Contact: Eric Mayne

2018 FCA US Safety and Security Technology Glossary

STRUCTURAL SYSTEM TECHNOLOGY

Energy-absorbing steering column: Manual-adjust steering column features two hydroformed coaxial tubes that move relative to each other to allow for enhanced energy absorption during an impact; power-adjust steering column employs a calibrated bending element that deforms during column stroke for optimal energy management

Front and rear crumple zones: Specially-formed structural members that crumple and absorb energy in a collision, helping protect the occupant cabin

Laminated glass: Plastic sandwiched between glass panes to provide added strength; discourages break-ins

Safety cage body structure: Helps protect occupants by managing and controlling energy in the event of an impact

Side-guard door beams: Reinforcement beams inside the doors that help provide occupant protection in certain side collisions

DRIVER WARNING AND ASSIST, CHASSIS CONTROL AND BRAKE SYSTEMS

Advance Brake Assist: Works with Full-speed Forward Collision Warning-Plus; increases deceleration if driver does not apply brake with sufficient force to respond to collision condition

Adaptive Cruise Control-Plus with Full Stop: Helps maintain distance from vehicle ahead; under certain traffic conditions, system can bring vehicle to full stop without driver intervention

All-speed traction control system: While driving, helps keep wheels from spinning during acceleration from a stop or at speed by applying brakes alone or in combination with engine torque limitation

Anti-lock brake system (ABS): Senses and prevents wheel lockup, offering improved steering control under extreme braking and/or slippery conditions

Blind-spot Monitoring (BSM): Uses radar sensors to aid driver when changing lanes, passing or being passed; blind-spot vehicle presence noted via illuminated icons in sideview mirrors and driver-selectable audible chime

Brake Assist: System applies maximum braking power in emergency braking situations, minimizing stopping distance

Brake-lock differential system (BLDS): Allows the vehicle to maintain forward motion if one or two wheels lose traction by selectively and aggressively applying brakes to the spinning wheels

Brake-throttle override: Standard equipment on every FCA US vehicle, it allows driver to stop the vehicle when throttle and brake inputs occur simultaneously; electronic throttle control also reduces engine-power output

Brake-park interlock: Prevents transmission from being shifted out of “Park” unless the brake pedal is pushed

Brake traction-control system (BTCS): Helps to keep wheels from spinning during acceleration from a stop or during slow speeds by applying individual brakes to the slipping wheel(s)

Electronic brake-force distribution (EBD): Optimizes stopping distances and control under all vehicle loading

conditions by regulating braking pressure, front-to-rear

Electronic Roll Mitigation (ERM): Uses input from electronic stability control (ESC) sensors to anticipate potential rollover conditions; applies brakes individually and modulates the throttle position to help driver maintain control

Electronic stability control (ESC): Enhances directional control and stability of vehicle in various driving conditions; activation occurs when steering-wheel angle differs inconsistent with vehicle; automatically reduces throttle input and/or selectively deploys brakes to counteract oversteer or understeer

Full-speed Forward Collision Warning-Plus: Radar and camera technology combine to determine if frontal impact with another vehicle appears imminent; if so, system pre-fills brakes, then transmits audible and visual warnings for driver to intervene; no driver response triggers brief brake application as tactile alert; if driver remains unresponsive and frontal collision risk remains, brakes are applied to slow vehicle before impact; system may bring vehicle to full stop if imminent frontal collision detected at speeds below 25 mph

Forward Collision Warning-Plus: Radar and camera technology combine to determine if frontal impact with another vehicle appears imminent; if so, system pre-fills brakes, then transmits audible and visual warnings for driver to intervene; no driver response triggers brief brake application as tactile alert; if driver remains unresponsive and frontal collision risk remains, brakes are applied to slow vehicle before impact

Forward Collision Warning: Radar determines if a frontal impact with another vehicle appears imminent; if so, system pre-fills brakes, then transmits audible and visual warnings for driver to intervene

