

# **Component Procedures: Body Control Module**

## **Table of Contents**

1. Parts and Labor (itype\_189)
2. Body Computer (Article 10835)
3. Body Control Module Replacement (Article 12851)
4. All Technical Service Bulletins (itype\_100)
5. Body Control Module Programming and Setup (Article 10725)
6. Body Control Module Scan Tool Information (Article 10773)

# Component Procedures: Body Control Module

## Parts and Labor (itype\_189)

### Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Controls > Control Module, R&R > Body Control	B	0.8	0.6

## Body Computer (Article 10835)

Body Computer

Page 1 of 2

Page 2 of 2

## Body Control Module Replacement (Article 12851)

Callout Component Name

1 Body Control Module Procedure Disconnect the electrical connectors. Release the body control module bracket tab and slide module out of the bracket. Refer to Control Module References for programming and set-up information.

Procedure

- Disconnect the electrical connectors.
- Release the body control module bracket tab and slide module out of the bracket.
- Refer to Control Module References for programming and set-up information.

## All Technical Service Bulletins (itype\_100)

Tsbs

- IPC Odometer Programming Method Quick Reference Guide (07-08-49-020R, 2023/09/21)

## Body Control Module Programming and Setup (Article 10725)

- DO NOT program a control module unless directed to by a service procedure or a service bulletin. If the control module is not properly configured with the correct calibration software, the control module will not control all of the vehicle features properly.
- Ensure the programming tool is equipped with the latest software and is securely connected to the data link connector. If there is an interruption during programming, programming failure or control module damage may occur.
- Stable battery voltage is critical during programming. Any fluctuation, spiking, over voltage or loss of voltage will interrupt programming. When required, install a battery maintainer or power supply that provides a steady and stable voltage. DO NOT use a battery charger, as charging voltage will often fluctuate when connected to the vehicle. This may interrupt programming. If a battery maintainer is not available, connect a fully charged 12 V jumper or booster pack disconnected from the AC voltage supply.
- Turn OFF or disable systems that may put a load on the vehicles battery such as; interior lights, exterior lights (including daytime running lights), HVAC, radio, etc .
- During the programming procedure, follow the SPS prompts for the correct ignition switch position.
- Clear DTCs after programming is complete. Clearing powertrain DTCs will set the Inspection/Maintenance (I/M) system status indicators to NO.

Reference Information

Special Tools

EL-52545 - Tire Pressure Monitor Sensor and RF Diagnostic Tool

For equivalent regional tools, refer to Special Tools .

Replace and Program Control Module

To program a replacement K9 Body Control Module ( BCM ), perform the following procedure:

- For Key Ignition System , begin with the ignition in the RUN position.
- For Push Button Start System, begin with the vehicle in vehicle OFF power mode. The Service Programming System will power mode the vehicle.
- Access the Service Programming System (SPS) and follow the on-screen instructions.
- On the SPS Supported Controllers screen, select K9 Body Control Module - Programming and follow the on-screen instructions.
- Perform the following for the appropriate ignition type prior to proceeding with the next step:
  - Key Ignition System: Key in the ignition and any additional keys must be away from the vehicle at least 3 m

(9.8 ft).

- Push Button Start System: Keyless entry transmitter must be in the programming pocket. Refer to the Remote Keyless Entry ( RKE ) System Operation document located the Keys, Doors, and Windows > Keys and Locks category in the owner manual for the exact pocket location. All additional transmitters must be away from the vehicle at least 3 m (9.8 ft).

- On the SPS Supported Controllers screen, select Z1 Immobilizer Learn. On the next screen, select Body Control Module IMMO Learn with Existing Transponder or Remote Key and follow the on-screen instructions. When Immobilizer Learn is complete, press the Unlock button on the keyless entry transmitter to allow the keyless entry transmitter to exit the Immobilizer Learn mode.

- For Key Ignition System, begin with the ignition in the RUN position.

- For Push Button Start System, begin with the vehicle in vehicle ON power mode.

- On the SPS Supported Controllers screen, select K9 Body Control Module - Setup (or K9 Body Control Module - Configuration & Setup) and follow the on-screen instructions.

- Check the driver information center display for additional messages regarding further calibration instructions. If there are no additional driver information center instructions present, programming is complete.

- Clear DTCs.

- If ABS, Traction Control and/or StabiliTrak indicators are ON and DTC C0161 is set in the K17 Electronic Brake Control Module after performing K9 Body Control Module programming and setup, do the following:

- Disconnect the scan tool from the X84 Data Link Connector.

- Ignition/Vehicle OFF, all access doors closed, all vehicle systems OFF, and all keys at least 3 m (9.8 ft) away from the vehicle. It may take up to 10 min to power down.

- Ignition ON/Vehicle In Service Mode, verify DTC C0161 is in history. If not, repeat the above step to make sure the vehicle is in sleep mode.

- Use the scan tool to clear the DTCs.

Reprogram Control Module

To program an existing K9 Body Control Module, perform the following procedure:

Unsuccessful Programming Recovery

In the event of an interrupted or unsuccessful programming event, perform the following steps:

- Ignition ON/Vehicle In Service Mode. Ensure the control module, DLC and programming tool connections are secure and the SPS software is up to date.

- Verify the control module can be reprogrammed.

- If the control module cannot be reprogrammed

- Ignition/Vehicle OFF for one minute, ignition ON/Vehicle In Service Mode.

- If the control module cannot be reprogrammed, replace the control module.

- If the control module can be reprogrammed.

- All OK.

- If the control module can be reprogrammed

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair.

Control Module References for control module replacement, programming and setup

## **Body Control Module Scan Tool Information (Article 10773)**

Parameter System State Expected Value Definition

Operating Conditions: Ignition ON, Vehicle in Park, All Doors Closed

5 V Ignition Switch — Accessory / Key Out The scan tool displays Off, Accessory, Run, or Crank. This parameter displays the ignition switch mode.

Accent Lighting 1 Command — Varies This parameter displays the interior lighting ambient 1 command as a percentage.

Accent Lighting 2 Command — Varies This parameter displays the interior lighting ambient 2 command as a percentage.

Accessory — Active The scan tool displays Active or Inactive.

