
INSURANCE INSTITUTE FOR HIGHWAY SAFETY

NEWS RELEASE

August 16, 2007

NEW SIDE TESTS OF LARGE LUXURY CARS: LUXURY DOESN'T ALWAYS BUY SAFETY

ARLINGTON, VA — Three of six large car models earn the top rating of good, but one is marginal in side impact crash tests conducted by the Insurance Institute for Highway Safety. Results show a range of performance in how well large cars are designed to protect people in serious side crashes.

Ratings of good, acceptable, marginal, or poor are based on a crash test in which a barrier designed to replicate the front end of a typical SUV or pickup truck strikes the tested vehicle in the side at 31 mph.

The best performers are the Acura RL, Kia Amanti, and Volvo S80, all 2007 models. The S80 also earns the Institute's 2007 *TOP SAFETY PICK* award for superior overall crash protection. The S80 qualifies because it's rated good in the Institute's front, side, and rear tests and has electronic stability control as standard equipment. The 2007 Cadillac STS and Mercedes E class earn acceptable ratings in the latest round of side tests. The worst performer is the 2008 BMW 5 series, which earns the second lowest rating of marginal for side impact protection. All 6 cars are equipped with standard side airbags that protect the heads of people in front and rear seats.

Side impacts are the second most common fatal crash type after frontal crashes. About 9,200 people in passenger vehicles were killed in side impacts in 2005. In crashes with other passenger vehicles during 2004-05, 49 percent of driver deaths in 1-3-year-old cars and minivans occurred in side impacts, up from 31 percent in 1980-81. During the same time, the proportion of driver deaths in frontal crashes declined from 61 to 46 percent.

"These changes are attributable to two effects," says Institute president Adrian Lund. "There have been significant improvements in frontal crash protection —

— MORE —

standard airbags, improved structural designs, and increased use of safety belts, for example. At the same time, growing sales of SUVs and pickups have exacerbated height mismatches among passenger vehicles, thereby increasing the risks to occupants of many vehicles struck in the side.”

High price doesn't always predict safety performance: The lowest priced vehicle in the group the Institute recently tested, the Amanti, was one of the best performers. One of the most expensive models, the 5 series, was the worst.

“The Amanti shows that you don't have to buy an expensive car to get good protection in crashes with SUVs and pickup trucks,” Lund points out. The side structure of the Amanti allowed more intrusion than in the other cars in this group, but all of the injury measures recorded on the dummies were low. The standard head curtain airbags for front- and back-seat occupants kept the dummies' heads from hitting any hard structures including the intruding crash test barrier.

The head-protecting airbags in the BMW 5 series are tubular structures that differ from the curtain airbags in the Amanti but also are effective. However, torso protection is rated poor for the driver dummy in the 5 series, even though it has separate airbags designed to protect the chests and abdomens of front-seat occupants. Measures recorded on the driver dummy indicate that rib fractures and internal organ injuries would be likely to occur in a real-world crash of this severity. A pelvic fracture also would be possible.

Changes are made to improve occupant protection in side impacts: The Mercedes E class was re-engineered for 2007 with an emphasis on improving occupant protection in side crashes. When the Institute tested an early production model in 2007, the car earned an acceptable rating mainly because of high forces recorded on the driver dummy's torso. Mercedes changed the front door trim panels on cars built after May 2007 to try to fix the problem and asked the Institute to test the revised car. The result was a slight improvement but not enough to change this car's rating. The test of the revised design still showed high forces on the driver dummy that could result in rib and pelvic fractures in a real-world crash of similar severity.

"The E class earns the Institute's top rating of good for front and rear crash protection. If this manufacturer can improve side impact protection, this car will earn *TOP SAFETY PICK*," Lund says.

General Motors made changes to the Cadillac STS including reinforcing the B-pillars, changing front door trim panels, and modifying the side torso airbags. The car with these changes earns the second highest rating of acceptable.


The side impact test is only one aspect used to evaluate vehicle crashworthiness. The Institute also conducts 40 mph frontal offset crash tests and evaluates vehicles' seat/head restraint designs for protection in rear crashes. Nearly every passenger vehicle, including all of the cars in this group, now earns the highest rating of good for frontal crash protection. However, side and rear evaluations vary widely. Consumers shopping for safety need to be aware of these differences and choose vehicles that offer the best overall protection in crashes. For comparative evaluations of hundreds of passenger vehicles, go to www.iihs.org/ratings.

