

INSURANCE INSTITUTE FOR HIGHWAY SAFETY

NEWS RELEASE

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again at 1-1:30 p.m. EST (C) Telstar 5/Trans. 19; fed in rotation

HIGH-SPEED CRASH TEST RESULTS: NEW FORD PICKUP & MINIVAN ARE 'BEST PICKS,' F-150 PICKUP SHOWS DRAMATIC IMPROVEMENT

ARLINGTON, VA — The redesigned Ford F-150 pickup truck and Ford Freestar minivan each earned the highest overall rating in a recent series of 40 mph frontal crash tests conducted by the Insurance Institute for Highway Safety. Both vehicles, which are 2004 models, improved compared with their predecessors (see attached ratings). The previous F-150 model was rated poor, while the redesigned 2004 model F-150 earned a good rating and the added designation of "best pick." Ford's previous minivan, the Windstar, was rated acceptable, while the new Freestar earned a rating of good and also is a "best pick."

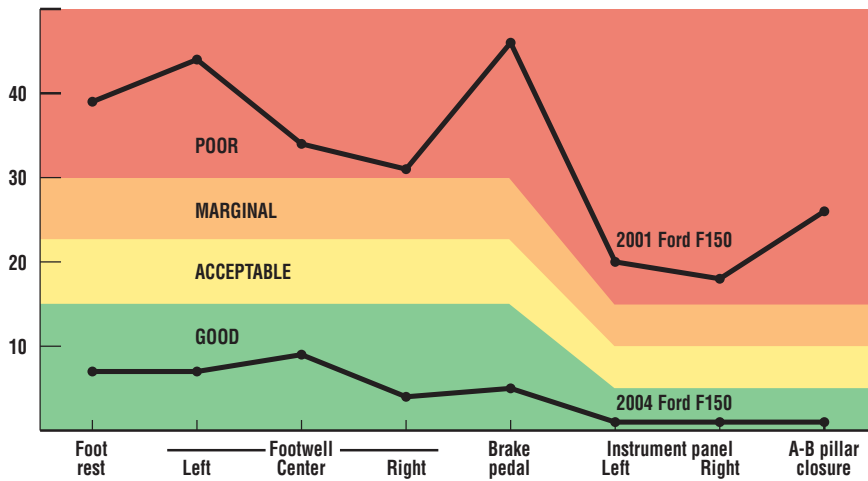
Vehicle ratings reflect performance in 40 mph frontal offset crash tests into a deformable barrier. Based on the results, the Institute evaluates the crashworthiness of passenger vehicles, assigning each vehicle a rating from good overall to poor. If a vehicle earns a good rating, it means that in a real-world crash of similar severity a belted driver would be likely to walk away with minor injuries. A "best pick" designation means the vehicle performed well across the board in the 40 mph crash test.

"The good crash test results of the F-150 pickup and the Freestar minivan mean that Ford has the top-rated full-size pickup truck and one of the two top-rated minivans in the Institute's frontal crashworthiness evaluations," says Institute president Brian O'Neill.

— MORE —

Intrusion measures are much lower for new F-150: “The F-150 went from the worst performing large pickup we’ve tested to the best performing large pickup,” O’Neill says. “When we tested the old F-150, there was massive collapse of the occupant compartment, and as a result high injury forces were recorded on the driver dummy. In contrast, the compartment of the new F-150 held up extremely well in the offset test, the dummy’s movement was well controlled, and all injury measures were low.”

COMPARISON OF 2001 FORD F-150 AND REDESIGNED 2004 F-150
Measured intrusion (centimeters) in 40 mph frontal offset tests



2001 FORD F-150
Poor structural performance:
Massive collapse of the occupant compartment



2004 FORD F-150
Good structural performance:
Occupant compartment remained intact

Minivan also improves: The Freestar minivan's driver space was maintained well in the offset test, and the dummy moved back into the seat without its head coming close to any stiff structure that could cause injury. In contrast, the old Windstar had too much upward movement of the steering wheel, which could compromise the performance of the restraint system. Intrusion into the Windstar's footwell area contributed to moderately high forces on the dummy's left leg.

"The new Freestar and the Toyota Sienna are the only two minivans that are rated good and also are 'best picks' in the Institute's frontal offset crash test," O'Neill says.

Ford requests tests: It's unusual for the Institute to release crash test results for vehicles from just one manufacturer. Ford requested the tests of the F-150 and Freestar early in the model year, and it's long-standing Institute policy to grant such requests if the manufacturer reimburses the Institute for the cost of the vehicles. The National Highway Traffic Safety Administration, the federal agency that also conducts crashworthiness evaluations, has a similar policy.

Structural design is key to good performance: The Institute's frontal offset test into a deformable barrier is especially demanding of vehicle structure. The driver side hits the barrier, so a relatively small area of the vehicle's front-end structure must manage the crash energy. This means intrusion into the occupant compartment is more likely to occur than in a full-width test.

"Good structural design is the key to good performance in the offset test," O'Neill says. "If a vehicle's front-end structure absorbs and manages the crash energy so the occupant compartment remains largely intact, with little or no intrusion into the driver's space, then the dummy's movement can be controlled, and injury measures are likely to be low. In contrast, poor structural design means greater likelihood of poor control of the dummy and high injury measures."