Accessory Power Mode Indicator Command — Varies This parameter displays ignition switch accessory LED PWM command as a percentage.

Accessory Relay Command — Active The scan tool displays Active or Inactive.

Accessory/Retained Accessory Power Relay Command — Active The scan tool displays Active or Inactive. This parameter displays the retained accessory power relay status.

All Doors Lock Command — Inactive The scan tool displays Active or Inactive. This parameter displays the door lock status.

Ambient Light Sensor — Varies The scan tool displays volts. This parameter displays the ambient light sensor

signal voltage.

Ambient Light Status — Night The scan tool displays Unknown, Night, or Day. This parameter displays the ambient light level status.

Automatic Headlamps Disable Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the headlamp disable switch status.

Automatic Transmission Manual Shift Switch — Off The scan tool displays Off or On. This parameter displays the transmission tap up tap down switch status.

Backup Lamps Relay Command — Inactive The scan tool displays Active or Inactive. This parameter displays the backup lamps relay status.

Battery Current Sensor — Varies The scan tool displays the battery current in amperes.

Battery Low at Start — Inactive The scan tool displays Active or Inactive. This parameter displays Active when the battery level is low when the vehicle starts.

Battery Reconnect Detected — No The scan tool displays No or Yes when a battery disconnect/reconnect event has been detected.

Battery Voltage — Varies The scan tool displays the current battery voltage.

BCM -Controlled Charging Voltage — Active The scan tool displays Active or Inactive.

BCM-Requested Charging Voltage Reduction — Inactive The scan tool displays Active or Inactive. This parameter displays Active when the BCM has detected a low battery voltage condition.

Boot Software Part Number — Varies The scan tool displays the boot software part number.

Brake Lamp Command — Inactive The scan tool displays Active or Inactive. This parameter displays the brake lamp command status.

Brake Pedal Applied — Inactive The scan tool displays Active or Inactive.

Brake Pedal Initial Travel Position Achieved — No The scan tool displays No or Yes.

Brake Pedal Position Sensor — Varies This displays Counts. This numeric value is the current brake pedal position.

Brake Pedal Position Sensor High Voltage During Learn — No The scan tool displays No or Yes.

Brake Pedal Position Sensor Learn — No The scan tool displays No or Yes. This parameter displays Yes when the brake pedal position sensor has learned.

Brake Pedal Position Sensor Learned Home Position — Yes The scan tool displays No or Yes. This parameter displays Yes when the brake pedal position sensor has learned the home position.

Brake Pedal Position Sensor Learned Released Position — Yes The scan tool displays No or Yes. This parameter displays Yes when the brake pedal position sensor has learned the released position.

Brake Pedal Position Sensor Learned Released Position — Varies The scan tool displays volts.

Brake Pedal Position Sensor Learned Released Position — Varies The scan tool displays percentage.

Brake Pedal Position Sensor Low Voltage During Learn — No The scan tool displays No or Yes.

Brake Pedal Position Sensor Move During Learn — No The scan tool displays No or Yes. This parameter displays the brake pedal sensor learn status.

Brake Pedal Position Sensor Pulled Up from Home Position — No The scan tool displays No or Yes.

Brake Pedal Position Sensor Reference — Varies The scan tool displays the brake pedal position as voltage value. This parameter displays the current brake pedal position sensor reference.

Brake Pedal Pulled Up from Home Position — No The scan tool displays No or Yes.

Brake Pedal Pulled Up from Released Position — No The scan tool displays No or Yes.

Brake Transmission Shift Interlock Solenoid Actuator — Inactive The scan tool displays Active or Inactive. This parameter displays the remote start diagnostic status history.

Brake Transmission Shift Interlock Solenoid Actuator Command — Inactive The scan tool displays Active or Inactive. This parameter displays the last remote start diagnostic status history.

Calculated Brake Pedal Position — Varies The scan tool displays volts.

Calculated Brake Pedal Position — Varies The scan tool displays percentage.

Calibration Part Number 1-20 — Varies The scan tool displays the software module calibration part number.

Center Brake Lamp Command — Inactive The scan tool displays Active or Inactive. This parameter displays the center brake lamp status.

Center Stop Lamp Command — Inactive The scan tool displays Active or Inactive. This parameter displays the center stop lamp status.

Central Door Lock Switch on Center Console / Passenger Door Lock Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the driver door lock switch status.

Child Security Lock Indicator Command — Inactive The scan tool displays Active or Inactive. This parameter displays the child security lock indicator command status.

Child Security Lock Motors Command — Inactive The scan tool displays Active or Inactive.

Child Security Lock/Window Lockout Switch — Inactive The scan tool displays Active or Inactive.

Child Security Lock/Window Lockout Switch Indicator Command — Inactive The scan tool displays Active or

Inactive.

Content Theft Deterrent Alarm Status — Disarmed The scan tool displays Off, Armed, or Disarmed. This parameter displays the content theft alarm status.

Content Theft Deterrent Disarmed Until Vehicle Closed — No The scan tool displays No or Yes. This parameter displays the content theft deterrent system status.

Content Theft Deterrent Mode — Inactive The scan tool displays Active or Inactive. This parameter displays the remote start diagnostic status history or the last remote start diagnostic status history.

Content Theft Deterrent Trigger History 1-3 — None The scan tool displays None, Driver door, Passenger door, Left rear door, Right rear door, Rear closure, Midgate, Tonneau Cover, Hood, Ignition Voltage, Intrusion, Inclination, Telematics enhanced service alarm, Battery reconnect detected, Unauthorized PWM change, Security Indicates Tamper, or Glass Breakage. This parameter displays the content theft deterrent trigger history status.

Courtesy Lamps Duty Cycle Command — Varies This parameter displays the interior lights dimming command as a percentage.

Crank Abort — Inactive This parameter displays the remote start diagnostic status history or the last remote start diagnostic status history.

Cruise Charging Set Level — Varies This parameter displays cruise charging set level.

Cruise Control Switch Status — OFF The scan tool displays CANCEL, OFF, ON, RESUME, SET or ERROR. This parameter displays the cruise control switch status.

