



U.S. Department of Transportation  
**National Highway Traffic Safety  
Administration**



## **PURCHASING WITH SAFETY IN MIND**

What to look for when buying a vehicle



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## **GOVERNMENT 5-STAR SAFETY RATINGS**

The National Highway Traffic Safety Administration (NHTSA) is the agency of the U.S. Department of Transportation that conducts safety tests to determine how well new vehicles protect drivers and passengers during a crash, how well vehicles resist rollovers, and whether vehicles equipped with the latest safety technologies can help drivers avoid crashes altogether.

Each year, NHTSA tests new cars, trucks, sport utility vehicles (SUVs) and vans and rates them using the 5-Star Safety Ratings system. Five stars indicate the highest safety rating and one star the lowest.

Most injury-causing crashes that occur on America's roadways are either frontal or side crashes, and more than one-quarter of passenger vehicle crash deaths occur in rollovers. Although it is impossible to determine how well vehicles protect drivers and passengers in all types of crashes, the ratings help car buyers compare safety features and crash performance across different car models.

The results of NHTSA's tests, along with information about the 5-Star Safety Ratings and vehicle safety features are available in this brochure. And remember: more stars mean safer cars.

**Check out page 12 for a quick snapshot of NHTSA's vehicle testing and rating milestones.**

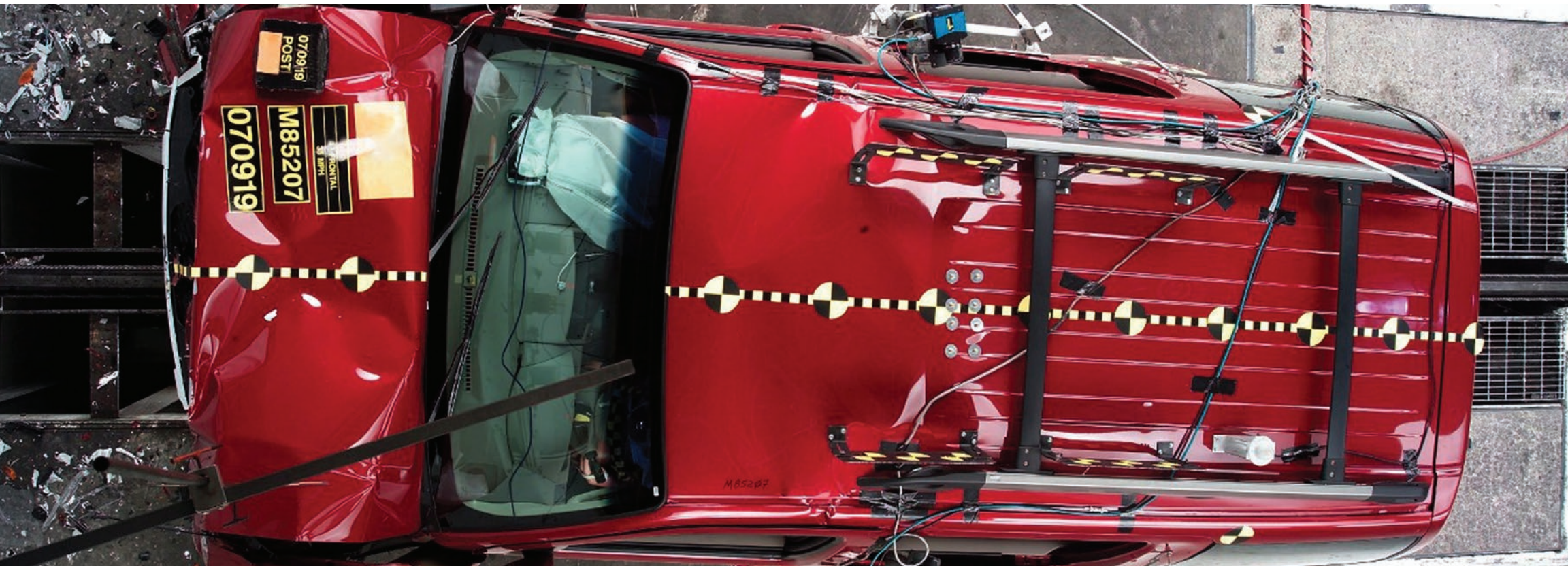
**The latest government 5-Star Safety Ratings and vehicle safety information can be found at [www.NHTSA.gov/ratings](http://www.NHTSA.gov/ratings).**







# /// UPDATING THE 5-STAR SAFETY RATINGS ///



NHTSA continues to look to the future and drive the development of safer vehicles by updating the 5-Star Safety Ratings to keep pace with the newest safety technologies. Enhancements such as tougher and more stringent ratings criteria and recommended crash avoidance technologies encourage manufacturers to continuously improve driver and passenger safety and make cars on our roads safer.



