BUMPERS DO LITTLE TO PROTECT CARS FROM DAMAGE

JONATHAN WELSH - THE WALL STREET JOURNAL

Bumpers on most midsize cars do a poor job of protecting the vehicles in low-speed collisions. according to recent tests, and the cost of repairs following minor fender-benders can be surprisingly steep.

For consumers, the latest test scores by the Insurance Institute for Highway Safety, a research group funded by the insurance industry, may be more meaningful than those derived from high-speed crash tests that simulate traffic accidents that are more likely to be deadly. The bumper tests are designed to mimic collisions that are more common in parking lots and slow commuter traffic. Many drivers have been involved in such accidents or have come close. The increasing repair costs have resulted in higher insurance claims, which have in part driven the research group to study the trend closely.

Evolution of the car bumper in the past 35 years has meant that formerly one-piece bumpers are now integrated into the vehicle's front-end design. This happened in part because the new rules don't require bumpers to be as strong and protective. That means consumers wind up paying thousands of dollars to fix damage from even a minor collision, The total repair cost for damage from four impact tests – on each car's front and rear bumpers and front and rear corners – ranged from $4,277 for the Mitsubishi Motors Corp. Galant to $9,052 for the Nissan Motor Co. Maxima.

The damage costs show how bumper design has slipped over time as manufacturers focused more on protecting passengers in high-speed crashes. Easing standards has allowed auto manufacturers more flexibility in designing vehicles foe aesthetic appeal. For comparison, the IIHS tested a 1981 Ford Motor Co. Escort. The Escort, which was built during the height of strict federal regulations, has large wide bumpers and sustained no damage in the corner tests. After the four tests its damage totaled $469. The car's bumpers contribute to its overall clunky styling and its performance in high-speed crashes would probably be unacceptable by modern standards.

In crash tests at speeds of three & six miles an hour conducted by the Insurance Institute for Highway Safety, some cars sustained damage that would cost thousands of dollars to fix. Even the best performers in the tests

would up badly bruised. A a five mile-an-hour on the front bumper of the top-ranked Mitsubishi Galant resulted in $629 of damage. A similar crash inflicted $3,911 of damage on a Subaru Legacy, $4,535 on a Nissan maxima and$4594 on a Volkswagen AG Passat.

The National Highway Traffic Safety Administration issued its first regulation for the bumpers of passenger cars in 1971. The rule said a vehicle's bumpers had to protect "safety-related components" such as headlamps and fuel systems in a series of crash tests at five miles per hour on the front bumper and 2.5 mph in the rear. Federal requirements got more stringent over time, allowing less damage and boosting rear-impact test speed to five mph to more closely match the frontal standard. Bumpers also had to withstand three-mph corner impacts. However by 1983 a rule change lowered impact speeds to 2.5 mph for front & rear and 1.5 mph for corners.

In the tests, each car collides with a steel barrier that is shaped like the front end of a car and is built with a wide plastic cushion and a flexible cover similar to the energy-absorbing bumpers and bumper covers on most cars. The institute has redesigned its crash barriers to look and respond more like the bumper of another car instead of a flat wall. The full test includes four impacts: front and rear full-width crashes at six miles an hour and front-and rear-corner bumps at three miles an hour.

Of the 17 models tested, the Galant, Toyota Motor Corp.'s Camry, Mazda Motor Corp.'s Mazda 6 and General Motors Corp.'s Saturn Aura performed considerably than the rest in the frontal crash because their bumpers stayed in solid contact with the crash barrier's bumper instead of sliding under or over it. In this group only the Aura's damage estimate of $1,032 was highest, with the rest less than $1000. The Aura was the only car whose design limited damage to the bumper without harming body panels.

The Nissan Maxima, Pontiac G6 and Volkswagen Passat each sustained damage estimated at more than $4,500 in the frontal test. These cars have bumpers that slid underneath the barrier, allowing their bodies to absorb much of the impact. The costs reflect damage to the car's hoods. fenders, headlights and even air-conditioning condensers mounted just behind their front grills.

Rear-end tests showed similar patterns of expensive damage when the car's bumpers weren't tall enough or were mounted too high or low to properly

engage the barrier. The Hyundai Sonata performed best in this test with &739 of damage, mostly limited to the bumper. Cars' front bumpers generally weren't wide enough to prevent extensive damage in corner impacts.

Many cars appear to have bumpers that wrap around their front corners but the underlying bumper structure is rarely as extensive as the cover. GM and other car makers said that, while they are considering the test results, they are more focused on occupant safety than in preventing cosmetic damage.