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A 2000 Toyota 4Runner tilts during a rollover test at the federal government's Transportation Research Center in East Liberty, Ohio. The new test puts vehicles through a severe maneuver to determine what it takes to tip them over.

U.S. starts real-world rollover tests

Computer steers vehicles through 'fishhook' move on Ohio track

CHRISTOPHER JENSEN
Plain Dealer Auto Editor

EAST LIBERTY, OHIO — Later this year, the federal government expects to begin releasing test results showing a vehicle's tendency to roll over — a test that consumer groups have sought for decades.

Runge

The new test will help consumers, particularly those interested in sport- utilities or pickups, determine which vehicles are least likely to roll over, said Dr. Jeffrey Runge, administrator of the National Highway Traffic Safety Administration. The test was unveiled yesterday at the agency's Transportation Research Center in East Liberty.

Ideally, the testing information will also influence automakers to make vehicles safer, Runge said.

Rollovers are considered one of the industry's most serious safety problems. While they account for less than 3 percent of all crashes, they account for about 33 percent of the fatalities, Runge said during a news conference here yesterday. Almost 11,000 people were killed in rollover accidents in 2002, according to a NHTSA report.

Rollovers occur when the driver loses control and the vehicle begins to slide sideways. Most often, the vehicles are tripped by something like a curb or soft earth, which catches the wheels while the top of the vehicle continues to move.

For more than a decade, some consumer groups have asked for a federal vehicle test and rollover standards. NHTSA resisted — critics say because of industry pressure; NHTSA says because of the difficulty of coming up with a valid standard.

In 2001, the agency began rollover ratings with a "static stability factor," which used calculations involving the center of gravity instead of a driving test. The system basically evaluates how top-heavy vehicles are.

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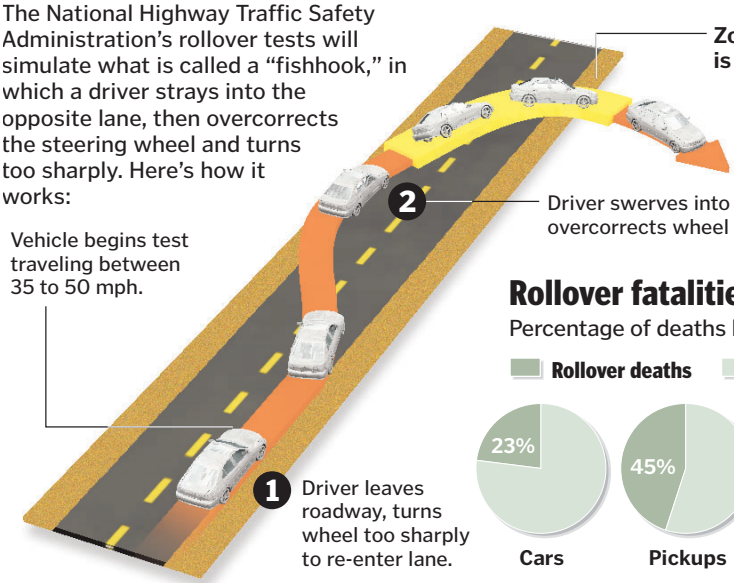
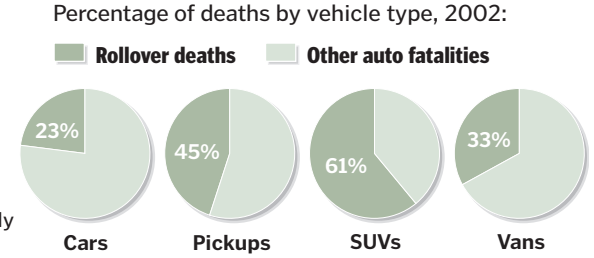
Testing for a rollover

The National Highway Traffic Safety Administration's rollover tests will simulate what is called a "fishhook," in which a driver strays into the opposite lane, then overcorrects the steering wheel and turns too sharply. Here's how it works:



Rollover fatalities

Percentage of deaths by vehicle type, 2002:



SOURCE: National Highway Traffic Safety Administration

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ROLL

FROM C1

'Fishhook' maneuver used to assess stability

Consumer groups said the calculations were an improvement, but they still thought that consumers deserved a test of how vehicles actually handled.

The agency still resisted, saying that the static test was a good indicator of the likelihood a vehicle would tip over and that its results correlated with how vehicles performed in the real world.

It was forced to change its position in November 2000 when Congress passed a tougher law in the wake of the controversy over Ford Explorers, Firestone tires and rollovers.

Among other things, the law required NHTSA to develop a rollover test.

The test is what NHTSA calls a fishhook, designed to simulate a driver dropping two wheels off the pavement and then turning the wheel too sharply to get back onto the road.

That carries the vehicle into the oncoming lane, and the driver then turns the wheel sharply to get back into his lane, said W. Riley Garrott, chief of the agency's vehicle stability and control division.

"What NHTSA is trying to do is predict what might happen if you are faced with an extreme maneuver," said Brian O'Neill, president of the Insurance Institute for Highway Safety, a research group funded by the insurance industry.

The test starts at 35 mph and stops either when a vehicle lifts two wheels off the ground or at 50 mph. Each vehicle is equipped with outriggers that keep it from actually tipping over.

To eliminate driver error, a computer takes over the steering after the driver reaches the proper speed. The vehicles are tested with the maximum number of passengers and a full tank of fuel.

A vehicle's rating depends on the speed at which two wheels leave the ground. That score will then be blended into the center-of-gravity measurement. The score will be shown in a star rating from one to five, with five indicating the best.

Runge said the agency believes that a combinationof the two scores will be easiest for consumers to understand.

Starting later this year, the first scores will be available at www.safercar.gov or in booklet form by calling 1-800-424-9393.

The agency plans to test cars as well as trucks and hopes to do about 50 new vehicles a year, said Steve Kratzke, NHTSA associate administrator for rulemaking.

The exact number will depend on funding from Congress. Models will be chosen based on factors including popularity, Runge said.

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To ensure that each vehicle is tested in the same way, a computer inside takes control of the steering when it gets up to speed.

Overall, the test seems very good, said David Champion, director of automotive testing for Consumer Reports magazine, who watched the demonstration.

While it will provide helpful information to consumers, the NHTSA should still have a requirement that vehicles meet a rollover standard, said Joan Claybrook, president of Public Citizen and a former NHTSA administrator.

Runge expressed belief that the tests will accomplish the same because automakers will respond quickly to make sure that their vehicles score well.

Some safety advocates worry that an automaker could more easily pass the test by equipping a vehicle with tires that have less grip sideways. That means the vehicle would slide rather than grip, allowing it to reach the maximum 50 mph without lifting and get the top score.

Champion said NHTSA could prevent such gaming of the system by requiring a separate handling test that would require sticky tires to provide lateral grip. Runge said the agency is looking into a test that would gauge handling.

The automakers are apparently taking a wait-and-see attitude toward the new test.

"We still have concerns with the usefulness to consumers of the static stability factor," said Eron Shosteck, a spokesman for the Alliance of Automobile Manufacturers, an industry group. Shosteck said the automakers "will be assessing whether these new dynamic tests provide more useful consumer information."

One relatively new piece of equipment that will be evaluated on some vehicles: skid-control or stabilization systems.

They use a computer to detect whether the front or rear of the vehicle is sliding and then try to compensate.

But such systems do not appear to make a big difference in the fishhook maneuver, in part because it is so severe, NHTSA's Garrott said.

Some studies in Europe have shown that such systems can significantly reduce accidents on slippery surfaces by helping the driver maintain control.

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