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NOTES

1.0 INTRODUCTION

This manual contains all of the specifications, instructions, and graphics needed to diagnose CS body system problems. The diagnostics in this manual are based on the failure condition or symptom being present at the time of diagnosis.

Please follow the recommendations below when choosing your diagnostic path.

1. First make sure that the DRBIII® is communicating with the appropriate modules; i.e., if the DRBIII® displays a ″No Response″ or a ″Bus ± Signals Open″ condition, you must diagnose that condition first.
2. Read DTCs (diagnostic trouble codes) with the DRBIII®.
3. If no DTCs are present, identify the customer complaint.
4. Once the DTC or customer complaint is identified, locate the matching test in the Table of Contents and begin diagnosing the symptom.
   - All component location views are in Section 8.0.
   - All connector pinouts are in Section 9.0.
   - All schematics are in Section 10.0.
   - All Charts and Graphs are in Section 11.0.
   - An * placed before the symptom description indicates a customer complaint without a DTC.

When repairs are required, refer to the appropriate service information for the proper removal, repair, and installation procedures.

Diagnostic procedures change every year. New diagnostic systems may be added: carryover systems may be enhanced. READ THIS MANUAL BEFORE TRYING TO DIAGNOSE A VEHICLE DIAGNOSTIC TROUBLE CODE. It is recommended that you review the entire manual to become familiar with all the new and changed diagnostic procedures.

This book reflects many suggested changes from readers of past issues. After using this book, if you have any comments or suggestions, please fill out the form in the back of this book and mail it back to us.

1.1 SYSTEM COVERAGE

This manual covers all 2004 CS vehicles. Early Build vehicles are built prior to 7/10/03 (approximately) and Late Build (normal) vehicles are built after 7/28/03.

1.2 SIX-STEP TROUBLESHOOTING PROCEDURE

Diagnosis of the body system is done in six basic steps:

- Verification of complaint
- Verification of any related symptoms
- Symptom analysis
- Problem isolation
- Repair of isolated problem
- Verification of proper operation

2.0 IDENTIFICATION OF SYSTEM

The vehicle systems that are part of the ″body″ system are:

- Adjustable Pedals System
- Airbag
- Audio
- Automatic Temperature Control (ATC)
- Body Control Module
- Chime
- Communication
- Door Ajar System
- Door Modules
- Electrically heated systems
- Electronic Vehicle Information Center (EVIC)
- Exterior lighting
- Ignition, Power, Accessories
- Integrated Power Module
- Information Systems
- Instrument Cluster
- Interior Lighting
- Memory/Heated Seat
- Memory Mirrors
- Overhead Console
- Power Door Lock/RKE
- Power Liftgate
- Power Mirrors
- Power Seats
- Power windows
- Telecommunication (hands free phone)
- Tire Pressure Monitor System (TPMS)
- Vehicle Theft Security System (VTSS)
- Windshield Wiper and Washer

3.0 SYSTEM DESCRIPTION AND FUNCTIONAL OPERATION

The CS body system consists of a combination of modules that communicate over the PCI Bus (Programmable Communication Inter-face multiplex system). Through the PCI Bus, information about the operation of vehicle components and circuits is relayed quickly to the appropriate modules. All modules receive all the information transmitted on the bus even though a module may not require all information to perform its function. It will only respond to messages ″addressed″ to it through binary coding process. This method of data transmission significantly reduces the complexity of the wiring in the vehicle and the size of wiring harnesses. All of the information about the functioning of all the systems is organized, controlled, and communicated by the PCI Bus, which is described in the Communication Section of this general information.

3.1 ADJUSTIBLE PEDAL SYSTEM

The Adjustable Pedals are designed to enable the fore and aft repositioning of the brake and accelerator pedals. This results in improved ergonomics in relation to the steering wheel for taller and shorter drivers. Being able to adjust the pedal positions also allows the driver to set steering wheel tilt and seat positions to the most comfortable position available. The positions can be adjusted without compromising safety or comfort in actuating the pedals. Repositioning the pedals does not change the effort required for actuation. Changing of pedal position is accomplished by means of a motor.

Operating the adjustable pedal switch activates the pedal drive motor. The pedal drive motor changes the position of the brake and accelerator pedals. The pedal can move rearward or forward. The pedals are moved to a position that is most comfortable for the driver. The accelerator and brake pedals are moved at the same rate to ensure synchronization. Neither the motor nor mechanisms are subject to mechanical stress of brake or accelerator application. The adjustable pedals do not operate when the vehicle is engaged in reverse or when the cruise control is active.

The adjustable pedals feature is available on a non memory/memory-equipped vehicle. The system control module, known as the Memory Heated Seat Adjustable Pedal Module (MHSAPM) or Memory Seat Adjustable Pedal Module (MSAPM), is located under the driver's seat and controls the adjustable pedals. The adjustable pedals control switch is located on the driver door trim panel. This switch is hardwired to the Driver Door Module (DDM). When the operator actuates the switch on, the DDM sends a message via the PCI Bus to the MHSAPM/MSAPM requesting pedal adjustment. The MHSAPM/MSAPM retains the memory recall for the adjustable pedals which can be recalled from the driver door mounted memory buttons or RKE transmitter.

3.2 AIRBAG SYSTEM

The 2004 CS Airbag System contains the following components:

- Occupant Restraint Controller (ORC)
- Airbag Warning Indicator
- Clockspring
- 2-stage Driver and Passenger Airbags
- Driver Knee Blocker Airbag
- Left and Right Curtain Airbags
- Left and Right Front Impact Sensors
- Three (3) Left impact Sensors
- Three (3) Right impact Sensors
- Driver and Passenger Seat Belt Tensioners

The Occupant Restraint Controller (ORC) is also referred to as an Airbag Control Module (ACM). The ACM has four major functions: onboard diagnostics, PCI Bus communications, impact sensing and squib deployment. The Airbag Warning Indicator in the Instrument Cluster is the only point at which the customer can observe symptoms of a system malfunction.

The microprocessor in the ACM monitors the internal and external airbag system electrical circuits to determine the system readiness. When a monitored system is determine out of range, the ACM microprocessor will set both active and stored diagnostic trouble codes to aid in the diagnosing system problems. See DIAGNOSTIC TROUBLE CODES in this section. The ACM also contains an energy-storage capacitor. This capacitor stores enough electrical energy to deploy the front airbag components for two seconds following a battery disconnect or failure during an impact. The ACM is secured to the floor panel transmission tunnel under the instrument panel. The ACM cannot be repaired or adjusted.

The ACM sends and or receives PCI Bus messages with the Instrument Cluster (MIC), Body Control Module (BCM) and Powertrain Control Module (PCM). Diagnostic trouble codes will be set if the communication with these modules is lost or contains invalid information. Whenever the ignition key is turned to the run or start position, the ACM performs a lamp check by turning the Airbag Warning Indicator on for 6-8 seconds via a PCI Bus message. After the lamp check, if the indicator turns off, it means that the ACM has checked the

system and found it to be free of discernible malfunctions. If the lamp comes on and stays on for a period longer than 6-8 seconds then goes off, there is usually an intermittent problem in the system. If the lamp remains on, there could be an active fault in the system or the MIC lamp circuit may be internally shorted.

The ACM uses two (2) Front Impact Sensors along with the ACM Accelerometer to sense the rate of vehicle deceleration, provide verification of the direction and severity of an impact. When the preprogrammed conditions are met, the ACM sends an electrical signal to deploy the appropriate front airbag system components. The ACM Accelerometer and the six (6) side impact sensors (three (3) Left and three (3) Right Impact Sensors) are used to provide verification of the direction and severity of a side impact. When the preprogrammed conditions are met, the ACM sends an electrical signal and deploys the appropriate Left or Right Curtain Airbag.

Staged deployment is the ability to deploy one squib or both squibs in a dual squib airbag or a single curtain squib as needed to provide the appropriate restraint for the severity of the impact. The first stage deployed is both seat belt tensioners, the knee blocker airbag, and the 1st stage squib of the Driver and Passenger Airbags are the first stage of deployment. The second stage consists of all the 1st stage previously described and the 2nd stage squib of the Driver and Passenger Airbags.

WARNING: THE AIRBAG SYSTEM IS A SENSITIVE, COMPLEX ELECTROMECHANICAL UNIT. BEFORE ATTEMPTING TO DIAGNOSE OR SERVICE ANY AIRBAG SYSTEM OR RELATED STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENTS YOU MUST FIRST DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE. WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE FURTHER SYSTEM SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE AIRBAG SYSTEM. FAILURE TO DO THIS COULD RESULT IS ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY OR DEATH.

WARNING: NEVER STRIKE OR KICK THE AIRBAG CONTROL MODULE, AS IT CAN DAMAGE THE IMPACT SENSOR OR AFFECT ITS CALIBRATION. IF AN AIRBAG CONTROL MODULE IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.

3.2.1 DRIVER AIRBAG

The airbag protective trim cover is the most visible part of the driver side airbag system. The protective trim cover is fitted to the front of the airbag module and forms a decorative cover in the center of the steering wheel. The airbag is mounted directly to the steering wheel. Located under the trim cover are the horn switch, the airbag cushion, and the airbag cushion supporting components. The airbag includes a housing to which the cushion and hybrid inflator are attached and sealed. The Driver Airbag is equipped with dual stage inflators. When supplied with the proper electrical signal, the inflator or inflators discharge the gas directly into the cushion. The airbag cannot be repaired, and must be replaced if deployed or in any way damaged.

WARNING: THE DRIVER AIRBAG MODULE CONTAINS ARGON GAS PRESSURIZED TO OVER 17000 kPa (2500 PSI). DO NOT ATTEMPT TO DISMANTLE AN AIRBAG MODULE OR TAMPER WITH ITS INFLATOR. DO NOT PUNCTURE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURE EXCEEDING 93C (200°F). REPLACE AIRBAG SYSTEM COMPONENTS ONLY BUT INTERNAL DIFFERENCES MAY RESULT IN INFERIOR OCCUPANT PROTECTION. THE FASTENERS, SCREWS, AND BOLTS ORIGINALLY USED FOR THE AIRBAG SYSTEM COMPONENTS HAVE SPECIAL COATINGS AND ARE SPECIFICALLY DESIGNED FOR THE AIRBAG SYSTEM. THEY MUST NEVER BE REPLACED WITH ANY SUBSTITUTES. ANY TIME A NEW FASTENER IS NEEDED, REPLACE IT WITH THE CORRECT FASTENERS PROVIDED IN THE SERVICE PACKAGE OR SPECIFIED IN THE MOPAR PARTS CATALOG. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.

CAUTION: Deployed dual squib front airbags may or may not have live pyrotechnic material within the air bag inflator. Do not dispose of 2004 Model Year Driver and Passenger Airbags unless you are sure of complete deployment. Please refer to the Hazardous Substance Control System for Proper Disposal. Dispose of deployed air bags in a manner consistent with state, provincial, local, and federal regulations. Use the following table to identify the status of the Airbag Squib.

AIRBAG SQUIB STATUS

(1) Using a DRBIII read Airbag DTC's if the following active codes are present:

ACTIVE DTC	CONDITIONS	SQUIB STATUS
Driver Squib 1 open Driver Squib 2 open	Check the stored DTC's AND IF the stored minutes for both are within 15 minutes of each other.	Both Driver Squib 1 and 2 were used.
Driver Squib 1 open Driver Squib 2 open	Check the stored DTC's AND IF the stored minutes for Driver Squib 2 open is GREATER than the stored minutes for Driver Squib 1 by 15 minutes or more.	Driver Squib 1 was used; Driver Squib 2 is live.
Driver Squib 1 open Driver Squib 2 open	Check the stored DTC's AND IF the stored minutes for Driver Squib 1 open is GREATER than the stored minutes for Driver Squib 2 by 15 minutes or more.	Driver Squib 1 is live; Driver Squib 2 was used.
If Driver Squib 1 open	AND IF Driver Squib 2 open is NOT an active code.	Driver Squib 1 was used; Driver Squib 2 is live.
If Driver Squib 2 open	AND IF Driver Squib 1 open is NOT an active code.	Driver Squib 1 is live; Driver Squib 2 was used.

If neither of the following codes is an active code:

ACTIVE DTC	SQUIB STATUS
Driver squib 1 open	Status of Airbag is Unknown.
Driver squib 2 open	

3.2.2 CLOCKSPRING

The clockspring is mounted on the steering column behind the steering wheel. This assembly consists of a plastic housing which contains a flat, ribbon-like, electrically conductive tape that winds and unwinds with the steering wheel rotation. The clockspring is used to maintain a continuous electrical circuit between the instrument panel wiring and the driver airbag, the horn, and the vehicle speed control switches if equipped. The clockspring must be properly centered when it is reinstalled on the steering column following any service procedure, or it could be damaged. The clockspring cannot be repaired and it must be replaced.

3.2.3 PASSENGER AIRBAGS

The Passenger Airbag is equipped with dual stage squib inflators. When supplied with the proper electrical signal the passenger airbag inflator or inflators discharge the gas directly into the cushion. The airbag module cannot be repaired, and must be replaced if deployed or in any way damaged.

WARNING: THE PASSENGER AIRBAG MODULE CONTAINS INERT GAS PRESSURIZED TO 17000 kPa (2500 PSI). DO NOT ATTEMPT TO DISMANTLE AN AIRBAG MODULE OR TAMPER WITH ITS INFLATOR. DO NOT PUNCTURE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURE EXCEEDING 93C (200°F). REPLACE AIRBAG SYSTEM COMPONENTS ONLY WITH PARTS SPECIFIED IN THE MOPAR PARTS CATALOG. SUBSTITUTE PARTS MAY APPEAR INTERCHANGEABLE, BUT INTERNAL DIFFERENCES MAY RESULT IN INFERIOR OCCUPANT PROTECTION. THE FASTENERS, SCREWS, AND BOLTS ORIGINALLY USED FOR THE AIRBAG SYSTEM COMPONENTS HAVE SPECIAL COATINGS AND ARE SPECIFICALLY DESIGNED FOR THE AIRBAG SYSTEM. THEY MUST NEVER BE REPLACED WITH ANY SUBSTITUTES. ANY TIME A NEW FASTENER IS NEEDED, REPLACE IT WITH THE CORRECT FASTENERS PROVIDED IN THE SERVICE PACKAGE OR SPECIFIED IN THE MOPAR PARTS CATALOG. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.

CAUTION: Deployed dual squib front airbags may or may not have live pyrotechnic material within the air bag inflator. Do not dispose of 2004 Model Year Driver and Passenger Airbags unless you are sure of complete deployment. Please refer to the Hazardous Substance Control System for Proper Disposal. Dispose of deployed air bags in a manner consistent with state, provincial, local, and federal regulations. Use the following table to identify the status of the Airbag Squib.

AIRBAG SQUIB STATUS

(1) Using a DRBIII read Airbag DTC's if the following active codes are present:

ACTIVE DTC	CONDITIONS	SQUIB STATUS
Passenger Squib 1 open Passenger Squib 2 open	Check the stored DTC's AND IF the stored minutes for both are within 15 minutes of each other.	Both Passenger Squib 1 and 2 were used.
Passenger Squib 1 open Passenger Squib 2 open	Check the stored DTC's AND IF the stored minutes for Passenger Squib 2 open is GREATER than the stored minutes for Passenger Squib 1 by 15 minutes or more.	Passenger Squib 1 was used; Passenger Squib 2 is live.
Passenger Squib 1 open Passenger Squib 2 open	Check the stored DTC's AND IF the stored minutes for Passenger Squib 1 open is GREATER than the stored minutes for Passenger Squib 2 by 15 minutes or more.	Passenger Squib 1 is live; Passenger Squib 2 was used.
If Passenger Squib 1 open	AND IF Passenger Squib 2 open is NOT an active code.	Passenger Squib 1 was used; Passenger Squib 2 is live.
If Passenger Squib 2 open	AND IF Passenger Squib 1 open is NOT an active code.	Passenger Squib 1 is live; Passenger Squib 2 was used.

If neither of the following codes is an active code:

ACTIVE DTC	SQUIB STATUS
Passenger Squib 1 open	Status of Airbag is Unknown.
Passenger Squib 2 open	

3.2.4 SEAT BELT TENSIONERS

Front seat belt systems incorporate tensioner Retractors. At the onset of an impact event each tensioner uses a pyrotechnic device, which is triggered simultaneously with the front airbags, to rapidly retract the seat belts. With the slack removed, the occupant's forward motion in an impact will be reduced as will the likelihood of contacting interior components. After an impact that deploys the airbag, the seat belt tensioner assembly must be replaced. The ACM module monitors the Seat Belt Tensioners circuit resistance and reports active and stored DTC's if any problem is found. Follow all of the safety procedures.

3.2.5 CURTAIN AIRBAGS

The Left and Right Curtain Airbags are located in the outboard edge of the roof under the headliner, just above the door openings. When supplied with the proper electrical signal the inflator can discharge the compress gas directly into the curtain airbag. Upon deployment, the curtain will tear open the headliner allowing the curtain airbag to fully deploy between the headliner and seats. The curtain airbag cannot re repaired and must be replaced if deployed or in any way damaged.