Hill-start Assist: Assists drivers when starting from a stop on a hill; maintains brake pressure for short period of time after driver's foot is removed from the brake pedal; if throttle is not applied within short period of time thereafter, brake pressure will be released

Lane Departure Warning with Lane-Keep Assist: Alerts and assists driver; leverages electric power steering (EPS) to deliver subtle steering-wheel input when system detects need for course correction

ParkSense Parallel/Perpendicular Park Assist: Features ultrasonic sensors on the bumper to find and guide driver into parking space; guidance system automatically controls the steering angle while driver controls gear position, brake, and accelerator; parallel parking possible on either side of the car; to accommodate perpendicular parking, vehicle is backed into the space

ParkSense Rear Park Assist Systems with Stop and Release: In reverse, at low speeds, ultrasonic sensors detect stationary objects; if imminent collision is detected, system will provide momentary, autonomous brake pulse; below 4.4 mph, system will bring vehicle to a stop before releasing

ParkView rear backup camera: Provides wide-angle view of area immediately behind vehicle, giving driver greater peace of mind before reversing; features dynamic grid lines to aid driver when maneuvering into parking spaces or narrow areas; also assists when lining up trailer to vehicle's hitch, when so equipped; image displayed on the navigation screen when the transmission is shifted into reverse

Rain Brake Support: In rainy conditions, occasionally pushes brake pads lightly against brake rotors to keep rotors dry

Ready Alert Braking (RAB): Anticipates situations when driver may initiate an emergency brake stop and uses ESC pump to set brake pads against rotors, decreasing time required for full brake application

Rear Cross Path (RCP) detection: In parking-lot situations, warns drivers of lateral traffic when backing out of parking spaces; automatically activates any time a vehicle is in Reverse gear; driver alerted of approaching vehicle(s) via illuminated icons on sideview mirrors and driver-selected audible chime

Trailer-sway mitigation: Uses input from electronic stability control (ESC) sensors to anticipate potential trailer-induced yaw conditions; applies brakes individually and modulates throttle to help driver maintain control

OCCUPANT RESTRAINT TECHNOLOGY

Active head restraints: Deploy during collision; designed to help reduce injuries by minimizing gap between occupant's head and the head restraint

Advanced multistage driver and front-passenger air bags: Inflate with force appropriate to the severity of the impact; meet FMVSS 208 advanced air bag requirements for smaller, out-of-position occupants

All-row, full-length side-curtain air bags: Extend to all outboard front- and rear-seat passengers; housed in headliner above side windows, each side air bag has its own impact sensor that triggers deployment on the side of the vehicle where impact occurs

BeltAlert: Activates chime and/or illuminates icon in instrument cluster to remind driver and front passenger to buckle up if vehicle is driven without belted front-seat occupants

Child Seat Anchor System: LATCH (Lower Anchors and Tethers for CHildren) designed to ease installation of compatible aftermarket child seats

Constant-force retractors: Regulates force exerted on occupant by seat belt, then gradually releases webbing in controlled manner

Front seat-belt pretensioners: During a collision, impact sensors initiate front seat-belt pretensioners to remove slack in the seat-belt system, thereby reducing the forward movement of the occupant's head and torso

Front-seat-mounted side pelvic thorax bags: Help provide enhanced protection to driver and front passenger in certain impacts; each side air bag has its own impact sensor that triggers deployment on side where an impact occurs

Driver's-side knee air bag: Deploys with advanced multistage driver air bag; located below instrument panel, device designed to properly position occupant during impact

Height-adjustable seat belts (front row): Outboard seat belts feature height adjustment, allowing for seat belt to be placed in optimal position for any driver

Occupant restraint controller: Detects impact and determines if air bag deployment, and degree of deployment is appropriate; also deploys front seat-belt pretensioners

LIGHTING AND VISIBILITY SYSTEMS

Active turn signals: Turn signal flashes three times when stalk is depressed for one second

Auto-adjust exterior mirrors: Sideview mirrors automatically adjust to accommodate rearview when vehicle shifted into reverse

