

Features found in today's car

Air Bags

The air bag is best used in combination with wearing a safety belt, and can prevent injuries and fatalities in front-end collisions.

Dual Stage Airbags: Computer-operated dual deploy or dual-stage airbags. These airbags can deploy at two speeds, or not at all, depending on information sent to the computer from sensors located in the seatbelts and front seats. In less severe accidents, airbags deploy at the lower first stage, usually about 70 percent of full force. In more severe accidents, both stages are deployed. Seat sensors in some systems also can detect the weight of passengers and deploy only if the occupant is above a certain weight - helping to prevent airbag-related injuries to a child or small adult. NHTSA required these air bags in all vehicles by 2005.

Side Airbags: Effective in preventing the driver and passengers from head injuries due to the rigid areas of the vehicle in side impact collisions. There are three designs of these airbags, a tubular airbag that inflates from the roof, a curtain design that employs from the roof or an airbag deployed from the seat, inflating forward and up.

On-Off Switches: Many vehicles now come equipped with an airbag shut-off switch to decrease the injury potential to a child or small-stature adult.

Passenger Sensing System: Designed to help reduce the potential for inflation-induced injuries or fatalities to smaller occupants, including children, who may be seated improperly in front of an active air bag. This advanced air bag system uses sensors in the seat to collect information that helps the air bag computer determine whether the front-seat passenger air bag should inflate in a frontal crash. The sensors gather information on the occupant's weight and the type of pressure placed on the seat to help determine whether there may be a smaller occupant present who may be at greater risk of injury from a deploying air bag. The system also uses a passenger-side belt sensor to measure how much tension is exerted by the seat belt when latched; another means of determining what may be on the seat.

Energy-Absorbing Steering System

The steering column is made to compress upon impact, preventing rib fractures. Risk of driver fatality has been reduced 12% due to this benefit, and serious injury and death risks have been lowered by as much as 38%.

Head Restraints

Restraints on the top of front, outer seats reduce the potential for whiplash and other neck injuries in rear-end collisions. More advanced systems allow the back of the seat and headrest to move down and back upon a rear impact, lessening the forward motion and cutting down on head and neck injuries.

Seatbelt Pretensioners: are incorporated into the belt assemblies to remove slack from the seat belt during a collision. Within milliseconds of a crash, the Pretensioners are activated and increase the tension of the seat belt system around the occupant. This is what keeps you from bouncing around and keeps you in the proper position to benefit from the airbag if the crash is severe enough to trigger them.

ALR/ELR (Automatic Locking Retractor and Emergency Locking

Retractor): This feature is especially important to parents installing child safety seats. ALR/ELR seatbelts are designed to take up slack in the belt automatically and to lock in place when the passenger or child safety seat moves forward at a higher than normal rate of speed. When installing a child safety seat, these seatbelts must be as latched as tight as possible.

LATCH (Lower Anchors and Tethers for Children): LATCH is a system that makes child seat installation easier - without using seat belts. LATCH is required on all child seats (except car beds, booster seats and vests) and vehicles manufactured after September 1, 2002. LATCH-equipped vehicles have at least two sets of small bars, called anchors, located in the back seat where the cushions meet. LATCH-equipped child seats have a lower set of attachments that fasten to these vehicle anchors.