WARNING: THE CURTAIN AIRBAG CONTAINS AN INERT GAS PRESSURIZED TO 17000 kPa (2500 PSI). DO NOT ATTEMPT TO DISMANTLE AN AIRBAG MODULE OR TAMPER WITH ITS INFLATOR. DO NOT PUNCTURE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURE EXCEEDING 93C (200°F). REPLACE AIRBAG SYSTEM COMPONENTS ONLY WITH PARTS SPECIFIED IN THE CHRYSLER MOPAR PARTS CATALOG. SUBSTITUTE PARTS MAY APPEAR INTERCHANGEABLE, BUT INTERNAL DIFFERENCES MAY RESULT IN INFERIOR OCCUPANT PROTECTION. THE FASTENERS, SCREWS, AND BOLTS ORIGINALLY USED FOR THE AIRBAG SYSTEM COMPONENTS HAVE SPECIAL COATINGS AND ARE SPECIFICALLY DESIGNED FOR THE AIRBAG SYSTEM. THEY MUST NEVER BE REPLACED WITH ANY SUBSTITUTES. ANY TIME A NEW FASTENER IS NEEDED, REPLACE IT WITH THE CORRECT FASTENERS PROVIDED IN THE SERVICE PACKAGE OR SPECIFIED IN THE MOPAR PARTS CATALOG. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.

3.2.6 FRONT IMPACT SENSORS

The front impact sensors are electronic accelerometers that sense the rate of vehicle deceleration, and then combined with the ACM Accelerometer provides verification of the direction and severity of an impact. Each sensor also contains an electronic communication chip that allows the unit to communicate the sensor status as well as sensor fault information to the microprocessor in the Airbag Control Module. The ACM microprocessor continuously monitors all of the front passive restraint system electrical circuits to determine the system readiness. If the ACM detects a system fault, it sets a Diagnostic Trouble Code and controls the airbag indicator operation accordingly. The impact sensors each receive battery current and ground through dedicated left and right front sensor signal and ground circuits from the ACM. The impact sensors and the ACM communicate by modulating the voltage in the sensor signal circuit. If the sensor is dropped it must be replaced. Disconnect the battery or remove both airbag fuses before servicing impact sensors.

CAUTION: Do not remove or install impact sensors while the sensor is connected to the vehicle wiring.

3.2.7 SIDE IMPACT SENSORS

The three (3) Left impact Sensors three (3) Right impact Sensors side impact sensors are electronic accelerometers that sense the rate of vehicle deceleration and when combined with the ACM Accelerometer provides verification of the direction and severity of a side impact. Each sensor also contains an electronic communication chip that allows the unit to communicate the sensor status as well as sensor fault information to the microprocessor in the Airbag Control Module. The ACM microprocessor continuously monitors all of the passive restraint system electrical circuits to determine the system readiness. If the ACM detects a system fault, it sets a Diagnostic Trouble Code and activates the Airbag Warning Indicator. Each side impact sensors receive battery current and ground through dedicated left and right sensor signal and ground circuits from the ACM. The impact sensors and the ACM communicate by modulating the voltage in the sensor signal circuit. If the sensor is dropped it must be replaced. Disconnect the battery or remove both airbag fuses before servicing impact sensors.

CAUTION: Do not remove or install the impact sensors while the sensor is connected to the vehicle wiring.

3.2.8 SPECIAL TOOLS

Airbag load tools 8310 and 8443 are used in some airbag diagnostic test. The load tools contain fixed resistive loads, jumpers and adapters. The fixed loads are connected to cables and mounted in a storage case. The cables can be directly connected to some airbag system connectors. Jumpers are used to convert the load tool cable connectors to the other airbag system connectors. The adapters are connected to the module harness connector to open shorting clips and protect the connector terminal during testing. When using the load tool follow all of the safety procedures in the service information for disconnecting airbag system components. Inspect the wiring, connector and terminals for damage or misalignment. Substitute the airbag load tool in place of a Driver or Passenger Airbag, curtain airbag, clockspring (use a jumper if needed). Then follow all of the safety procedures in the service information for connecting airbag system components. Read the module active DTC's. If the module reports NO ACTIVE DTC's the defective components has been removed from the system and should be replaced. If the DTC is still

active, continue this process until all components in the circuit have been tested. Then disconnect the module connector and connect the matching adapter to the module connector. With all airbags disconnected and the adapter installed the squib wiring can be tested for open and shorted conditions.

3.2.9 DIAGNOSTIC TROUBLE CODES

Airbag diagnostic trouble codes consist of active and stored codes. If more than one code exists, diagnostic priority should be given to the active codes. Each diagnostic trouble code is diagnosed by following a specific testing procedure. The diagnostic test procedures contain step-by-step instructions for determining the cause of the trouble codes. It is not necessary to perform all of the tests in this book to diagnose an individual code. Always begin by reading the diagnostic trouble codes with the DRBIII. This will direct you to the specific test(s) that must be performed. In certain test procedures within this manual, diagnostic trouble codes are used as a diagnostic tool.

3.2.9.1 ACTIVE CODES

The code becomes active as soon as the malfunction is detected or key-on, whichever occurs first. An active trouble code indicates an on-going malfunction. This means that the defect is currently there every time the airbag control module checks that circuit or component. It is impossible to erase an active code. Active diagnostic trouble codes for the airbag system are not permanent and will change within 12 seconds the reason for the code is corrected. With the exception of the warning lamp trouble codes or malfunctions, when a malfunction is detected, the airbag lamp remains lit for a minimum of 12 seconds or as long as the malfunction is present.

3.2.9.2 STORED CODES

Airbag codes are automatically stored in the ACM's memory as soon as the malfunction is detected. A stored code indicates there was an active code present at some time. When a trouble code occurs, the airbag warning indicator illuminates for 12 seconds minimum (even if the problem existed for less than 12 seconds). The code is stored, along with the time in minutes it was active, and the number of times the ignition has been cycled since the problem was last detected. The minimum time shown for any code will be one minute, even if the code was actually present for less than one minute. Thus, the time shown for a code that was present for two minutes 13 seconds, for example, would be three minutes. If a malfunction is detected a diagnostic trouble code is stored and will remain stored. When and if the malfunction ceases to exist, an ignition cycle count will be initiated for that code. If the ignition cycle count reaches 254 without a reoccurrence of the same malfunction, the diagnostic trouble code is erased and that ignition cycle counter is reset to zero. If the malfunction reoccurs before the count reaches 254, then the ignition cycle counter will be reset and diagnostic trouble code will continue to be a stored code. If a malfunction is not active while performing a diagnostic test procedure, the active code diagnostic test will not locate the source of the problem. In this case, the stored code can indicate an area to inspect. Maintain a safe distance from all airbags while performing the following inspection. If no obvious problems are found, erase stored codes, and with the ignition on wiggle the wire harness and connectors, rotate the steering wheel from stop to stop. Recheck for codes periodically as you work through the system. This procedure may uncover a malfunction that is difficult to locate.

3.3 AUDIO SYSTEM

Both the RAH and RBP radios are on the PCI Bus system. The audio output signal from the radios, on these central amplifier systems, is fixed at one volume level (level 25 for RAH and 26 for RBP). The actual volume, fade, balance, and tone adjustments are managed via messages sent over the PCI Bus from the radio to the amplifier which changes its speaker outputs to the corresponding settings. The amplifiers will also adjust volume based on speed messages received over the bus from the PCM. This keeps the sound level essentially constant relative to the interior noise level at all driving speeds.

Both the 6-channel base amplifier and the 8-channel surround sound amplifier perform digital signal processing and contain unique equalization curves in their memory. The specific audio source determines how the amplifier equalizes the individual channel outputs. Separate EQ's are provided for AM radio, FM radio, Tape, CD, and DVD video. There is a sixth EQ "slot" available for a TBD future input source. Audio signal EQ selection is based on bus messages received from the radio and Navigation unit. For example, DVD video is equalized for viewing video in the second and third row seats. Hands-free audio is processed using the AM radio EQ. Navigation audio is processed based on the current audio source EQ. The amplifier allows audio inputs from navigation and hands-free module to override whatever else might be playing at the time. The amplifier provides an independent output channels to each speaker location: 1) left front door, 2) right front door, 3) I/P center, 4) right rear door and 5) left rear door. On eight channel

systems the amplifier provides two output (6 and 7) to a dual voice coil subwoofer. Both amplifiers contain diagnostic software allowing them to display Diagnostic Trouble Codes (DTCs) and perform certain diagnostic tests using the DRBIII®.
The tests available are the:

- Input Test - monitors input sources.
- PCI Amplifier Test - detect a checksum failure
- Identify EQ - displays the EQ currently being output by the amp (AM, FM, Tape, CD, DVD video).
- Continuous Tone Test - outputs a low and high note to each speaker (starts at the driver's door and proceeds clockwise around the vehicle).

3.3.1 REMOTE RADIO CONTROLS

These radios can be controlled via remote radio switches (optional). These switches are located on the back side of the steering wheel. They control mode, preset, seek up, seek down, volume up and volume down functions.

These functions are inputs to the Body Control Module and can be read with the DRBIII® under ″body computer″. The switches are a multiplexed signal to the BCM. The radio control MUX circuit is a 5 volt line that is pulled to ground through different value resistors built into the switches. This causes the BCM to see a voltage drop and it sends a specific message to the radio on the PCI Bus circuit. The radio then responds to the message.

This circuit is fairly simple to troubleshoot. The circuit must be complete from the switches in the steering wheel to the BCM. The ground must be complete so that the switches can cause the voltage drop for the BCM to see. The circuit passes through the clockspring so continuity through this devise must be verified.

3.3.2 CD/DVD CHANGER

The 6 disc In-dash CD/DVD Changer is designed to fit into the existing cubby bin in the center stack. This new cartridge-less CD/DVD Changer is controlled by your radio, and allows you to individually load up to 6 discs at a time. However, due to its compact design, the CD/DVD Changer can only carry out one operation at a time. For example, you can not load a new disc while playing another at the same time. Each operation happens sequentially.

The radio unit, installed with your system, provides control over all of the CD/DVD Changer features, except for the CD/DVD load function and the CD/DVD eject function. Buttons on the front of the CD/DVD Changer controls these two functions.

The radio also supplies the PCI Bus, left and right speaker output through a single cable. All features you would expect, such as Disc Up/Down, Track Up/Down, Random and Scan are controlled by the radio, which also displays all relevant CD/DVD Changer information on the radio display.

The CD/DVD Changer contains a Load/Eject button and an indicator light for each of the 6 disc positions. The individual light indicates whether a CD/DVD is currently loaded in that particular chamber of the CD/DVD Changer. Pressing the individual Load/Eject button for a particular chamber will eject a disc currently present in that chamber. If the chamber is currently empty, actuating the Load/Eject button will position that chamber to receive and load a new disc in that chamber.

3.3.3 SATELLITE RADIO (SDARS)

To use the satellite radio, the radio must be in satellite mode. The satellite antenna must have an unobstructed view of the satellite. The vehicle must be outside to receive proper reception. Poor reception may be experienced in large down town areas where tall buildings are present. The satellite network is still under development, and this could be the cause of poor reception in certain areas. Use a known good system to verify network performance in these areas.

Once in satellite mode, the radio head is used to change stations. The Radio must be in Satellite mode to communicate to the Satellite Receiver Module with the DRBIII®. The Radio head communicates to the Satellite Receiver Module via the PCI bus and the private Audio bus. The Audio bus functions just like the PCI bus, but its use is restricted to the Radio and the Satellite Receiver Module.

The Satellite Receiver Module processes signals it receives from the satellite antenna. That information is then sent to the Radio where it is processed and sent out to the speakers. The Satellite Receiver Module has the ability to detect and store fault code information, which may be retrieved with the DRBIII®. Refer to the service manual for additional information on the SDAR system and its related components.

3.4 BODY CONTROL MODULE (BCM)

CAUTION: Notice To Service Technicians, Dealership Personnel, and Plant Personnel, Engineering Does Not Recommend Swapping BCMs Between Vehicles Or With BCMs Off The Shelf.

The Body Control Module (BCM) is operational when supplied with battery power. The BCM controls various vehicle functions. It also supplies information to the instrument cluster to provide visual and audible information to the vehicle occupants. To provide and receive information, the module interfaces with the vehicle's serial bus communications network (PCI). This network consists of the:

- Integrated Power Module (IPM), which incorporates the Power Distribution Center (PDC) and the Front Control Module (FCM) into one assembly
- Next Generation Controller (NGC), which incorporates the Powertrain Control Module (PCM) and the Transmission Control Module (TCM) into one module
- Mechanical Instrument Cluster (MIC)
- Electronic Vehicle Information Center (EVIC)
- Occupant Restraint Controller (ORC)
- Compass/Mini-Trip (CMTC)
- Overhead Console
- Controller Antilock Brake (CAB)
- Automatic Temperature Control Module (ATC)
- Power Liftgate Module (PLGM)
- Audio system-including the Amplifier, CD/DVD changer, and the SDAR system
- Memory Heated Seat Adjustable Pedal Module (MHSAPM)
- Memory Seat Adjustable Pedal Module (MSAPM)
- Navigation Module
- Hands Free Module
- Sentry Key Remote Entry Module (SKREEM)
- Driver Door Module (DDM) and the Passenger Door Module (PDM)

The BCM:

- Provides a battery protection feature.
  - ► The BCM will send a message to the IPM to turn off all exterior lamps after 3 minutes and all interior lamps after 15 minutes after the ignition is turned off, if they are not turned off by the driver.
- Provides Compass/Minitrip support.
- Provides interior lighting (courtesy/reading lamps).
- Provides diagnostic reporting.
- Provides electronic liftgate release (with power door locks).
- Provides exterior lighting.
- Provides headlamp time delay (with/without auto headlamps).
- Provides automatic headlamps (with electrochromatic mirror).
- Provides illuminated entry.
- Provides a fade to off feature.
  - ► This feature dims the interior lighting (courtesy lamps) gradually if the BCM does not receive any new input that would cause the interior lamps to remain on.
- Provides PWM instrument panel dimming.
- Provides power liftgate switch input.
  - ► The BCM has 1 Liftgate switch input located in the overhead console.
- Provides all stalk switch inputs including wipers and light switches.
- Provides seatbelt position input, indicating a buckled or unbuckled seatbelt.
- Provides turn signal operation.
- Provides fuel Level inputs.
- Monitors rear-door ajar switches, liftgate ajar switches, multifunction switches, multifunction headlight switch, ignition switch, PCI Bus, and diagnostic tool. Based on input from these components, the BCM will send requests over the PCI Bus to have the Instrument Cluster perform various chime operations.

The BCM has internal diagnostic capabilities that assist in diagnosing the vehicle's body system. When an "Open" or a "Short" circuit exists, the diagnostic tool can read the stored BCM Diagnostic Trouble Codes (DTCs). The DTCs are very descriptive in identifying the appropriate feature that has faulted.

3.5 CHIME WARNING SYSTEM

The cluster monitors the PCI Bus for requests from various modules to display messages and under certain conditions sound a chime or series of chimes.

The chime system provides the Driver with warning chimes for the:

- seat belt
- exterior lights on
- key-in ignition

- key-in accessory
- engine temperature critical
- low washer fluid
- turn signals on
- low oil pressure
- door ajar
- tire pressure monitoring

The output sound intensity of the chime is approximately 72 decibels.

3.5.1 CHIME PRIORITY

The following list indicates the priority of the chime when more than one chime is active at the same time:

- seat belt warning
- door ajar
- turn signal on
- chime request
- power liftgate

The cluster is responsible to set priority on all warning lamp announcement chimes.

3.5.2 CHIME ON CONDITIONS

The following is a list of the chime warnings and when they will sound.

Driver's Seat Belt Unbuckled:
There are two different Fasten Seat Belt Reminder announcements incorporated into the MIC's logic, a Non-enhanced announcement and an Enhanced announcement.
When the Enhanced announcement is DISABLED, the Fasten Seat Belt Reminder operates as follows:

- The BCM will request the MIC to chime five times and illuminate the Seat Belt Lamp after turning the ignition to the run/start position if the driver seat belt is unbuckled.

When the Enhanced announcement is ENABLED, the Fasten Seat Belt Reminder operates as follows:

- The BCM will request the MIC to chime continuously at a slow rate for a period of 6 seconds and illuminate the Seat Belt Lamp after turning the ignition to the run/start position if the driver seat belt is unbuckled. After 6 seconds the chime will stop, but the Seat Belt Lamp will stay illuminated. If the ignition is in the run position for a period greater than 70 seconds, and the driver seat belt is unbuckled, and the vehicle's speed is greater than 5 mph (8 km/h) in a forward gear, the Enhanced Fasten Seat Belt Reminder will activate. This will cause the Seat Belt Lamp to blink and a slow continuous chime to sound for 5 seconds. After 5 seconds, the chime will stop, but the lamp will remain illuminated for an additional 3 seconds. The Enhanced Seat Belt Reminder cycles for a total of 12 times (96 seconds). After the 12th time, the Seat Belt Lamp will remain on without any chime. Buckling the driver seat belt at anytime will cancel the Fasten Seat Belt Reminder announcement.

