

INSURANCE INSTITUTE FOR HIGHWAY SAFETY

NEWS RELEASE

December 3, 2002

VNR: Tues., 12/3, 1-1:30 p.m. EST, (C) Telstar 5/Trans. 24

AUDI A4's BUMPERS EARN PRAISE; TOYOTA COROLLA ALSO IS RATED GOOD, BUT TWO OTHER CARS HAVE SUBPAR BUMPERS

ARLINGTON, VA — In 5 mph crash tests conducted by the Insurance Institute for Highway Safety to assess and compare how well car bumpers resist damage in low-speed impacts, the midsize 2002 Audi A4 performed well. Another midsize car, the 2003 Honda Accord, performed reasonably well but not as well as the Audi. Three small cars also were tested, and among these only the 2003 Toyota Corolla earned a good rating for bumper performance.

"The performances of the small cars ranged widely," says Institute chief operating officer Adrian Lund. In contrast to the Corolla's good rating, the bumpers on two other small cars — the 2002 Mini Cooper and 2002 Suzuki Aerio — didn't perform very

5 MPH CRASH TEST RESULTS, SMALL AND MIDSIZE CARS

	Front into flat barrier	Rear into flat barrier	Front into angle barrier	Rear into pole	Total damage 4 tests	Average damage per test	Bumper rating
Small cars							
2003 Toyota Corolla	\$289	\$234	\$337	\$322	\$1,182	\$296	GOOD
2002 Mini Cooper	\$839	\$223	\$1,498	\$639	\$3,199	\$800	MARGINAL
2002 Suzuki Aerio	\$771	\$819	\$1,475	\$1,460	\$4,525	\$1,131	POOR
Midsize cars							
2002 Audi A4	\$0	\$0	\$494	\$371	\$865	\$216	GOOD
2003 Honda Accord	\$335	\$266	\$423	\$332	\$1,356	\$339	ACCEPTABLE

Repair costs reflect September 2002 prices.

Note: Pole tests of the Honda Accord and Toyota Corolla were conducted off-center because of reinforcement in the middle of the rear bumper system that's effective in only a narrow range of impacts.

— MORE —

well. They allowed excessive damage to both the bumper systems and the car bodies in low-speed crash tests. Average damage per test ranged from just under \$300 for the Corolla to almost four times as much — \$1,131 — for the Aerio.

The Institute conducted a series of four bumper tests including front- and rear-into-flat-barrier impacts plus front-into-angle-barrier and rear-into-pole impacts. These low-speed tests reflect the range of impacts that frequently occur in commuter traffic and parking lots.

Audi A4: This car's bumper system earns a good rating largely because the reinforcement bars underneath the front and rear bumper covers are attached to the car with mounts that can absorb low-speed crash forces and then return to their original positions, just like shock absorbers. Only a few passenger vehicles are equipped with this kind of bumper. Other cars from the same manufacturer with similar bumper designs include the Audi A6 and Volkswagen Beetle and Passat. Like the A4, these cars withstood the two simplest of the Institute's four bumper tests, front- and rear-into-flat-barrier, without any damage or very little.

In contrast, most automakers equip their cars with bumpers that have only a limited capacity for absorbing energy. Such systems usually include layers of foam, which often don't absorb energy before metal parts buckle and bend. These systems also don't always restore themselves after low-speed crashes.

"We congratulate the engineers at VW AG, which produces Audis, for paying attention to bumper designs, equipping their cars with restorable energy-absorbing systems. This will save consumers a lot of money because their cars won't sustain as much damage, or maybe none at all, in many low-speed impacts," Lund says.

Toyota Corolla: When Toyota re-engineered the Corolla for the 2003 model year, the manufacturer didn't put bumpers with restorable energy-absorbing mounts on the new model. There's foam in the front and rear bumper systems, "and the foam did a reasonably good job of resisting damage in our low-speed impacts. But this isn't the best way

to absorb crash energy, and the Corolla's performance in the front and rear flat-barrier tests could have been better. The overall performance of this car in all four tests was right on the border between earning a good rating and an acceptable one," Lund says.

The Corolla's rear bumper system includes special reinforcement in the middle, at the location where the car hits the pole in the Institute's test. "We're seeing auto manufacturers beginning to do this just to get good ratings in our test. But what we want to see manufacturers putting on their cars are bumper systems that will resist damage in a wide range of low-speed crashes, not just our test configurations. For this reason, we sometimes move the rear-into-pole impact from the center of the car to off-center," Lund explains. "Even in the off-center configuration, the Corolla sustained only \$322 damage, which is a better result than most cars."

Honda Accord: Re-engineered for the 2003 model year, the Accord's bumper system doesn't include restorable energy-absorbing mounts, either. The bumper bars are attached with mounts that bend and buckle during impact. The damage has to be repaired, which increases the cost of owning this car. There's only foam to absorb the energy of minor impacts, "and the foam fails to keep the damage away from the car body," Lund says.

Like the Corolla, the Accord's rear bumper is reinforced in the middle to perform well in the Institute's pole test, so this impact was conducted off-center. Still, the damage repair cost was a relatively low \$332.

Mini Cooper: BMW introduced this small car for the 2002 model year, "and it's attracting a lot of attention for distinctive styling. But the bumpers aren't praiseworthy," Lund points out.

There was excessive damage in the front-into-flat-barrier impact (more than \$800 in repairs), and the Mini Cooper sustained about \$1,500 damage in the angle-barrier test. "These are disappointing test results, but they're not surprising because the bumper systems on BMWs generally don't do a very good job of resisting damage in low-speed impacts," Lund also says.

Suzuki Aerio: Another new model for 2002, this car has poor bumpers. The bumper cover split in three of the Institute's four low-speed impacts, necessitating replacement at a cost of more than \$500 each time. After the angle-barrier impact alone, total damage (including replacing and refinishing the front bumper cover) came to almost \$1,500. About the same amount of damage was sustained in the pole test. Even in the simplest tests, the flat-barrier impacts, combined damage came to almost \$1,600.

Suzuki engineers "simply didn't do a good job with the bumper systems when they designed this car," Lund points out. "It has elaborate and expensive bumper covers, but its bumper systems fail to do what bumpers are supposed to do, which is to minimize damage in minor impacts. In fact, these bumpers are just expensive decorative trim."

End 4-page release on damage in 5 mph tests
Video news release Tues., 12/3, 1-1:30 p.m. EST
(C)Telstar 5/Trans. 24; crash test footage & more
Internet: www.highwaysafety.org