

## 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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