Exterior Lights On:
Chime sounds if the ignition is in the lock position, the driver's door is ajar, and the headlight switch is in any position other than auto or off. The chime will continue to sound until anyone of the above conditions change or the battery protection time of 3 minutes expires.

Key-In Ignition:
Chime sounds if the key is in the ignition, the ignition is in the lock position, and the driver's door is ajar. The chime will continue to sound until anyone of the above conditions change or the battery protection time of 15 minutes expires.

Key-In Accessory
Chime sounds if the key is in the accessory position and the drivers' door is open. The chime will continue to sound until anyone of the above conditions change or the battery protection time of 15 minutes expires.

Turn Signal On:
If the BCM detects a turn signal input continuously for 1.0 mile (0.6 km) and the vehicle speed is greater than 15 mph (24 km/h), the cluster will chime continuously, illuminate an amber message indicator lamp, and display an EVIC warning message, until the turn signal is cancelled.

Low Oil Pressure:
Chime sounds when the engine is operating and the oil pressure drops below 4psi/27.5kPa.

Engine Temperature Critical:
Chime sounds when the engine is operating and the coolant temperature exceeds 252°F (122°C). The chime is continuous at 257°F (125°C) and will chime for 4 minutes and stop if the temperature drops below 243°F (117°C).

Low Washer Fluid:
Chime sounds when the washer fluid drops below a specific level.

Door Ajar
Chime sounds when the vehicle is moving (above 1 mph /1.61 kph) and any door is open

3.5.3 WARNING LAMP ANNOUNCEMENT

Low Fuel Lamp:
The cluster will sound a single chime and display an EVIC warning message after illuminating the indicator.

Volt Lamp:
The cluster will sound a single chime after illuminating the indicator.

Oil Pressure Lamp:
The cluster will sound a single chime after illuminating the indicator above 450-rpm.

Fasten Seat Belt Lamp:
There are two different Fasten Seat Belt Reminder announcements incorporated into the MIC's logic, a Non-enhanced announcement and an Enhanced announcement.
When the Enhanced announcement is DISABLED, the Fasten Seat Belt Reminder operates as follows:

- The BCM will request the MIC to chime five times and illuminate the Seat Belt Lamp after turning the ignition to the run/start position if the driver seat belt is unbuckled.

When the Enhanced announcement is ENABLED, the Fasten Seat Belt Reminder operates as follows:

- The BCM will request the MIC to chime continuously at a slow rate for a period of 6 seconds and illuminate the Seat Belt Lamp after turning the ignition to the run/start position if the driver seat belt is unbuckled. After 6 seconds the chime will stop, but the Seat Belt Lamp will stay illuminated. If the ignition is in the run position for a period greater than 70 seconds, and the driver seat belt is unbuckled, and the vehicle's speed is greater than 5 mph (8 km/h) in a forward gear, the Enhanced Fasten Seat Belt Reminder will activate. This will cause the Seat Belt Lamp to blink and a slow continuous chime to sound for 5 seconds. After 5 seconds, the chime will stop, but the lamp will remain illuminated for an additional 3 seconds. The Enhanced Seat Belt Reminder cycles for a total of 12 times (96 seconds). After the 12th time, the Seat Belt Lamp will remain on without any chime. Buckling the driver seat belt at anytime will cancel the Fasten Seat Belt Reminder announcement.

Check Engine Lamp:
The cluster will sound a single chime after illuminating the indicator.

Engine Temperature Lamp:
The cluster will sound a single chime when the indicator first illuminates at 252°F (122°C).

Traction control Lamp:
The cluster will sound a chime and display an EVIC warning message after illuminating the indicator if the traction control system:

- Is active.
- Is suspended.
- Needs service.
- Is disabled by the driver.

Turn Signal On:
If the BCM detects a turn signal input continuously for 1.0 mile (0.6 km) and the vehicle speed is greater than 15 mph (24 km/h), the cluster will chime continuously and display an EVIC warning message, until the turn signal is cancelled.

3.5.4 OTHER CHIME ON CONDITIONS

Bulb Check:
The chime will sound one time during bulb check.

Brake Lamp:
The cluster will sound a chime and display an EVIC warning message if the:

- Park brake is engaged and the vehicle speed exceeds 1 mph (1.61 km/h).
- Brake fluid is low.

Memory:
The cluster will sound a chime and display an EVIC message when:

- Memory position #1 is set.
- Memory position #2 is set.
- The vehicle is out of park and a memory recall is selected.
- A memory recall is activated while the seat is in motion during another memory recall.

Service:
The cluster will sound a chime and display an EVIC message when the vehicle reaches the time to perform service.

RKE:
The cluster will sound a chime and display an EVIC message upon activation of:

- The key fob with a low battery.
- An invalid key fob and key.

Immobilizer:
The cluster will sound a chime and display an EVIC message when there is a problem with the SKREEM Module.

Power Liftgate:
The cluster will sound a chime and display an

EVIC message when there is a power liftgate actuation with the:

- Overhead console or RKE and the doors are locked.
- Overhead console and the vehicle is not in park.
- Overhead console or RKE and the temperature is too cold for actuation.
- Overhead console or RKE and the temperature is too hot for actuation.

Tire Pressure Monitor System:
The tire pressure monitoring system will request:

- A chime, illuminate an amber TPM indicator lamp, and display an EVIC message when the system senses that there is a low tire pressure problem.
- A chime and display an EVIC message when the system senses that there is a high tire pressure problem.
- Three fast chimes and display an EVIC message when the system senses that one of the four original tires on the vehicle has been changed.
- A chime, illuminate an amber message indicator lamp, and display an EVIC message if the system does not sense any tire pressure.
- A chime, illuminate a red message indicator lamp, and display an EVIC message when the tire system needs service.

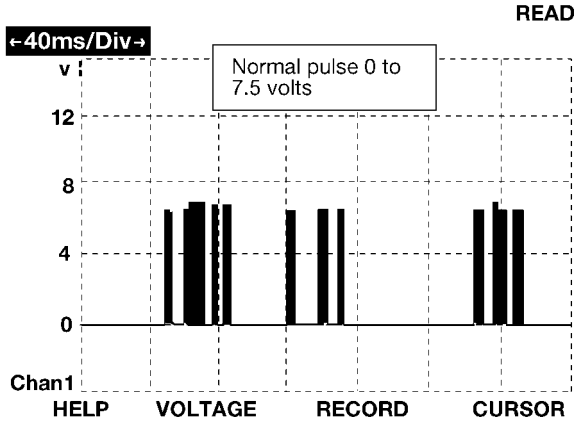
3.6 COMMUNICATION

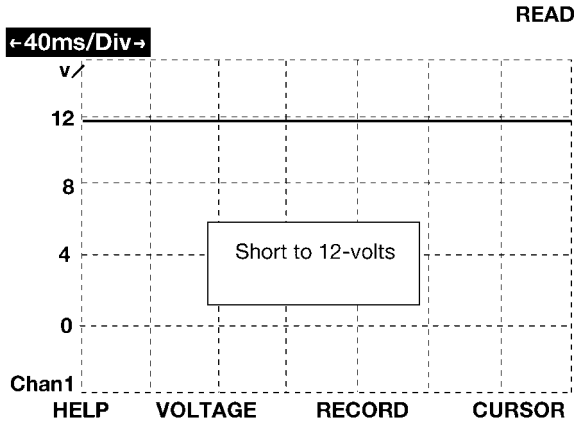
The Programmable Communication Interface or PCI Bus is a single wire multiplexed network capable of supporting binary encoded messages shared between multiple modules. The PCI Bus circuit is identified as D25 and is white with a violet tracer. Additional tracer colors may be added to the violet in order to distinguish between different module connections. The modules are wired in parallel. Connections are made in the harness using splices. The following modules are used on CS vehicles:

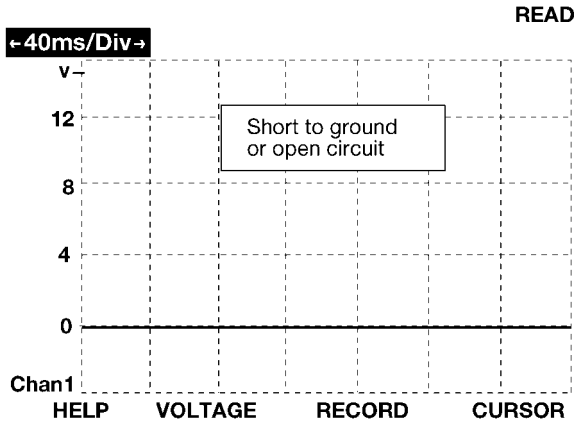
- Body Control Module
- Integrated Power Module (IPM)
- Powertrain Control Module (PCM)
- Mechanical Instrument Cluster (MIC)
- Airbag Control Module (ORC)
- Overhead Console
- Controller Antilock Brake (CAB)
- Automatic Temperature Control Module (ATC)
- Power Liftgate Module (PLGM)
- Radio
- Amplifier
- CD/DVD Changer
- Satellite Radio Receiver
- Memory/Heated Seat Adjustable Pedal Module
- Sentry Key Remote Entry Module (SKREEM)
- Driver Door Module (DDM)
- Passenger Door Module (PDM)
- Navigation Module
- Hands Free Module

Each module provides its own bias and termination in order to transmit and receive messages. The bus voltage is at zero volts when no modules are transmitting and is pulled up to about seven and a half volts when modules are transmitting.

The bus messages are transmitted at a rate averaging 10800 bits per second. Since there is only voltage present when the modules transmit and the message length is only about 500 milliseconds, it is ineffective to try and measure the bus activity with a conventional voltmeter. The preferred method is to use the DRBIII® lab scope. The 12v square wave selection on the 20-volt scale provides a good view of the bus activity. Voltage on the bus should pulse between zero and about seven and a half volts. Refer to the following illustration for some typical displays.







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The PCI Bus failure modes are broken down into two categories. Complete PCI Bus Communication Failure and individual module no response. Causes of a complete PCI Bus Communication Failure include a short to ground or battery on the PCI circuit. Individual module no response can be caused by an open circuit at the module, or an open battery or ground circuit to the affected module.

Symptoms of a complete PCI Bus Communication Failure would include but are not limited to:

- All gauges on the MIC stay at zero
- All telltales on MIC illuminate
- MIC backlighting at full intensity
- No response received from any module on the PCI Bus (except the PCM)
- A possible no start (if equipped with SKREEM)

Symptoms of Individual module failure could include any one or more of the above. The difference would be that at least one or more modules would respond to the DRBIII®.

Diagnosis starts with symptom identification. If a complete PCI Bus Communication Failure is suspected, begin by identifying which modules the vehicle is equipped with and then attempt to get a response from the modules with the DRBIII®. If any modules are responding, the failure is not related to the total bus, but can be caused by one or more modules PCI circuit or power supply and ground circuits. The DRBIII® may display ″BUS +/- SIGNAL OPEN″ or ″NO RESPONSE″ to indicate a communication problem. These same messages will be displayed if the vehicle is not equipped with that particular module. The CCD error message is a default message used by the DRBIII® and in no way indicates whether or not the PCI Bus is operational. The message is only an indication that a module is either not responding or the vehicle is not equipped.

3.7 DOOR AJAR SYSTEM

The driver door-ajar switch provides a switch state input to the Driver Door Module (DDM). The front passenger door ajar switch provides a switch state input to the Passenger Door Module (PDM). The left rear passenger door ajar switch, the right rear passenger door ajar switch, and the liftgate ajar switch provide switch state inputs to the Body Control Module (BCM). The BCM and the door modules use these inputs to determine the position of each door and the liftgate. The DRBIII® will display the switch-state of each ajar switch in Inputs/Outputs. It is important to note that the DRBIII® will display OPEN next to the switch state of a door or liftgate that is closed, and CLOSED next to the switch state of a door or liftgate that is open. If the DRBIII® displays CLOSED when the respective door or liftgate is closed, this indicates a shorted ajar circuit. If the DRBIII® displays OPEN when the respective door or liftgate is open, this indicates an open ajar circuit.

3.8 DOOR MODULES

A multiplexed Driver Door Module (DDM) is located in the driver door. The DDM controls the following features:

- power door locks
- automatic (rolling) door locks
- driver front window and driver rear window, including express down for both
- a window lockout feature for all passenger power windows
- memory recall functions (radio, adjustable pedals, memory seats and driver mirror)
- driver memory mirror
- driver power mirror
- driver heated mirror
- door key cylinder disarm (driver door only)
- door lock inhibit
- switch learning features
- central lock from the key cylinder (driver door only)
- central unlock from the key cylinder and auto unlock on exit (driver door only)

A multiplexed Passenger Door Module (PDM) is located in the front passenger door. The PDM controls the following features:

- power door locks
- passenger front window and passenger rear window, including express down for both
- passenger memory mirror
- passenger power mirror
- passenger heated mirror

Reduced wiring complexity is a key advantage of using multiplexed door modules. These modules are addressable with the DRBIII® from the "Body" menu to facilitate faster and easier diagnosis. In addition, the door nodes offer:

- battery protection
- door lock inhibit – this feature disables the door lock functions if the key is in the ignition and either front door is ajar. Pressing the RKE lock/unlock button under these conditions will result in normal lock/unlock activation.

3.8.1 POWER WINDOWS

The driver can control all of the power windows from the Driver Door Module (DDM) while each passenger can control their own power window from the power window switch in their respective door. The DDM also has a lockout switch that prevents power window operation from the power window switch in each passenger door. When in lockout mode, the lockout switch illuminates in red and each passenger window switch LED turns off indicating the respective switch is inactive. Another feature allows power window operation to continue from any power window switch for 45 seconds after turning off the ignition, but only if the front doors remain closed. Still another power window feature is the Express Down feature. This feature works on all four windows and is activated by pressing the power window switch into the second detent. Once activated, the operator can release the power window switch and the power window will travel to the full open position. To stop the Express Down feature, momentarily pull the switch in the up direction.

When a rear seat passenger actuates a rear power window switch, the respective door module, DDM or PDM, receives a multiplex signal. In turn, the door module supplies 12 volts and ground, in the appropriate direction, to the up and down window motor circuits of the respective rear door power window.

3.8.2 POWER DOOR LOCKS

The power door locks operate:

- From the front door lock switches.
- From remote keyless entry.
- From the auto (rolling) door lock feature.
  This feature will lock all of the door locks, if all of the doors are closed and the vehicle speed goes above 15 mph (24 km/h).
- From the auto unlock on exit feature.
  - ► This feature will unlock all of the door locks when the vehicle is stopped, the transmission is in neutral or park and the driver door is opened.
- From the central unlock from the key cylinder feature.
  - ► This feature will unlock all of the door locks if the operator turns the key cylinder toward the front of the vehicle twice within 5 seconds. The first time the operator turns the key cylinder toward the front of the vehicle the feature will unlock only the driver door lock. If within 5 seconds the operator releases the key cylinder and again turns it toward the front of the vehicle all of the passenger door locks will unlock.
- From the central lock from the key cylinder feature.
  - ► This feature will lock all of the door locks if the operator turns the key cylinder toward the rear of the vehicle. When either the Driver Door Module (DDM) or the Passenger Door

Module (PDM) receives input for a lock request from a door lock switch, RKE (through the BCM), or a cylinder lock switch (only with VTSS), they will turn the lock drivers on for 375 msec. If the request is present beyond 375 msec, the door nodes consider the door lock signal stuck. Once a door lock or unlock signal is stuck for longer than 10 seconds, the appropriate door module will set a trouble code and the signal input is ignored until the stuck condition disappears. The door lock switches provide a variable amount of resistance thereby dropping the voltage of the multiplexed (MUX) circuit and the PDM will respond to that command. The DDM lock switch is a digital input not analog.

3.8.3 DOOR LOCK INHIBIT

When the key is in the ignition (in any position) and either front door is open, the door lock switches LOCK functions are disabled. The UN-LOCK functions are still functional. This protects against locking the vehicle with the key still in the ignition. The RKE key fob will still lock the doors as usual. After the key is removed from the ignition or the doors are closed, the power door locks will operate normally.

3.8.4 REMOTE KEYLESS ENTRY

The RKE transmitter uses radio frequency signals to communicate with the SKREEM module. The SKREEM is on the PCI bus. When the operator presses a button on the transmitter, it sends a specific request to the SKREEM. In turn the SKREEM sends the appropriate request over the PCI Bus to the:

- Driver Door Module (DDM) to control the driver front door lock and unlock functions, the arming and disarming of the Vehicle Theft Security System (if equipped), and the activation of illuminated entry.
- Integrated Power Module (IPM) to activate the park lamps, the headlamps, and the horn for horn chirp.

If requested, the DDM sends a request over the PCI Bus to the:

- Passenger Door Module (PDM) to control the passenger front, rear driver, and rear passenger door lock and unlock functions.
- Power Liftgate Module (PLGM) to control the liftgate lock and unlock functions.

