

# INSURANCE INSTITUTE FOR HIGHWAY SAFETY

## NEWS RELEASE

March 10, 1999

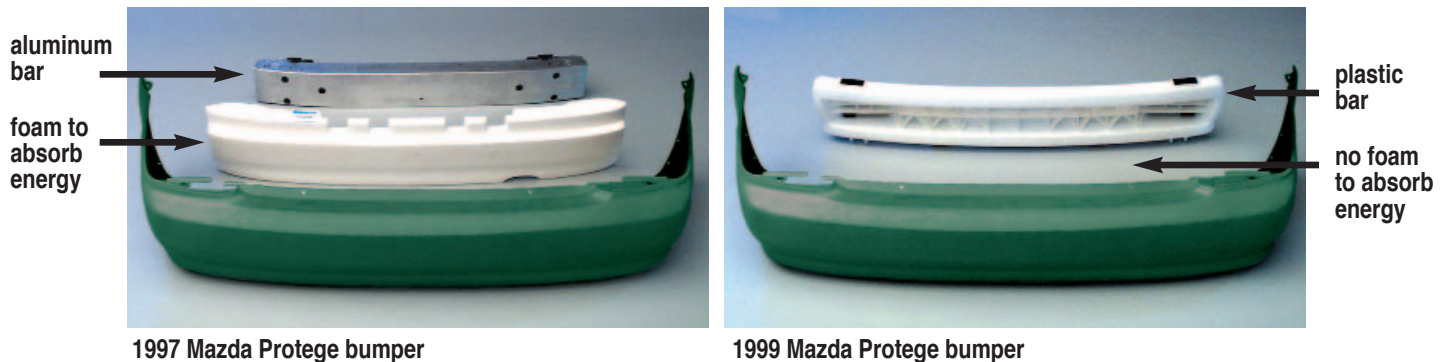
### TWO AUTOMAKERS IMPROVE CAR BUMPERS; ANOTHER NEW MODEL HAS WORSE BUMPERS

ARLINGTON, VA – Hyundai improved the bumpers on the 1999 Elantra, compared with previous models of this car, and Mitsubishi improved the new Galant's bumpers. In contrast, the bumpers on the redesigned 1999 Mazda Protege are substantially inferior to those on the 1997 model (see attached table).

"Designing effective bumpers is no great engineering challenge," says Insurance Institute for Highway Safety president Brian O'Neill, "but it needs to be a priority or else we'll see the kind of inferior design that's on the new Protege."

To assess bumper performance, the Institute conducts a series of 4 crash tests at 5 mph – front and rear flat-barrier impacts plus two localized impacts, front-into-angle-barrier and rear-into-pole. The 1997 Protege's performance in these tests was marginal, but the redesigned 1999 model performed even worse. "The damage sustained by the new model in our low-speed tests more than doubled compared with the 1997 model," O'Neill says.

To a consumer, the bumpers on the 1997 and '99 Protege appear virtually identical. "But underneath there have been major changes," O'Neill adds. "The rear bumper on the 1997



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model included an aluminum bar and foam energy-absorbing material. But on the 1999 model these have been replaced by a piece of plastic that broke in the rear-into-pole test, allowing extensive damage to the car's sheet metal."

In contrast to Mazda, Hyundai worked to improve the performance of the rear bumper system on the Elantra. Bumpers on the 1997 model of this car were rated worst among the small cars the Institute tested, but the 1999 Elantra is much improved. Its rear bumper allowed virtually no damage in either the rear-into-flat-barrier test or the very demanding rear-into-pole test, compared with total damage of almost \$2,000 (1999 dollars) in the same tests of the 1997 model. The difference is that Hyundai strengthened the reinforcement bar underneath the plastic bumper cover and added energy-absorbing foam to the rear bumper.

"This is exactly what bumpers are supposed to do. Their purpose is to prevent damage in low-speed collisions, and Hyundai earns praise for making the improvements," O'Neill says.

Damage to the 1999 Mitsubishi Galant was cut by more than half in the Institute's low-speed crash tests, compared with the 1995 Galant, which the Institute rated poor for bumper performance. Most of the improvement is because of much better performance in the rear-into-pole crash test. Damage to the 1995 model from this test alone was \$1,651, compared with only \$250 for the 1999 Galant.

Seven of the nine 1999 models tested had better bumper results than their predecessor models. "Such improvements are important because of all the minor bumps that frequently occur in commuter traffic. Such seemingly minor impacts can cost thousands of dollars to repair. Plus there's the major inconvenience of putting a car in the body shop for several days," O'Neill points out.

**End 2-page release on damage repair costs after low-speed tests.  
1-page attachment lists 5 mph crash test results for 9 vehicles.  
Video news release on Wednesday, March 10, 1:30-2:00 pm EST  
(C) Galaxy 6/Trans. 9; includes crash test footage, related video**

**Internet: [www.highwaysafety.org](http://www.highwaysafety.org)**

**5 MPH CRASH TEST RESULTS**

	Front Into Flat Barrier	Rear Into Flat Barrier	Front Into Angle Barrier	Rear Into Pole	Total Damage 4 Tests	Average Damage Each Test
<b>SMALL 4-DOOR CARS</b>						
<b>Volkswagen Jetta</b>						
1999 model	\$141	\$43	\$690	\$149	\$1,023	\$256
1997 model	\$150	\$0	\$772	\$245	\$1,167	\$292
<b>Hyundai Elantra</b>						
1999 model	\$471	\$66	\$1,077	\$8	\$1,622	\$406
1997 model	\$245	\$354	\$688	\$1,612	\$2,899	\$725
<b>Mazda Protege</b>						
1999 model	\$169	\$626	\$977	\$2,837	\$4,609	\$1,152
1997 model	\$598	\$144	\$479	\$709	\$1,930	\$483
<b>MIDSIZE 4-DOOR CARS</b>						
<b>Mitsubishi Galant</b>						
1999 model	\$199	\$431	\$791	\$250	\$1,671	\$418
1995 model	\$812	\$259	\$761	\$1,651	\$3,483	\$871
<b>Saab 9-3</b>						
1999 model	\$0	\$135	\$578	\$971	\$1,684	\$421
1994 model (Saab 900)	\$0	\$ 0	\$867	\$1,152	\$2,019	\$505
<b>Hyundai Sonata</b>						
1999 model	\$384	\$281	\$1,032	\$908	\$2,605	\$651
1996 model	\$819	\$ 0	\$1,276	\$1,740	\$3,835	\$959
<b>PASSENGER VANS</b>						
<b>Nissan Quest</b>						
1999 model	\$0	\$239	\$631	\$240	\$1,110	\$278
1996 model	\$485	\$0	\$625	\$1,294	\$2,404	\$601
<b>Honda Odyssey</b>						
1999 model	\$462	\$258	\$175	\$168	\$1,063	\$266
1996 model	\$83	\$473	\$1,043	\$560	\$2,159	\$540
<b>Ford Windstar</b>						
1999 model	\$341	\$0	\$337	\$1,036	\$1,714	\$429
1995 model	\$0	\$82	\$857	\$1,268	\$2,207	\$552

Note: Repair costs reflect January 1999 prices.