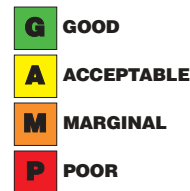
How side tests are conducted: A vehicle's side evaluation is based on performance in a crash test in which the side of the vehicle is struck by a barrier moving at 31 mph. The barrier represents the front end of a pickup or SUV. Overall ratings reflect injury measures recorded on two instrumented SID-IIIs dummies, assessment of head protection countermeasures, and the vehicle's structural performance during the test. Injury measures obtained from the two dummies, one in the driver seat and the other in the back seat behind the driver, are used to determine the likelihood that a driver and/or passenger in a real-world crash would sustain serious injury to various body regions. The movements and contacts of the dummies' heads during the test also are evaluated. Structural performance is based on measurements indicating the amount of B-pillar intrusion into the occupant compartment.

**End 3-page news release on crashworthiness ratings of large cars
Attachment: evaluations of the side crashworthiness of 6 large cars
VNR on 8/16/2007 at 10:30-11 am EDT (C) AMC 3/Trans. 3 (dl3760H)
repeat at 1:30-2 pm EDT (C) AMC 3/Trans. 3 (dl3760H); dedicated**

For more information go to www.iihs.org

ATTACHMENT: CRASHWORTHINESS EVALUATIONS, p.1 of 1

	FRONT EVALUATION	SIDE EVALUATION	REAR CRASH PROTECTION	ELECTRONIC STABILITY CONTROL
		NEW TESTS		
 <p>Large luxury cars</p> <p>VOLVO S80 WITH FRONT & REAR HEAD CURTAIN AIRBAGS AND FRONT SEAT-MOUNTED TORSO AIRBAGS front, side, and rear: 2007 models</p> <p>ACURA RL WITH FRONT & REAR HEAD CURTAIN AIRBAGS AND FRONT SEAT-MOUNTED TORSO AIRBAGS front, side, and rear: 2005-07 models</p> <p>MERCEDES E CLASS WITH FRONT & REAR HEAD CURTAIN AIRBAGS AND FRONT SEAT-MOUNTED & REAR DOOR-MOUNTED TORSO AIRBAGS front and side: 2007 models rear: 2006-07 models</p> <p>CADILLAC STS WITH FRONT & REAR HEAD CURTAIN AIRBAGS AND FRONT SEAT-MOUNTED TORSO AIRBAGS front and rear: 2005-07 models side: 2007 models (mfg. after August 2006)</p> <p>BMW 5 SERIES WITH FRONT & REAR HEAD TUBULAR AIRBAGS AND FRONT DOOR-MOUNTED TORSO AIRBAGS front and rear: 2004-08 models side: 2008 models (mfg. after May 2007)</p>	<p>G</p> <p>G</p> <p>G</p> <p>G</p> <p>G</p>	<p>G</p> <p>G</p> <p>A</p> <p>A</p> <p>M</p>	<p>G</p> <p>M</p> <p>G</p> <p>P</p> <p>A</p>	<p>standard</p> <p>standard</p> <p>standard</p> <p>standard</p> <p>standard</p>
<p>Large family car</p> <p>KIA AMANTI WITH FRONT & REAR HEAD CURTAIN AIRBAGS AND FRONT & REAR SEAT-MOUNTED TORSO AIRBAGS front, side, and rear: 2007 models</p>	<p>G</p>	<p>G</p>	<p>M</p>	<p>optional</p>



ORDER OF VEHICLES REFLECTS RATINGS IN FRONT, SIDE, AND REAR TESTS FOR MORE DETAILED CRASHWORTHINESS EVALUATIONS, GO TO WWW.IIHS.ORG

FRONTAL RATINGS are based on performance in a 40 mph frontal offset crash test into a deformable barrier. **CAUTION:** Frontal ratings cannot be compared across vehicle type and weight categories because the kinetic energy involved in the frontal test depends on the speed and weight of the test vehicle, and the crash is more severe for heavier vehicles. Given equivalent frontal ratings for heavier and lighter vehicles, the heavier vehicle typically will offer better protection in real-world crashes.

SIDE RATINGS are based on performance in a crash test in which the side of the vehicle is struck by a moving deformable barrier with a front end that represents the front of a typical SUV or pickup. The moving barrier strikes the vehicle at 31 mph in a perpendicular impact. **NOTE:** Side ratings can be compared across vehicle type and weight categories while frontal ratings cannot.

REAR CRASH PROTECTION RATINGS are based on a two-step evaluation. In the first step restraint geometry is rated. Seats with good or acceptable geometric ratings then are subjected to a dynamic test. Seats with head restraints rated marginal or poor, based on geometry, aren't tested because they cannot protect taller occupants.