Current Content Theft Deterrent Trigger — None The scan tool displays None, Driver door, Passenger door, Left rear door, Right rear door, Rear closure, Midgate, Tonneau Cover, Hood, Ignition Voltage, Intrusion, Inclination, Telematics enhanced service alarm, Battery reconnect detected, Unauthorized PWM change, Security Indicates Tamper, Glass Breakage. This parameter displays the content theft deterrent current alarm trigger.

Current Driver — 1-8 This parameter displays the current driver in vehicle.

Disable Battery Saver Relay Command — Inactive The scan tool displays Active or Inactive.

Dome Lamp Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the dome lamp switch status.

Door Lock Switch — Inactive The scan tool displays Active or Inactive.

Driver Door Ajar Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the driver door Ajar switch status.

Driver Door Key Unlock Switch — Inactive The scan tool displays Active or Inactive.

Driver Door Lock Switch — Inactive The scan tool displays Active or Inactive.

Driver Door Unlatch Command — Inactive The scan tool displays Active or Inactive.

Driver Door Unlock Command — Inactive The scan tool displays Active or Inactive. This parameter displays the driver door unlock command status.

Driver Seat Heating Switch — Inactive The scan tool displays Active or Inactive.

Driver Seat Heating/Venting/Cooling Mode — Off The scan tool displays On or Off.

Driver Seat Ventilation Switch — Inactive The scan tool displays Active or Inactive.

Driver Window Learned — Yes The scan tool displays No or Yes.

Driver Window Main Control Down Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the driver window main control down switch input status.

Driver Window Main Control Express Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the driver window switch express input status.

Driver Window Main Control Up Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the driver window switch UP input status.

Driver Window Motor Mode — Local Switch Overridden The scan tool displays Down, Express Down, Express, Up, Error, Inhibit, or Local Switch Overridden. This parameter displays the driver window motor mode status.

Driver Window Motor Reversing Status — No The scan tool displays No or Yes.

Driver Window Motor Sensing System Fault Status — No The scan tool displays No or Yes.

Driver Window Motor Undervoltage Status — No The scan tool displays No or Yes.

Enable Battery Saver Relay Command — Inactive The scan tool displays Active or Inactive.

End Model Part Number — Varies This parameter displays the end model part number.

Engine Stalled — Inactive This parameter displays the remote start diagnostic status history or the last remote start diagnostic status history.

Environment Identification — Unknown The parameter displays the vehicle environment identification successful status.

Front Fog Lamps Relay Command — Inactive The scan tool displays Active or Inactive. This parameter displays the front fog lamp relay status.

Front Fog Lamps Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the front fog lamp switch status.

Front Passenger Window Main Control Down Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the front passenger window down switch status.

Front Passenger Window Main Control Express Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the passenger window switch express input status.

Front Passenger Window Main Control Up Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the passenger window switch UP input status.

Front Tire Pressure on Placard — Varies The scan tool displays kPa or PSI. This parameter displays the specified tire pressure placard information programmed in the BCM for tire pressure monitoring.

Fuel Economy Mode Inhibited - Low Charging Voltage — Inactive The scan tool displays Active or Inactive. This parameter displays the fuel economy mode status.

Generator Regulator Setpoint — Varies The scan tool displays percentage.

Glove Box Unlatch Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the instrument panel compartment release switch status.

Hazard Lamps Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the hazard lamps switch status.

Hazard Lamps Switch Backlight Command — Varies The scan tool displays percentage. This parameter displays hazard switch backlight level PWM command status.

Headlamps On Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the headlamp on switch status.

Headlamps Flash Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the headlamps flash to pass switch status.

Headlamp Washer Relay Command — Inactive The scan tool displays Active or Inactive.

High Beam Select Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the high beam switch status.

High Beam Command — Inactive The scan tool displays Active or Inactive. This parameter displays the high beam command status.

Hood Ajar Switch — Inactive This parameter display the remote start diagnostic status history or the last remote start diagnostic status history.

Hood Ajar Switch Signal 1 — Inactive This parameter display the remote start diagnostic status history or the last remote start diagnostic status history.

Hood Position — CLOSED The scan tool displays CLOSED, AJAR, or OPENED. This parameter displays the hood position.

Horn Relay Command — Inactive The scan tool displays Active or Inactive.

Horn Switch — Inactive The scan tool displays Active or Inactive.

Idle Boost Level 2-3 Counter — Varies This parameter displays the state of the idle boost level as counts.

Idle Charging Set Level — Varies This parameter displays idle charging set level.

Ignition Mode Switch Dimming Command — Varies The scan tool displays percentage.

Ignition Switch Reference — Varies This parameter displays the ignition switch voltage reference.

Ignition Switch Signal Voltage — Varies This parameter displays the ignition switch signal voltage.

Ignition Switch Status — Inactive This parameter displays the ignition switch status.

Immobilizer Allows Engine To Start — Unknown The scan tool displays Unknown, Incorrect, Not Allowed, or Valid. This parameter displays the immobilizer status.

Immobilizer Automatic Learn Timer — Inactive The scan tool displays Active or Inactive. This parameter displays the automatic learn timer status.

Immobilizer Environment Device 1-4 — Unknown The scan tool displays Incorrect, Correct, Not Received, Not Programmed or Unknown. This parameter displays the immobilizer source status.

Immobilizer Password Learn — Inactive The scan tool displays Active or Inactive. This parameter displays the password learn status.

Immobilizer Password Learn Scan Tool Delay — Varies This parameter displays the auto learn timer status.

Immobilizer Security Code Accepted — No The scan tool displays No or Yes.

Immobilizer Security Code Lockout — No The scan tool displays No or Yes.

Immobilizer Security Code Programmed — Yes The scan tool displays No or Yes.

In Park Switch Status — On The scan tool displays On or Off. This parameter displays the park switch status.

Inadvertent Load Command — Active The scan tool displays Active or Inactive.

Indicator Dimming Duty Cycle Command — Varies The scan tool displays percentage. This parameter displays indicator lighting PWM command status.

Interior/Courtesy Lighting Master Switch — Door The scan tool displays Door or other lighting switch status.

Interior Trunk Lid / Liftgate Window Unlatch Switch — Inactive The scan tool displays Active or Inactive.

Key Capture Solenoid Actuator — Active The scan tool display Active or Inactive. This parameter displays column lock input status.