## 5-STAR SAFETY RATINGS

A vehicle's 5-Star Safety Rating combines the results of the frontal crash tests, side crash tests and a rollover resistance test into one score that indicates the overall risk of injury to a vehicle occupant if the vehicle is involved in a crash. The scores range from one to five stars, with one star being the lowest and five stars being the highest. The more stars a vehicle has, the safer it is—more stars mean safer cars.

**Note: A vehicle's rating, or Overall Vehicle Score, can be compared with other vehicles of similar size and weight.**

## 5-STAR SAFETY RATINGS LABEL

NHTSA's safety ratings can be found right on the window of a new car. When you're shopping for a car at the dealership, make sure you check each car's 5-Star Safety Rating to see how it performs in frontal, side and rollover tests and whether it is equipped with the latest vehicle safety technologies.

# SAFETY TESTS

The 5-Star Safety Ratings evaluate how well vehicles perform in crash tests to help consumers make smart decisions about safety when purchasing a vehicle. NHTSA conducts frontal, side and rollover tests because they account for the majority of crashes on America's roadways.

In each of the crash tests described, data from crash test dummies indicate the seriousness of the injuries that could occur in the type of crash involved.

## The Frontal Crash Test

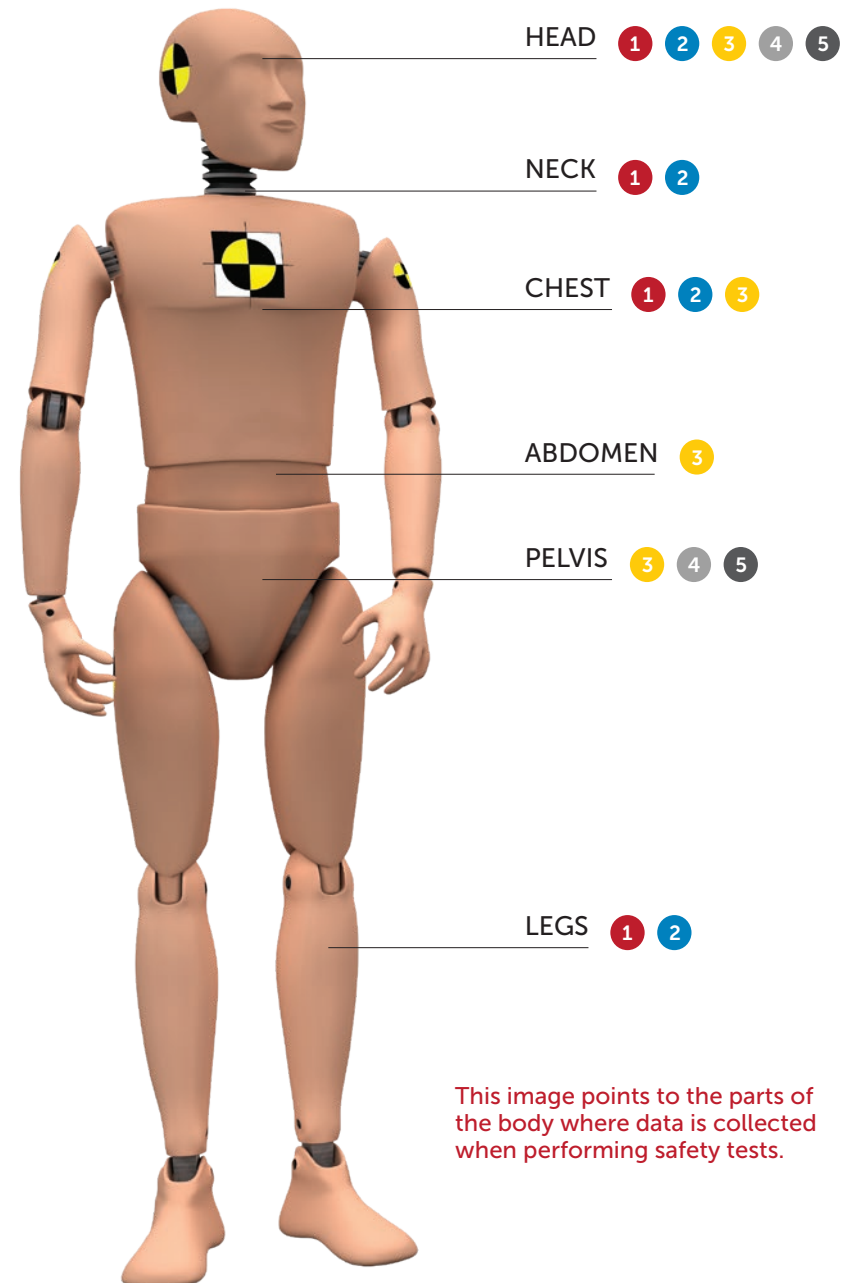
- 1 Average-size adult male dummy (Driver)
- 2 Small-size adult female dummy (Front passenger)

