# **Crash Tests**

# **New Car Safety**

# Kia Rio

03/2007 on 07/2011 - Frontal+Side+Head

**Overall Evaluation** 



Overall Score Variant: 5 dr hatch 28.5 out of 37 Engine: 1.4 litre Category: Small Car

\* Safety equipment, as tested, not standard on all variants
The left-hand-drive European model was tested by Euro NCAP. Australasian
specifications may vary and therefore models sold in Australasia might provide
different levels of protection to those described on this page.

## **Model History and Safety Features**

The tested model of Kia Rio was introduced in Australia during 2005. Dual front airbags are standard equipment. Side airbags and head-protecting side curtains, as fitted to the tested vehicle, are standard on some variants but are not available on others. Antilock brakes (ABS) with electronic brake distribution (EBD) are also standard on some Australian variants and all New Zealand variants. Electronic stability control (ESC) is not available. An intelligent seat belt reminder is fitted to the

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. A three point seat belt is fitted to the centre rear seat. This provides better protection than a two point (lap) seat belt.

#### **Overall Evaluation: 4**

4 Stars. The Rio scored 11.02 out of 16 in the offset crash test. The passenger compartment held its shape well. Protection from serious chest and leg injury was marginal for the driver. The vehicle scored 14.48 out of 16 in the side impact crash test. There was a slight risk of serious chest and abdomen injury for the driver. A further two points were scored in the optional pole test.

# **Frontal Offset Crash Test**

Body region scores out of 4 points each: Head/neck 4 pts, chest 2.04 pts, upper legs 2 pts, lower legs 2.98 pts.

The passenger compartment held its shape well in the offset crash test. The brake pedal moved rearwards by 68 mm. The throttle pedal moved upwards 34 mm. The steering wheel hub moved 4mm rearward, 53mm upward and 1mm sideway. The front ("A") pillar moved 23 mm rearwards. All doors remained closed during the crash.

The airbag cushioned the head of the driver and contact was stable. Steering column and dash components were a potential source of injury for the driver and passenger knees. The passenger's head was cushioned by the airbag.

#### **Side Impact Crash Test**

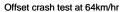
Body region scores out of 4 points each: Head 4 pts, chest 3.28 pts, abdomen 3.2 pts, pelvis 4 pts.

The vehicle was eligible for an optional pole impact test, since it had head-protecting side airbags and scored four points for the head in the side impact test. The manufacturer decided to go ahead with the pole test and the vehicle earned a further two points.

#### Pedestrian rating (v4.1)



Child head impacts 8.63
Adult head impacts Zero
Upper leg impacts Zero
Lower leg impacts 4.33
Total (out of 36) 12.96





**Injury Measurements** 

| Refer to the information sheet | Offset Crash Test at 64km/h |             | Side Impact   |
|--------------------------------|-----------------------------|-------------|---------------|
| 'How the tests are done'       | (v4.1)                      |             | Crash Test aa |
|                                |                             |             | 50km/h (v4.1) |
|                                | Driver                      | Passn       | Driver        |
| Head                           |                             |             |               |
| - HIC                          | 357                         | 309         | 36            |
| - Acceleration (g for 3ms)     | 46.5                        | 40.8        | 20.7          |
| Neck                           |                             |             |               |
| - Shear (kN)                   | 0.29                        | 0.65        |               |
| - Tension (kN)                 | 1.23                        | 1.2         |               |
| - Extension (Nm)               | 9.5                         | 14.2        |               |
| Chest                          |                             |             |               |
| - Acceleration (g for 3ms)     |                             |             |               |
| - Compression (mm)             | 35.71                       | 30.81       | 25.53         |
| - Viscous Criterion (m/s)      | 0.01                        | 0.11        | 0.23          |
| Abdomen                        |                             |             |               |
| - Force (kN)                   |                             |             | 1.3           |
| Pelvis                         |                             |             |               |
| - Force (kN)                   |                             |             | 2.32          |
| Upper Legs Force (kN)          |                             |             |               |
| - Left                         | 2.5                         | 1.82        |               |
| - Right                        | 2.54                        | 0.43        |               |
| Knee Displacement (kN)         |                             |             |               |
| - Left                         | 1.86                        | 3.94        |               |
| - Right                        | 0                           | 0.28        |               |
| Lower Legs Force (kN)          |                             | ~           |               |
| - Left                         | 1.45                        | 2.45        |               |
| - Right                        | 3                           | 1.98        |               |
| Index (Upper   Lower)          | 0.001040                    | 0.0010.00   |               |
| - Left                         | 0.23   0.18                 | 0.22   0.26 |               |
| - Right                        | 0.63   0.37                 | 0.25   0.19 |               |

#### Bonus points (maximum 5)

Pole Test: 2 pts Seat Belt Reminders: 1

Structure

Lower leg

Foot score

Structure

## Modifiers for offset test scores

Chest
Upper leg Variable & Conc. loading

for driver & passenger
Lower leg
Foot score Footwell rupture

No deduction No deduction 2 pt deduction L & R

No deduction 3 pts

### Modifiers for side impact test scores

Head Chest Backplate & T12 loads Upper leg

0.01 pt deduction



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