Key Fob 1-4 Battery Status — OK The scan tool displays OK or other key fob battery status. This parameter displays the key fob battery status.

Key Fob 1-4 Function — Undefined The scan tool displays Inactive, Lock, Unlock Driver Door, All Door Unlock, Release Rear Closure, Actuate Left Sliding Door, Actuate Right Sliding door, Panic Alarm, Release Fuel door , Actuate Power Windows, Actuate Folding Top , Start Engine, Stop Engine, Programmed, Locator Alarm, Close Liftgate , Open Liftgate, Stop Liftgate While Closing, Stop Liftgate While opening, Deadlock All Doors, Stop Liftgate Motion, Start Liftgate Motion, Stop Left Sliding Door Motion, Stop Right Sliding Door Motion, Comfort open, or Comfort close. This parameter displays the key fob function status.

Key Fob in Vehicle — Inactive This parameter displays the current key fob in the vehicle.

Key In Cylinder Switch — Active The scan tool displays Active or Inactive.

Key In Cylinder Switch/Key Fob in Vehicle — Yes The scan tool displays No or Yes.

Key in Ignition Status — Inactive The scan tool displays Key Out or Key In. This parameter displays the key in ignition status.

Key Part Number — Varies This parameter displays the key part number.

Key Type — Master Key The scan tool displays Unknown, Master Key, Valet Key, Fleet Key, or Unconfigured. This parameter displays the key type.

Last Door Lock Function — All Doors Lock The scan tool displays NO Action, PC UNDB Lock, PC Unlock, Unlock, Unlock Driver, Unlock Passenger, Unlock Left Rear, Unlock Right Rear, Unlock Cargo Liftgate, Unlock Driver Side, Unlock Passenger Side, Unlock Non Driver, Unlock All, Lock All, DBL Lock, or UNDBL Lock.

LED Backlight Dimming Command — Varies The scan tool displays as a percentage. This parameter displays LED backlight dimming PWM command status.

Left Brake Lamp Command — Varies The scan tool displays percentage. This parameter displays left brake lamp command status.

Left Dedicated Daytime Running Lamp Command — Varies The scan tool displays percentage. This parameter displays left dedicated daytime running lamp command status.

Left Front Tire Pressure — Varies This parameter displays left front tire pressure in PSI.

Left Front Tire Pressure Sensor Identification — Varies This parameter displays left front tire pressure sensor ID.

Left Front Tire Pressure Sensor Location Learned — Yes The scan tool displays No or Yes. This parameter display tire pressure monitor system learned status.

Left Front Tire Pressure Sensor Mode — Learn Mode — Pressure Triggered The scan tool parameter displays Learn Mode, Undefined, Remeasure Data Mode, Rolling Mode, Enter Off Mode, Exit Off Mode, or Learn Mode Pressure Triggered.

Left Front Tire Pressure Sensor Rolling Count — Varies This parameter displays left front tire pressure sensor rolling count percentage.

Left Front Tire Pressure Status — Normal The scan tool displays Unknown, Normal, Very Low Pressure, Low, Weak Signal, or High.

Left Front Turn Signal Bulb Out Feedback — Inactive The scan tool displays Active or Inactive.

Left Front Turn Signal/Hazard Lamp Command — Inactive The scan tool displays Active or Inactive.

Left Low Beam/Daytime Running Lamp Command — Varies The scan tool displays percentage. This parameter displays left low beam/daytime running lamp status.

Left Park Lamps Command — Varies The scan tool displays percentage. This parameter displays rear exterior lighting status.

Left Rear Child Security Lock Switch — Inactive This parameter displays Active or Inactive.

Left Rear Door Ajar Switch — Inactive This parameter displays Active or Inactive. This parameter displays the left rear door ajar switch status.

Left Rear Tire Pressure — Varies This parameter displays left rear tire pressure in PSI.

Left Rear Tire Pressure Sensor Identification — Varies This parameter displays left rear tire pressure sensor ID.

Left Rear Tire Pressure Sensor Location Learned — Yes The scan tool displays No or Yes. This parameter displays tire pressure monitor system learned status.

Left Rear Tire Pressure Sensor Mode — Stationary The scan tool displays Learn Mode, Undefined, Remeasure Data Mode, Rolling Mode, Enter Off Mode, Exit Off Mode, or Learn Mode Pressure Triggered.

Left Rear Tire Pressure Sensor Rolling Count — Varies This parameter displays left rear tire pressure sensor rolling count percentage.

Left Rear Tire Pressure Status — Normal The scan tool displays Unknown, Normal, Very Low Pressure, Low, Weak Signal, or High.

Left Rear Turn Signal Bulb Out Feedback — Inactive The scan tool displays Active or Inactive. The parameter displays turn lamp outage status.

Left Rear Turn Signal/Hazard Lamp Command — Inactive The scan tool displays Active or Inactive.

Left Rear Window Learned — Yes The scan tool displays No or Yes.

Left Rear Window Main Control Down Switch — Inactive The scan tool display Active or Inactive. This parameter displays driver window switch inputs.

Left Rear Window Main Control Express Switch — Inactive The scan tool display Active or Inactive. This parameter displays driver window switch inputs.

Left Rear Window Main Control Up Switch — Inactive The scan tool displays Active or Inactive. This parameter displays driver window switch inputs.

Left Rear Window Motor Mode — Local Switch Overridden The scan tool displays Down, Express, Up, Inhibit, or Local Switch Overridden.

Left Rear Window Switch at Door — Inactive The scan tool displays Active or Inactive.

Left Stop Lamp Command — Varies The scan tool display percentage.

Left Turn Signal Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the left turn signal switch status.

License Plate Lamps Command — Inactive The scan tool displays Active or Inactive.

Load Reduction Level 2-3 Counter — Varies The scan tool display as counts.

Low Beam Relay Command — Inactive The scan tool displays Active or Inactive. This parameter displays the headlamp low beam relay status.

Manufacturers Enable Counter — Varies This parameter tool displays various counter values.

Master Keys Learned — Varies This parameter displays the total number of master keys learned.

Module Diagnostic Address — Varies This parameter displays module diagnostic address.

Number of Key Fobs In Vehicle — 1 This parameter displays the number of fobs located in the vehicle.