Auto-dimming rearview mirror: Auto-dimming mirror automatically reduces glare from bright light allowing driver to have a clearer view of the road ahead

Automatic defog: Automatic temperature control system measures interior humidity and activates defogging system without driver intervention

Automatic headlamps: Headlamps turn on and off automatically depending on exterior light levels and if windshield wipers are operating

Automatic high-beam headlamps: Headlamp system adjusts to ambient light and oncoming traffic to deliver maximum lighting

Daytime running lamps (DRL): Low-intensity halogen or signature LED lights that illuminate during daytime conditions, increasing vehicle's visibility to other drivers

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 the interior lighting and unlocking doors after air bag deployment; also shuts off flow of fuel to the engine

Heated windshield washer nozzles: Delivers heated washer fluid to more efficiently clear windshield in inclement weather

High-intensity discharge (HID) headlamps: Provide approximately three times the light output than conventional reflector lamps

Halogen infrared reflecting bulbs (HIR): Unique component coating delivers greater light output than conventional bulbs

LED fog lamps: Provide improved illumination during inclement weather

LED headlamps: Provide improved illumination

LED tail lamps: Provide dual-function illumination (brake, stop, turn and running light functions)

Rain-sensing wipers: A driver convenience feature that automatically senses moisture on the windshield and activates wipers

OTHER FEATURES

SOS/Assist: Rear-view mirror-mounted button connects occupants with call-center agent who can send emergency assistance to the vehicle's location

Auto-reverse sunroof: Automatically reverses when it senses an obstruction while closing

Auto-reverse windows: Automatically reverses when it senses an obstruction while closing

Capless fuel-filler door: Enables fuel-filling simplicity

Child-protection rear door locks: Disables rear doors' inside-release handle by adjusting a small lever opposite the doorjamb

Electronic locking fuel-filler door: Prevents theft or tampering, which can lead to damage, inefficiency and unwanted fuel vapor release

Express up/down windows: One-touch express up/down window button located on the front driver and passenger-side door

Global position sensor (GPS): Used for navigation guidance and electronic vehicle tracking

Intelligent battery sensor (IBS): Continually measures flow of current into and out of battery; if battery is running low, system shuts off less-critical electrical systems to conserve power; icon in cluster denotes activation

Inside emergency trunk-lid release: Glow-in-the-dark handle enables unlocking from inside trunk

Keyless Enter 'n Go: Electronic sensors detect if unique vehicle key fob is present, which enables passive cabin entry and trunk access; illuminates interior lamps and enables push-button ignition – no need to insert key

Remote Keyless Entry: Locks and unlocks doors and turns on interior lamps. If vehicle is equipped with security alarm, remote also arms and disarms system

Remote start: Fob-activated convenience; starts engine and activates interior climate settings while maintaining vehicle security

Sentry Key engine immobilizer: Utilizes engine key with embedded transponder and preprogrammed security code to discourage vehicle theft; when key is inserted into the ignition, controller sends a random number to the transponder and engine is allowed to start; engine will shut off after a few seconds if an incorrect key is used

Speed-sensitive door locks: System automatically locks doors when vehicle acceleration reaches prescribed threshold

Tilt-and-telescoping steering column: Allows steering column to tilt and move toward or away from the driver to achieve a safe and comfortable distance from the advanced multistage front driver air bag, if deployed

Tire-pressure monitoring (TPM) system – Lock-on Sync: Informs driver when tire pressure is too low; pressure-sensor modules within valve stems of all four wheels send continuous radio-frequency signals to a receiver; available systems use graphic display to indicate tire-specific pressure

Uconnect voice-to-text: Enables cloud-based text-message dictation via compatible Bluetooth-enabled cell phones

Uconnect Voice Command: Voice-recognition technology enables handsfree navigation-system inputs and access to real-time information, such as weather forecasts

Uconnect Voice Command with Bluetooth: Voice-recognition technology enables drivers to use Bluetooth-enabled phones while keeping their hands on the wheel and eyes on the road

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