
INSURANCE INSTITUTE FOR HIGHWAY SAFETY

NEWS RELEASE

June 19, 2005

NEW FRONTAL CRASH TEST RESULTS FOR 8 CARS: LARGE FAMILY & LUXURY CARS ARE GOOD; MOST EARN 'BEST PICK'

ARLINGTON, VA — A group of five large family cars and three large luxury cars earned top ratings of good in frontal crash tests recently conducted by the Insurance Institute for Highway Safety. Among the family models that were tested — Buick LaCrosse, Chrysler 300, Ford Five Hundred, Kia Amanti, and Toyota Avalon — all but the Amanti earned the added designation of "best pick" in the frontal test (see attached ratings). This is the first time every model in a group of large family cars has earned the top rating.

The large luxury cars — Acura RL, Cadillac STS, and Lexus GS — also earned good ratings, and each is designated "best pick" for frontal crash protection.

"Large cars are a good choice for consumers looking for a safe family vehicle, but some of them haven't always performed well in the Institute's frontal crash test," says Institute chief operating officer Adrian Lund. "In 1999 a large family model from DaimlerChrysler, the Chrysler LHS, along with its twin 300M, was rated poor for frontal crash protection. With these latest results we now have 10 current large family car designs that are rated good."

The ratings reflect performance in a 40 mph frontal offset crash test into a deformable barrier. Based on the results, the Institute evaluates the crashworthiness of passenger vehicles, assigning each vehicle a rating from good to poor. The better performers among those rated good earn the added designation of "best pick." If a vehicle earns a good rating, it means in a real-world crash of similar severity a belted driver most likely would be able to walk away with nothing more than minor injuries. About half of all vehicle occupant deaths occur in frontal crashes.

— MORE —

Chrysler 300 is big improvement compared with its predecessors: "The 2005 model 300 is a good performer across the board in the frontal test. This is the kind of performance we like to see," Lund says.

The Institute's offset test is especially demanding of a vehicle's structure. The driver side of a vehicle being tested hits the barrier, so a relatively small area of the front-end structure must manage the energy of the crash. The structure of the 300's occupant compartment maintained its shape very well, and that allowed the seat belt and airbag to do a good job of protecting the driver. After the dummy moved forward into the airbag, it rebounded into the seat without its head coming close to any stiff structure that could cause injury.

In contrast, the structure of the 1999 Chrysler LHS/300M was marginal, and a late-deploying airbag contributed to high forces on the dummy's head.

"The occupant compartment in the LHS/300M buckled during the crash, and there was major intrusion into the footwell area," Lund explains. "The airbag deployed



**2005 Chrysler 300
Structure: GOOD**



**1999 Chrysler LHS/300M
Structure: MARGINAL**



so late in the crash that the dummy's head hit the steering wheel hard." Chrysler made changes to the 2001 model, and its crashworthiness rating improved to acceptable. There was less intrusion into the occupant compartment, and the airbag did a good job of keeping forces on the dummy's head low.

"Now the 2005 model Chrysler 300 and its twin, the 2006 Dodge Charger, are among the top performing large cars in the Institute's frontal test," Lund adds.

Five Hundred is latest among Ford's good performing large cars: The 1995 Taurus was one of the first vehicles to earn "best pick" in the frontal test. It was redesigned in 1996 and re-engineered in 2000. Both of these models also were good and earned "best pick" status.

"Ford should be commended for leading the way in frontal crash protection in large family cars," Lund says.

Three large luxury cars are rated good: Every current large luxury car model rated by the Institute is good in the frontal offset test. All but the Lincoln Town Car earned "best pick" designations.

In the current round of tests, the Cadillac STS is another example of how the crashworthiness of cars has been improved. The STS's immediate predecessor, the 2000 Seville, also earned a good rating in the frontal test. However, the previous generation model didn't fare as well. The 1997 Seville was rated poor, mainly because its structure allowed too much intrusion into the occupant compartment, including major rearward movement of the instrument panel.

