

# INSURANCE INSTITUTE FOR HIGHWAY SAFETY

## NEWS RELEASE

June 13, 2004

**VNR:** Monday, June 14, 2004, 10-10:30 am EDT (C) Telstar 6/Trans. 22;  
again at 1-1:30 pm EDT (C) Telstar 5/Trans. 19; fed in rotation

### **NEW FRONTAL OFFSET CRASH TEST RESULTS: 3 NEW VEHICLES RATED GOOD; SMALL SUV IMPROVES**

ARLINGTON, VA — Three new vehicles performed well in a recent series of frontal offset crash tests conducted by the Insurance Institute for Highway Safety. Two cars, the Volvo S40 and BMW 5 series, earned overall ratings of good. A new large pickup design, the Nissan Titan, also earned a good rating. All three of these vehicles earned the designation of "best pick" for frontal crash protection. The Ford Escape (twin: Mazda Tribute), a small SUV modified by Ford to improve offset crash performance, went from a marginal rating to acceptable.

"Most new vehicles now are earning good ratings in the Institute's frontal offset test," says Institute chief operating officer Adrian Lund. "Of the vehicles we've tested so far this year, eight are rated good and two are acceptable. This means most new vehicle designs are offering much better protection than older designs for occupants in serious frontal crashes."

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 most likely would be able to walk away with only minor injuries.

**Escape improves from marginal to acceptable:** Manufacturers continue to make improvements in vehicles that didn't perform as well in previous Institute tests. "Ford made some structural modifications to the Escape to better protect occupants

— MORE —

in frontal crashes," Lund says. "But there's still room for improvement. When the Institute first tested the Escape in 2001, its performance was disappointing. The driver space wasn't maintained very well. High accelerations were recorded on the dummy's head when it struck the steering wheel through the airbag and when it hit the doorframe. Plus a leg injury was likely because of considerable intrusion into the footwell area."

In contrast, the modified Escape's structure held up better, the dummy's movement was well controlled, and the airbag prevented hard contact with the steering wheel. But the Escape's performance still doesn't get a good rating. There was moderate intrusion into the footwell and, as a consequence, injuries to the lower leg and foot were likely to occur. There also was a possibility of serious neck injury.

"The Escape still lags behind many other small SUVs that earn good ratings in the Institute's frontal crash test," Lund adds.

**Volvo S40 is a 'best pick:'** The S40's structure maintained its shape very well during the frontal offset test, and there was little intrusion into the occupant compartment.

"This is an example of how vehicles should perform," Lund points out. "The dummy's movement was well controlled during the crash. The dummy's head went into the airbag and rebounded into the seat without coming close to any stiff structures that could cause injury. This was very good performance."

**Titan pickup is a 'best pick:'** This is a new entrant in the large pickup truck category. It's the second pickup to earn a "best pick" designation in the frontal test. The other large pickup with this designation is the new Ford F-150.

"Just three years ago when the Institute first tested large pickups, only one, the Toyota Tundra, was rated good. Now four of the six large pickups on the market are rated good," Lund says.

**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 3-page news release on frontal offset test results  
4-page attachment: frontal crashworthiness ratings  
VNR 6/14/04, 10-10:30 am EDT (C) Telstar 6/Trans. 22;  
1-1:30 pm EDT (C) Telstar 5/Trans. 19; fed in rotation**

