

# INSURANCE INSTITUTE FOR HIGHWAY SAFETY

## NEWS RELEASE

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### **AIRBAG DESIGN CHANGES IN VOLVO S80 IMPROVE CRASHWORTHINESS; CAR'S RATING UPGRADED TO 'BEST PICK' AMONG MIDSIZE LUXURY CARS**

ARLINGTON, VA – Volvo has changed the design of the airbags in its S80s for the 2001 model year, and the changes mean the new model earns the highest crashworthiness rating — “best pick” — from the Insurance Institute for Highway Safety. The 2000 model S80 was rated good, but it wasn't a “best pick” because the Institute had some concerns about the airbag design.

The Institute's crashworthiness ratings are based primarily on performance in frontal offset crash tests into a deformable barrier at 40 mph. Cars are rated good, acceptable, marginal, or poor. Vehicles that perform very well are designated “best picks.”

When the Institute tested midsize luxury cars last spring, the 2000 model S80 earned a good overall evaluation based on its performance in the offset test. “But the airbags inflated in a separate 5 mph bumper test. Plus there was concern about the temperature of the airbag gas near the hands of the driver dummy in the 40 mph test,” Institute president Brian O'Neill explains. “These are why the 2000 model didn't earn a ‘best pick’ designation. But now Volvo has modified its airbag design to address these concerns, and the S80 for the 2001 model year earns a ‘best pick’ rating.”

Other midsize luxury models the Institute has evaluated include the BMW 3 series which, like the new Volvo, earns a good overall evaluation and “best pick” designation. The Cadillac Catera is rated good, while the Saab 9-5 and Audi A6 are rated acceptable (see attached list). “Overall this is a good group of vehicles,” O'Neill points out. “It's encouraging that none of the cars in this group that we tested is rated marginal or poor. They all earn good or acceptable ratings.”

**End 1-page release: Volvo S80 crashworthiness**  
**1-page attachment: crashworthiness ratings**

# Crashworthiness Evaluations

Midsize luxury cars 4-door models		OVERALL EVALUATION	Frontal Offset Crash Test Performance					Other Evaluations	
			Structure/ Safety Cage	Injury Measures			Restraints/ Dummy Kinematics	Head Restraint Design	Bumper Performance
				Head/ Neck	Chest	Leg/Foot Left, Right			
<b>best pick</b>	<b>VOLVO S80</b> 2001 models test vehicle wt. = 3,576 lbs.	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>P</b>	
	<b>BMW 3 SERIES</b> 2000 models test vehicle wt. = 3,347 lbs.	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>A</b>	<b>M</b>	
	<b>CADILLAC CATERA</b> 1997-2000 models test vehicle wt. = 3,847 lbs.	<b>G</b>	<b>A</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>A</b>	<b>M</b>	
	<b>SAAB 9-5</b> 1999-2000 models test vehicle wt. = 3,527 lbs.	<b>A</b>	<b>A</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>P</b>	<b>M</b>	
	<b>AUDI A6</b> 1998-2000 models test vehicle wt. = 3,766 lbs.	<b>A</b>	<b>A</b>	<b>G</b>	<b>G</b>	<b>M</b>	<b>M</b>	<b>A</b>	
	Crashworthiness evaluation of earlier design: <b>VOLVO S80</b> 2000 models test vehicle wt. = 3,576 lbs.	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>M</b>	<b>G</b>	<b>P</b>

**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](http://www.highwaysafety.org):** This publication summarizes the crashworthiness evaluations of midsize luxury cars. 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 photographs taken during and after the crash test, are available online at [www.highwaysafety.org](http://www.highwaysafety.org). Or call the Institute for copies: 703/247-1500.