

# Crash Tests

## New Car Safety

### MAZDA 121

2000 on

Driver airbag

#### Overall Evaluation



Overall score

14.99 out of 34

Variant: 5 DR HATCH

Eng: 4CYL 1.3 litre.

Kerb weight: 970 kg

Category: LIGHT/SMALL CAR

Vehicles built: 9/01 and 9/01

#### Model History and Safety features

The tested model of Mazda 121 was introduced in 2000.

A driver's airbag is 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 front seat belts to reduce slack in the event of a crash.

#### OVERALL EVALUATION : 2 Stars

The MAZDA 121 scored 3.13 out of 16 in the offset crash test. The passenger compartment was substantially deformed. Protection from serious chest and leg injury was poor for the driver.

The vehicle scored 11.86 out of 16 in the side impact crash. There was a moderate risk of serious chest injury for the driver.

#### FRONTAL OFFSET CRASH TEST

Body region scores out of 4 points each: Head/neck 3.13pts, chest zero pts, upper legs zero pts, lower legs zero pts.

The passenger compartment was substantially deformed in the offset crash test. The front part of the driver's floor was pushed rearwards 260mm and was severely folded. The dummy's legs were trapped and had to be removed to free the dummy from the vehicle. The brake pedal moved rearwards by 313mm and upwards 17mm. The dash moved 111mm towards the driver. The steering wheel hub moved rearwards 80mm, upwards 23mm and sideways 97mm. The front ("A") pillar moved 209mm rearwards. The width of the driver's doorway shortened by 209mm. All doors remained closed during the crash. After the crash high manual effort was required to open the driver's door.

The driver's head sank deeply into the airbag and may have struck the steering wheel through the airbag. There was a slight risk of serious neck injury. Chest protection was weak. The ignition barrel and metal brackets behind the dash are potential sources of knee injury. The passenger's head struck the dash but injury measurements indicated a low risk of serious head injury. The passenger's knees hit the glove box and centre console. After the crash it was found that the seat runner on the driver's side of the rear seat had disengaged, allowing the seat to move forward.

#### SIDE IMPACT CRASH TEST

Body region scores out of 4 points each: Head 4pts, chest 1.06pts, abdomen 3.79pts, pelvis 3.01pts.



Offset crash test at 64km/h

The centre pillar and lower part of the side doors were pushed inwards substantially. There was a large gap between the rear door and the door frame but the door was secure.

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	918	496	165
Acceleration (g for 3ms)	77.8	58.4	39.6
Neck - Shear (kN)	0.6	1.28	-
Tension (kN)	2.83	1.75	-
Extension (Nm)	39.6	23.2	-
Chest Accln (g for 3ms)	60.9	35.9	-
Compression (mm)	36.3	33.2	36.7
Viscous criterion (m/s)	0.23	0.13	0.53
Abdomen - Force (kN)	-	-	1.08
Pelvis - Force (kN)	-	-	3.74
Upper legs Force			
Left (kN)	5	1.25	
Right (kN)	12.16	2.21	
Knee displ (mm)			
Left	1.98	1.91	
Right	17.5	3.81	
Lower legs Force			
Left (kN)	1.95	1.74	
Right (kN)	2.94	1.67	
Index (Upper/Low)			
Left	0.58/0.49	0.28/0.26	
Right	1.01/1.3	0.4/0.38	

#### Modifiers for offset test scores

Head		no penalty
Chest	A-pillar movement	2 pt penalty
Upper leg	Variable & conc. loading	2pt penalty L&R
Lower leg	Brake pedal upward	no penalty
Foot score	Brake pedal rearward	Zero score

#### Pedestrian rating



20.51 points out of 36 (57%)

Child head impacts 7.35pts; adult head impacts 6pts; upper leg 1.16pts and lower leg impacts 6pts.



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