After pressing the lock button on the RKE transmitter, all of the door locks will lock, the illuminated entry will turn off (providing all doors are closed), and the vehicle theft security system (if equipped) will arm. After pressing the unlock button, on the RKE transmitter, one time, the driver door lock will unlock, the illuminated entry will turn on the courtesy lamps, and the vehicle theft security system (if equipped) will disarm. After pressing the unlock button a second time, the remaining door locks will unlock. The EVIC or the DRBIII® can reprogram this feature to unlock all of the door locks with one press of the unlock button. If the vehicle is equipped with the memory system, the memory message will identify which transmitter (1 or 2) sent the signal.

The SKREEM is capable of retaining up to 8 individual access codes (8 transmitters). If the PRNDL is in any position except park, the SKREEM will disable the RKE. The 4 button transmitter uses 1-CR2032 battery. The minimum battery life is approximately 5 years based on 20 transmissions a day at 84°F (25°C). Use the DRBIII® or the Miller Tool 9001 RF Detector to test the RKE transmitter. Use the DRBIII® or the customer programming method to program the RKE system. However, the SKREEM will only allow RKE programming when the ignition is in the on position, the PRNDL is in park position, and the VTSS (if equipped) is disarmed.

3.8.4.1 PANIC FUNCTION

Pressing the panic button on the RKE transmitter will cause the headlamp relay, the park lamp relay, and the horn relay to pulsate, which in turn will cause the exterior lamps to flash and the horn to sound intermittently. It will also cause the courtesy lamp relay to actuate, turning on the courtesy lamps. Pressing the panic button again stops the headlamps and the park lamps from flashing and the horn from sounding. However, the courtesy lamps will remain on until either the BCM times out lamp operation or until the ignition is turned on. The panic feature operates for three minutes at a time, unless the operator cancels it, or the ignition is turned on.

Actuating the headlamp, horn, park lamps, and courtesy lamps with the DRBIII® will verify if the circuits and the Integrated Power Module are OK. If the panic feature is still inoperable with all transmitters, it will be necessary to replace the SKREEM. If the function is inoperable with just one transmitter, then replace only that transmitter.

3.8.4.2 ROLLING CODE

The rolling code feature changes part of the transmitter message each time that it is used. The transmitter message and the receiver message increment together. Under certain conditions with a rolling code system (pressing a button on the RKE transmitter over 255 times outside the re-

ceiver range, battery replacement, etc.), the receiver and transmitter can fall out of synchronization. Note: The lock function works from the RKE transmitter even in an out of synchronization condition and therefore it could be verified by pressing the LOCK button on the RKE keyfob. To resynchronize, press and release the UNLOCK button on the RKE transmitter repeatedly (it may take up to eight cycles) while listening carefully for the power door locks in the vehicle to cycle, indicating that resynchronization has occurred.

3.8.4.3 PROGRAMMABLE DOOR LOCK FEATURES

- The RKE can be changed to unlock all doors with one press
- The Automatic Door Locks can be enabled/disabled
- Auto Unlock on Exit can be enabled/disabled
- RKE horn chirp on lock can be enabled/disabled
- RKE optical chirp (turn signal lamps) can be enabled/disabled
- Program a new RKE transmitter.
- RKE linked to memory (if equipped with memory system) enabled/disabled (DRBIII® only). Allows memory to be operable only from the driver door switch.

3.8.5 POWER MIRRORS

Each door module controls the movement of the power side view mirrors. The driver power mirror is wired to the Driver Door Module (DDM) and the passenger power mirror is wired to the Passenger Door Module (PDM). The power mirror adjusting switch is integral to the DDM. If the driver selects to adjust the passenger power mirror, the DDM will send a message over the PCI bus to the PDM to adjust the passenger mirror accordingly.

3.8.6 BATTERY PROTECTION FEATURE

The Driver Door Module (DDM) and the Passenger Door Module (PDM) will go into sleep mode 30 seconds after accessory power is removed (reduced IOD). After 8 hours of inactivity (PCI Bus, door ajar, key cylinder) the modules will go into stop mode (greatly reduced IOD).

3.8.7 MEMORY MASTER

The Driver Door Module (DDM) is the memory master. It tells all of the other modules when to set (store) and when to recall their respective component(s) position/setting (1 or 2). The system functions as follows:

- After pressing the Memory Set Switch (#1 or #2), the DDM receives and interprets the analog signal and then sends a PCI Bus message to the Passenger Door Module (PDM), the Memory/Heated Seat Adjustable Pedal Module, and the Audio System to set or recall the:
  - Memory mirror position (1 or 2). The DDM and the PDM store the setting for the respective mirror's position.
  - Memory seat position (1 or 2). The MHSAPM/MSAPM stores the setting for the seat position.
  - Pedal position (1 or 2). The MHSAPM/MSAPM stores the setting for the pedal position.
  - Radio setting (1 or 2). The Audio System stores the setting for the radio.

3.8.8 SWITCH LEARN FEATURE

Since the seat switch is directly connected to the Driver Door Module (DDM), the DDM can determine if memory or other seat functions are present in the vehicle. The DDM will learn if a vehicle is equipped with the memory feature and inform other modules via PCI Bus messages. The DDM also learns if the vehicle has other optional features such as heated seats.

3.9 ELECTRICALLY HEATED SYSTEMS

3.9.1 ELECTRICALLY HEATED SEATS - FRONT ONLY

The heated seat feature is available only with the memory system. The system's control module, known as the Memory Heated Seat Adjustable Pedal Module (MHSAPM), is located under the driver's seat and controls the front heated seats only. The driver heated seat control switch is located on the driver door trim panel. The switch is hardwired to the Driver Door Module (DDM). When the operator actuates the switch on, the DDM sends a message via the PCI Bus to the MHSAPM requesting heated seat operation. The passenger heated seat control switch is located on the front-passenger door trim panel. The switch is hardwired to the Passenger Door Module (PDM). When the operator actuates the switch on, the PDM sends a message via the PCI Bus to the MHSAPM requesting heated seat operation.

The system offers two seat temperature settings of approximately 96.8 F (36°C) (LO) and approximately 107.6 F (41°C) (HI). As the temperature in the seat rises, the negative temperature coefficient (NTC) resistance decreases and the voltage reading detected by the MHSAPM decreases. The seat heater output is deactivated once the voltage reading

reaches its threshold for either setting, high or low. As the temperature decreases, the voltage reading increases until the upper threshold is reached for either setting high or low. At this point the seat heat output is activated once again and this cycle repeats itself as long as the seat heat request is on. The thresholds for low and high settings are preprogrammed into the module memory.

The heated seat switch contain resistors pulled up to 5 volts which are processed by the DDM as the voltage readings indicating desired heat setting high or low.

3.9.2 REAR WINDOW DEFOG/HEATED MIRROR

The rear defroster button, located on the Automatic Temperature Control (ATC), controls the rear window defogger and the heated side view mirrors. After pressing the rear defroster button, the ATC sends a bus message over the PCI Bus to the Integrated Power Module (IPM), which controls the Electronic Back Light (EBL) relay. It also sends a bus message to the Driver Door Module (DDM) and the Passenger Door Module (PDM), which the control the heated mirror function. The defroster LED will illuminate when the defroster function is on. The defroster will function for 10 minutes unless cycled off sooner by pressing the defroster button again.

3.10 EXTERIOR LIGHTING SYSTEM

3.10.1 HEADLAMP POWER

The headlamp switch is a direct input to the BCM. The BCM sends a BUS message to the IPM informing it of a headlamp switch status change. The IPM then turns on power to the headlamps through four ″fuseless″ circuits. These circuits are electronically controlled and continuously monitored for malfunctions. Power is supplied to each filament in a separate circuit. On vehicles with HID lamps for low beam, the IPM provides power to the HID module which in turn, turns the lamps on. For vehicles equipped with daytime running Lamps (DRL), the IPM electronically steps down the headlamp voltage to provide the desired illumination. The DRLs will automatically extinguish when the hazards are activated and will come back on when the hazards are deactivated.

3.10.2 HEADLAMP SWITCH

The Headlamp Switch uses a multiplexed (MUX) circuit to the Body Control Module (BCM). The Headlamp Switch controls the Fog lamp relay, Park lamps and the Low and High Beam headlamps. The BCM then sends a signal through the PCI Bus line to the IPM as to what state the switch has selected. The IPM energizes the high side output drivers to turn ON the desired lamps.

3.10.3 FRONT PARK AND SIDE MARKER LAMPS

The park lamp switch is a direct input to the BCM. The BCM sends a BUS message to the IPM informing it to turn on the park and side marker lamps. The park lamp relay is then powered through low side control of the IPM. This circuit is electronically controlled and continuously monitored for malfunctions. The IPM provides power through a high side driver.

3.10.4 FRONT FOG LAMP

The fog lamp switch is a direct input to the BCM. The BCM sends a BUS message to the IPM informing it to turn on the fog lamps. This circuit is electronically controlled and continuously monitored for malfunctions. Fog lamp functionality is not equipped on all vehicles. The IPM ″learns″ that the vehicle is equipped with fog lamps by reading the BCM BUS message. The Fog lamps can only be ON when the park and low beams are ON. If the high beams are switched ON then the Fog lamps will be automatically turned OFF.

3.10.5 EXTERIOR LIGHTING BATTERY SAVER

The BCM monitors status for the control of the Park Lamps, Headlamps and Fog Lamps. If any exterior lamps are left ON after the ignition is turned OFF, the BCM will send this information to the IPM, which will then turn the drivers OFF after 3 minutes.

3.10.6 AUTO HEADLAMPS

This feature is available on vehicles equipped with both the Electrocromatic Mirror (ECM) and the Compass/Mini-Trip Computer (CMTC). When the BCM detects a day/night signal from the CMTC, an ECM is present and Auto Headlamp mode is selected.

3.11 HEATING & A/C SYSTEM

3.11.1 AUTOMATIC TEMPERATURE CONTROL (ATC)

CAUTION: Automatic Temperature Control (ATC) Modules in early build CS vehicles use version 17 software. ATC Modules in late build CS vehicles use version 19 software. Do NOT exchange ATC modules between vehicles. Use the DRBIII® to verify which version software the ATC Module is using by selecting Body Systems, then Automatic Temperature Control, and then selecting Module Display. Failure to follow these instructions can result in improper HVAC system operation.

3.11.1.1 SYSTEM AVAILABILITY

- The Automatic Temperature Control (ATC) system is a Dual-Zone Air Conditioning System with a Rear Booster Blower.

3.11.1.2 SYSTEM CONTROLS

The ATC Module:

- is fully addressable with the DRBIII®.
- communicates over the Programmable Communication Interface Multiplex System (PCI) Bus.
- provides an A/C request over the PCI Bus to the Powertrain Control Module (PCM) when compressor operation is desired.
- uses input from the evaporator temperature sensor to prevent evaporator freeze up while maintaining optimum cooling performance.
- has dual-zone temperature-controls to provide a wide side-to-side variation in temperature to meet the needs of driver and the front seat passenger.
- has dual infrared (I/R) sensors mounted in the ATC Module's face which independently measure surface temperature to maintain occupant comfort levels.
- can be operated in a manual mode.
- provides an EBL relay on request over the PCI Bus to the Integrated Power Module (IPM) when EBL operation is desired.
- provides a Blower Relay on request over the PCI Bus to the Integrated Power Module (IPM).
- controls front blower operating speed, providing 6 blower speeds in manual mode and infinite blower speeds in automatic mode.
- provides a blower delay function for cold engine blower lock out.
  - ► A Blower Speed Clamping feature minimizes occupant discomfort by controlling the amount of warm air coming out of the HVAC system should the Powertrain Control Module (PCM) disable A/C compressor operation while the Automatic Temperature Control (ATC) is set in an automatic mode. The PCM disables the A/C compressor if the A/C is too low, if the A/C pressure is too high, if engine overheating is immanent, or if an engine overheating condition exists. For ATCs with version 17 software the ATC clamps the blower speed if the PCM has disabled the A/C compressor. For ATCs with version 19 software the ATC clamps the blower speed if the outside air temperature is greater than 50°F (10°C) and the PCM has disabled the A/C compressor. For all ATCs this means that the ATC will not adjust blower speed automatically when the clamping feature is enabled, e.g. if the clamping feature is enabled while in Auto Lo the blower will continue to run in low speed; if the clamping feature is enabled while in Auto Lo and the operator selects Auto Hi the blower will continue to run in low speed; if the clamping feature is enabled while in Auto Hi the blower will continue to run at the highest speed. In any case the opeator can manually change the blower speed as desired. When diagnosing blower related symptoms verify that none of the above conditions for disabling the A/C compressor exist before diagnosing the blower circuits and components.
- controls rear booster fan operating speed in automatic mode, providing infinite fan speeds.
- activates and deactivates the Rear Booster Fan Rear Control Switch.
  - ► The separate Front Blower Power Module and Rear Booster Fan Power Module operate as follows: When blower operation is desired, the power module provides a 12.0 volt signal to the ATC Module over a control circuit. The ATC Module provides a variable duty cycle ground to the 12.0-volt signal based on input from the blower switch. When the blower speed is set to low, the ATC Module provides a short duty cycle (less time grounding the signal voltage). As higher blower speeds are requested, the ATC Module increases the duty cycle (more time grounding the signal voltage). When the highest blower speed is requested, the duty cycle increases to where the signal pattern is almost a flat line (with brief voltage spikes).

- provides a blower after run feature.
  - ► The blower after run feature evacuates the HVAC evaporator of condensate to prevent odor. This feature operates the front blower motor at a minimal speed for no more than three minutes during a two-hour period after the ignition is turned off. The after run feature will only operate if the A/C system has been on for a minimal amount of time, and ambient air temperature and vehicle voltage are within a specific range.
- controls the electric door actuators' operation.
  - ► A simplified control system for operation of the front mode, recirculation, and temperature control actuators provides positive positioning without the complexity of feedback from position sensors. The ATC Module knows the number of operating actuator revolutions required for full door travel as well as the number of actuator commutator pulses per revolution. Using these parameters, the ATC Module runs the actuator for the number of commutator pulses that correspond to the desired door position. To maintain accuracy, the system recalibrates itself periodically at known zero and full travel conditions.
  - ► When a mode change is requested through the MODE switch, the ATC drives the Rear Mode Door Actuator for 10 seconds. The Panel and the Floor/Mix/Defrost mode settings direct rear air flow to the rear panel or rear floor air outlets respectively. There is no Bi-Level position for the rear mode door. When the MODE switch setting is changed to Bi-Level, the rear mode door remains in the last known position (panel or floor). Unlike the front door actuators, the Automatic Temperature Control will not set Diagnostic Trouble Codes for faults pertaining to the Rear Mode Door or its electrical circuits.
- uses Ambient Temperature Sensor data received over the PCI Bus to display outside temperature.
  - ► This signal is filtered to compensate for hot engine heating effects which can cause erroneous temperature display values.

The Rear Booster Fan Rear Control Switch:

- provides desired rear booster fan speed input to the ATC Module.

The Dual-Zone ATC system uses:

- two, two-wire electric blend door actuators.
- one, two-wire electric front mode door actuator.
- one, two-wire electric recirculation door actuator.
- one, two-wire electric rear mode door actuator.

System Relays

- The Integrated Power Module (IPM) houses and provides power to the A/C Clutch Relay, EBL Relay, Front Blower Motor Relay, and Rear Booster Fan Relay.

Ambient Temperature Sensor

- The ambient air temperature is monitored by the NGC and displayed by the ATC. The NGC receives a hardwire input from the ambient temperature sensor (ATS). The ATS is a variable resistor that operates on a 5-volt reference signal circuit hardwired from the NGC. The resistance in the ATS changes as the outside temperature rises or falls. The NGC senses the change in reference voltage through the ATS resistor. Based on the resistance of the ATS, the NGC is programmed to correspond to a specific temperature. The NGC stores and filters the ambient temperature data and transmits this data to the ATC via the PCI Bus. The ATS cannot be adjusted or repaired and, if faulty or damaged, it must be replaced.

3.11.1.3 SYSTEM REVISIONS

Revisions to the ATC system include version 19 software for late build vehicles.

CAUTION: Automatic Temperature Control (ATC) Modules in early build CS vehicles use version 17 software. ATC Modules in late build CS vehicles use version 19 software. Do NOT exchange ATC modules between vehicles. Use the DRBIII® to verify which version software the ATC Module is using by selecting Body Systems, then Automatic Temperature Control, and then selecting Module Display. Failure to follow these instructions can result in improper HVAC system operation.

3.11.1.4 SYSTEM DIAGNOSTICS

Fault detection is through active and stored Diagnostic Trouble Codes (DTCs)

- DTCs are displayed by the DRBIII®.
- Active DTCs are those which currently exist in the system. The condition causing the fault must be repaired in order to clear this type of DTC.
- Stored DTCs are those that occurred in the system since the ATC received the last ″clear diagnostic info″ message.

The AC Cooldown Test:

- is actuated with the DRBIII®.
- checks A/C system performance based on evaporator temperature sensor input.