## The Side Barrier Crash Test

- 3 Average-size adult male dummy (Driver)
- 4 Small-size adult female dummy (Rear passenger)

## The Side Pole Crash Test

- 5 Small-size adult female dummy (Driver)



This image points to the parts of the body where data is collected when performing safety tests.





## The Frontal Crash Test

Picture this scenario: You're driving on a two-lane road and another vehicle is approaching you from the other direction. The driver of the other vehicle starts to fall asleep at the wheel and veers into your lane. Suddenly, you collide head-on with the other vehicle. The frontal test simulates this type of crash.

**Note:** The frontal crash ratings of a vehicle, like the Overall Vehicle Score, can only be compared to those of other vehicles of similar size and weight.

## The Side Barrier Crash Test

Picture this scenario: You pull up to a four-way intersection and make a complete stop, look to your left and right and begin to accelerate into the intersection. Another vehicle approaches the same intersection but doesn't yield at the stop sign and hits your vehicle on the driver's side. The side barrier test simulates this type of crash.

## The Side Pole Crash Test

Picture this scenario: On a rainy afternoon, you're driving down a curved street in your neighborhood. All of a sudden, you lose control of the vehicle. You start sliding on the wet road sideways and crash into a telephone pole on the driver's side. The side pole test simulates this type of crash.

## The Rollover Resistance Test

Picture this scenario: You're driving your SUV on a 55-mph highway, and suddenly you come upon a sharp curve. You try to navigate the curve, but you're traveling too fast and losing control of your vehicle. Your vehicle leaves the road and rolls over. The rollover resistance test measures the risk of rollover in this single-vehicle, loss-of-control scenario.



# **SAFETY FEATURES**

## **Advanced Crash Avoidance Technologies**

As part of the 5-Star Safety Ratings program, NHTSA recommends that car buyers purchase vehicles equipped with three crash avoidance technologies that meet the agency's performance test requirements: Forward Collision Warning, Automatic Emergency Braking and Lane Departure Warning. These technologies can help drivers avoid crashes. Below are descriptions of each technology's safety benefits.

### **1 Forward Collision Warning**

Alerts you when your vehicle is getting too close to other vehicles ahead of you, allowing time to brake or steer to avoid a crash.

### **2 Automatic Emergency Braking**

Helps prevent crashes or reduces a crash's severity by applying the brakes (crash imminent braking) or assists drivers in full braking to a complete stop (dynamic brake support).

### **3 Lane Departure Warning**

Alerts you if you unintentionally drift out of your lane without a turn signal, potentially allowing time to steer back into your lane to avoid a crash.

