

Crash Tests

New Car Safety

TOYOTA RAV4

Dec 2002 on

Dual front airbags

Overall Evaluation



Overall score

25.11 out of 34

Variant: 5 door Edge

Eng: 4 cyl 2 litre.

Kerb weight: 1380 kg

Category: Compact 4WD

Vehicles built: 7/02.

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.*

Dual front airbags are standard equipment. 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 10.194 out of 16 in the offset crash test. The passenger compartment held its shape reasonably well. The car was at a moderate risk of serious chest and leg injury for the driver.

The vehicle scored 14.921 out of 16 in the side impact crash test. There was a slight risk of serious chest injury for the driver.

FRONTAL OFFSET CRASH TEST

Body region scores out of 4 points each: Head/neck 4pts, chest 1.643pts, upper legs 2.195pts, lower legs 2.356pts.

The passenger compartment was 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 penalty. The driver's knees hit the steering column and dash. The ignition switch barrel was found to be a potential source of knee injury. Although a recent upgrade to the steering column design has improved the protection a one point penalty 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 2.921pts, abdomen 4pts, pelvis 4pts.



Offset crash test at 64km/h

This test simulates a fairly small car striking the driver's door of the vehicle under test. It is based on a regulation test but the regulation does not apply to vehicles with a high seat height like the RAV4. Such vehicles can be expected to perform relatively well in this particular side impact test. There was, however, a slight risk of serious chest injury for the driver.

The vehicle was not eligible for a Pole Impact Test since it did not have head-protecting side airbags. This test can earn eligible vehicles an extra two points, giving a maximum possible overall score of 34 points.

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	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 Left (kN)	0.56	1.1	
Right (kN)	4.86	2.02	
Knee displ (mm) Left	0.44	3.21	
Right	2.71	3.54	
Lower legs Force Left (kN)	1.41	1.32	
Right (kN)	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: Not eligible

Seat belt reminders: Not eligible

Modifiers for offset test scores

Head

No penalty

Chest

No penalty

Upper leg

Conc. loading

1 pt penalty L & R

Lower leg

No penalty

Foot score

Brake pedal rear move.

Score 3.16 points

Pedestrian rating (2002 protocol)



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.

December 2002



Published by
New Car Assessment Program
PO Box 1555
Canberra ACT Australia 2601
www.nrma.com.au/crashtests/
rav4_02.doc issued 28-Nov-02