- will not run:
  - ► if ambient temperature is below 12(C (53(F).
  - ► if A/C pressure is below 50 psi or above 300 psi
  - ► if the evaporator temperature sensor/circuit is open.
  - ► if the evaporator temperature sensor/circuit is shorted.
- will pass if the evaporator temperature drops either 6.7°C (20°F) within two minutes at ambient temperatures of 21°C (70°F) or above, or if the evaporator temperature drops 9.4°C (15°F) within two minutes at ambient temperatures below 21°C (70°F).
- messages display on the DRBIII(after running this test.
  - ► These messages will clear after paging back out of this test. Therefore, it is important to note all of the AC Cooldown test messages before doing so.
- will cause the DELAY VF segment and Snowflake LED on the ATC to flash. If the test fails the VF segment and LED will continue to flash until either the vehicle is driven more than three miles or a successful AC Cooldown Test is performed.

Actuator Calibration:

- occurs after turning on the ignition after a battery reconnect.
- occurs after ATC installation or replacement.
- occurs after 20 ignition cycles.
- can be initiated by the DRBIII® by selecting Body, Automatic Temperature Control, Miscellaneous, and Reset ATC Head.
- can be initiated by pressing the PWR and RECIRC buttons simultaneously for five seconds.
  - ► Manual motor calibration will cause the DELAY and RECIRC VF segments on the ATC to flash. If the test fails the VF segments will continue to flash until either the vehicle is driven more than three miles or a successful calibration occurs.

Ambient Temperature Sensor Faults:

NOTE: The Outside Air Temperature (OAT) display can be activated and de-activated by pressing the Outside Temp button on the ATC.

NOTE: Anytime the vehicle is turned off for more than 2 hours, the OAT display will update instantly upon ignition on. However, if the vehicle is turned off for less than 2 hours and the outside air temperature increases, the OAT display may display a value that is colder than the actual outside air temperature. This is due to filtering which does not allow for instantaneous updates for warmer outside air temperatures. Also, if the vehicle is driven for an extended period of time below 20 mph the OAT display will not update for warmer outside air temperatures. If after the extended period of time driving below 20 mph the vehicle speed is increased to above 50 mph the OAT display may display an erroneous ″too warm″ value. This is due to extended idle speeds that create hot sensors due to engine heat.

The OAT function is supported by the Ambient Temperature Sensor (ATS), a signal circuit and a ground circuit which is hardwired to the NGC and OAT data that is bussed from the NGC to the ATC where the outside air temperature is displayed. If the ATS sense circuit is shorted to ground, the OAT display will display 130°F (54°C). If the ATS sense circuit is open, the OAT display will display -40°F (-40°C). When diagnosing OAT display related symptoms, always check the ATS and related circuits before testing the ATC. Ambient Temperature Sensor Diagnostic Trouble Codes (DTCs) are stored in the NGC. The ATS can be checked using the following Ambient Temperature Sensor Test.

Ambient Temperature Sensor Test

1. Turn the ignition OFF.
2. Disconnect the ATS harness connector.
3. Measure the resistance of the ATS using the following min/max values:

- 32°F (0°C) Sensor Resistance = 29.33 - 35.99 Kilohms
- 50°F (10°C) Sensor Resistance = 17.99 - 21.81Kilohms
- 68°F (20°C) Sensor Resistance = 11.37 - 13.61Kilohms
- 77°F (25°C) Sensor Resistance = 9.12 - 10.86 Kilohms
- 86°F (30°C) Sensor Resistance = 7.37 - 8.75 Kilohms
- 104°F (40°C) Sensor Resistance = 4.90 - 5.75 Kilohms

The sensor resistance should read between these min/max values. If the resistance values are not OK, replace the Sensor.

3.12 INFORMATION SYSTEMS

3.12.1 NAVIGATION

A five-inch Thin Film Transistor screen mounted in the instrument cluster projects color navigation information into the center of the speedometer. The information includes maps, turn identification, selection menus and instructions. The system includes a variety of choices for selecting destinations and routes.

The information is displayed in map format, as turn by turn instruction or a combination of the two. The system also provides audio prompts through the vehicle's audio system. The systems audio will override all other audio outputs, with the exception of the Hands Free Cell Phone, to the front speakers that are active at the same time. Spoken prompts are recordings of a human voice. The system uses a Global Positioning System (GPS) antenna mounted under the instrument panel to collect satellite data to compute the position of the vehicle. A navigation unit uses the satellite data to translate the vehicle location to latitude and longitude coordinates. It combines the latitude and longitude with proprietary map data from a DVD unit to perform all system calculations and display formatting. A single DVD disc contains map information for the entire United States. The DVD (navigation) unit is mounted in the covered floor storage compartment at the left rear of the vehicle.

3.12.2 INSTRUMENT PANEL SWITCH POD

The Switch Pod Assembly is located just to the right of the cluster in the Instrument Panel. The Switch Pod Assembly consists of the EVIC buttons, the Navigation buttons (if equipped), Hazard switch, Vehicle Theft Security indicator, and an Analog Clock. The EVIC function buttons are labeled US/M, MENU, STEP, and RESET. The Navigation function buttons are labeled NAV, CANCEL, ENTER, (scroll left), (scroll up), (scroll right), and (scroll down). The Vehicle Theft Alarm light is a red oval located under the EVIC reset button. The Analog Clock consists of an hour and minute hands with one time adjust button. The Hazard switch is designated with a red triangle and is a push on push off switch.

3.12.3 ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)

The Electronic Vehicle Information Center (EVIC), which is located in the cluster, uses a vacuum fluorescent (VF) display to supply vehicle information.

The EVIC also provides the interface to enable and disable vehicle programmable features when the vehicle is equipped with certain features.

The EVIC function buttons are located in the switch pod.

The EVIC receives data over the PCI bus, communicating with the:

- Body Control Module (BCM).
  - ► The BCM supplies most of the information that the EVIC displays.
  - ► The EVIC receives all display requests over the PCI bus.
- Integrated Power Module (IPM).
- Overhead Console Module referred to as the Compass/Mini-Trip Computer (CMTC).
  - ► The EVIC receives compass heading, average fuel economy and distance to empty information from the CMTC.
  - ► The EVIC also receives Tire Pressure Monitoring Information from either the CMTC or the SKREEM. For complete information, refer to the Tire Pressure Monitoring System further in this section.
- Driver Door Module

3.12.3.1 VEHICLE INFORMATION DISPLAY

NOTE: The EVIC will not display information for any of the screens for which it did not receive the proper PCI Bus data.

The EVIC displays the following functions:

- Compass direction
- Language type
- Distance to empty
- Average fuel economy
- Distance to service
- Customer programmable Features

The EVIC displays various memory functions based on a PCI bus message from the Driver Door Module (DDM). The EVIC will also display the following driver alert messages with either an amber or red priority indicator lamp:

- TURN SIGNAL ON

- PERFORM SERVICE
- DOOR AJAR (individual or multiple doors)
- LOW or HIGH TIRE(S) PRESSURE (when equipped)
- PEDAL ADJUST DISABLED CRUISE ENGAGED (when equipped)
- PEDAL ADJUST DISABLED VEHICLE IN REVERSE (when equipped)
- WASHER FLUID LOW
- LOW BRAKE FLUID
- LOW FUEL
- MENU IN PARK ONLY (when equipped)
- PUT IN PARK FOR LIFTGATE (when equipped)
- TCS ACTIVE (when equipped)
- SERVICE TCS SYSTEM (when equipped)
- SERVICE TIRE PRESSURE SYSTEM (when equipped)
- TIRE PRESSURE UNAVAILABLE (when equipped)
- SET INHIBITED DUE TO MOTION (when equipped)

An audible chime or chimes will accompany any warning messages. Chime requests with an OPEN message are dependent upon vehicle speed.

The EVIC receives the following messages from the Body Control Module (BCM):

- Verification of US/Metric status
- Fuel Economy (Average and Instantaneous)
- Distance to empty
- Distance to service
- Driver warning messages

The EVIC receives the Vehicle Speed message from the powertrain control module.

The EVIC transmits the Current Display message to the BCM.

STEP BUTTON

Use the STEP Button to:

1. Sequentially select one of the displays or blank display in the following order:
   - Average Fuel Economy
   - Distance to Empty
   - Distance to Service Message
   - Off (Blank)
2. Set the magnetic variance zone when VARIANCE =X (X =1 -15) is indicated in the VF Display.
3. Select the displayed programmable feature setting. (When equipped.)

MENU BUTTON (EVIC only)

Use the MENU button to sequentially step the EVIC through the programmable features. For complete information of the programmable features and memory messages, refer to the Owner's Manual.

RESET BUTTON

Use the RESET Button to:

1. Clear the trip functions that may be reset.
2. Enter and exit the diagnostic mode.

Pressing the RESET button once will clear the trip function displayed (except Distance to Service) and cause the EVIC to send a PCI Bus beep request to the BCM. If the RESET button is pressed again within 3 seconds, the EVIC will reset ALL of the trip functions. The trip function that may be reset is the Average Fuel Economy.

A reset will only occur if a trip function that may be reset is displayed. Distance to Service is reset in the customer programmable features.

3.12.3.2 TRAVELER DISPLAY FUNCTIONS

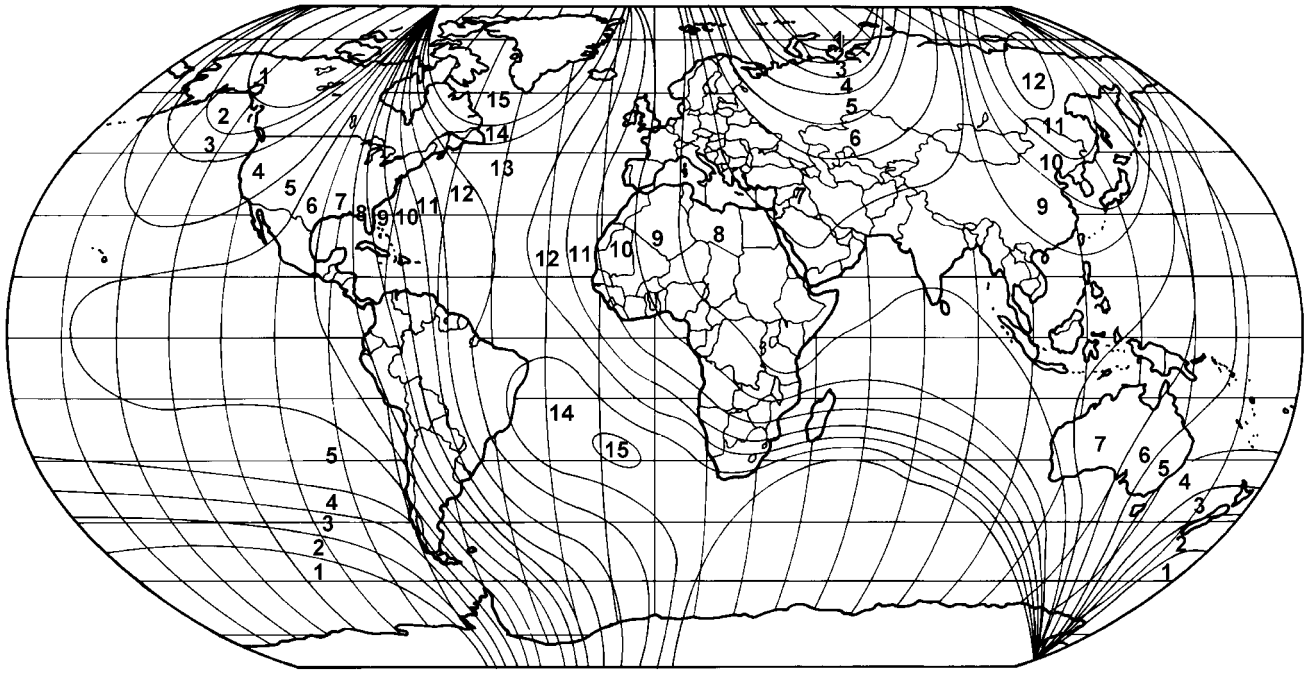
Using the STEP button will change the EVIC between modes of operation and display the appropriate information according to data received from the PCI Bus.

COMPASS

The EVIC displays the compass reading. The EVIC receives the compass information from the overhead console.

COMPASS OPERATION - ALL

Upon ignition on, if the calibration information stored in the CMTC memory is within the normal range, the CMTC will perform in slow Auto-Cal mode. In slow Auto-Cal mode, the CMTC continuously compensates for the slowly changing magnetic field of the vehicle. The compass module detects changes in the vehicle magnetism and makes appropriate internal corrections to ensure proper displayed direction. However, if the calibration information stored in the CMTC memory is not within the normal range at ignition on, the CMTC will enter fast Auto-Cal mode. Auto activation of the fast Auto-Cal mode occurs when the CMTC is subjected to high magnetic field strength levels, which cause all compass readings to be erroneous for a continuous period of five (5) minutes. During fast Auto-Cal, ″COMPASS CALIBRATING″ will display. Fast Auto-Cal can also be performed manually, by completing one 360° turn in an area free from large metal or metallic objects. When complete, the ″COMPASS CALIBRATING″ EVIC message will turn off and the compass will function normally.



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3.12.3.3 SETTING MAGNETIC ZONE VARIANCE

Variance is the difference between magnetic North and geographic North. For proper compass function, the correct variance zone must be set. Refer to the Zone Variance map for the correct zone. Follow these steps to check or change the variance zone:

- The ignition switch must be in the On position and the EVIC display must not be blank.
- If the compass data is not displayed, step through until the compass information displays.
- Press and hold the RESET button (approximately 5 seconds) until VARIANCE = XX is displayed. The EVIC will display the variance zone stored in memory and the word VARIANCE.
- Use the RESET button to select the proper variance zone number, 1 through 15.
- After selecting the proper zone number, momentarily press and release the RESET button. The variance zone is then stored in the memory and the EVIC returns to normal operation.

3.12.3.4 COMPASS CALIBRATION

The compass module has 2 types of auto-calibration; slow-cal and fast-cal. Slow-cal ensures that during normal vehicle operation the compass performs auto-calibration functions to keep the compass sensors in their proper operating range. Whenever the ignition is On and the EVIC receives PCI Bus data indicating that engine RPM is greater than zero, auto-calibration is performed continuously. If the calibration information stored in the compass module memory is not within the normal range after a power-up cycle, the compass will display ″COMPASS CALIBRATING.″ The EVIC will enter into the fast-cal mode until calibration is complete. To enter the compass into Manual Calibration mode, perform the following steps:

- Drive the vehicle to an area away from any large metal objects or overhead power lines.
- Ensure that the proper variance zone is selected. See Setting Magnetic Zone Variance.
- The ignition switch must be in the On position and the EVIC display must not be blank.
- Press the STEP button until the Compass displays in the EVIC.
- Press and hold the RESET button (approximately 10 seconds) until CAL is displayed, then release the button.
- Drive slowly, less than 5 mph (8 km/h) in at least 1 complete 360-degree circle.
- ″COMPASS CALIBRATING″ will remain illuminated to alert the driver that the compass is in the calibration mode.
- After calibration is complete, ″COMPASS CALIBRATING″ will turn off.

If the compass appears blank, unable to be calibrated, or the compass displays false indications, the vehicle must be demagnetized. Refer to Compass Demagnetizing Procedure in the Service Manual.

3.12.3.5 HOMELINK® UNIVERSAL TRANSMITTER

If equipped, the HomeLink® Universal Transmitter is integrated into the overhead console. For added security it will operate home security systems that use coded signals known generically as Rolling Codes. The overhead console display provides visual feedback to the driver, indicating which HomeLink® transmitter channel button is being pressed. The HomeLink® can learn and store up to three separate transmitter radio frequency codes to operate garage door openers, security gates, and security lighting. The HomeLink® buttons are marked with one, two, or three dots. For complete information, refer to Universal Transmitter in the Service Manual or the Owner's Manual.

3.12.3.6 TIRE PRESSURE MONITORING SYSTEM (TPMS)

If equipped with the Tire Pressure Monitoring System (TPMS), each of the vehicles four wheels will have a valve stem with a pressure sensor and radio transmitter built in. Signals from the tire pressure Sensor/Transmitter are received and interpreted by the Compass Mini Trip Computer (CMTC) on EARLY build vehicles and by the Sentry Key Remote Entry Module (SKREEM) on NORMAL build vehicles. To determine which TPMS the vehicle is equipped with, using the DRBIII®, go to Overhead Console for the CMTC data and Theft Alarm for the SKREEM data.

A Sensor/Transmitter in a mounted wheel will broadcast and RF frequency indicating its pressure once per minute when the vehicle is in drive mode. To activate the Sensor/Transmitter operation, the required CMTC speed is 20 mph (32 km/h) while the SKREEM speed is 13 mph (20 km/h). Each Sensor/Transmitters broadcast is uniquely coded so that the CMTC or SKREEM can monitor the states of each Sensor/Transmitter on the vehicle. The CMTC TPMS uses a magnet to relearn each Sensor/Transmitters specific location. The SKREEM TPMS does not use a magnet to relearn, it automatically learns while driving after a SKREEM or a Sensor/Transmitter has been replaced.