Odometer — Varies This parameter displays the vehicle mileage.

Outside Rear View Mirror Courtesy Lamp Command — Inactive The scan tool displays Active or Inactive. This parameter displays front exterior lighting status.

Park Brake Switch — Active The scan tool displays Active or Inactive. This parameter displays front exterior lighting status.

Park Lamps Switch — Inactive The scan tool displays Active or Inactive. This parameter displays Active when the parklamp switch is activated.

Passenger Door Ajar Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the passenger door ajar switch status.

Passenger Door Lock Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the passenger door lock switch status.

Passenger Door Unlock Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the passenger door unlock switch status.

Passenger Door(s) Unlatch Command — Inactive The scan tool displays Active or Inactive.

Passenger Door(s) Unlock Command — Inactive The scan tool displays Active or Inactive. This parameter displays the passenger door unlock status.

Passenger Seat Heating Switch — Inactive The scan tool displays Active or Inactive.

Passenger Seat Heating/Venting/Cooling Mode — Off The scan tool displays On or Off.

Passenger Seat Ventilation Switch — Inactive The scan tool displays Active or Inactive.

Passenger Window Learned — Yes The scan tool displays No or Yes. This parameter displays the passenger window learned status.

Passenger Window Motor Mode — Local Switch Overridden The scan tool displays Down, Express, Up, Inhibit, or Local Switch Overridden.

Passenger Window Switch at Door — Inactive The scan tool displays Active or Inactive. This parameter displays the passenger window switch status.

Pickup Bed Cargo Lamp Command — Varies The scan tool displays percentage. This parameter displays pickup bed cargo lamp command status.

Previous Key Type — Unknown This parameter displays previous driver identification device type.

Primary Key Status — Yes The scan tool displays No or Yes.

Push Button Ignition Switch — Inactive The scan tool displays Active or Inactive.

Push Button Ignition Switch Voltage — Varies This parameter displays the push button ignition switch voltage.

Rain Sensor — Inactive The scan tool displays Active or Inactive.

Rear Closure Ajar Switch — Active The scan tool displays Active or Inactive.

Rear Closure Cylinder Lock Switch — Inactive The scan tool displays Active or Inactive.

Rear Closure Cylinder Unlock Switch — Inactive The scan tool displays Active or Inactive.

Rear Tire Pressure on Placard — Varies This parameter displays the rear tire pressure in kPa or PSI. This parameter displays the specified tire pressure placard information programmed in the BCM for tire pressure monitoring.

Regulated Voltage Control Mode — Voltage The scan tool displays voltage.

Remote Vehicle Start Attempts Exhausted — Varies This parameter displays the remote start diagnostic status history or the last remote start diagnostic status history or remaining start attempts.

Remote Vehicle Start Crank Time — Inactive This parameter displays the remote start diagnostic status history or the last remote start diagnostic status history.

Remote Vehicle Start Disabled by Driver — Inactive This parameter displays the remote start diagnostic status history or the last remote start diagnostic status history.

Remote Vehicle Start Source — Ignition Switch Start The scan tool displays Ignition Switch Start or Remote Vehicle Start.

Remote Vehicle Starts Exhausted — Varies This parameter displays the remote start diagnostic status history or the last remote start diagnostic status history or remaining remote starts.

Right Brake Lamp Command — Varies The scan tool display percentage. This parameter displays right brake lamp PWM command status.

Right Dedicated Daytime Running Lamp Command — Varies The scan tool display percentage. This parameter displays right dedicated DRL PWM command status.

Right Front Tire Pressure — Varies This parameter displays right front tire pressure in PSI.

Right Front Tire Pressure Sensor Identification — Varies This parameter displays right front tire pressure sensor ID.

Right Front Tire Pressure Sensor Location Learned — Yes The scan tool displays No or Yes.

Right Front Tire Pressure Sensor Mode — Stationary The scan tool displays Learn Mode, Undefined, Remeasure Data Mode, Rolling Mode, Enter Off Mode, Exit Off Mode or Learn Mode Pressure Triggered.

Right Front Tire Pressure Sensor Rolling Count — Varies This parameter displays right front tire pressure sensor rolling count percentage.

Right Front Tire Pressure Status — Normal The scan tool displays Unknown, Normal, Very Low Pressure, Low, Weak Signal, or High.

Right Front Turn Signal Bulb Out Feedback — Inactive The scan tool displays Active or Inactive.

Right Front Turn Signal/Hazard Lamp Command — Inactive The scan tool displays Active or Inactive.

Right Low Beam/Daytime Running Lamp Command — Varies The scan tool displays percentage. This parameter displays right low beam/daytime running lamp status.

Right Park Lamps Command — Varies The scan tool displays percentage. This parameter displays rear exterior lighting status.

Right Rear Child Security Lock Switch — Inactive The scan tool displays Active or Inactive.

Right Rear Door Ajar Switch — Inactive The scan tool displays Active or Inactive.

Right Rear Tire Pressure — Varies This parameter displays right rear tire pressure in PSI.

Right Rear Tire Pressure Sensor Identification — Varies This parameter displays right rear tire pressure sensor ID.

Right Rear Tire Pressure Sensor Location Learned — Yes The scan tool displays No or Yes.

Right Rear Tire Pressure Sensor Mode — Learn Mode — Pressure Triggered The scan tool displays Learn Mode, Undefined, Remeasure Data Mode, Rolling Mode, Enter Off Mode, Exit Off Mode, or Learn Mode Pressure Triggered. This parameter displays the pressure sensor mode status.

Right Rear Tire Pressure Sensor Rolling Count — Varies This parameter displays right rear tire pressure sensor rolling count percentage.

Right Rear Tire Pressure Status — Normal The scan tool displays Unknown, Normal, Very Low Pressure, Low, Weak Signal or High. This parameter displays the right rear tire pressure status.

Right Rear Turn Signal Bulb Out Feedback — Inactive The scan tool displays Active or Inactive.

Right Rear Turn Signal/Hazard Lamp Command — Inactive The scan tool displays Active or Inactive.

Right Rear Window Main Control Down Switch — Inactive The scan tool displays Active or Inactive.

Right Rear Window Main Control Express Switch — Inactive The scan tool displays Active or Inactive.

