

INSURANCE INSTITUTE FOR HIGHWAY SAFETY

NEWS RELEASE

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HUGE COST OF MISMATCHED BUMPERS WHEN BUMPERS ON CARS AND SUVs DON'T LINE UP (AND MANY OF THEM DON'T), LOW-SPEED COLLISIONS PRODUCE MORE DAMAGE AND HIGHER REPAIR COSTS

ARLINGTON, VA — Bumpers are the first line of defense against costly damage in everyday low-speed crashes. Bumpers on cars are designed to match up with each other in collisions, but a long-standing gap in federal regulations exempts SUVs from the same rules. New Insurance Institute for Highway Safety crash tests demonstrate the results: SUV bumpers that don't line up with those on cars can lead to huge repair bills in what should be minor collisions in stop-and-go traffic.

"SUVs and cars share the road," says Joe Nolan, the Institute's chief administrative officer. "The problem is they don't share the same bumper rules, and consumers end up paying the price."

A federal standard requires that all cars have bumpers that protect within a zone of 16 to 20 inches from the ground. This means car bumpers line up reasonably well and are more likely to engage during low-speed collisions to absorb energy and prevent damage. No bumper requirements apply to SUVs, pickups, or minivans, so when these vehicles have bumpers they often are flimsier and higher off the ground than bumpers on cars. Plus, SUVs and pickups may not have bumpers at all.

In fender-benders with SUVs, cars often end up with excessive damage to hoods, engine cooling systems, fenders, bumper covers, and safety equipment like lights. SUVs don't always come out unscathed either, often needing extensive work.

The Institute conducted 10 mph front-into-rear crash tests involving 7 pairs of 2010-11 models, each composed of a small car and small SUV from the same automaker.

— MORE —

"We picked vehicles from the same manufacturer because we think automakers should at the least pay attention to bumper compatibility across their own fleets," Nolan explains. "The results show that many don't."

DAMAGE REPAIR COSTS IN 10 MPH FRONT-INTO-REAR CRASH TESTS			
SUV INTO CAR	SUV damage	Car damage	Total damage
Honda CR-V into Honda Civic	\$1,721	\$1,274	\$2,995
Toyota RAV4 into Toyota Corolla	\$1,434	\$2,327	\$3,761
Hyundai Tucson into Kia Forte	\$850	\$3,223	\$4,073
Volkswagen Tiguan into Volkswagen Golf	\$2,329	\$2,058	\$4,387
Jeep Patriot into Dodge Caliber	\$1,415	\$3,095	\$4,510
Ford Escape into Ford Focus	\$1,470	\$3,386	\$4,856
Nissan Rogue into Nissan Sentra	\$2,884	\$4,560	\$7,444
CAR INTO SUV	Car damage	SUV damage	Total damage
Kia Forte into Hyundai Tucson	\$1,510	\$2,091	\$3,601
Dodge Caliber into Jeep Patriot	\$2,559	\$1,338	\$3,897
Honda Civic into Honda CR-V	\$4,921	\$1,053	\$5,974
Volkswagen Golf into Volkswagen Tiguan	\$4,555	\$1,872	\$6,427
Nissan Sentra into Nissan Rogue	\$5,114	\$1,428	\$6,542
Ford Focus into Ford Escape	\$5,203	\$2,208	\$7,411
Toyota Corolla into Toyota RAV4	\$3,852	\$6,015	\$9,867
<small>Note: The Ford Escape and Focus, Hyundai Tucson, and Volkswagen Golf and Tiguan are 2011 models. All other cars and SUVs are 2010s. Repair costs reflect November 2010 parts and labor prices.</small>			

In the tests, an SUV going 10 mph struck the back of its paired car, which was stopped. Then the configuration was reversed, with the car striking the back of its paired SUV. Results of these low-speed impacts varied widely, from a total of \$850 damage to one vehicle to \$6,015 damage to another. In some cases, the crash damage included major leaks from broken radiators and cooling fans. If these collisions had hap-

pened in the real world, the motorists wouldn't have been able to drive away. If they did, their vehicles could overheat, and the engines could be ruined.

Mismatched pairs: If bumpers don't match up, they'll bypass each other when vehicles collide, and the resulting crash energy will crumple the vehicle body. That's what happened when the Nissan Rogue struck the back of the Nissan Sentra in the SUV-into-car test. The Rogue's front bumper didn't line up at all with the Sentra's rear bumper, and the resulting \$4,560 rear damage tally for the Sentra was the highest among all the cars in this test. The impact crumpled the car's bumper cover, trunk lid, and rear body. The Rogue ended up with a crushed and

Nissan Sentra and Nissan Rogue



Ford Escape and Ford Focus



When the Nissan Rogue struck the back of the Nissan Sentra (left) in the 10 mph front-into-rear crash test, the Rogue's bumper overrode the Sentra's, resulting in \$7,444 in combined damage for the pair. In the car-into-SUV test, the Ford Focus bumper slid under the high-riding Ford Escape, adding up to \$5,203 damage for the car and \$2,208 for the SUV.