The Acura RL also has been improved. The previous generation was rated acceptable because of a high head acceleration when the dummy's head struck the pillar between the front and rear doors, and there were moderately high forces on the dummy's right leg. There also was moderate intrusion into the occupant compartment.

"For the new RL, the structure was improved. All of the injury measures were low. This car is rated good and a 'best pick,'" Lund says. "It's now rare for a vehicle to earn a rating of anything less than good in the frontal offset crash test."

Institute and government crash tests complement each other: The Institute's crashworthiness evaluations are based on results of frontal offset crash tests at 40 mph. Each vehicle's overall evaluation is based on three aspects of performance — measurements of intrusion into the occupant compartment, injury measures from a Hybrid III dummy positioned in the driver seat, and analysis of slow-motion film to assess how well the restraint system controlled dummy movement during the test.

The federal government has been testing new passenger vehicles in 35 mph full-front crash tests since 1978. This New Car Assessment Program has been a major contributor to crashworthiness improvements, in particular improved restraint systems in new passenger vehicles. The Institute's offset tests, conducted since 1995, involve 40 percent of a vehicle's front end hitting a deformable barrier at 40 mph. This test complements the federal test involving the full width of the front end hitting a rigid barrier. Both tests are contributing to improvements in crashworthiness, in particular improved crumple zones and safety cages.

The same 40 mph offset crash test is used to evaluate new cars by the European Union in cooperation with motor clubs, by an Australian consortium of state governments and motor clubs, and by a government-affiliated organization in Japan.

**End 4-page news release on frontal crash test results
4-page attachment: crashworthiness ratings of large cars**

**VNR 6/20/2005 at 10-10:30 am EDT (C) IA 5/Trans. 19
and 6/20 at 1:30-2 pm EDT (C) IA 5/Trans. 19; in rotation**

For more information go to www.iihs.org

		Frontal Offset Crash Test Performance							REAR CRASH PROTECTION
		OVERALL EVALUATION	Structure/ Safety Cage	Injury Measures			Restraints/ Dummy Kinematics		
				Head/ Neck	Chest	Leg/Foot Left, Right			
Large family cars									
NEWLY TESTED	BEST PICK frontal	CHRYSLER 300 front: 2005 models test vehicle = 3,726 lbs. rear: 2005 models	G	G	G	G	G	G	A 300
		DODGE CHARGER front: 2006 models							
NEWLY TESTED	BEST PICK frontal	FORD FIVE HUNDRED MERCURY MONTEGO front: 2005 models test vehicle = 3,660 lbs. rear: 2005 models	G	G	G	G	G	G	to be tested later in 2005
NEWLY TESTED		KIA AMANTI front: 2004-05 models test vehicle = 4,090 lbs. rear: 2004-05 models	G	A	G	G	G	A	A
		FORD CROWN VICTORIA MERCURY GRAND MARQUIS front: 2003-05 models (mfg. after May 2003) test vehicle = 4,392 lbs. rear: 2003-05 models Tested vehicle: Lincoln Town Car	G	G	G	G	A	G	A
	BEST PICK frontal	FORD TAURUS MERCURY SABLE front: 2000-05 models test vehicle = 3,333 lbs. rear: 2004-05 models	G	G	G	G	G	G	M Taurus P Sable
NEWLY TESTED	BEST PICK frontal	BUICK LACROSSE front: 2005 models test vehicle = 3,532 lbs. rear: 2005 models	G	G	G	G	G	G	P
		PONTIAC GRAND PRIX front: 2004-05 models rear: 2004-05 models							

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Note: order of vehicles reflects performance in frontal and rear tests

G GOOD **A** ACCEPTABLE **M** MARGINAL **P** POOR

Caution: Frontal crash test ratings cannot be compared across vehicle type and weight categories. This is 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.