Right Rear Window Main Control Up Switch — Inactive The scan tool displays Active or Inactive.

Right Rear Window Motor Mode — Local Switch Overridden The scan tool displays Down, Express, Up, Inhibit, or Local Switch Overridden.

Right Rear Window Switch at Door — Inactive The scan tool displays Active or Inactive.

Right Stop Lamp Command — Varies The scan tool displays percentage.

Right Turn Signal Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the right turn signal switch status.

Run Abort — Inactive This parameter displays the remote start diagnostic status history or the last remote start diagnostic status history.

Run Relay Command — Active The scan tool displays Active or Inactive.

Run/Crank — Inactive The scan tool displays Active or Inactive.

Run/ Crank Relay Command — Active The scan tool displays Active or Inactive.

Run/Crank Power Mode Indicator Command — Varies The scan tool displays percentage. This parameter displays

ignition switch run LED PWM command status.

Secondary Key Status — No The scan tool displays No or Yes.

Security Indicator Command — Varies The scan tool displays percentage. This parameter displays security LED PWM command status.

Selected Front Tire Type — Standard Load The scan tool displays No Tire Type, Metric Standard Load, Metric Extra Load, Load Range C, Load Range D, or Load Range E. This parameter displays the front tire type.

Selected Rear Tire Type — Standard Load The scan tool displays No Tire Type, Metric Standard Load, Metric Extra Load, Load Range C, Load Range D, or Load Range E. This parameter displays the rear tire type.

Start-Up State of Charge — Varies The scan tool displays percentage. This parameter displays startup state of charge status.

State of Charge — Varies The scan tool displays percentage. This parameter displays state of charge status.

Sunroof Enabled — Active The scan tool displays Active or Inactive.

Sunroof Motor Overtemperature — Inactive The scan tool displays Active or Inactive.

Sunroof Not Learned — Inactive The scan tool displays Active or Inactive.

Sunroof Position — Closed The scan tool displays Closed, Open, Venting, Comfort Open, Closing, Opening. This parameter displays the current sunroof position.

Sunroof Remote Command — Inactive The scan tool displays Sunroof Secure Close, Venting, Close, or Open. This parameter displays the last sunroof remote command.

Sunroof Slide Switch — Inactive The scan tool displays Inactive, Express Open, Open, Express Close, Close, Short to Ground, Short to Battery, or Stuck. This parameter displays the sunroof slide switch status.

Sunroof Tilt Switch — Inactive The scan tool displays Inactive, Open, Close, Short to Ground, Short to Battery or Stuck. This parameter displays the sunroof tilt switch status. When the switch experiences a malfunction Short to Ground, Short to Battery or Stuck will be displayed.

Sunroof/ Sunshade Motor Overtemperature — Inactive The scan tool displays Active or Inactive.

Sunroof/ Sunshade Switch — Inactive The scan tool displays Inactive, Express Open, Open, Express Close, Close, Short to Ground, Short to Battery, or Stuck. This parameter displays the sunroof or sunshade switch status.

Sunshade Enabled — Active The scan tool displays Active or Inactive.

Sunshade Not Learned — Inactive The scan tool displays Active or Inactive.

Sunshade Position — Closed The scan tool displays Ajar, Closed, Opened, Closing, or Opening. This parameter displays the sunshade position status.

Sunshade Remote Command — Inactive The scan tool displays Close or Open. This parameter displays the last sunshade remote command.

Tamper Status — No The scan tool displays No or Yes.

Telematics Enhanced Service Override Active — No The scan tool displays No or Yes. This parameter displays vehicle theft deterrent system status.

Total Keys Learned — Varies This parameter displays the number of keys learned.

Traction Control Switch — Inactive The scan tool displays Active or Inactive. This parameter displays Active when the traction control switch is active.

Transponder Authentication — Initializing The scan tool displays Inactive, Initializing, ID Received, Password Received, Data Reception Complete, or Data Transmission Complete. This parameter displays the transponder key communication status.

Transponder Key Status — OK The scan tool displays OK, LIN Bus Initialization Malfunction, Antenna Initialization Malfunction, Password Error, No Valid Key Detected, LIN Bus Communication Malfunction, or Antenna Malfunction. This parameter displays the transponder key communication error status.

Trunk Lamp Command — Varies The scan tool displays as percentage.

Trunk Lid/Liftgate Window Exterior Unlatch Switch — Inactive The scan tool displays Active or Inactive.

Trunk Lid/Liftgate Window Unlatch Command — Inactive The scan tool displays Active or Inactive.

Valet Keys Learned — Varies This parameter displays the number of valet keys learned.

Valet Mode Status — Inactive This parameter displays the remote start diagnostic status history or the last remote start diagnostic status history.

Valet switch — Inactive The scan tool displays Active or Inactive. This parameter displays Active when the valet switch is on.

Vehicle Identification Number (VIN) — Varies This parameter displays the vehicle identification number.

Window Lockout Switch — Inactive The scan tool displays Active or Inactive.

Window Lockout Switch Indicator Command — Inactive The scan tool displays Active or Inactive.

Windshield Washer Relay Command — Inactive The scan tool displays Active or Inactive. This parameter displays the windshield washer relay status.

Windshield Washer Switch — Inactive The scan tool displays Active or Inactive. This parameter displays the windshield washer switch status.

Windshield Wiper Park Switch — Active The scan tool displays Active or Inactive.

Windshield Wiper High Speed Relay Command — Inactive The scan tool displays Active or Inactive.

Windshield Wiper High Speed Switch — Inactive The scan tool displays Active or Inactive.

Windshield Wiper Motor Relay Command — Inactive The scan tool displays Active or Inactive. This parameter displays the windshield wiper relay status.

Windshield Wiper Stalled During Sweep — Inactive The scan tool displays Active or Inactive.

Windshield Wiper Stalled in Park Position — Inactive The scan tool displays Active or Inactive. This parameter displays the windshield wiper stalled status.

Windshield Wiper Switch — Off The scan tool displays Off, Delay 1, Delay 2, Delay 3, Delay 4, Delay 5, or Low. This parameter displays the windshield wiper switch status.

