

INSURANCE INSTITUTE FOR HIGHWAY SAFETY

NEWS RELEASE

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SMALL PICKUPS DELIVER DISAPPOINTING PERFORMANCES IN 40 MPH CRASH TESTS

ARLINGTON, VA – None of the small pickup trucks tested in a crash at 40 mph earned a good rating from the Insurance Institute for Highway Safety. "These pickups sustained too much damage in our low-speed crash tests, and they don't pass muster when it comes to high-speed crashworthiness tests either," Institute President Brian O'Neill points out. Crashworthiness refers to how well vehicles protect their occupants in serious crashes.

The two best performers in the Institute's 40 mph frontal offset crash test were the Toyota Tacoma and Ford Ranger (see attached list). The two worst were the Dodge Dakota and Nissan Frontier. The Tacoma and Ranger (plus the Ranger's "twin," the Mazda B-series) are rated acceptable overall. The Dakota and Nissan Frontier are poor overall. The other pickup tested – the Chevrolet S-10 – is rated marginal along with its "twins," the GMC Sonoma and Isuzu Hombre.

"We're always disappointed," O'Neill says, "when no vehicle in a class earns a good evaluation. There aren't any pickups with good crashworthiness performance, and three of the five we tested are marginal or poor overall."

The Institute's crashworthiness evaluations are based primarily on performance in the frontal offset crash test. All vehicles are rated in three categories and then assigned overall evaluations of good, acceptable, marginal, or poor. Head restraint design and bumper performance in low-speed crash tests don't affect overall evaluations but are considered when establishing vehicle rankings within each class (mid-size four-door cars, small pickup trucks, etc.).

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Structural Performance in the 40 MPH Frontal Offset Crash Test

Manufacturers of the small pickups advertise the vehicles' energy-absorbing front-end crumple zones. "But our crash test calls into question the effectiveness of the crumple zones on these small pickups. We didn't see the kind of structural performance that would back up the manufacturers' claims," O'Neill says.

There was too much intrusion into the footwells of both the Dakota and Frontier. The instrument panels in these pickups moved rearward, toward the dummy positioned in the driver seat, so the driver's space wasn't maintained well. Plus the floor buckled extensively under the Dakota's driver seat, causing it to tilt forward in the crash test and further reduce the driver's space. Even in the Tacoma – the pickup that performed the best of the five – intrusion in the driver footrest area contributed to high forces on the dummy's left leg and the likelihood of an injury. In the Chevrolet S-10, instrument panel intrusion contributed to the possibility of leg and knee injury.

Unlike cars, pickup trucks are built on frames. "Many people think this makes the pickups tough, durable, and therefore safe. Manufacturers push this image of toughness in their advertising. But toughness doesn't necessarily translate into good performance in a high-speed crash," O'Neill explains. "The Chevrolet S-10 illustrates this. In the 40 mph offset crash test, the frame buckled in the middle of the occupant compartment, allowing significant intrusion into the driver's space. So the crash performance wasn't good."

How Researchers Assess Vehicle Performance in the Frontal Offset Crash Test

Institute researchers use 40 mph offset crash tests to evaluate three important aspects of passenger vehicle crashworthiness – (1) how well the front-end crush zone manages crash energy and the safety cage limits occupant compartment intrusion, (2) injury risk measured on a dummy representing an average-size male driver, and (3) how well dummy movement is controlled during impact. Vehicle structure,

occupant restraints, and injury measures are evaluated separately – even though they're related – because good performance for any one of the three by itself in a single test isn't sufficient to reliably indicate good crashworthiness. The same crash test is used to evaluate new cars by the European Union in cooperation with motor clubs and by an Australian consortium of state governments and motor clubs. In addition, the Institute's crashworthiness evaluations reflect the adequacy of front-seat head restraint designs and bumper performance in four crash tests at 5 mph.

Institute and Government Crash Tests Complement Each Other

The federal government has been testing new passenger vehicles in 35 mph crash tests since 1978. This New Car Assessment Program has been a major contributor to crashworthiness improvements – in particular, improved restraint systems in new passenger vehicles. The Institute's offset test, which involves 40 percent of a vehicle's front end hitting a deformable barrier at 40 mph, complements the federal test involving the full width of the front end hitting a rigid barrier. The government test is especially demanding of vehicle restraint systems but not so much so of vehicle structure. An offset test is more demanding of vehicle structure.

End of three-page release on pickup crashworthiness
One-page list attached: evaluations of eight pickups
Video news release Tues., May 12, 12:45-1:00 p.m. EDT
Galaxy 9/Transponder 1; test footage & related video

Internet: www.highwaysafety.org

Evaluations

	Frontal Offset Crash Test Performance									
	OVERALL EVALUATION	Structure/ Safety Cage	Restraints & Dummy Kinematics	Injury Measures				Head Restraint Design	Bumper Performance	
				Head/ Neck	Chest	Leg/ Foot, Left	Leg/ Foot, Right			
Small Pickups										
TOYOTA TACOMA 1998 models	A	A	G	A	G	P	G	A M	P	depends on option
FORD RANGER MAZDA B-SERIES 1998 models	A	M	A	G	G	G	M	M P	M	depends on option
CHEVROLET S-10 GMC SONOMA ISUZU HOMBRE 1998 models	M	M	P	G	G	A	A	G	M	
NISSAN FRONTIER 1998 models	P	A	P	A	G	P	M	A M	P	depends on option
DODGE DAKOTA 1997-98 models	P	M	P	P	G	A	A	A M	P	depends on option

G GOOD **A** ACCEPTABLE **M** MARGINAL **P** POOR

For details about these and other vehicles, visit the Insurance Institute for Highway Safety online at www.highwaysafety.org or write to 1005 North Glebe Road, Arlington, Virginia 22201. Telephone 703/247-1500. The Institute is a nonprofit research and communications organization wholly supported by automobile insurers. Printed on recycled paper. May 1998.