



**Volvo S90**  
Standard Safety Equipment

2017



Adult Occupant



95%

Child Occupant



80%

Pedestrian



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                    |

## SAFETY EQUIPMENT

|                                 | Driver | Passenger | Rear |
|---------------------------------|--------|-----------|------|
| <b>FRONTAL CRASH PROTECTION</b> |        |           |      |
| Frontal airbag                  | ●      | ●         | ✘    |
| Belt pretensioner               | ●      | ●         | ●    |
| Belt loadlimiter                | ●      | ●         | ●    |
| Knee airbag                     | ●      | ✘         | ✘    |
| <b>SIDE CRASH PROTECTION</b>    |        |           |      |
| Side head airbag                | ●      | ●         | ●    |
| Side chest airbag               | ●      | ●         | ✘    |
| Side pelvis airbag              | ●      | ●         | ✘    |

Version 230318

## 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)    | ● |
| 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

Performance: ■ Good

 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

Frontal Impact 14.3 Pts



Lateral Impact 8 Pts



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

5 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 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)



**CHILD OCCUPANT**

Total 39.3 Pts / 80%

■ **ISOFIX CRS**

Maxi Cosi Cabriofix & FamilyFix (ISOFIX)



BeSafe iZi Kid X4 ISOfix (ISOFIX)



Römer Duo Plus (ISOFIX)



Römer KidFix XP (ISOFIX)



■ **Universal Belted CRS**

Maxi Cosi Cabriofix (Belt)



Maxi Cosi Cabriofix & EasyBase2 (Belt)



Römer King II LS (Belt)



Römer KidFix XP (Belt)



## 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)                 | □             | ●       | □      | ●     |
| Römer Duo Plus (ISOFIX)                           | □             | ●       | □      | ●     |
| Römer KidFix XP (ISOFIX)                          | □             | ●       | □      | ●     |
| Maxi Cosi Cabriofix (Belt)                        | ●             | ●       | ●      | ●     |
| Maxi Cosi Cabriofix & EasyBase2 (Belt)            | ●             | ●       | ✘      | ●     |
| Römer King II LS (Belt)                           | ●             | ●       | ●      | ●     |
| Römer KidFix XP (Belt)                            | ●             | ●       | ●      | ●     |

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

## 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.

**PEDESTRIAN PROTECTION**

Total 32.3 Pts / 76%

■ GOOD   
 ■ ADEQUATE   
 ■ MARGINAL   
 ■ WEAK   
 ■ POOR

|                       |   |             |          |               |         |            |       |
|-----------------------|---|-------------|----------|---------------|---------|------------|-------|
| Pedestrian Protection | 32.3 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 Pts</td> </tr> </table> | Head Impact | 19.8 Pts | Pelvis Impact | 0.5 Pts | Leg Impact | 6 Pts |
| Head Impact           | 19.8 Pts  |             |          |               |         |            |       |
| Pelvis Impact         | 0.5 Pts   |             |          |               |         |            |       |
| Leg Impact            | 6 Pts   |             |          |               |         |            |       |

|                        |   |
|------------------------|---|
| AEB Pedestrian         | 6 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   <span style="color: green;">■</span> |                                 |                                |
|--|---------------------------------|--------------------------------|
|  | Autobrake Function              |                                |
|  | 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)                          |

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

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 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 |

|                                   | 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             |