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B-roll: Tue. 11/7/2023, 10:30-11 a.m. ET; repeat 1:30-2 p.m. ET (KU) GALAXY 16
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Large pickups offer strong side protection but falter in back seat safety

ARLINGTON, Va. — Four large pickups offer strong protection in side crashes but fall short when it comes to protecting passengers in the back seat.

The Ram 1500 crew cab, Ford F-150 crew cab and Toyota Tundra crew cab earn good ratings in the Insurance Institute for Highway Safety's updated side crash test, while the Chevrolet Silverado 1500 crew cab is rated acceptable.

However, in the updated moderate overlap front crash test, which now emphasizes back seat safety, only the Tundra manages a marginal rating. The F-150, Ram 1500 and Silverado are rated poor.

"Like most other vehicle classes, large pickups don't perform as well in the new moderate overlap evaluation as they do in the updated side test, which is now a requirement for our *TOP SAFETY PICK* awards," said IIHS President David Harkey.

IIHS [launched](#) the updated moderate overlap front test last year after research showed that in newer vehicles the risk of a fatal injury is now higher for belted occupants in the second row than for those in front. This is not because the second row has become less safe. Rather, the front seat has become safer because of improved airbags and advanced seat belts that are rarely available in back. Even with these developments, the back seat remains the safest place for children, who can be injured by an inflating front airbag, and the rating does not apply to children secured properly in child safety seats.

In the updated test, a second dummy is positioned in the second row behind the driver. The driver dummy is the size of an average adult man. The rear dummy is the size of a small woman or 12-year-old child. IIHS researchers also developed new metrics that focus on the injuries most frequently seen in back seat passengers.

For a vehicle to earn a good rating, there can't be an excessive risk of injury to the head, neck, chest or thigh, as recorded by the second-row dummy. The dummy should remain correctly positioned during the crash without "submarining," or sliding forward beneath the lap belt, which increases the risk of abdominal injuries. The head should also remain a safe distance from the front seatback and the rest of the vehicle interior, and the shoulder belt should remain on the shoulder, where it is most effective. A pressure sensor on the rear dummy's torso is used to check the shoulder belt position during the crash.

As in the original test, the structure of the occupant compartment must maintain adequate survival space for the driver, and measurements taken from the driver dummy shouldn't show an excessive risk of injuries.

All four pickups provided good protection in the front seat. But the restraint systems in the rear were inadequate.

“Submarining was a problem for all four pickups, and belt forces were too high in all but the Tundra,” Harkey said.

Measurements taken from the rear dummy indicated that chest injuries and head or neck injuries were likely in the F-150 and Ram 1500. The risk of those injuries was somewhat lower but still excessive in the Silverado. For the Tundra, the risk of chest injuries was also too high due to poor belt positioning, but the risk of head or neck injuries was only slightly elevated.

The updated side test was introduced to address higher-speed crashes that are still causing fatalities, even in vehicles that excelled in the original evaluation. Like its predecessor, the updated test uses two dummies, a driver and a rear passenger. However, it uses a heavier barrier traveling at a higher speed to simulate the striking vehicle. The updated test replaced the original in the criteria for the *TOP SAFETY PICK* awards in 2023.

In this test, the good-rated F-150, Ram 1500 and Tundra provided solid protection in front and back, though the occupant compartment of the F-150 was compromised slightly by the impact. There was an elevated risk of chest injury to the rear passenger in the acceptable-rated Silverado.

Ratings in updated moderate overlap front test: large pickups

	OVERALL RATING	Driver injury measures					Rear passenger injury measures				
		Structure & safety cage	Head & neck	Chest	Knee & thigh	Leg & foot	Driver restraints & kinematics	Head & neck	Chest	Thigh	Rear passenger restraints & kinematics
2023 Toyota Tundra crew cab	M	G	G	G	G	A	G	A	M	G	P
2023 Chevrolet Silverado 1500 crew cab	P	G	A	G	G	A	G	M	M	G	P
2023 Ford F-150 crew cab	P	G	G	G	G	G	G	P	P	G	P
2023 Ram 1500 crew cab	P	G	G	G	G	G	G	P	P	G	P

G Good A Acceptable M Marginal P Poor

Ratings in updated side test: large pickups

	OVERALL RATING	Driver injury measures				Rear passenger injury measures				
		Structure & safety cage	Head & neck	Torso	Pelvis	Driver head protection	Head & neck	Torso	Pelvis	Rear passenger head protection
2023 Ford F-150 crew cab	G	A	G	G	G	G	G	G	G	A
2023 Ram 1500 crew cab	G	G	G	G	G	G	G	G	G	G
2023 Toyota Tundra crew cab	G	G	G	G	G	G	G	G	G	G
2023 Chevrolet Silverado 1500 crew cab	A	G	G	G	G	G	G	M	G	G

G Good A Acceptable M Marginal P Poor

For more information, go to [iihs.org](https://www.iihs.org)

The Insurance Institute for Highway Safety (IIHS) is an independent, nonprofit scientific and educational organization dedicated to reducing deaths, injuries and property damage from motor vehicle crashes through research and evaluation and through education of consumers, policymakers and safety professionals. IIHS is wholly supported by auto insurers.