

Chrysler Group Applies Practical Innovation Through Multiple Safety Features

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Chrysler Group products are designed to improve not only handling and accident avoidance, but also to provide excellent crash protection as well. With the use of emerging technologies, the Chrysler Group is able to incorporate both passive and active safety features into vehicles.

"The Chrysler Group delivers safety to its customers by applying a broad range of technologies. Through advancements in computer aided engineering and the use of emerging technologies, practical safety innovation is achieved," said Scott Redman, Manager Safety Planning and Strategy, Chrysler Group. "Our mission is to continuously improve each new generation of vehicles."

Several innovative safety features have been developed to protect vehicle occupants in regulatory, consumer ratings and real-world impacts, including NCAP (New Car Assessment Program), SINCAP (Side Impact New Car Assessment Program), and IIHS (Insurance Institute for Highway Safety) offset impacts.

FRAME RAIL TIP

A patented, hydroformed tubular front body structure replaces a stamped, welded structure. Its attachment to the car is designed to prevent intrusion into the passenger space. Along with the frame, the front body panels are extended three inches farther forward of the wheels to enhance frontal and offset impact performance. This also helps focus the impact in the frame, which is the primary structural impact absorber. The octagonal front frame tips debuted on the 2004 Dodge Durango to absorb frontal impacts.

REAR STRUCTURE

The rear sill reinforcement was optimized through simulation to ensure consistent impact performance. The rear structure, including the sill reinforcement, was designed to allow the spare tire to rotate out of the way during a rear impact.

ELECTRONIC STABILITY PROGRAM (ESP)

Electronic Stability Program aids the driver in maintaining vehicle directional stability, providing oversteer and understeer control to maintain vehicle behavior on road surfaces.

ALL-SPEED TRACTION CONTROL (TCS)

This system enhances mobility and prevents wheel slip when accelerating on road surfaces (up to 80 mph) by operating both the brakes and the Electric Throttle Control (ETC). It also provides a measure of directional stability control.

PANIC BRAKE ASSIST

Panic Brake Assist notifies the active brake booster electronically of the need for increased brake output, providing minimal stopping distances in emergency situations.

ENERGY-ABSORBING STEERING COLUMN

Manual-adjust steering columns utilize two hydroformed coaxial tubes that can move relative to each other to allow the column to move forward and enhance energy absorption during a crash. The power-adjust steering column employs a calibrated bending element, which deforms during column stroke for optimal energy management.

ANTI-LOCK BRAKE SYSTEM (ABS)

Equipped with electronic sensors that help prevent wheel lockup, the ABS offers improved steering control under extreme braking and/or slippery conditions. The control modules for both systems communicate with sensors via the new CAN-C data bus.

ADVANCED AIR BAG SYSTEM

Enhanced protection for a wider range of occupants, this system is also designed to identify the size of front passenger occupant based primarily on weight.

KNEE BOLSTERS

The steering column lower cover and the glove box door are reinforced to protect unbelted occupants during frontal impacts. They both restrain and position the occupant to enable the air bags to work effectively.

MULTI-STAGE AIR BAGS

Multi-stage air bags deploy at three different rates depending on the severity of the crash. In lower-severity collisions, the air bag deploys with less force, and the force is increased during more severe collisions.

OCCUPANT CLASSIFICATION SYSTEM (OCS)

The OCS measures the conditions for activation or deactivation of the front passenger-side air bag based upon the weight of the occupant.

PRETENSIONERS

During a collision, the impact sensors initiate the front seat-belt pretensioners to immediately remove slack from the seat belts.

SUPPLEMENTAL SIDE CURTAIN AIR BAGS

Optional side curtain air bags extend head protection to all outboard front and rear seat passengers. These are available for the first time on the Dodge Dakota Club Cabs and Quad Cabs.

THREE-POINT SHOULDER BELTS

All rear seat positions feature three-point shoulder belts, including a new center position on the Dodge Dakota Quad Cab. Rear seats on the new Dakota Club Cab feature fixed outboard rear head restraints, mounted to the roof and cab back. Dakota Quad Cab also features head restraints that are fixed to the top of the outboard rear seats.

Along with the many safety features that Chrysler Group vehicles offer, the company also has a long history of helping to reduce risks faced by drivers and pedestrians through safety programs, such as:

- [Road Ready Teens](#)
- [Fit for a Kid](#)
- [SeatCheck](#)
- The Back Is Where It's At

Through the innovative use of emerging technologies and education, the Chrysler Group will continue to support the goal of reducing roadway fatalities.

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