

Crash Tests

New Car Safety

HYUNDAI SONATA

1998 on

No airbag

Overall Evaluation*



Overall rating*

31%

* High risk of life threatening head injury in offset test.

Variant: GLE Sedan. Engine: 4 Cyl. 2 litre.
Kerb weight: 1390 kg Category: LARGE/MEDIUM CAR
Vehicles built: January and July 1999

OVERALL EVALUATION : 2 Stars*

The Hyundai Sonata did not perform well in the offset crash test. The passenger compartment was substantially deformed. The driver was poorly protected from serious injury to the head, chest and legs.

The vehicle performed better in the side impact crash but there was a high risk of life threatening chest injury for the driver.

Safety features

Dual airbags are optional for about \$1200. Airbags were not fitted to the Australian test vehicles but provided good protection from serious head injury for the driver in a US offset crash test of an airbag-equipped Sonata.

The front seat belt buckles are mounted on the seats and the upper anchorages are adjustable. These features improve the fit of the seat belt. Lap/sash (3 point) seat belts are fitted to all seats, including the centre rear seat.

STRUCTURE : POOR

Offset crash test

The passenger compartment was substantially deformed in the offset crash test. The front part of the driver's floor was pushed rearwards 28cm. It was severely folded and separated from the sill. The brake pedal moved rearwards by 30cm. The dash moved 20cm towards the driver. The roof buckled at the top of the windscreen pillar and the width of the driver's doorway shortened by 21cm. All doors remained closed during the crash. After the crash tools were required to open the driver's door.

Side impact crash test

The centre pillar and the side doors were pushed inwards substantially. The driver's seat was pushed sideways but the anchorages held.

RESTRAINTS

Offset crash test

The driver's head hit the steering wheel and dash. The driver's knee hit the dash, which disintegrated. The



Offset crash test at 64km/h

passenger's head did not hit anything. The passenger's knees hit the glove box and dash.

(Restraints continued)

Side impact crash test (no front passenger)

The driver's head hit the centre pillar then rebounded. The head rocked severely to the left during rebound.

INJURY MEASUREMENTS

Refer to the information sheet "How the test are done"	Offset Crash Test at 64km/h		Side Impact Crash Test at 50km/h
	Driver	Passn	Driver
Head HIC	990	732	177
Acceleration (g for 3ms)	91.9	75.6	54.8
Neck - Shear (kN)	-	-	-
Tension (kN)	2.2	1.8	-
Extension (Nm)	-	-	-
Chest Accln (g for 3ms)	42.1	38.8	-
Compression (mm)	37.2	39.6	37.7
Viscous criterion (m/s)	0.2	0.2	0.49
Abdomen - Force (kN)	-	-	2.1
Pelvis - Force (kN)	-	-	3.1
Upper legs Force			
(kN) Left	11.4	0.5	
(kN) Right	6.8	1.8	
Knee displ (mm)			
Left	0	0	
Right	6.6	3	
Lower legs Comp			
(kN) Left	5.3	2	
(kN) Right	1.4	2.1	
Index (Upper/Low)			
Left	1.45/1.82	0.25/0.3	
Right	0.7/0.98	0.33/0.17	
Injury Risk#	23.1%	12.9%	

#"Injury risk" is the probability of receiving a life-threatening injury. It is based on dummy head and chest measurements in the offset test.

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