NHTSA 5-Star Safety Ratings Test Procedures

13. How does NHTSA perform the frontal crash test?
Crash test dummies representing an average-sized adult male and a small-sized adult female are placed in the driver and front passenger seats, respectively, and are secured with seat belts. Vehicles are crashed into a fixed barrier at 35 miles per hour (mph), which is equivalent to a head-on collision between two similar vehicles each moving at 35 mph.

Instruments measure the force of impact to each dummy's head, neck, chest, pelvis, femur (legs), and feet. The frontal crash rating is an evaluation of injury to the head, neck, chest, and femur (legs) for the driver and right front seat passenger. Since the frontal crash test reflects a crash between two similar vehicles, only vehicles from the same weight class, plus or minus 250 pounds, can be compared when looking at frontal crash ratings.

14. How does NHTSA perform the side barrier crash test?
Crash test dummies representing an average-sized adult male and a small-sized adult female are placed in the driver and rear passenger seats (driver's side), respectively, and are secured with seat belts. The side crash rating represents an intersection-type collision by having a 3,015-pound barrier moving at 38.5 mph into a standing vehicle. The moving barrier is covered with material that is crushable to replicate the front of a vehicle.

Instruments measure the force of impact to each dummy's body regions. The side barrier front seat rating is an evaluation of injury to the head, chest, abdomen, and pelvis for the driver and front seat passenger dummy. The side barrier rear seat rating is an evaluation of injury to the head and pelvis for the rear seat passenger (second row occupants). It is possible to compare all vehicles with each other when looking at side barrier ratings since all rated vehicles are impacted by the same-sized barrier.

15. How does NHTSA perform the new side pole crash test and how are vehicles rated?
A small-sized adult female crash test dummy is placed in the driver's seat and is secured with a seat belt. The test vehicle, angled at 75 degrees, is then pulled sideways at 20 mph into a 25-cm diameter pole at the driver's seating location. This test mimics a side impact crash involving a narrow, fixed object like a utility pole or tree.

Instruments measure the force of impact to the dummy's head, chest, lower spine, abdomen, and pelvis. Unless otherwise noted, the side pole rating is an evaluation of injury to the head and pelvis for both the driver and front seat passenger. It is possible to compare all vehicles to each other when looking at side pole ratings because all rated vehicles impact the same-sized pole.

16. What other side ratings does NHTSA assign to vehicles?
NHTSA combines the driver front seat rating from the side pole test with the driver front seat rating from the side barrier test for a combined side barrier and pole front seat rating. The probabilities of injury from the front and rear seat occupants in the side barrier test and the front seat occupant in the side pole crash test are then weighted and combined to assign a side crash rating.

The side crash rating is compared to the side crash performance of an average vehicle in the fleet. A lower than average risk of injury is better; occupants in these vehicles will be less likely than average to sustain injury in side impact collisions with other vehicles or stationary objects such as trees and utility poles.

- 5 Stars = Side crash injury risk for this vehicle is much less than average
- 4 Stars = Side crash injury risk for this vehicle is less than average to average
- 3 Stars = Side crash injury risk for this vehicle is average to greater than average
- 2 Stars = Side crash injury risk for this vehicle is greater than average
- 1 Star = Side crash injury risk for this vehicle is much greater than average

17. Why doesn't NHTSA do rear impact crash ratings?
NHTSA's 5-Star Ratings Program has a limited budget and must concentrate its ratings on front and side-impact crashes that are responsible for the highest percentage of deaths and serious injuries.