3.12.3.6.1 TRAINING THE CMTC (EARLY BUILD)

The CMTC can be trained to recognize the source locations of the Sensor/Transmitter signals. The training procedure is given below:

1. From the Programmable Features List select RETRAIN TIRE SENSORS Y/N using the EVIC MENU button. Use the STEP button to select and the MENU button to confirm YES. The CMTC will initiate the following procedure:
2. A display will prompt the user to: TRAIN DRIVER FRONT SENSOR. At this point the user must set the left front tire Sensor/Transmitter to learn mode by positioning a magnet (Relearn Magnet special tool 8821) over the valve stem for at least 5 seconds. The Sensor/Transmitter in the front left tire will transmit a message indicating to the CMTC that it is in learn mode. When the CMTC has received this message and is assured that it has learned an ID, the CMTC will request a horn chirp via a bus message and then display the next train request. Note: The CMTC will allow 60 seconds from the first train request display to the receipt of a unique learn ID message from the first Sensor/Transmitter and 30 seconds for each succeeding wheel. If either of these timers expires, the CMTC will abort the training procedure and revert to previous set-tings. The CMTC will not store one ID for multiple locations.
3. The CMTC will request the initiation of a training sequence for each tire, one-by-one in a clockwise direction around the vehicle (Left Front, Right Front, Right Rear, and Left Rear).

NOTE:
1. If one or all Sensor/Transmitters cannot be trained, move vehicle to avoid radio frequency interference.
2. If one Sensor/Transmitter still cannot be trained, replace it and retry.
3. If all Sensor/Transmitters still fail to train, replace the CMTC.
4. Once all tires are successfully learned, the previous set of stored IDs will be replaced by the new IDs, and the EVIC will display, ″TRAINING COMPLETE″ until a button is pressed.

If the vehicle is equipped with the HomeLink® feature and a HomeLink® button is pressed at any time during the training procedure, the CMTC Module will immediately exit the training procedure, discard any IDs learned in the current session and perform the HomeLink® function. After the button is released, the EVIC will display ″RETRAIN TIRE SENSORS? NO″.

The training procedure can be stopped at any time by pressing the C/T, STEP, RESET, or MENU button. When any of these buttons are pressed the EVIC will display ″TRAINING ABORTED″ until another button is pressed and then display ″RETRAIN TIRE SENSORS? NO″. Sensor/transmitter replacement or tire rotation will require retraining of the CMTC.

3.12.3.6.1.1 PRESSURE THRESHOLDS

The CMTC will monitor the tire pressure signals from the tire Sensor/Transmitters and determine if any tire has gone below the low-pressure threshold or exceeded the high-pressure threshold. Refer to the table below:

LOW TIRE PRESSURE THRESHOLDS	
SYSTEM STATUS INDICATOR	TIRE PRESSURE
On	172 kPa (25 PSI)
Off	207 kPa (30 PSI)
HIGH TIRE PRESSURE THRESHOLDS	
SYSTEM STATUS INDICATOR	TIRE PRESSURE
On	310 kPa (45 PSI)
Off	276 kPa (40 PSI)

3.12.3.6.1.2 CRITICAL AND NON-CRITICAL SYSTEM ALERTS

CRITICAL:
A critical alert will be triggered when a tire pressure has gone below or above a set threshold pressure. The CMTC will request a chime and then display ″X TIRE(S) LOW PRESSURE″ or ″X TIRE(S) HIGH PRESSURE″. ″X″ will be the number of tires reporting low or high pressure. The message will display for the duration of the current ignition cycle or until an EVIC button is pressed. If the display is removed without correcting the condition, it will reappear without a chime after 300 seconds to warn the driver of the low or high-pressure condition.
NON-CRITICAL:
A non-critical alert with no chime will be triggered when no signal is received from a Sensor/Transmitter or when a Sensor/Transmitter low battery condition is detected. The EVIC will display ″SERVICE TIRE SYSTEM SOON.″

3.12.3.6.1.3 SYSTEM FAULTS

There are two conditions that will cause a Tire Pressure Monitoring System fault to be set. All fault codes are associated with a specific wheel location.
1. If the CMTC detects a non-transmitting Sensor/Transmitter condition, it will:
   A. Store an active fault code.
   B. Request a chime.
   C. Display ″SERVICE TIRE SYSTEM SOON.″
2. When the CMTC receives a Low Sensor/Transmitter battery report from a Sensor/Transmitter, it will:
   A. Store an active fault code.
   B. Request a chime.
   C. Display ″SERVICE TIRE SYSTEM SOON.″

Use the DRBIII® Inputs/Outputs function to further isolate the specific concern. The DRBIII® can be queried to determine the status and battery condition for each Sensor/Transmitter.

3.12.3.6.1.4 SPARE WHEEL AUTO-DETECT

If the spare tire is mounted on the vehicle, the CMTC will:

1. Detect the change after 15 minutes at or above 20 mph (32 km/h)
2. Query driver: ″SPARE TIRE IN USE?″ Use the MENU button for YES, and the STEP button for NO. For YES, the EVIC will revert to the previous display and wait five hours. After five hours the EVIC will proceed as in the NO response below.
3. For a NO response, after 15 minutes, the EVIC will display: ″ALL 5 TIRES W/ VEHICLE? Y″ Use the STEP button to select YES or NO, and the MENU button to confirm. For a ″YES″ response, the EVIC will display ″SERVICE TIRE PRESS. SYSTEM″. For a ″NO″ response, the EVIC will revert to previous display and display ″ALL 5 TIRES W/VEHICLE? Y″ every time the ignition is cycled to RUN and the missing tire ID is not received.

3.12.3.6.1.5 DIAGNOSING AND CLEARING SYSTEM FAULTS

All Tire Pressure Monitoring System Faults are specific to one location. If a no-transmit, ″LOW BATTERY″, ″LOW or HIGH PRESSURE″ fault is detected, the location can be determined by the DRBIII®. The appropriate Sensor/Transmitter can then be replaced or the out-of-specification pressure condition can be corrected.

- If a single Sensor/Transmitter cannot be detected by the CMTC, replace that Sensor/Transmitter.
- If none of the Sensor/Transmitters can be detected, replace the CTMC.
- If a BUCKET COUNTER test fails, and one or more Sensor/Transmitters does not transmit, re-place the affected Sensor/Transmitter.
- If none of the Sensor/Transmitter causes the BUCKET COUNTER to advance, replace the CMTC.
- If the EVIC displays SERVICE TIRE SYSTEM SOON and the DRBIII® sees no Sensor/Transmitter fault or pressure out of specification;

1. Attempt the Retrain procedure.
2. If the display reoccurs, replace the CMTC.

3.12.3.6.1.6 SYSTEM TEST

A test of the Tire Pressure Monitoring System can be initiated in the EVIC. The test sequence is as follows:

1. Perform the RETRAIN TIRE SENSORS procedure.
2. Press and hold the RESET and STEP buttons for five seconds.
3. The EVIC will display BUCKET COUNTERS.
4. Drive the vehicle at 20 mph (32 km/h) for at least 2 minutes.
5. The counters will increase by one each time a Sensor/Transmitter signal is received by the CMTC.
6. Observe that the COUNTERS register at least 3 receptions for each Sensor/Transmitter.
7. Replace any Sensor/Transmitter that does not meet this specification.
8. The test will continue until any EVIC button is pressed or until the ignition is cycled to OFF.

3.12.3.6.2 TRAINING THE SKREEM (NORMAL BUILD)

If a Sensor/Transmitter is replaced, the vehicle has to be parked for at least 15 minutes for the system to be ready to learn the new Sensor/Transmitter ID code. The vehicle then must be driven for a minimum of five minutes with a minimum continous speed above 13 mph (20 km/h). The system will learn the new Sensor/Transmitter and clear the DTC's automatically. The Sensor/Transmitters are programed at the assembly plant in this clockwise orientation:

Sensor/Transmitter 1 = Left Front
Sensor/Transmitter 2 = Right Front
Sensor/Transmitter 3 = Right Rear
Sensor/Transmitter 4 = Left Rear

NOTE:

1. **If one or all Sensor/Transmitters cannot be trained, check for and avoid RF interference.**
2. **If one Sensor/Transmitter still cannot be trained, replace it and retry.**
3. **If all Sensor/Transmitters still fail to train, replace the SKREEM.**

3.12.3.6.2.1 PRESSURE THRESHOLDS

The SKREEM will monitor the tire pressure signals from the Sensor/Transmitters and determine if any tire has gone below the low-pressure or exceeded the high-pressure thresholds. Refer to the tables below:

LOW TIRE PRESSURE THRESHOLDS

SYSTEM STATUS INDICATOR	TIRE PRESSURE
ON	193 kPa (28 PSI)
OFF	227 kPa (43 PSI)

HIGH TIRE PRESSURE THRESHOLDS

SYSTEM STATUS INDICATOR	TIRE PRESSURE
ON	331 kPa (48 PSI)
OFF	296 kPa (43 PSI)

3.12.3.2.2 ACTIVE FAULT AND SYSTEM ALERTS

An active fault will be triggered when a system failure has been detected. When this occurs, the Instrument Cluster will illuminate the TPMS indicator and the SKREEM will store the fault code. An alert will be triggered when a tire pressure has gone below and above the set threshold pressure. The SKREEM will request a message to be displayed on the EVIC (if equipped). Only when a tire pressure has gone below the set threshold pressure will the SKREEM illuminate the TPMS indicator and request the EVIC message (if equipped). This action will be displayed as long as the fault/alert condition is active.

3.12.4 COMPASS/MINI-TRIP COMPUTER

The Compass/Mini-Trip Computer (CMTC), which is located in the overhead console, supplements the standard vehicle instrumentation. The CMTC uses the Electronic Vehicle Information Center's (EVIC's) vacuum fluorescent (VF) display to supply the vehicle operator with:

- Compass heading.
- Average fuel economy.
- Distance to empty.
- Tire pressure (early build).

The Overhead Console is also available with:

- An optional integrated Universal Garage Door Opener (UGDO) known as HomeLink®.
  - ► The three UGDO buttons are labeled with dots to indicate the channel number.
- Two optional sunroof switches (OPEN/CLOSE and VENT).
- A standard Liftgate switch.

NOTE: The EVIC will not display information for any of the screens for which it did not receive the proper PCI bus data. Refer to the symptom list in the Overhead Console section for problems related to CMTC.

3.13 INSTRUMENT CLUSTER

The Instrument Cluster receives and sends messages via the PCI Bus. The indicator lamps will illuminate briefly for a bulb check when the ignition is turned from off to run. All of the gauges receive their information via the PCI Bus from the Powertrain Control Module (PCM) and the Body Control Module (BCM).

The gauges and the LEDs are not individually replaceable thereby requiring complete replacement of the Instrument Cluster if a repair is necessary. In the event that the Instrument Cluster loses communication with other modules on the PCI Bus, the cluster will display ″no bus″ in the VF display.

The Trip/Reset button is used to switch the display from trip to total mileage. Holding the button when the display is in the trip mode will reset the trip mileage. This button is also used to put the cluster into self-diagnostic mode (Early Build Vehicles Only). The odometer display uses blue-green vacuum fluorescent digital characters.

The Instrument Cluster has four gauges: Speedometer, tachometer, fuel, and temperature. The Instrument Cluster uses a vacuum-fluorescent shift indicator.

The Instrument Cluster contains the Chime tone generator. The cluster provides a 5-volt pull-up to the BCM, which uses a hardwire low-side driver to control the chime. The cluster monitors the PCI bus and based on information from various modules, and cluster internal parameters, will request chimes from the BCM as well as illuminating the appropriate warning indicators.

The odometer display and door/liftgate-ajar message comes on when a door is opened. This feature assists both the customer and the service technician by allowing them to view the odometer without turning the ignition on. The cluster has the following warning indicators: Turn Signals (green), High Beam (blue), Check Engine (amber), Oil Pressure (red), Seat Belt (red), Charging System (red), Airbag (red), Low Fuel (amber), Engine Temperature (Red), Brake/Park Brake (red), ABS (amber), Traction Control (amber), Front Fog (green), Tire Pressure Monitoring System (amber - if equipped). For complete details of the Instrument Cluster, refer to the CS Service Information.

3.13.1 INSTRUMENT CLUSTER SELF TEST (EARLY BUILD VEHICLES ONLY)

1. Depress and hold the Odometer Reset button for 10 seconds.
2. Release the Odometer reset button.

The Instrument Cluster will illuminate all indicators and step the gauges through several calibration points. Also, the odometer will display any stored codes that may have set.

3.14 INTEGRATED POWER MODULE (IPM)

The Integrated Power Module (IPM) is an electrical control and interface center located in the engine compartment. The IPM houses in one module what is known in other vehicles as the Power Distribution Center and the Front Control Module. The IPM, with its fuses and relays provides power and signal distribution throughout most of the vehicle. The IPM receives both hard wire and digital electronic inputs from the vehicle electrical system. Based on these inputs and the ignition switch position, it provides direct power feeds and relay control to some of the vehicles' most critical electrical systems.

The Integrated Power Module provides the following features:

Controlled power feeds:

- Front airbag system
- Headlamp power
- Tail lamps and side marker lamps
- Front park lamps
- Front side marker lamps
- Front fog lamps
- License plate lamp
- Transmission control
- Autostick
- Brake transmission shift interlock (BTSI) system
- Front washer motor
- Rear washer motor

Relay controls:

- Front wiper on relay
- Front wiper high/low relay
- Accessory relay
- Horn relay
- Front blower relay
- Rear booster fan relay

- Electronic back light (EBL) relay
- Run only relay
- Door node relay

Electrical inputs:

- Brake sense
- Front wiper park
- Washer fluid input
- Horn switch
- Wiper park switch
- Brake fluid level switch
- Run start sense
- IOD/ Radio/ Clock sense
- PCI bus
- Flash reprogramming voltage
- Ignition start sense

3.14.1 CONTROLLED POWER FEEDS

Front airbag system
The IPM provides power to the Occupant Restraint Control (ORC) system through two ″fuse-less″ circuits (ORC RUN/START, and ORC RUN only). These circuits are electronically controlled and continuously monitored for malfunctions. Power is supplied while the ignition switch is in the RUN and START positions on pin 16 of the IPM connector C9, and in the RUN only position on pin 1 of the IPM C4 connector.

Headlamp power
The headlamp switch is a direct input to the BCM. The BCM sends a PCI Bus message to the IPM informing it of a headlamp switch status change. The IPM then turns on power to the headlamps through four ″fuseless″ circuits. These circuits are electronically controlled and continuously monitored for malfunctions. Power is supplied to each filament in a separate circuit. For vehicles equipped with Daytime Running Lamps (DRL), the IPM electronically steps down the headlamp voltage to provide the desired illumination.

Tail lamps and side marker lamps
When the IPM receives a message to turn on the rear tail lamps and the side marker lamps, the IPM will supply power to pin 15 of the C4 connector for the right tail lamp and the right side marker lamp and will provide power to pin 7 of the C9 connector for the left tail lamp and left side marker lamp.

Front park lamps
When the IPM receives a message for front park lamps on, the IPM will supply power to pin 26 of connector C5 for the right lamp and pin 24 of the C5 connector for the left lamp.

Front side marker lamps
When the IPM receives a message for front side marker lamps on, the IPM will supply power to pin 6 of the C5 connector for the right front side marker and pin 7 of the C5 connector for the left side marker lamp.

Front fog lamps
When the IPM receives a message for front fog lamps on, the IPM will supply power to pin 17 of the C5 connector for the right lamp and pin 2 of the C5 connector for the left lamp.

License plate lamp
When the IPM senses that the park lamps switch is closed, the IPM will supply power through a high side driver of the IPM.

Transmission Control
The electronic automatic 4 speed transmission control (which is internal to the PCM) is powered when the ignition switch is in the RUN or START position. This circuit is electronically controlled and continuously monitored for malfunctions.

Autostick power
The autostick is powered when the ignition switch is in the UNLOCK, RUN or START position. This circuit is electronically controlled and continuously monitored for malfunctions.

Brake transmission shift interlock (BTSI) system
The brake shift interlock solenoid receives power from a high side driver inside the IPM. The high side driver control is hardwired to pin 19 of the IPM C9 connector. The IPM energizes the BTSI when in Accessory, Start or Run positions thus preventing the shift lever from being moved from the Park position. The IPM will de-energize the BTSI solenoid when the brake pedal is applied or the shift lever is in any other position than Park.

Front washer motor
The front washer switch is a direct input to the BCM. The BCM sends a PCI Bus message to the IPM informing it of a request to wash. The front washer motor is then powered through high side control inside the IPM. This circuit is electronically controlled and continuously monitored for malfunctions. In addition, the IPM electronically protects the washer motor from system voltages higher than 16 volts by automatically switching off the high side circuit.

Rear washer motor
The rear washer switch is a direct input to the BCM. The BCM sends a PCI Bus message to the IPM informing it of a request to wash. The rear washer motor is then powered through low side control inside the IPM. This circuit is electronically controlled and continuously monitored for malfunctions. In addition, the FCM electronically pro-

tects the washer motor from system voltages higher than 16 volts by automatically switching off the high side circuit.

