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## 2010 Chrysler Group Safety and Security Features

March 1, 2010, Auburn Hills, Mich. - Chrysler Group LLC's models offer the latest safety and security technology. The company employs a two-fold safety approach: conventional safety features, such as pretensioning, constant-force seat-belt retractors (CFR), active head restraints and supplemental side-curtain air bags, combined with accident-avoidance features, including Smart Brake, Electronic Stability Control (ESC), Electronic-roll Mitigation (ERM) and Trailer-sway Control (TSC). In addition, security features, such as Sentry Key® engine immobilizer, provide the utmost vehicle-theft protection.

## SAFETY AND SECURITY GLOSSARY: CHRYSLER, RAM TRUCK, JEEP® AND DODGE VEHICLES

## Active head restraints (AHR)

AHR move forward and upward in the event of a rearward, rear-end collision to decrease the space between the headrest and the occupant's head, thereby helping to reduce the chance of injury.

## Active turn signals

Turn signal flashes three times when stalk is depressed for 1 second in order to indicate a lane change.

# Air bags (multi-stage)

Regulates the amount of air bag necessary for the front passengers by crash severity.

# Anti-lock Brake System (ABS)

Senses and prevents wheel lockup, offering improved steering control under extreme braking and/or slippery conditions.

## Anti-lock Brake System with rough-road detection

Anti-lock brake system is capable of detecting if the vehicle is driving on a rough road by the oscillations in the wheel speed signals. Rough road is detected on off-road surfaces or trails, and ABS enters a different pressure control where it will hold the brake pressure for longer pulses.

## Auto-reverse sun roof

Advanced sensing system automatically engages and reverses the sun roof (to the open position) when an obstruction exists.

## Auto-reverse windows

Automatically engages and reverses the window (to the down position) when an obstruction exists.

## BeltAlert

Periodically activates a chime and illuminates an icon in the instrument cluster to remind the driver to buckle up if a vehicle is driven without being properly belted.

# Blind-Spot Monitoring (BSM)

Uses dual ultra-wideband radar sensors to aid the driver when changing lanes, or if being passed by or passing unseen vehicles. The system notifies the driver of vehicle(s) in their blind spot via illuminated icons on the sideview mirror and with a driver-selected audible chime.

# Brake assist

In a panic-brake condition, the system applies maximum braking power, providing the shortest possible stopping distance.

## Brake override system

Chrysler Group has been using brake override technology in it vehicles since 2003. When a disagreement exists between the accelerator pedal and the brake pedal, the engine controller reduces power, allowing the operator to stop the car.

# Brake/park interlock

Prevents an automatic transmission or transaxle from being shifted out of Park unless the brake pedal is applied.

# Child seat anchor system

ISOFIX is designed to ease installation of compatible aftermarket child seats.

## Child-protection rear-door locks

Disables the rear doors' inside-release handle via a small lever on the door-shut face.

# **Constant-force Retractors (CFR)**

Seat belt retractor senses vehicle impact and immediately applies a load to the seat belt in order to properly position the occupant before the full load of the vehicle impact is imparted onto the occupant. It then reduces the seat-belt load in order to moderate forces imparted onto the occupant during the impact event.

# Crumple zones

Designed to compress during an accident in order to absorb energy from an impact, decreasing transfer of that energy to occupants.

# Door alert

Reverses sliding doors if there is an obstruction.

# Electronic Brake-force Distribution (EBD)

Adjusts braking pressure front to rear, based on weight distribution of passengers and cargo in order to minimize brake dive during hard braking.

# **Electronic-roll Mitigation (ERM)**

An extension of Electronic Stability Control (ESC). Uses input from ESC sensors to anticipate if the vehicle is at risk of entering a potential roll situation, then reacts immediately, applying the brakes individually and modulating throttle position as needed in order to attempt avoiding the roll situation.

# **Electronic Stability Control (ESC)**

Enhances driver control and helps maintain directional stability under all conditions. Provides the greatest benefit in critical driving situations such as turns, and is especially valuable when driving on mixed-surface conditions such as snow, ice or gravel. If there's a discernible difference between what the driver asks through the steering wheel and the vehicle's path, ESC applies selective braking and throttle input in order to guide the vehicle back onto the driver's intended path.

## Energy-absorbing steering column

The manual-adjust steering column utilizes two hydroformed coaxial tubes that can move relative to each other in order to allow the column to move forward for enhanced energy absorption during a crash. The power-adjust steering column employs a calibrated-bending element that collapses during column stroke for optimal energy management.

# Enhanced Accident Response System (EARS)

Makes it easier for emergency personnel to see and reach occupants in the event of an accident by turning on interior lighting, flashing hazard lamps and unlocking doors after air-bag deployment. Also shuts off the flow of fuel to the engine.