**For more information go to [www.iihs.org](http://www.iihs.org)**

ATTACHMENT 1: FRONTAL EVALUATIONS P.1 of 4

Frontal Offset Crash Test Performance

	OVERALL EVALUATION	Structure/ Safety Cage	Injury Measures			Restraints/ Dummy Kinematics		
			Head/ Neck	Chest	Leg/Foot Left, Right			
<b>Large luxury cars</b>								
<b>BEST PICK frontal</b>	<b>LEXUS LS 430</b> 2001-04 models avg. test vehicle = 4,065 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>INFINITI Q45</b> 2003-04 models test vehicle = 3,999 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>VOLVO S80</b> 2001-04 models test vehicle = 3,576 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>LINCOLN LS</b> 2000 (mfg. after 2/2000)-04 models test vehicle = 3,818 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>CADILLAC CTS</b> 2003 (mfg. after 9/2002)-04 models test vehicle = 3,554 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>BUICK PARK AVENUE</b> 1997-2004 models test vehicle = 3,794 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>CADILLAC SEVILLE</b> 2000-04 models test vehicle = 4,008 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>MERCEDES E CLASS</b> 2003 (mfg. after 12/2002)-04 models test vehicle = 3,942 lbs.	G	G	G	G	G	A	
<b>BEST PICK frontal</b>	<b>LEXUS GS</b> 1999 (mfg. after 11/1998)-2004 models test vehicle = 3,805 lbs.	G	G	G	G	A	G	
<b>BEST PICK frontal</b>	<b>BMW 5 SERIES</b> 2004 models test vehicle = 3,832 lbs.	G	G	G	G	G	A	
<b>BEST PICK frontal</b>	<b>LINCOLN TOWN CAR</b> 2003 (mfg. after 5/2003)-04 models test vehicle = 4,392 lbs.	G	G	G	G	A	A	
	<i>Note: results also apply to Ford Crown Victoria and Mercury Grand Marquis</i>							
	<b>ACURA RL</b> 1996-2004 models test vehicle = 3,840 lbs.	A	A	A	G	G	A	G
	<b>AUDI A6</b> 1998-2004 models test vehicle = 3,766 lbs.	A	A	G	G	M	M	A

NEWLY TESTED

For crashworthiness evaluations of earlier designs of large luxury cars, go to [www.iihs.org](http://www.iihs.org)

Turn page for more crashworthiness evaluations ►

**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

Midsize moderately priced cars

OVERALL EVALUATION

Structure/  
Safety  
Cage

Injury Measures

Restraints/  
Dummy  
Kinematics

Head/  
Neck

Chest

Leg/Foot  
Left, Right

NEWLY TESTED

BEST PICK frontal

**VOLVO S40**

2004 models (mfg. after 2/2004)  
test vehicle = 3,168 lbs.

*Note: S40s manufactured earlier in the 2004 model year are classified as small cars*

G	G	G	G	G	G	G
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BEST PICK frontal

**NISSAN MAXIMA**

2004 models  
test vehicle = 3,472 lbs.

G	G	G	G	G	G	G
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BEST PICK frontal

**SAAB 9-3**

2003-04 models  
test vehicle = 3,322 lbs.

G	G	G	G	G	G	G
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BEST PICK frontal

**AUDI A4**

2002 (mfg. after 2/2002)-04 models  
test vehicle = 3,569 lbs.

G	G	G	G	G	G	G
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BEST PICK frontal

**TOYOTA AVALON**

2000-04 models  
test vehicle = 3,468 lbs.

G	G	G	G	G	G	G
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BEST PICK frontal

**ACURA TSX**

2004 models  
test vehicle = 3,278 lbs.

G	G	G	G	G	A	G
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BEST PICK frontal

**VOLKSWAGEN PASSAT**

1998-2004 models  
test vehicle = 3,170 lbs.

G	G	G	G	G	G	A
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BEST PICK frontal

**INFINITI G35**

2003-04 models  
test vehicle = 3,468 lbs.

G	G	A	G	G	G	G
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**INFINITI I30/I35**

2000 (mfg. after 11/1999)-04 models  
test vehicle = 3,220 lbs.