		Frontal Offset Crash Test Performance							REAR CRASH PROTECTION	
		OVERALL EVALUATION	Structure/ Safety Cage	Injury Measures			Restraints/ Dummy Kinematics			
Large family cars				Head/ Neck	Chest	Leg/Foot Left, Right				
NEWLY TESTED	BEST PICK frontal	TOYOTA AVALON front: 2005 models test vehicle = 3,589 lbs. rear: 2005 models	G	G	G	G	G	A	G	P
	BEST PICK frontal	BUICK LESABRE PONTIAC BONNEVILLE front: 2000-05 models (mfg. after April 1999) test vehicle = 3,558 lbs. rear: 2003-05 models	G	G	A	G	G	G	G	P
		CHEVROLET IMPALA front: 2000-05 models test vehicle = 3,448 lbs. rear: 2001-05 models	G	G	G	G	A	A	G	P
		HYUNDAI XG300/XG350 front: 2001-05 models test vehicle = 3,739 lbs. rear: XG350 2002-05 models	G	A	G	G	G	A	G	P
		BUICK CENTURY front: 1997-2005 models test vehicle = 3,466 lbs. rear: 2001-05 models Tested vehicle: 1997 Pontiac Grand Prix	A	A	A	G	G	A	G	P

end of large family cars attachment

Note: order of vehicles reflects performance in frontal and rear tests

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Large luxury cars				Head/ Neck	Chest	Leg/Foot Left, Right			
BEST PICK frontal	VOLVO S80 front: 2001-05 models test vehicle = 3,576 lbs. rear: 2003-05 models	G	G	G	G	G	G	G	G
BEST PICK frontal	LINCOLN LS front: 2000-05 models (mfg. after Feb. 2000) test vehicle = 3,818 lbs. rear: 2003-05 models	G	G	G	G	G	G	G	A
BEST PICK frontal	BMW 5 SERIES front: 2004-05 models test vehicle = 3,832 lbs. rear: 2004-05 models	G	G	G	G	G	A	G	A
BEST PICK frontal	MERCEDES E CLASS front: 2003-05 models (mfg. after Dec. 2002) test vehicle = 3,942 lbs. rear: 2004-05 models	G	G	G	G	G	G	A	A
BEST PICK frontal	INFINITI Q45 front: 2003-05 models test vehicle = 3,999 lbs. rear: 2005 models	G	G	G	G	G	G	G	M
NEWLY TESTED	BEST PICK frontal LEXUS GS front: 2006 models test vehicle = 3,669 lbs. rear: 2006 models	G	G	G	G	G	G	G	M
BEST PICK frontal	LEXUS LS 430 front: 2001-05 models test vehicle = 4,065 lbs. rear: 2001-05 models	G	G	G	G	G	G	G	M

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Note: order of vehicles reflects performance in frontal and rear tests

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		OVERALL EVALUATION	Structure/ Safety Cage	Injury Measures			Restraints/ Dummy Kinematics		
				Head/ Neck	Chest	Leg/Foot Left, Right			
Large luxury cars									
	<p>LINCOLN TOWN CAR front: 2003-05 models (mfg. after May 2003) test vehicle = 4,392 lbs. rear: 2003-05 models</p> <p>Results also apply to Ford Crown Victoria and Mercury Grand Marquis</p>	G	G	G	G	A	G	A	M
NEWLY TESTED	<p>BEST PICK frontal</p> <p>ACURA RL front: 2005 models test vehicle = 3,999 lbs.</p>	G	G	G	G	G	G	G	to be tested later in 2005
	<p>BEST PICK frontal</p> <p>CADILLAC CTS front: 2003-05 models (mfg. after Sept. 2002) test vehicle = 3,554 lbs. rear: 2003-05 models</p>	G	G	G	G	G	G	G	P
	<p>BEST PICK frontal</p> <p>BUICK PARK AVENUE front: 1997-2005 models test vehicle = 3,794 lbs. rear: 2003-05 models</p>	G	G	G	G	G	G	G	P
NEWLY TESTED	<p>BEST PICK frontal</p> <p>CADILLAC STS front: 2005 models test vehicle = 3,909 lbs. rear: 2005 models</p>	G	G	A	G	G	G	G	P

end of large luxury cars attachment

Note: order of vehicles reflects performance in frontal and rear tests

G GOOD **A** ACCEPTABLE **M** MARGINAL **P** POOR

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