Scan Tool Output Control Description

Accent Lighting 1 The BCM activates the accent lighting when you select On. The value should be 100%. All accent lighting should illuminate until commanded Off.

Accent Lighting 2 The BCM activates the accent lighting when you select On. The value should be 100%. All accent lighting should illuminate until commanded Off.

Accessory Power Mode Indicator The BCM activates the accessory indicator when you select On. The value should be 100%. The yellow LED accessory indicator on start button should illuminate until commanded Off.

Accessory Power Relay The BCM actuates the accessory power relay when you select On. The accessory power relay should turn on allowing specific vehicle functions to operate.

Accessory/Retained Accessory Power Relay The BCM actuates the retained accessory power relay when you select On. The retained accessory power relay should turn on allowing specific vehicle functions to operate.

All Doors Lock The BCM activates all doors lock when you select Lock. All doors should lock.

All Doors Lock/Unlock The BCM activates all doors lock/unlock when you select Lock/Unlock.

Auxiliary Ignition Run Relay The BCM controls the Ignition Run Coil Control circuit to turn it On and Off.

Backup Lamps The BCM actuates the backup lamps relay when you select On. The backup lamps should illuminate until commanded Off. Engine must be running.

Battery Saver Relay The BCM activates the battery saver relay when you select Enable. This command sets the low power mode relay in the state in which it does not supply power to the non-essential parts of the vehicle. This is used to prevent the battery from being depleted when the vehicle is not used for a long period of time.

Brake Pedal Position Sensor Learn The BCM activates the brake pedal position sensor learn when you select Learn. The brake pedal position sensor learn procedure should start.

Brake Transmission Shift Interlock Solenoid Actuator The BCM activates the transmission shift interlock solenoid actuator when you select On.

Brake Transmission Shift Interlock Indicator The BCM activates the transmission range indicator when you select On. The transmission range indicator at the shifter should illuminate until commanded Off.

Center Brake Lamp The BCM activates the center brake lamp when you select On. The center brake lamp should illuminate until commanded Off.

Center Stop Lamp The BCM activates the center stop lamp when you select On. The center stop lamp should illuminate until commanded Off.

Child Security Lock Indicator The BCM activates the child security lock indicator when you select On. The child security lock indicator should illuminate until commanded Off.

Child Security Lock Motors The BCM actuates the child security door motor when you select Lock. The child security doors should lock.

Child Security Lock/Window Lockout Switch Indicator The BCM activates the child security lock/window lockout switch indicator when you select On. The child security lock/window lockout switch indicator should illuminate until commanded Off.

Clear Driver Window Learned Values When you select Clear the clear driver window learn procedure should start.

Clear Passenger Window Learned Values When you select Clear the clear left rear window learn procedure should start.

Courtesy Lamps The BCM activates the courtesy lamps when you select On. The value should be 100%. The courtesy lamps should illuminate until commanded Off.

Driver Door Unlatch The BCM activates the output circuit to unlatch the driver door with a passive entry passive start when you select Unlatch. There is NO door handle on this type of vehicle to open the door. Instead, there is a pad that you press to unlatch the door.

Driver Door Unlock The BCM pulses the driver door unlock motor when you select Unlock. The driver door should unlock.

Driver Window Motor The BCM activates the driver window motor when you select Up/Down/Stop/Express Up/Express Down. The driver window should follow the appropriate command.

Driver Window Motor Mode The BCM activates the driver window motor when you select Up/Down/Stop/Express Up/Express Down. The driver window should follow the appropriate command.

**Front Fog Lamps** The BCM actuates the front fog lamps relay when you select On. The front fog lamps relay should turn on.

**Generator Regulator Setpoint** The BCM changes the output of the generator.

**Hazard Lamps Switch Backlight** The BCM activates the hazard lamps switch when you select On. The value should be 100%. The hazard lamps switch backlight should illuminate until commanded Off.

**High Beams** The BCM activates the high beam command when you select On. The high beam lights should illuminate. The headlamps have to be on.

**Horn Relay** The BCM activates the horn when you select On. The horn should sound.

**Inadvertent Load** The BCM activates the inadvertent load command when you select On. (It is an electronic request to shut down an electrical or electronic device that is drawing power from the battery at a time when there should be no activity, usually after the key has been removed from the ignition for a period of time.)

**Incandescent Dimming** The BCM activates the incandescent light dimming when you select On. The values should be 100%. The incandescent light dimming should illuminate until commanded Off.

**Indicator Dimming** The BCM activates the indicator dimming when you select On. The values should be 100%. The indicator should illuminate until commanded Off.

**LED Backlight Dimming** The BCM activates the LED backlight dimming when you select On. The values should be 100%. The LED backlight dimming for control switches should illuminate until commanded Off.

**Left Brake Lamp** The BCM activates the left brake lamp when you select On. The values should be 100%. The left brake lamp should illuminate until commanded Off.

**Left Dedicated Daytime Running Lamp** The BCM activates the left dedicated daytime running lamp when you select ON. The value changes to 100%. The left daytime running lamp should illuminate.

**Left Front Park Lamp** The BCM activates the left front park lamp when you select ON with a value of 100%. The left front park lamp should illuminate.

**Left Front Park Lamp/Daytime Running Lamp** The BCM activates the left front park lamp/daytime running lamp when you select ON with a value of 100%. The left front park lamp/daytime running lamp should illuminate.

**Left Front Turn Signal Lamp** The BCM activates the left front turn signal lamp when you select On. The left front turn signal lamp should illuminate until commanded Off.

**Left Headlamp Lamp Low Beam** The BCM activates the left headlamp low beam when you select On. The values should be 100%. The left headlamp low beam should illuminate until commanded Off.

**Left Park Lamps** The BCM activates the left park lamps when you select ON with a value of 100%. The left park lamps should illuminate.

**Left Rear Park Lamp** The BCM activates the left rear park lamp when you select ON with a value of 100%. The left rear park lamp should illuminate.

**Left Rear Stop/Park Lamp** The BCM activates the left rear stop/park lamp when you select ON with a value of 100%. The left rear stop/park lamp should illuminate.

**Left Rear Turn Signal Lamp** The BCM activates the left rear turn signal lamp when you select On. The left rear turn signal lamp should illuminate until commanded Off.