*Note: Vehicle tested was 2000 Nissan Maxima*

A	A	G	G	P	P	G
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*For crashworthiness evaluations of earlier designs of midsize moderately priced cars, go to [www.iihs.org](http://www.iihs.org)*

Turn page for more crashworthiness evaluations ►

**G** GOOD

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# ATTACHMENT 1: FRONTAL EVALUATIONS P.3 of 4

## Frontal Offset Crash Test Performance

	OVERALL EVALUATION	Structure/ Safety Cage	Injury Measures			Restraints/ Dummy Kinematics		
			Head/ Neck	Chest	Leg/Foot Left, Right			
<b>Large pickup trucks</b>								
<b>BEST PICK frontal</b>	<b>FORD F-150</b> 2004 models test vehicle = 5,185 lbs. <i>Note: not same design as F-150 Heritage (see below)</i>	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>NISSAN TITAN</b> 2004 models test vehicle = 4,786 lbs.	G	G	A	G	G	G	G
<b>NEWLY TESTED</b>	<b>TOYOTA TUNDRA</b> 2000-04 models test vehicle = 4,363 lbs.	G	G	G	G	G	M	G
	<b>DODGE RAM 1500</b> 2002-04 models test vehicle = 4,969 lbs.	G	A	G	G	G	G	A
	<b>CHEVROLET SILVERADO 1500</b> <b>GMC SIERRA 1500</b> 1999-2004 models test vehicle = 4,709 lbs.	M	P	G	G	G	G	P
	<b>FORD F-150 HERITAGE</b> 2004 models test vehicle = 4,475 lbs. <i>Note: not the new F-150 design for 2004 (see above); this is same design as 1997-2003 F-150; "Heritage" added to nameplate in 2004 to distinguish this pickup from redesigned pickup listed above</i>  <i>For crashworthiness evaluations of earlier designs of large pickup trucks, go to <a href="http://www.iihs.org">www.iihs.org</a></i>	P	P	P	G	A	M	P

Turn page for more crashworthiness evaluations ►

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Frontal Offset Crash Test Performance

	OVERALL EVALUATION	Structure/ Safety Cage	Injury Measures			Restraints/ Dummy Kinematics		
			Head/ Neck	Chest	Leg/Foot Left, Right			
<b>Small SUVs</b>								
<b>BEST PICK frontal</b>	<b>HONDA CR-V</b> 2002-04 models test vehicle = 3,347 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>MITSUBISHI OUTLANDER</b> 2003-04 models test vehicle = 3,439 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>HONDA ELEMENT</b> 2003-04 models test vehicle = 3,494 lbs.	G	G	G	G	G	G	
<b>BEST PICK frontal</b>	<b>SUBARU FORESTER</b> 2003-04 models test vehicle = 3,197 lbs.	G	G	G	G	A	G	
<b>BEST PICK frontal</b>	<b>SATURN VUE</b> 2002-04 models test vehicle = 3,534 lbs.	G	G	A	G	G	G	
	<b>HYUNDAI SANTA FE</b> 2001 (mfg. after 3/2/2001)-04 models test vehicle = 3,836 lbs.	G	G	A	G	G	A	G
	<b>TOYOTA RAV4</b> 2001-04 models (mfg. before 1/2004) test vehicle = 3,104 lbs.	A	G	A	G	A	A	G
	<b>JEEP WRANGLER</b> 1997-2004 models test vehicle = 3,247 lbs.	A	A	G	G	A	G	A
	<b>SUZUKI GRAND VITARA</b> <b>SUZUKI VITARA</b> <b>CHEVROLET TRACKER</b> 1999-2004 models test vehicle = 3,223 lbs.	A	A	A	G	G	G	A
	<b>LAND ROVER FREELANDER</b> 2002-04 models test vehicle = 3,549 lbs.	A	G	G	G	A	G	P
<b>NEWLY TESTED</b>	<b>FORD ESCAPE</b> <b>MAZDA TRIBUTE</b> 2005 models test vehicle = 3,580 lbs.	A	A	A	G	A	P	G

For crashworthiness evaluations of earlier designs of small SUVs, go to [www.iihs.org](http://www.iihs.org)

Note: Order of vehicles reflects performance in frontal offset crash tests.

End of crashworthiness evaluations

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