### **1 Forward Collision Warning**

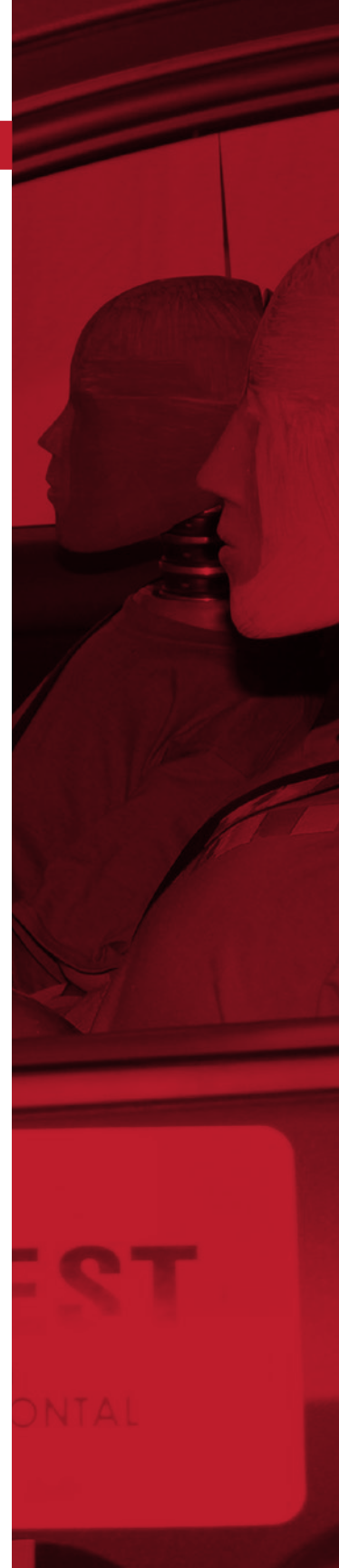


2

Automatic Emergency Braking

3

Lane Departure Warning



EST

ONTAL

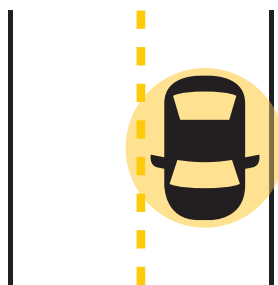


# **SAFETY FEATURES**

## **Automated Safety Technologies**

Automated safety technologies have the potential to help mitigate many crashes that are tied to human error. NHTSA is leading the effort to incorporate these technologies into more vehicles and encouraging consumers to purchase vehicles with these safety features.

Below are automated safety technologies that are not a part of NHTSA's 5-Star Safety Ratings program, but are examples of future-looking technologies that are included on some vehicles today. A more comprehensive list of available features can be obtained from manufacturers or found by visiting [www.NHTSA.gov/ratings](http://www.NHTSA.gov/ratings) and searching for the vehicle's make and model.



### **Lane Keeping Support**

Corrects your steering to prevent you from unintentionally drifting out of your lane.



### **Pedestrian Automatic Emergency Braking**

Provides automatic braking for vehicles when pedestrians are in front of a vehicle when the driver has not taken action to avoid a crash.



### **Blind Spot Detection**

Provides a warning when a driver attempts to change lanes and there is a car in the blind spot. Sensors and cameras can detect vehicles that would otherwise be difficult for the driver to see.



## Other Safety Equipment

Vehicle manufacturers realize that today's consumers are looking for safety and reliability when shopping for a new vehicle. Below are descriptions of other safety features available on all new vehicles.

### Seat Belts

- Keeps you and your passengers restrained in the vehicle and reduces the risk of hitting the steering wheel, dashboard or windshield during a crash.
- NHTSA recommends that new car buyers test a vehicle's seat belts to ensure they fit properly.
- Seat belt reminder systems encourage occupants to wear their seat belts.

### Side Air Bags

- Protects you and your passengers' head, chest, and in some cases, pelvis in a side impact crash.

### Advanced Frontal Air Bags

- Prevents occupants from hitting the steering wheel, dashboard or windshield in a frontal crash.
- Sensors can detect the severity of the crash, occupants' size, seat positions and whether seat belts are in use to determine the appropriate level of air bag protection.

### Tire Pressure Monitoring System

- Under-inflation is among the leading causes of tire failure and can lead to many different types of crashes. This safety feature alerts you with a warning light on the dashboard when any of your vehicle's tires are significantly under-inflated.



# KEY SAFETY MILESTONES

Ratings standards and crash safety have advanced since NHTSA was founded in the 1970s.

**1970**

The Highway Safety Act established NHTSA and outlined its mission to reduce deaths, injuries and economic losses resulting from motor vehicle crashes.

**1978**

NHTSA began testing vehicles for frontal crash protection.

**1993**

NHTSA began using the 5-Star Safety Ratings system to help consumers make informed safety choices when buying new vehicles.

**1996**

NHTSA began testing and rating vehicles for side crash protection.

**2000**

NHTSA began testing vehicles for resistance to rollover crashes, which are more dangerous than other types of crashes.

**2003**

NHTSA updated the rollover program with a dynamic test to better simulate real-world rollover crashes.

**2004**

NHTSA launched [safercar.gov](http://safercar.gov) (now [NHTSA.gov](http://NHTSA.gov)) so consumers can search for 5-Star Safety Ratings and find other important highway safety information in one place.

**2006**

NHTSA began requiring vehicle manufacturers to include 5-Star Safety Ratings information on the window labels on new vehicles.

**2010**

NHTSA launched significant changes to the 5-Star Safety Ratings including an Overall Vehicle Score and a listing of advanced recommended safety technologies.

**2013**

NHTSA added rearview video systems to the list of recommended technologies to help prevent backover incidents. This feature will be standard in all vehicles by 2018.

**2015**

NHTSA announced that it plans to update its 5-Star Safety Ratings program and encouraging automakers to produce cars with better crash protection and new crash avoidance technologies that will save more lives and reduce injuries of passengers and pedestrians.

**2016**

NHTSA added automatic emergency braking systems to the list of recommended technologies to help prevent rear-end crashes or reduce the impact speed of those crashes starting with model year 2018 vehicles. Automakers also committed to making the feature standard in all vehicles by 2022.



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