Institute and government 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 occupant compartment intrusion, 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 release on high-speed crash test results;
3-page attachment summarizes crashworthiness ratings
VNR 12/19, 10-10:30 a.m. EST (C) Telstar 6/Trans. 22;
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Internet: www.highwaysafety.org

Evaluations

Frontal Offset Crash Test Performance

	OVERALL EVALUATION	Structure/ Safety Cage	Injury Measures				Restraints/ Dummy Kinematics		
			Head/ Neck	Chest	Leg/Foot Left, Right				
Large pickups									
NEWLY TESTED	best pick	FORD F-150 2004 models test vehicle wt. = 5,185 lbs.	G	G	G	G	G	G	
		<i>Note:</i> This is NOT the same design as the 2004 F-150 Heritage (see below).							
		TOYOTA TUNDRA 2000-04 models test vehicle wt. = 4,363 lbs.	G	G	G	G	M	G	
		DODGE RAM 1500 2002-04 models test vehicle wt. = 4,969 lbs.	G	A	G	G	G	A	
		CHEVROLET SILVERADO 1500 GMC SIERRA 1500 1999-2004 models test vehicle wt. = 4,709 lbs.	M	P	G	G	G	P	
		FORD F-150 HERITAGE 2004 models test vehicle wt. = 4,475 lbs.	P	P	P	G	A	M	P
		<i>Note:</i> This is NOT the new F-150 design for 2004. The Heritage is the same design as the 1997-2003 Ford F-150 (see below). "Heritage" was added to the nameplate in 2004 to distinguish this truck from the redesigned F-150 (shown above).							
		Earlier large pickup designs:							
		DODGE RAM 1500 1998-2001 models test vehicle wt. = 4,930 lbs.	P	M	P	G	P	A	P
		FORD F-150 1997-2003 models test vehicle wt. = 4,475 lbs.	P	P	P	G	A	M	P

Turn page for more crashworthiness evaluations ↗

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

Caution: The kinetic energy a vehicle must absorb in a crash test increases with vehicle weight, so barrier tests are more demanding of heavier vehicles. But people in heavier vehicles in real-world, 2-vehicle crashes typically fare better than people in lighter vehicles (in many single-vehicle crashes, weight offers no safety advantage). This is why **test results shouldn't be compared among vehicles with large weight differences.**

Go to www.highwaysafety.org: These pages summarize crashworthiness evaluations of large pickup trucks. The principal component of each vehicle's evaluation is its performance in a 40 mph frontal offset crash test. Details about each vehicle's test performance, including photos taken during and after the crash test, are available online at www.highwaysafety.org.

Frontal Offset Crash Test Performance

	OVERALL EVALUATION	Structure/ Safety Cage	Injury Measures				Restraints/ Dummy Kinematics
			Head/ Neck	Chest	Leg/Foot Left, Right		
Passenger vans							
best pick	G	G	G	G	G	G	G
best pick	G	G	A	G	G	G	G
NEWLY TESTED							
	G	A	G	G	G	G	A
	G	G	A	G	G	G	A
	A	A	A	G	G	G	M
	A	A	A	G	G	P	G
	A	A	A	G	A	P	G
	P	P	G	G	P	G	M
	P	P	P	G	P	P	M
Earlier passenger van designs:							
best pick	G	G	G	G	G	G	G
best pick	G	G	G	G	G	G	G

Turn page for more crashworthiness evaluations ↗

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

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Go to www.highwaysafety.org: These pages summarize crashworthiness evaluations of passenger vans. The principal component of each vehicle's evaluation is its performance in a 40 mph frontal offset crash test. Details about each vehicle's test performance, including photos taken during and after the crash test, are available online at www.highwaysafety.org.

Passenger vans	OVERALL EVALUATION	Frontal Offset Crash Test Performance					
		Structure/ Safety Cage	Injury Measures				Restraints/ Dummy Kinematics
			Head/ Neck	Chest	Leg/Foot Left, Right		
FORD WINDSTAR 1999-2003 models test vehicle wt. = 4,131 lbs.	A	A	G	G	A	G	A
KIA SEDONA 2002 (mfg. before 4/2002) models test vehicle wt. = 4,665 lbs.	A	A	A	G	G	G	P
DODGE GRAND CARAVAN PLYMOUTH GRAND VOYAGER CHRYSLER TOWN & COUNTRY 1996-2000 models test vehicle wt. = 4,046 lbs.	M	A	G	G	P	P	A
MAZDA MPV 1996-98 models test vehicle wt. = 3,799 lbs.	M	M	G	G	M	A	M
NISSAN QUEST/MERCURY VILLAGER 1996-98 models test vehicle wt. = 3,834 lbs.	M	A	A	G	P	P	M
HONDA ODYSSEY 1995-98 models test vehicle wt. = 3,422 lbs.	M	P	G	G	A	P	A
ISUZU OASIS 1996-99 models							
FORD AEROSTAR 1992-97 models test vehicle wt. = 3,699 lbs.	P	P	A	G	P	G	M
NISSAN QUEST/MERCURY VILLAGER 1999-2002 models test vehicle wt. = 3,982 lbs.	P	P	A	G	P	A	P
TOYOTA PREVIA 1994-97 models test vehicle wt. = 3,810 lbs.	P	M	M	G	M	P	P
DODGE GRAND CARAVAN CHRYSLER TOWN & COUNTRY 2001 models avg. test vehicle wt. = 4,224 lbs.	P	P	A	G	A	P	G

End of crashworthiness evaluations

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

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