Crash Tests

New Car Safety

TOYOTA RAV4 CRUISER

Dec 2002 on Front+Side & head airbags

Overall Evaluation ★★★★☆

Overall score **27.11 out of 37**

Variant:5 door Eng: 4 cyl 2 litre.

Kerb weight: 1380 kg Category: Compact 4WD

Vehicles built: 2002 (offset and side impact), 2004 (pole)

Model History and Safety Features

The tested model of Toyota RAV4 was introduced in July 2000. Knee protection was upgraded in December 2002. *This assessment applies to the upgraded model fitted with optional side curtain airbags.*

Dual front airbags are standard equipment. An option pack for the Cruiser variant features side/thorax and side/curtain airbags, electronic stability control, traction control and brake assist. 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. Pretensioners are fitted to the front seat belts to reduce slack in the event of a crash. These seat belts also have load limiters. A three point seat belt is fitted to the centre rear seat. This provides better protection than a two point seat belt.

OVERALL EVALUATION : 4 Stars

The Toyota RAV4 scored 10.19 out of 16 in the offset crash test. The passenger compartment held its shape reasonably well. There was a moderate risk of serious chest and leg injury for the driver.

The vehicle scored 14.92 out of 16 in the side impact crash test. There was a slight risk of serious chest injury for the driver. A further 2 points were scored in the pole test.

FRONTAL OFFSET CRASH TEST

Body region scores out of 4 points each: Head/neck 4pts, chest 1.64pts, upper legs 2.20pts, lower legs 2.36pts.

The passenger compartment held its shape reasonably well in the offset crash test. The front part of the driver's floor was pushed rearwards 208mm and was folded. The brake pedal moved rearwards by 121mm and upwards 29mm. The dash moved 67mm towards the driver. The steering wheel hub moved rearwards 61mm, upwards 34mm and sideways 66mm. The front ("A") pillar moved 78mm rearwards. The roof buckled upwards above the driver and the width of the driver's doorway shortened by 72mm. All doors remained closed during the crash. After the crash tools were required to open the driver's door.

The airbag cushioned the head of the driver. The head started to roll off the side of the airbag but was not sufficient to attract a deduction. The driver's knees hit the steering column and dash. The ignition switch barrel was a potential source of knee injury. Although an upgrade to the steering column design has improved the protection a one point deduction for concentrated loading remains. The passenger's head was cushioned by the airbag. The passenger's knees hit the glove box and dash.

SIDE IMPACT CRASH TEST

Body region scores out of 4 points each: Head 4pts, chest 2.92pts, abdomen 4pts, pelvis 4pts.

This test simulates a small car striking the driver's door of the vehicle under test. High-seat vehicles like the RAV4 can be



Offset crash test at 64km/h

expected to perform relatively well in this particular side impact test. There was, however, a slight risk of serious chest injury for the driver.

Cruiser variants of the RAV4 have head-protecting side curtain airbags as part of an optional pack. ANCAP chose to conduct a pole test and the vehicle with curtains earned the maximum two points.

INJURY MEASUREMENTS

Refer to the information sheet "How the test are done"	Offset Crash Test at 64km/h (v3.0)		Side Impact Crash Test at 50km/h (v3.0)
	Driver	**Passn**	**Driver**
Head HIC	456	209	78
Acceleration (g for 3ms)	52	34.1	38.9
Neck - Shear (kN)	0.37	0.64	-
Tension (kN)	1.91	0.94	-
Extension (Nm)	24	23.13	-
Chest Accln (g for 3ms)	43	35.6	-
Compression (mm)	38.5	29.7	27.393
Viscous criterion (m/s)	0.28	0.24	0.395
Abdomen - Force (kN)	-	-	0.601
Pelvis - Force (kN)	-	-	1.19
Upper legs Force (kN) Left	0.56	1.1	
Right	4.86	2.02	
Knee displ (mm) Left	0.44	3.21	
Right	2.71	3.54	
Lower legs Force (kN) Left	1.41	1.32	
Right	1.54	1.3	
Index (Upper/Low) Left	0.35/0.77	0.31/0.29	
Right	0.42/0.44	0.31/0.35	

Bonus points

Pole Test (v4.0): 2 points Seat belt reminders: None

Modifiers for offset test scores

Head		No deduction
Chest		No deduction
Upper leg	Conc. loading	1 pt deduction L & R
Lower leg		No deduction
Foot score	Brake pedal rear move.	Score 3.16 points

Pedestrian rating (v3.0) ★★☆☆

9.89 points out of 36 (27.5%)

Child head impacts 3pts; adult head impacts 6.89pts; upper leg zero pts and lower leg impacts zero pts.

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