3.14.2 RELAY CONTROLS

Front wiper on relay
The front wiper switch is a direct input to the BCM. The BCM sends a PCI Bus message to the IPM informing it to turn on the front wiper on relay. This relay is electronically controlled and continuously monitored for malfunctions. The front wiper on relay is turned on internally by the IPM as soon as the IPM receives the message from the BCM.

Front wiper high/low relay
The front wiper switch is a direct input to the BCM. The BCM sends a PCI Bus message to the IPM informing it to turn on the front wiper high/low relay. The relay switches power between the low speed and high speed windings of the wiper motor. The front wiper high/low relay is turned on internally by the IPM as soon as the IPM receives the message from the BCM. This circuit is electronically controlled and the coil side of the relay is monitored for malfunctions.

Accessory relay
The accessory relay works in conjunction with the IPM's power accessory delay feature to control the operation of the radio, amplifier, EVIC, power windows, washer motors, wiper motors, power sunroof, and power outlet. The accessory relay is turned on through low side control internal to the IPM as soon as the IPM receives information from the BCM that the ignition is in the ACCY or RUN position. This circuit is electronically controlled and continuously monitored for malfunctions. Depending on the ignition switch position, the accessory relay will remain on or will time-out and turn off. The accessory relay remains on in the RUN and ACCY positions of the ignition switch. In the OFF position, the relay will remain energized for 45 seconds then turn off. During this time-out period, if the driver or passenger doors are opened, the relay will turn off immediately. While the ignition switch is in the START position, the relay will also drop-out, then resume operation. Accessory relay operation is most noticeable by observing the operation of the radio.

Horn relay
The horn relay operates through a direct wire input to the IPM from the horn switch or a PCI Bus message from the BCM. The relay responds to the horn switch, remote door lock and VTSS alarm functions. The horn relay is powered through low side control internal to the IPM. Under normal operating conditions, if the horn is pressed for longer than 30 seconds, the IPM will automatically deactivate the horn to prevent damage to it. The IPM will re-activate control of the relay after a 25 second cool-down period. This circuit is electronically controlled and continuously monitors the coil side of the relay for malfunctions.

Front Blower & Rear Booster Fan relays
The front blower and the rear booster fan are controlled by the Automatic Temperature Control (ATC). When powered up, the ATC sends a relay on request over the PCI Bus message to the IPM. The front blower and rear booster fan relays are then powered through low side controls internal to the IPM. This circuit is electronically controlled and continuously monitored for malfunctions.

Electronic Back Light (EBL) relay
The rear defogger switch is part of the Automatic Temperature Control (ATC). When the ignition switch is in the RUN position and the rear defogger switch is turned on, the ATC sends a PCI Bus message to the IPM. The EBL relay is then powered through low side control internal to the IPM. The relay provides the power to the rear window defogger grid, and ground is attached to the vehicle body. The IPM will only allow the rear defogger to operate in the RUN position. This circuit is electronically controlled and continuously monitors the coil side of the relay for malfunctions.

Door Node Relay
The IPM energizes the door node relay when the ignition switch is in Accessory, Run Start or Run positions. The relay provides power to two 40 Amp fuses. One for the Driver Door Module and the other for the Passenger Door Module. When the ignition is turned off, the IPM will continue to energize the relay for 45 seconds or until one of the doors is opened.

Starter Relay
The starter relay in the IPM receives battery voltage through a hardwired input from the ignition switch. The starter relay ground is controlled by the PCM. When the relay is energized, the IPM will provide battery voltage to the starter solenoid through pin 5 of the C1 connector.

Run Relay
When the IPM receives information that the ignition switch is in the run position, it will energize the run only relay thus providing power to the rear heated seats, climate control and the ABS.

Fuel Pump Relay
The PCM will provide the ground to energize the coil of the fuel pump relay in the IPM when the ignition switch is in the run or run start positions. The IPM then provides power to the fuel pump.

3.14.3 ELECTRICAL INPUTS

Module battery supply - Battery input is on the nut and bolt connector of the IPM. This supplies battery voltage for all IPM operations.

Power ground - Ground source on pin 14 of connector C5 for all IPM operations.

Ignition switch RUN or START position status - 12 volt input on pin 13 of connector C9. Allows the IPM to determine the ignition switch status for related IPM operations.

Ignition switch START only status - 12 volt input on pin 4 of connector C4. And allows the IPM to discriminate between RUN/START input and START for related IPM operations.

PCI Bus - Approximately 7.5 volt input on pin 11of connector C4.and allows the IPM to communicate with other modules on the vehicle bus.

Brake sense status - The stop light switch sense tells the IPM to de-energize the BTSI when the ignition is in Run, Start or Accessory positions for brake shift interlock function.

Horn Switch - Horn signal input on pin 2 of connector C4. The signal tells the IPM to provide power to the horn.

Wiper park switch - Ground input on pin 3 of connector C4. Used to determine park placement of wipers. Also used as feedback to the IPM to determine correct operating mode of wipers.

Washer fluid level switch - Ground input to pull-up on pin 3 of connectorC5. Ground is switched into the circuit when washer bottle fluid level is low.

Brake fluid level switch - Ground input to pull-up on pin 8 of connector C8. Ground is switched into the circuit when brake fluid level is low.

Battery IOD - The IPM enters a low power consumption mode when the ignition is turned OFF. This low current draw battery supply keeps the microprocessor functioning in the low power mode. The IOD fuse can be inserted two ways. The IGN designation on the face of the IPM is the SHIPPING position. The B+ designation on the face of the IPM is the NORMAL RUN position. If the ignition switch is off and the fuse is in the SHIPPING position, there will be no RKE or door lock functions.

Flash programming voltage - When a DRBIII® is connected and the proper flash reprogramming sequence is selected, the 20 volt signal will be applied through pin 5 of connector C9.

CAUTION: The IPM will learn several Learned Features when it is connected to a vehicle, therefore it is not recommended that IPM's be swapped from one vehicle to another or false DTC's could be stored in the module and could not be erased.

3.15 INTERIOR LIGHTING

3.15.1 COURTESY LAMP CONTROL

The Body Control Module (BCM) has direct control over all of the vehicle's courtesy lamps except for the driver and passenger front courtesy lamps. The Driver Door Module (DDM) and the Passenger Door Module (PDM) turn these lamps on based on requests sent over the PCI Bus from the BCM. The courtesy lamps will illuminate if:

- Any door is ajar and the courtesy lamp switch on the headlamp switch is not in the dome off position.
- The courtesy lamp switch on the headlamp switch is in the dome on position.
- A Remote Keyless Entry unlock message is received.
- The operator unlocks the driver door with the key (with VTSS only).

3.15.2 ILLUMINATED ENTRY

Illuminated entry will be initiated when the customer enters the vehicle by unlocking the doors with the key fob, or with the key if the vehicle is equipped with vehicle theft alarm. Upon exiting the vehicle, if the lock button is pressed with a door open, illuminated entry will cancel when the door closes. If the doors are closed and the ignition switch is turned on, the illuminated entry also cancels. The illuminated entry feature will not operate if the courtesy lamp switch is in the dome off position.

3.15.3 INTERIOR LIGHTING BATTERY SAVER

If any of the interior lamps are left on after the ignition is turned off, the BCM will turn them off after 8 minutes. To return to normal operation, the courtesy lamps will operate after the dome lamp switch or door ajar switch changes state. The glove box and switched reading lamps require that the ignition be turned to the on/acc position.

3.16 POWER LIFTGATE SYSTEM

3.16.1 POWER LIFTGATE

Anyone of the following will activate the power liftgate (PLG) system: remote keyless entry (RKE), overhead console switches, outside liftgate handle switch, or the DRBIII®. These inputs are hard-wired to the Body Control Module (BCM) and can be monitored with a diagnostic tool. The BCM will send the message via PCI Bus to the Power Liftgate Module (PLGM). The liftgate must be in the full open or full closed position to operate. Once the BCM sends a button activation message to the PLGM, the module shall read all inputs, outputs, and vehicle conditions to determine whether it shall open, close, or inhibit the PLG operation. Once the PLGM determines the vehicle conditions are safe for operation, the PLGM will initiate a chime for 2 seconds prior to the liftgate activation and 2 seconds during the open or close cycle.

During an opening or closing cycle, the PLG system's optical sensors, which are integrated into the drive unit, will detect the presence of obstacles. During an open cycle, multiple liftgate activations (RKE or overhead console switch) will reverse the liftgate to the full closed position. However, during a close cycle, a 2nd liftgate activation (RKE or overhead console switch) will reverse the liftgate to the full open position.

If the engine is cranked during a power open/close, the PLG will pause, then resume after engine cranking. In addition, if the vehicle is placed in gear during an open cycle, the PLG shall reverse direction and begin closing. If the vehicle is placed in gear during a closing cycle, the PLG shall continue closing until fully closed. If the outside handle is activated during an open cycle, the PLG will become a full manual liftgate. If the outside handle is activated during a close cycle, the PLG shall reverse direction of travel to the full open position.

In the event of a complete power failure with the liftgate, it can be opened by removing the 25mm plug at the lower trim of the liftgate near the latch and using a screwdriver, trip the latch. See Service Information for a detailed explanation. This will work for the non-power liftgate also.

3.16.2 DIAGNOSTIC FEATURES

The PLGM can be flashed on vehicle via PCI Bus with a DRBIII® diagnostic tool. The DRBIII® can read all inputs, actuate all outputs, read module information, and read diagnostic trouble codes. As a reminder, some DTC's can be set during normal PLG operation.

3.16.3 SYSTEM INHIBITORS

1. Battery voltage too high or too low (above 16V, below 9.5V)
2. Vehicle in gear
3. Vehicle speed > 0 mph (0 km/h)
4. Outside temperature too high, above 179.6°F (82°C) or too low, below -22°F (-30°C).
5. Liftgate locked will inhibit the interior switch from opening (overhead console). A locked liftgate can be power closed.
6. Pinch Sensor switch stuck shall inhibit the power close feature.

3.17 POWER SEAT SYSTEMS

3.17.1 POWER SEAT - DRIVER

The memory power seat provides the driver with 2 position settings for the driver's seat. Each power seat motor is connected to the MHSAPM/MSAPM with two motor drive circuits. Each circuit is switched between battery and ground. By being able to bi-directionally drive the circuits, the MHSAPM/MSAPM controls the movement of the motors based on input from the power seat switch or from the position sensors when performing a memory recall. Each motor contains a potentiometer to monitor the seat position. To monitor the position of the motor, the MHSAPM/MSAPM sends out a 5-volt reference on the sensor supply circuit. The sensor is grounded back to the module on a common ground circuit. Based on the position of the sensor, the MHSAPM/MSAPM monitors the voltage change through the sensor on a separate signal circuit.

The MHSAPM/MSAPM stores the input value of each of the four seat potentiometers in memory when the system requests a set. The driver can initiate a memory recall, using either the door mounted memory switch or the RKE transmitter (if the remote linked to memory feature is enabled via the EVIC). When initiated, the MHSAPM/MSAPM adjusts the four seat sensors (by using the motors) to match the memorized seat position data.

For safety, the memory seat recall is disabled by the MHSAPM/MSAPM when the vehicle is out of park position or if the speed is not zero. Any obstruction to seat movement over a 2-second delay will cause the seat to stop moving in which case a stalled motor would be detected by the MHSAPM/MSAPM and the corresponding seat output would be deactivated. However, if the object obstructing the seat is removed, the seat will function normally again.

3.17.2 POWER SEAT - PASSENGER

The passenger power seat is controlled by the MHSAPM/MSAPM through PCI BUS messages sent from the PDM. However, there are no memory features with the passenger seat.

3.17.3 MEMORY SYSTEM

The memory system consists of the driver's power seat, power mirrors, adjustable pedals, and radio presets. Refer to Memory Master under Door Modules in this general information section for additional information.

The Memory Heated Seat Adjustable Pedal Module (MHSAPM) or the Memory Seat Adjustable Pedal Module (MSAPM) for vehicles equipped without heated seats are located under the driver's seat. It receives input from the following:

- driver's seat position sensors
- PCI Bus circuits

The MHSAPM/MSAPM uses these inputs to perform the following functions:

- position the driver's memory seat to the memory preset position
- position the pedals to the memory preset position
- send/receive memory system information over the PCI Bus.

The Memory Set Switch is wired to the Driver Door Module (DDM). After pressing the Memory Set Switch (#1 or #2), the DDM receives and interprets the analog signal and then sends a PCI Bus message to the MHSAPM/MSAPM to set or recall the memory seat position (1 or 2). The MHSAPM/MSAPM in turn sends a motion status message back to the DDM. If the message from the MHSAPM/MSAPM indicates no current motion, the DDM will send a recal message to the modules. In addition to setting seat position, the MHSAPM/MSAPM will also set the adjustable pedals to the memory-preset position.

If any one of the memory-controlled systems is inoperative from its manual switch, use the schematics and diagnostic information to correct the concern. This manual addresses the memory problems only and it is assumed there is not a basic component failure.

3.17.3.1 MEMORY POWER MIRRORS

Each outside mirror contains vertical and horizontal bi-directional drive positioning motors and position sensors. The Driver Door Module (DDM) and Passenger Door Module (PDM) provide a 5-volt reference on the signal circuit to each position sensor. The sensors share a common ground circuit. The DDM and PDM monitor the position of the mirror motors by measuring the voltage on each signal circuit. When a memory position is set, the DDM and PDM monitor and store the position of the outside mirrors. The DDM and PDM adjust the mirrors to the appropriate positions when a memory recall message is received from the RKE or is requested from the memory recall switch.

3.18 TELECOMMUNICATIONS

3.18.1 HANDS FREE PHONE

OVERVIEW

The vehicle telecommunications system consists of a Hands Free Module, Rear view Mirror, and a Blue-tooth Hands Free Profile enabled cell phone. The system allows vehicle occupants to use voice recognition technology to make, receive and screen phone calls without physically handling a cell phone. The system has a programmable phone book that can prevent the vehicle operator from becoming distracted searching for a specific number. Seven different wireless phones can be programmed to operate each individual system. Each of the seven phones is given a rank of priority when programmed.

OPERATION

Incoming phone messages are transmitted to the vehicle occupants through the vehicles audio system when the ignition is on and the wireless phone is on. Upon receiving the signal from an incoming phone call, the vehicle audio system will fade out the current CD/DVD or radio output. The vehicle occupants are then directed to accept or reject the call. Outgoing audio messages are received through the microphone located in the rearview mirror then transmitted via hardwire to the Hands Free Module and finally transmitted through the wireless phone. Volume of the voice prompts and incoming conversation is controlled using the vehicles' radio audio controls and steering wheel controls if equipped. The rear view mirror contains a Phone Switch, Voice Recognition Switch and a microphone. The rear view mirror transmits these inputs via hardwired circuits to the Hands Free Module.

3.19 VEHICLE THEFT SECURITY SYSTEM

The Vehicle Theft Security System (VTSS) is part of the Body Control Module (BCM). The BCM monitors the vehicle doors, liftgate, and the ignition for unauthorized operation. The alarm activates by sounding the horn, flashing the headlamps and the VTSS indicator lamp. The VTSS does not prevent engine operation; this is done with the Sentry Key Remote Entry Module

(SKREEM). The VTSS indicator lamp will flash for approximately 15 seconds during the arming process. If there is no interruption during the arming process, upon completion the VTSS indicator lamp will flash at a slower rate. When the BCM receives an input to trigger the alarm, the BCM will control the outputs of the headlamps, horn, and VTSS lamp for approximately 15 minutes.

Arming (Active and Passive)

Active arming occurs when the ignition key is removed, the RKE transmitter or door key cylinders are used to lock the vehicle doors, whether the doors are open or closed. The arming process is complete only after all doors are closed. Passive arming occurs when the ignition key is removed, the driver door is opened, and the doors are locked with the power door lock switch, and the door is closed.

Disarming (Active and Passive)

Active disarming occurs when the RKE transmitter is used to unlock the vehicle doors. This disarming will also halt the alarm once it has been activated. Passive disarming occurs upon normal vehicle entry (unlocking driver door with the key) or turning the ignition switch on with a valid skim key. This disarming will also halt the alarm once it has been activated.

Tamper Alert

The VTSS tamper alert will sound the horn three times upon disarming after an initial alarming has occurred to indicate a tamper condition has occurred.

Manual Override

The system will not arm if an occupant uses the manual lock control to lock the doors or actuates the locks after closing the doors.

Diagnosis

For complaints about the Vehicle Theft Alarm triggering on its own, use the DRBIII® and read the VTA Tripped By status.

3.19.1 SENTRY KEY REMOTE KEYLESS ENTRY (SKREEM)

For engine Immobilizer functions, see the Powertrain Diagnostic information. For the Remote Keyless Entry functions, see the Door Module - Remote Keyless Entry information in this section.