## Height-adjustable seat belts

Allows occupants to raise and lower the shoulder belt. This system encourages seat-belt usage by offering a more comfortable fit.

# High-intensity Discharge (HID) headlamps

Provide approximately three times the light output of conventional reflector lamps for improved nighttime illumination.

# Hill-Descent Control (HDC)

Allows smooth and controlled descent on rough or slippery terrain without the driver having to touch the brake pedal.

Applies the brakes to each wheel individually when needed to reduce forward motion when negotiating steep grades.

### Hill-Start Assist (HSA)

Assists drivers when starting a vehicle from a stop on a hill by maintaining the level of brake pressure applied for a short period of time after a driver's foot is removed from the brake pedal. If throttle is not applied within a short period of time after the driver's foot is removed from the brake pedal, brake pressure will be released.

### HomeLink universal transceiver

Stores three separate transmitter radio-frequency codes to operate garage-door openers, security gates, security lighting or other radio-controlled devices.

#### Inflatable knee blocker

An air bag for the driver's knees that deploys whenever the primary driver air bag deploys, helping position the driver relative to the primary air bag.

### Inside emergency trunk release

A glow-in-the-dark release handle that may be activated in the event of an adult or child being inadvertently trapped inside the trunk.

## Interior head-impact protection

Interior pillars above the beltline and instrument panel, including areas around the windshield and rear-window headers, roof and side-rail structures, and shoulder-belt turning loops specifically designed to limit head-impact force.

### Knee bolsters

The lower instrument panel and the glove box door are designed to properly position the occupant, enabling air bags to work effectively.

### Power-adjustable pedals

Allows brake, accelerator and clutch (if equipped) pedals to move toward or away from the driver in order to help achieve a safe and comfortable seating position for improved vehicle control.

#### Rain-sensing wipers

A driver convenience feature that automatically senses moisture on the windshield and activates wipers.

### **Rear Cross Path (RCP)**

In parking lot situations, this system warns drivers backing out of parking spaces of traffic moving toward their vehicle. It activates any time the vehicle is in Reverse. The driver is notified of vehicle(s) crossing behind the vehicle via illuminated icons on the sideview mirror and with a driver-selected audible chime.

### Rear-interior conversation mirror

A convex mirror located in the overhead console above the inside rearview mirror allows the driver to see rear-seat occupants without turning and looking back.

### Seat-belt pretensioners

During a collision, impact sensors initiate front seat-belt pretensioners in order to immediately remove slack, thereby reducing the forward movement of occupants' heads and torsos.

### Sentry Key® engine immobilizer

Utilizes an engine key that has an embedded transponder with a pre-programmed security code to discourage vehicle theft. When the key is inserted into the ignition, the controller sends a random number to the transponder, and the engine is allowed to start. If an incorrect key is used, the engine will shut off after a few seconds.

#### Side-occupant protection system

Includes side-curtain air bags with extended up-time, tethers and roll-detection system that deploy in certain rollover situations and side-impact events. The system utilizes information from multiple sensors in order to determine the severity and type of the impact.

### SmartBeam® headlamps

Intelligent headlamp system adjusts to ambient light and oncoming traffic in order to deliver maximum lighting.

# Smart Brake

Chrysler Group began implementing the smart brake in 2003. When a disagreement exists between the throttle and the brake, the brake signal causes the engine controller to reduce engine power, allowing the operator to stop the car.

## Supplemental side air bags

Provide enhanced protection to the driver and front outboard passenger in certain impacts. Supplemental side air bags are housed within the outboard side of each front seat.

### Supplemental side-curtain air bags

Extend protection to all outboard front- and rear-seat passengers, including third-row outboard passengers in vehicles so equipped. The system includes sensors, adjacent to both front-and rear-seat occupants, which are calibrated to deploy the side airbag and curtain during impacts that require air bag occupant protection.

## **Tire-pressure Monitoring (TPM)**

Informs driver when tire pressure is too low. Pressure-sensor modules within valve stems of all four road wheels send continuous radio-frequency signals to a receiver and the system.

# **Traction Control System (TCS)**

Helps to keep driving wheels from spinning during acceleration from a stop or during slow speeds by applying individual brakes alone or in combination with engine torque limitation to prevent wheel slip.

# Uconnect<sup>™</sup> Phone

In-vehicle, voice-activated communication system that allows you to talk on your Bluetooth compatible phone with your hands on the wheel and eyes on the road. The built-in phonebook sync feature automatically downloads as many as 1,000 phone book entries from supported phones, which can then be selected by simply saying their name.

# Voice Command

Chrysler Group LLC's hands-free voice recognition system helps drivers keep their eyes on the road. Many features are operable using Voice Command®, including navigation destinations. Voice Command is standard with Uconnect Phone.

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