

Crash Tests

New Car Safety

Mazda BT-50

07/2007 on 09/2011 - Dual Frontal

Overall Evaluation



Overall Score

Variant: DX Dual cab 4X4

22.46 out of 37

Engine: 3 litre Turbo Diesel

Category: Utility

Model History and Safety Features

The tested model of Mazda BT50 utility was introduced in Australia during 2007. The Ford Ranger is based on the same design and can be expected to have similar crashworthiness.

Dual front airbags and front seat belts with pretensioners are standard equipment on most BT50 variants but are optional on the single cab/chassis DX in Australia. They are standard on all Ford Rangers in Australia but airbags are not available on some New Zealand Rangers. Antilock brakes (ABS) with electronic brake distribution (EBD) are optional on some variants and standard on other variants of the BT50 and Ranger.

Side airbags with head and chest protection are optional on some variants of the Australian Ford Ranger as part of a safety pack. Side airbags are standard on some variants of the BT50 and Ranger in New Zealand.

A two point seat belt is fitted to the centre rear seat. This provides inferior protection compared with a three point seat belt. Child restraint anchorages are fitted behind the rear seat but are difficult to reach.

Overall Evaluation: 3

3 Stars. The BT50 scored 6.457 out of 16 in the offset crash test. Passenger compartment integrity was compromised. Protection from serious leg injury was poor for the driver. Chest and upper leg protection was marginal for the driver. The vehicle was awarded a default score of 16 out of 16 in the side impact crash test.

Frontal Offset Crash Test

Body region scores out of 4 points each: Head/neck 3 pts, chest 1.46 pts, upper legs 2 pts, lower legs zero pts.

The passenger compartment was severely deformed in the offset crash test. The brake pedal moved rearwards by 472 mm and upwards 139 mm, ending up near the front edge of the driver seat. The steering wheel hub moved 125 mm rearward, 106 mm upward and 18 mm sideways. The front ("A") pillar moved 230 mm rearwards. All doors remained closed during the crash. After the crash tools were required to open the driver door. The airbag cushioned the head of the driver and contact was marginally stable. Steering column and dash components and the park brake lever were potential sources of injury for the driver's 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 4 pts, abdomen 4 pts, pelvis 4 pts.

The side impact test normally used by ANCAP simulates a 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 BT50. Experience shows that such vehicles can be expected to perform well in this test so ANCAP has decided to award full score for these vehicles instead of conducting a crash test.

Pedestrian rating (v4.1)



This rating applies to the Mazda BT50. The Ford Ranger has panel differences that might affect the pedestrian protection rating. Like many vehicles of this type, a poor result for the BT50. The central region of the bonnet performed well for both child and head impacts, however the edges of the bonnet performed poorly. The results for both upper and full leg tests were universally poor.

Child head impacts	4
Adult head impacts	4.18
Upper leg impacts	Zero
Lower leg impacts	Zero
Total (out of 36)	8.18

Offset crash test at 64km/hr



Injury Measurements

Refer to the information sheet 'How the tests are done'	Offset Crash Test at 64km/h (v4.1)		Side Impact Crash Test aa 50km/h (v4.1) Driver
	Driver	Passn	
Head			
- HIC	200	266	
- Acceleration (g for 3ms)	39.9	41.7	
Neck			
- Shear (kN)	0.42	0.9	
- Tension (kN)	1.08	1.55	
- Extension (Nm)	16.2	15.1	
Chest			
- Acceleration (g for 3ms)	25.8	33.1	
- Compression (mm)	25.8	28.96	
- Viscous Criterion (m/s)	0.15	0.14	
Abdomen			
- Force (kN)			
Pelvis			
- Force (kN)			
Upper Legs Force (kN)			
- Left	3.02	0.23	
- Right	1.19	2.04	
Knee Displacement (kN)			
- Left	1.66	4.69	
- Right	0.06	0.79	
Lower Legs Force (kN)			
- Left	9.59	1.25	
- Right	6.67	3.58	
Index (Upper Lower)			
- Left	1.49 2.2	0.36 0.4	
- Right	1.19 1.07	0.72 0.62	

Bonus points (maximum 5)

Pole Test: Not eligible no head protect side airbags on BT50

Seat Belt Reminders: None eligible

Modifiers for offset test scores

Head	Steering column movement	1 pt deduction
Chest	A-pillar movement & loss of structural integrity	2pt deduction & 1 pt deduction (max 2pts deduct)
Upper leg	Variable & Conc. loading	2 pt deduction L&R
Lower leg	Pedal upward movement	1 pt deduction
Foot score	Pedal rearward movement	zero points
Structure	Steering column and pedal movements are	measured relative to the driver's seat.

Modifiers for side impact test scores

Head	Default score awarded
Chest	
Upper leg	
Lower leg	
Foot score	
Structure	



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