (rearward) (iSize)	—	●	—	●
Maxi Cosi 2way Pearl & 2wayFix (forward) (iSize)	—	●	—	●
BeSafe iZi Kid X2 i-Size (iSize)	—	●	—	●
Maxi Cosi Cabriofix & FamilyFix (ISOFIX)	—	●	—	●
BeSafe iZi Kid X4 ISOfix (ISOFIX)	—	●	—	●
Britax Römer Duo Plus (ISOFIX)	—	●	—	●
Britax Römer KidFix XP (ISOFIX)	—	●	—	●
Maxi Cosi Cabriofix (Belt)	●	●	●	●
Maxi Cosi Cabriofix & EasyBase2 (Belt)	●	●	✘	●
Britax Römer King II LS (Belt)	●	●	●	●
Britax Römer KidFix XP (Belt)	●	●	●	●

● Easy ● Difficult ● Safety critical ✘ Not allowed — Not available

Comments

In the frontal offset test, protection of the 10 year dummy was good for all parts of the body, and maximum points were scored. Chest decelerations in the 6 year dummy indicated marginal performance but protection was otherwise good or adequate. In the side barrier test, protection of both 6 and 10 year dummies was good for all critical body areas and the S90 scored maximum points. The front passenger airbag can be disabled to allow a rearward-facing child 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 restraint types for which the S90 is designed could be properly installed and accommodated.

VRU IMPACT PROTECTION

Total 32.3 Pts / 76%

GOOD
 ADEQUATE
 MARGINAL
 WEAK
 POOR

VRU Impact Protection	26.3 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;">19.8 Pts</td> </tr> <tr> <td style="padding: 5px;">Pelvis Impact</td> <td style="text-align: right; padding: 5px;">0.5 Pts</td> </tr> <tr> <td style="padding: 5px;">Leg Impact</td> <td style="text-align: right; padding: 5px;">6.0 Pts</td> </tr> </table>	Head Impact	19.8 Pts	Pelvis Impact	0.5 Pts	Leg Impact	6.0 Pts
Head Impact	19.8 Pts						
Pelvis Impact	0.5 Pts						
Leg Impact	6.0 Pts						

AEB Pedestrian	6.0 Pts										
System Name	City Safety										
Type	Auto-Brake with Forward Collision Warning										
Operational From	4 km/h										
Additional Information	Defaults on for every journey; operates above 40km/h and in low ambient light										
PERFORMANCE 											
	Autobrake Function										
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; padding: 5px;">Avoidance</th> <th style="width: 50%; padding: 5px;">Mitigation</th> </tr> <tr> <td style="padding: 5px;">Running Adult crossing from Farside</td> <td style="padding: 5px;">Collision avoided up to 60 km/h</td> </tr> <tr> <td style="padding: 5px;">Walking Adult crossing from Nearside -25%</td> <td style="padding: 5px;">Collision avoided up to 60 km/h</td> </tr> <tr> <td style="padding: 5px;">Walking Adult crossing from Nearside -75%</td> <td style="padding: 5px;">Collision avoided up to 60 km/h</td> </tr> <tr> <td style="padding: 5px;">Running Child from behind parked vehicles</td> <td style="padding: 5px;">Collision avoided up to 40 km/h Impact mitigated up to 60 km/h</td> </tr> </table>	Avoidance	Mitigation	Running Adult crossing from Farside	Collision avoided up to 60 km/h	Walking Adult crossing from Nearside -25%	Collision avoided up to 60 km/h	Walking Adult crossing from Nearside -75%	Collision avoided up to 60 km/h	Running Child from behind parked vehicles	Collision avoided up to 40 km/h Impact mitigated up to 60 km/h
Avoidance	Mitigation										
Running Adult crossing from Farside	Collision avoided up to 60 km/h										
Walking Adult crossing from Nearside -25%	Collision avoided up to 60 km/h										
Walking Adult crossing from Nearside -75%	Collision avoided up to 60 km/h										
Running Child from behind parked vehicles	Collision avoided up to 40 km/h Impact mitigated up to 60 km/h										

Comments

The S90 has an 'active' bonnet. Sensors in the bumper detect when a pedestrian has been hit and actuators raise the bonnet to provide greater clearance to rigid structures in the engine bay. Volvo showed that the system deployed for a variety of pedestrian statures and over a broad range of speeds. Accordingly, the system was tested with the bonnet in the raised (deployed) position. Protection against head injury was almost entirely good. The protection provided by the bumper to pedestrians' legs was good for all test locations and maximum points were scored. However, protection of the pelvis was poor at nearly all test locations. Volvo's autonomous emergency braking system detects pedestrians as well as other vehicles. In Euro NCAP's tests, the S90 scored maximum points, avoiding collision in all test scenarios and at all test speeds.

SAFETY ASSIST

Total 11.2 Pts / 93%

GOOD
 ADEQUATE
 MARGINAL
 WEAK
 POOR

Speed Assistance

2.5 Pts

System Name	Automatic Speed Limiter, ASL & Road Sign Information, RSI
Speed Limit Information Function	Camera based, subsigns supported
Warning Function	Active braking (no warning necessary)
Speed Limitation Function	Manually set (accurate to 5km/h)

Seatbelt Reminder

3.0 Pts

Warning	All seats		
	Driver Seat	Front Passenger(s)	Rear Passenger(s)
Visual	●	●	●
Audible	●	●	●

● Pass
 ● Fail
 — Not available

Lane Support

2.7 Pts

System Name	Lane Departure Warning with Lane Keeping Aid
Type	Lane Keep Assist and Lane Departure Warning
Operational From	65 km/h
Warning	0
PERFORMANCE	
LKA Confirmation Test	Pass (5/5)
LDW Confirmation Test	Pass

SAFETY ASSIST

Total 11.2 Pts / 93%

AEB Inter-Urban

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 		
	Autobrake Function Only	Driver reacts to warning
Operational Speed	4-230 km/h	4-230 km/h
Approaching a stationary car	See AEB City	Crash avoided 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

The standard-fit 'City Safety' autonomous braking system scored full points in tests of its performance at highway speeds, with complete collision avoidance in all scenarios and at all test speeds. The S90 is equipped with an 'intelligent speed assistance' system which informs the driver of the speed limit and allows the driver to set the limit appropriately. The S90's lane assistance system warns the driver when the car is drifting out of lane and applies a small corrective steering to bring the car back into its lane.

RATING VALIDITY

Variants of Model Range

Body Type	Engine & Transmission	Model Name/Code	Drivetrain	Rating Applies	
				LHD	RHD
4 door saloon	2.0 diesel, Manual and Automatic	S90 D3	FWD	✓	✓
4 door saloon	2.0 diesel, Manual and Automatic*	S90 D4	FWD	✓	✓
4 door saloon	2.0 diesel, Automatic	S90 D5	AWD	✓	✓
4 door saloon	2.0 petrol, Automatic	S90 T5	FWD	✓	✓
4 door saloon	2.0 petrol, Automatic	S90 T6	AWD	✓	✓

* Tested variant

Annual Reviews and Facelifts

Date	Event	Outcome
January 2017	Rating Published	2017 ★★★★★ ✓
January 2018	Annual Review	2017 ★★★★★ ✓
January 2019	Annual Review	2017 ★★★★★ ✓