**Left Rear Turn Signal/Stop Lamp** The BCM activates the left rear turn signal/stop lamp when you select On. The left rear turn signal/stop lamp should illuminate until commanded Off.

**Left Rear Window Motor** The BCM activates the left rear window motor when you select Up/Down/Stop/Express Down. The left rear window should follow the appropriate command.

**Left Stop Lamp** The BCM activates the left stop lamp when you select ON with a value of 100%. The left stop lamp should illuminate.

**Left Trailer Turn Signal Lamp** The BCM activates the left trailer turn signal lamp when you select ON with a value of 100%. The left trailer turn signal lamp should illuminate.

**License Plate Lamps** The BCM activates the license plate lamps when you select On. The license plate lights should turn on until commanded Off.

**Liftgate Unlatch** The BCM actuates the rear compartment lid release actuator when you select Unlatch. The trunk or liftgate should open.

**LIN Bus Device Identification Data** When you select Update the LIN Bus Device part number and calibration part number should be updated.

**Low Beam Lamps** The BCM activates the low beam lamps when you select On. The low beam lamps should turn on.

**Low Beam Relay** The BCM activates the low beams when you select On. The low beam lights should turn on.

**Outside Rear View Mirror Courtesy Lamp** The BCM activates the outside rear view mirror courtesy lamp when you select On. The outside rear view mirror courtesy lamp (at the bottom) should illuminate.

**Passenger Door(s) Unlatch** The BCM activates the output circuit to unlatch the passenger door with a passive entry passive start when you select Unlatch. There is NO door handle on this type of vehicle to open the door. Instead, there is a pad that you press to unlatch the door.

**Passenger Door(s) Unlock** The BCM pulses the passenger door unlock motor when you select Unlock. The passenger door should unlock.

Passenger Window Motor The BCM activates the passenger window motor when you select Up/Down/Stop/Express Up/Express Down. The passenger window should follow the appropriate command.

Pickup Bed Cargo Lamp The BCM activates the pickup bed cargo lamp when you select On. The values should be 100%. The pickup bed cargo lamp should illuminate until commanded Off.

Rear Fog Lamp(s) Relay The BCM activates the rear fog lamps when you select On. The rear fog lamps should turn on.

Right Brake Lamp The BCM activates the right brake lamp when you select On. The value should be 100%. The right brake lamp should illuminate until commanded Off.

Right Dedicated Daytime Running Lamp The BCM activates the right dedicated daytime running lamp when you select On. The value should be 100%. The right daytime running lamp should illuminate.

Right Front Park Lamp The BCM activates the right front park lamp when you select ON with a value of 100%. The right front park lamp should illuminate.

Right Front Park Lamp/Daytime Running Lamp The BCM activates the right front park lamp/daytime running lamp when you select ON with a value of 100%. The right front park lamp/daytime running lamp should illuminate.

Right Front Turn Signal Lamp The BCM activates the right front turn signal lamp when you select On. The right front turn signal/hazard lamp should illuminate.

Right Headlamp Low Beam The BCM activates the right headlamp low beam when you select On. The right headlamp low beam should illuminate.

Right Park Lamps The BCM activates the right park lamps when you select ON with a value of 100%. The right park lamps should illuminate.

Right Rear Park Lamp The BCM activates the right rear park lamp when you select ON with a value of 100%. The right rear park lamp should illuminate.

Right Rear Stop/Park Lamp The BCM activates the right rear stop/park lamp when you select ON with a value of 100%. The right rear stop/park lamp should illuminate.

Right Rear Turn Signal Lamp The BCM activates the right rear turn signal/hazard lamp when you select On. The right rear turn signal lamp should illuminate until commanded Off.

Right Rear Turn Signal/Stop Lamp The BCM activates the right rear turn signal/stop lamp when you select On. The right rear turn signal/stop lamp should illuminate until commanded Off.

Right Rear Window Motor The BCM activates the right rear window motor when you select Up/Down/Stop/Express Down. The right rear window should follow the appropriate command.

Right Stop Lamp The BCM activates the right stop lamp when you select ON with a value of 100%. The right stop lamp should illuminate.

Right Trailer Turn Signal Lamp The BCM activates the right trailer turn signal lamp when you select ON with a value of 100%. The right trailer turn signal lamp should illuminate.

Run Relay The BCM activates the run relay when you select On. The run relay should turn on.

Run/Crank Relay The BCM activates the run/crank relay when you select On. The run/crank relay should turn on.

Run/Start Power Mode Indicator The BCM activates the run/start lamp when you select On. The value should be 100%. The green LED on engine start/stop button should illuminate until commanded Off.

Security Indicator The BCM activates the security indicator command when you select On. The security indicator at center of dash (or at DRL sensor) should illuminate until commanded Off.

Stop Lamps The BCM activates the stop lamps when you select ON with a value of 100%. The stop lamps should illuminate.

Tire Pressure Sensors Learn The BCM activates the tire pressure sensor learn procedure when you select Learn.

Tire Type/Pressure Selection When you select OK, you can change tire type and load range.

Trailer Backup Lamps The BCM activates the trailer backup lamps when you select ON with a value of 100%. The trailer backup lamps should illuminate.

Trailer Park Lamps The BCM activates the trailer park lamps when you select ON with a value of 100%. The trailer park lamps should illuminate.

Transmission Range Indicator The BCM activates the transmission range indicator when you select On. The transmission range indicator at the shifter should illuminate until commanded Off.

Trunk Lamp The BCM activates the trunk lamp when you select On. The value should be 100%. The trunk lamp should illuminate until commanded Off.

Trunk Lid Unlatch The BCM activates the trunk lid unlatch when you select On. The trunk lid should unlatch.

Window Lockout Switch Indicator The BCM activates the window lockout switch indicator when you select On. The window lockout switch indicator should illuminate until commanded Off.

Windshield Washer Relay The BCM activates the windshield washer relay when you select On. The windshield washer relay should turn on.

Windshield Wiper High Speed Relay The BCM activates the windshield wiper high speed relay when you select On. The windshield wiper high speed relay should turn on.

Windshield Wiper Motor Relay The BCM activates the windshield wiper motor relay when you select On. The

windshield wiper motor relay should turn on.