Ford Focus: \$5,203 damage

leaking radiator that kept the SUV from being driven after the test.

Bumper height mismatch contributed to pricey damage when the Ford Escape struck the rear of the Ford Focus. Their bumpers overlapped less than 2 inches, not enough to protect the Focus's rear body and trunk lid from \$3,386 in repairs.

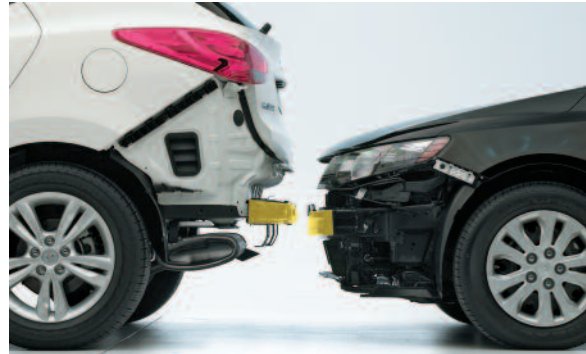
The mismatch problem with the Ford pair was even worse when the Focus struck the back of the Escape. The front bumper on the car underrode the high-riding Escape's rear bumper, which at 25 inches off the ground is the tallest among all the small SUVs evaluated this time around. Damage to the Focus came to \$5,203 and included replacing most of the sheet metal plus many parts in front of the engine.

When the Toyota Corolla hit the rear of the Toyota RAV4 in the car-into-SUV test, damage amounted to nearly \$10,000 for the pair — the highest combined test damage among all of the vehicle pairs the Institute evaluated. The RAV4 accounted for about \$6,000 of the bill.

Honda Civic and Honda CR-V



Hyundai Tucson and Kia Forte



The bumper bars on this pair of Hondas (left) lined up. The Civic's \$1,274 in rear damage when hit by the CR-V was the lowest among cars in this test. The Kia Forte's front bumper lined up with the rear bumper of the Hyundai Tucson (right), keeping the front of the car from underriding the SUV and limiting damage to a combined \$3,601 for both vehicles.

"The RAV4's so-called bumper is really just a stamped piece of sheet metal supporting the bumper cover," Nolan explains. "So instead of engaging a strong bumper, the striking Corolla hit the spare tire mounted on the RAV4's tailgate. The spare isn't designed to absorb crash energy, so it damaged the Corolla's hood, grille, headlights, air conditioner, and radiator support and crushed the RAV4's tailgate and rear body panels."

Compatible bumpers: Bumpers on Honda's CR-V and Civic were the most compatible in the test in which an SUV strikes the rear of a car, and at \$2,995 the pair had the lowest combined estimated damage in this crash test. The Civic's \$1,274 damage was the lowest among the cars. The CR-V is one of only 3 SUVs whose front bumpers overlapped half of the rear bumpers on the cars they hit.

"The CR-V's front bumper overlapped the Civic's rear bumper by more than 2 inches. That may not sound like much, but it's enough to allow the bumpers to do what they're supposed to do," Nolan says.

When the Kia Forte struck the back of the Hyundai Tucson, their bumpers matched up well enough to keep the Forte from underriding the SUV, limiting damage to a combined \$3,601 for both vehicles. The Forte's \$1,510 repair estimate was the lowest among cars in the car-into-SUV test.

The Tucson-Forte pair's bumpers also did a good job of lining up in the SUV-into-car test. The Tucson's \$850 damage estimate was better than the other SUVs, and it was the only SUV that didn't have a damaged air-conditioning condenser.

Despite bumpers that aligned, results for the Forte weren't as good. The Forte had more than \$3,000 rear damage because its bumper broke during impact. The car's rear body panel also was damaged.

"Of the 7 car-SUV pairs we tested, we can't point to a single one as a model of compatibility because combined damage estimates run into thousands of dollars for even the best performers," Nolan says. "In the real world that money comes straight out of consumers' wallets through deductibles and insurance premiums. Regulating SUV bumpers would ease the burden."

Regulate SUV bumpers: The Institute in July 2008 petitioned the National Highway Traffic Safety Administration to regulate bumpers on SUVs and pickups the same as cars, and require them to match up in a way that shields both vehicles from costly damage. The agency in June 2009 agreed to seek comments on the petition but hasn't moved forward with a rulemaking or a low-speed compliance test for bumpers.

Regulators have long said that requiring light trucks to have bumpers would compromise off-road maneuverability and make it hard to use these kinds of vehicles at loading ramps. The Institute counters that very few SUVs and pickups are used off road. In addition, bumpers aren't the limiting factor in most vehicles' approach and departure angles. Instead air dams, bumper covers, exhaust pipes, and other trim mounted lower than the bumpers get in the way.

**End 5-page news release on 10 mph front-into-rear bumper tests
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