3.20 WIPER SYSTEM

3.20.1 FRONT WIPER

The front wiper/washer system consists of the following features: lo-hi-speed, mist wipers, intermittent wipers and wipe after wash. The front wiper system is only active when the ignition switch is in the RUN/ACC position. The vehicle operator selects the front wiper function using the front wiper switch (a resistive multiplexed stalk switch) which is integral to the Multi-Function Switch. The front wiper switch is hardwired to the Body Control Module (BCM). Upon receiving a wiper switch signal, the BCM sends a PCI Bus message to the Integrated Power Module (IPM). The IPM controls the ON/OFF relay, the HIGH/LOW relay and the front and rear washer pump motors.

The Wiper system utilizes the IPM to control the on/off and hi/low relays for the low and hi speed wiper functions, intermittent wiper delay as the switch position changes, pulse wipe, wipe after wash mode and wiper motor functions. The IPM uses the vehicle speed input to double the usual delay time below 10-mph (6 km/h).

3.20.2 SPEED SENSITIVE INTERMITTENT WIPE MODE

There are 5 individual delay time settings with a minimum delay of 1.7 seconds to a maximum of 18.4 seconds. When the vehicle speed is less than 10 mph (6 km/h), the delay time is doubled, providing a delay range of 3.4 seconds to 36.8 seconds.

3.20.3 PULSE WIPE

When the wiper is in the off position and the driver presses the wash button for more than .062 seconds, but less than .5 seconds, 2 (possibly 3) wipe cycles in low speed mode will be provided.

3.20.4 PARK AFTER IGNITION OFF

Because the wiper relays are powered from the battery, the BCM can run the wipers to park after the ignition is turned off.

3.20.5 WIPE AFTER WASH

When the driver presses the wash button for over .5 seconds and releases it, the wiper will continue to run for 2 additional wipe cycles.

3.20.6 MIST FUNCTION

The wiper operates as long as the wiper switch is in the mist position.

3.20.7 REAR WIPER

The rear wiper/washer system consists of the following features: mist wipers, intermittent wipers and wipe after wash. The rear wiper system is only active when the ignition switch is in the RUN/ACC position. The vehicle operator selects the rear wiper function using the rear wiper switch

integral to the multifunction switch. The rear wiper switch is hardwired to the Body Control Module (BCM). Upon receiving a wiper switch signal, the BCM provides 12 volts to the rear wiper motor. Rear washer occurs when the BCM receives a rear washer switch ON input. The BCM sends a PCI Bus message to the IPM requesting rear washer on. The IPM activates the rear washer by providing a ground for the rear washer motor.

3.20.8 SPEED SENSITIVE INTERMITTENT WIPE MODE

The delay setting of the rear wiper system is based solely on the vehicle speed. The delay time is defined as the amount of time from the start of a wipe to the beginning of the next wipe. The rear wiper system delay time is based on the following: 7.75 - (mph x .05) = Seconds delay Examples:

At zero (0) mph the delay is 7.75 seconds.

At 100 mph the delay is 2.75 seconds.

3.20.9 WIPE AFTER WASH

When the driver presses the wash button for over 1.5 seconds and releases it, the wiper will continue to run for 2 additional wipe cycles.

3.21 USING THE DRBIII®

Refer to the DRBIII® user guide for instructions and assistance with reading trouble codes, erasing trouble codes, and other DRBIII® functions.

3.22 DRBIII® ERROR MESSAGES

Under normal operation, the DRBIII® will display one of only two error messages: user-requested WARM Boot or User-Requested COLD Boot. If the DRBIII® should display any other error message, record the entire display and call the STAR Center. This is a sample of such an error message display:

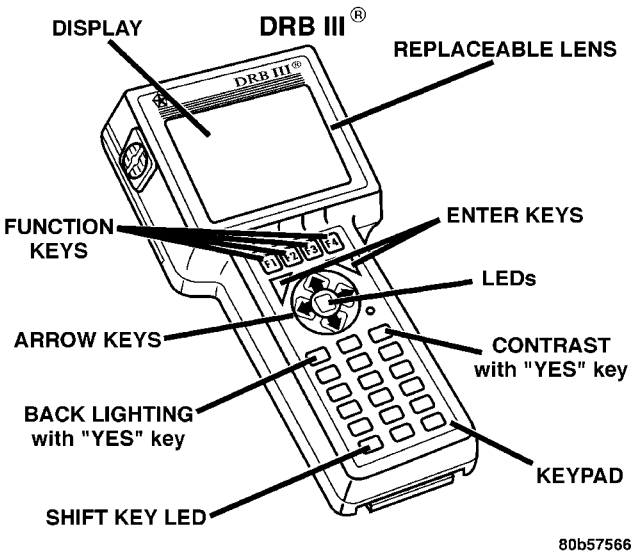
```
ver:2.14
date: 26 Jul93
file: key_iff.cc
date: Jul26 1993
line: 548
err: 0xi
User-Requested COLD Boot

Press MORE to switch between this display
   and the application screen.
Press F4 when done noting information.
```

3.23 DRBIII® DOES NOT POWER UP (BLANK SCREEN)

If the LED's do not light or no sound is emitted at start up, check for loose cable connections or a bad cable. Check the vehicle battery voltage (data link connector cavity 16). A minimum of 11 volts is required to adequately power the DRBIII®. Check for proper grounds at DLC cavities 4 and 5. If all connections are proper between the DRBIII® and the vehicle or other devices, and the vehicle battery is fully charged, an inoperative DRBIII® may be the result or a faulty cable or vehicle wiring.

3.24 DISPLAY IS NOT VISIBLE

Low temperatures will affect the visibility of the display. Adjust the contrast to compensate for this condition..



4.0 DISCLAIMERS, SAFETY, WARNINGS

4.1 DISCLAIMERS

All information, illustrations, and specifications contained in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

4.2 SAFETY

4.2.1 TECHNICIAN SAFETY INFORMATION

WARNING: WHEN OPERATING, ENGINES PRODUCE AN ODORLESS GAS CALLED CARBON MONOXIDE. INHALING CARBON MONOXIDE GAS CAN RESULT IN SLOWER REACTION TIMES AND CAN LEAD TO PERSONAL INJURY OR DEATH. WHEN THE ENGINE IS OPERATING, KEEP SERVICE AREAS WELL VENTILATED OR ATTACH THE VEHICLE EXHAUST SYSTEM TO THE SHOP EXHAUST REMOVAL SYSTEM.

Set the parking brake and block the wheel before testing or repairing the vehicle. It is especially important to block the wheels on front-wheel drive vehicles; the parking brake does not hold drive wheels. When servicing a vehicle, always wear eye protection, and remove any metal jewelry such as rings, watchbands or bracelets that might make an inadvertent electrical contact. When diagnosing a body system problem, it is important to follow approved procedures where applicable. These procedures can be found in this General Information Section or in the service manual procedures. Following these procedures is very important to safety of individuals performing diagnostic tests.

4.2.2 VEHICLE PREPARATION FOR TESTING

Make sure the vehicle being tested has a fully charged battery. If it does not, false diagnostic codes or error messages may occur.

4.2.3 SERVICING SUB-ASSEMBLIES

Some components of the body system are intended to be serviced as an assembly only. Attempting to remove or repair certain system subcomponents may result in personal injury and/or improper system operation. Only those components with approved repair and installation procedures in the service manual should be serviced.

4.2.4 DRBIII® SAFETY INFORMATION

WARNING: EXCEEDING THE LIMITS OF THE DRBIII® MULTIMETER IS DANGEROUS. READ ALL DRBIII® INSTRUCTIONS BEFORE USING THE MULTIMETER. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN PERSONAL INJURY OR DEATH.

- Follow the vehicle manufacturer's service specifications at all times.
- Do not use the DRBIII® if it has been damaged.
- Do not use the test leads if the insulation is damaged or if metal is exposed.
- To avoid electrical shock, do not touch the test leads, tips, or the circuit being tested.
- Choose the proper range and functions for the measurement. Do not try voltage or current measurement that may exceed the rated capacity.
- Do not exceed the limits shown in the table below:

FUNCTION	INPUT LIMIT
Volts	0 - 500 peak volts AC
Ohms (resistance)*	0 -1.12 megohms
Frequency Measured Frequency Generated	0 -10 kHz
Temperature	-58 - 1100°F (-50 - 600°C)

* Ohms cannot be measured if voltage is present. Ohms can be measured only in a non-powered circuit.

- Voltage between any terminal and ground must not exceed 500v DC or 500v peak AC.
- Use caution when measuring voltage above 25v DC or 25v AC.
- Use the low current shunt to measure circuits up to 10A. Use the high current clamp to measure circuits exceeding 10A.
- When testing for the presence of voltage or current, make sure the meter is functioning correctly. Take a reading of a known voltage or current before accepting a zero reading.
- When measuring current, connect the meter in series with the load.
- Disconnect the live test lead before disconnecting the common test lead.
- When using the meter function, keep the DRBI-II® away from spark plug or coil wires to avoid measuring error from outside interference.

4.3 WARNINGS

4.3.1 VEHICLE DAMAGE WARNINGS

Before disconnecting any control module, make sure the ignition is "off". Failure to do so could damage the module.When testing voltage or continuity at any control module, use the terminal side (not the wire end) of the connector. Do not probe a wire through the insulation; this will damage it and eventually cause it to fail because of corrosion. Be careful when performing electrical tests so as to prevent accidental shorting of terminals. Such mistakes can damage fuses or components. Also, a second code could be set, making diagnosis of the original problem more difficult.

4.3.2 ROAD TESTING A COMPLAINT VEHICLE

Some complaints will require a test drive as part of the repair verification procedure. The purpose of the test drive is to try to duplicate the diagnostic code or symptom condition.

WARNING: REASSEMBLE ALL COMPONENTS BEFORE ROAD TESTING A VEHICLE. DO NOT TRY TO READ THE DRBIII® SCREEN OR OTHER TEST EQUIPMENT DURING A TEST DRIVE. DO NOT HANG THE DRBIII® OR OTHER TEST EQUIPMENT FROM THE REARVIEW MIRROR DURING A TEST DRIVE. HAVE AN ASSISTANT AVAILABLE TO OPERATE THE DRBIII® OR OTHER TEST EQUIPMENT. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN PERSONAL INJURY OR DEATH.

5.0 REQUIRED TOOLS AND EQUIPMENT

DRBIII® (diagnostic read-out box)
Jumper wires
Ohmmeter
Voltmeter
Test Light
8310 Airbag System Load Tool
8443 SRS Airbag System Load Tool
9001 RF Detector

6.0 GLOSSARY OF TERMS

ABS	antilock brake system
ACM	airbag control module
AECM	airbag electronic control module (ACM)
APM	adjustable pedals module
ASDM	airbag system diagnostic module (ACM)
ATC	automatic temperature control
BCM	body control module
BTSI	brake transmission shift interlock
CAB	controller antilock brake
CMTC	compass/mini-trip computer
CPA	connector positive assurance
DAB	driver airbag
DDM	driver door module
DLC	data link connector
DRL	daytime running lamps
DTC	diagnostic trouble code
DR	driver
EBL	electric back lite (rear window defogger)
EVIC	electronic vehicle information center
GCC	Gulf Coast Countries
HE	hall effect
HFM	hands free module
HVAC	heater ventilation, air conditioning
IOD	ignition-off draw
IPM	integrated power module
LDU	lower drive unit
LHD	left hand drive
MH-SAPM	memory heated seat adjustable pedal module
MIC	mechanical instrument cluster
MSAPM	memory seat adjustable pedal module
MUX	multiplexed
NGC	next generation controller
OAT	outside air temperature
OBD	on board diagnostics
OCM	overhead console module

ODO	odometer
ORC	occupant restraint controller
PAB	passenger airbag
PASS	passenger
PCI	Programmable Communication Interface (vehicle communication bus)
PCM	powertrain control module
PDC	power distribution center
PDM	passenger door module
PLG	power liftgate
PLGM	power liftgate module
PWM	pulse width modulated
RKE	remote keyless entry
SAB	seat airbag
SBT	seat belt tensioner
SDAR	satellite digital audio receiver
SIACM	side impact airbag control module
SKREEM	Sentry Key RemotE Entry Module
SM	seat module
SQUIB	also called initiator (located inside airbag)
SRS	supplemental restraint system
TCM	transmission control module
TCS	traction control system
TPMS	tire pressure monitor system
UGDO	universal garage door opener
VFD	vacuum fluorescent display
VTSS	vehicle theft security system

7.0

DIAGNOSTIC INFORMATION AND PROCEDURES

Symptom List:

BROKEN CABLE - MHSAPM/MSAPM
BROKEN FORWARD CABLE - MHSAPM/MSAPM
BROKEN REARWARD CABLE - MHSAPM/MSAPM
LOSS OF HALL FORWARD SIGNAL - MHSAPM/MSAPM
LOSS OF HALL REARWARD SIGNAL - MHSAPM/MSAPM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be BROKEN CABLE - MHSAPM/MSAPM.

When Monitored and Set Condition:

BROKEN CABLE - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects Adjustable Pedal Hall Sensor circuit and Adjustable Pedal Sensor speed rates do not match.

BROKEN FORWARD CABLE - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects the Adjustable Pedal Hall Sensor and Adjustable Pedal Sensor counts are not synchronized in one travel direction.

BROKEN REARWARD CABLE - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects the Adjustable Pedal Hall Sensor and Adjustable Pedal Sensor counts are not synchronized in one travel direction.

LOSS OF HALL FORWARD SIGNAL - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects the Adjustable Pedal Hall Sensor and Adjustable Pedal Sensor counts are not synchronized.

LOSS OF HALL REARWARD SIGNAL - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects the Adjustable Pedal Hall Sensor and Adjustable Pedal Sensor counts are not synchronized.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
CHECKING ADJUSTABLE PEDAL HALL SENSOR STATE

BROKEN CABLE - MHSAPM/MSAPM — Continued

POSSIBLE CAUSES
CHECKING ADJUSTABLE PEDAL SENSOR VOLTAGE
ADJUSTABLE PEDAL ASSEMBLY INSPECTION
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory Heated Seat Adjustable Pedal Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the OFF position then start the engine and let run for one minute. Operate the adjustable pedal's to both stop limits. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
2	Turn ignition on. With the DRBIII® in Inputs/Outputs, read the Adjustable Pedal Hall Sensor state. Operate the Adjustable Pedal Switch to move the pedals. Does the DRBIII® switch between HIGH and LOW? Yes → Go To 3 No → Check for open or shorted wiring conditions between sensor and MHSAPM. Inspect for Adjustable Pedal Assembly failure. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
3	Turn ignition on. With the DRBIII® in Sensors, read the Adjustable Pedal Sensor voltage. Operate the Adjustable Pedal Switch to both travel stops. Does the DRBIII® display voltage change in both directions? Yes → Go To 4 No → Check for open or shorted wiring conditions between sensor and MHSAPM. Inspect for sensor not atttached correctly to pedal. Inspect for Adjustable Pedal Assembly failure. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

BROKEN CABLE - MHSAPM/MSAPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Perform an inspection on the Adjustable Pedal Assembly. Look for any signs of damage, bent, or worn components that might cause a rate of speed difference between the two pedals. Is there any damaged or worn components? Yes → Replace the Adjustable Pedal Assemby in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

Symptom List:

HALL FEEDBACK SIGNAL OPEN - MHSAPM/MSAPM
PEDAL HALL INPUT OPEN - MHSAPM/MSAPM
PEDAL HALL INPUT SHORTED LOW - MHSAPM/MSAPM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be HALL FEEDBACK SIGNAL OPEN - MHSAPM/MSAPM.

When Monitored and Set Condition:

HALL FEEDBACK SIGNAL OPEN - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects voltage of 2.5 volts on the Adjustable Pedal Hall Signal circuit.

PEDAL HALL INPUT OPEN - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects voltage higher than 4.7 volts on the Adjustable Pedal Hall Signal circuit.

PEDAL HALL INPUT SHORTED LOW - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects voltage between 2.5 and 3.0 volts on the Adjustable Pedal Hall Signal circuit.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
ADJUSTABLE PEDAL HALL SIGNAL CIRCUIT OPEN
ADJUSTABLE PEDAL HALL SIGNAL CIRCUIT SHORT TO GROUND
ADJUSTABLE PEDAL HALL SIGNAL CIRCUIT LOW
ADJUSTABLE PEDAL MOTOR HALL SENSE CIRCUIT OPEN
ADJUSTABLE PEDAL MOTOR HALL SENSE CIRCUIT SHORT TO GROUND
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

HALL FEEDBACK SIGNAL OPEN - MHSAPM/MSAPM — Continued

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory Heated Seat Adjustable Pedal Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the OFF position then start the engine and let run for one minute. Operate the adjustable pedal's to both stop limits. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Ensure the MHSAPM is fully connected before proceeding. Disconnect the Adjustable Pedal Motor connector. Turn ignition on. Measure the voltage of the Adjustable Pedal Motor Hall Sense circuit at the Adjustable Pedal Motor connector. Is the voltage above 4.5 volts? Yes → Go To 3 No → Go To 6	All
3	Turn ignition off. Disconnect the Adjustable Pedal Motor Connector. Disconnect the MHSAPM C1 Connector. Measure the resistance of the Adjustable Pedal Hall Signal circuit between the Adjustable Pedal Motor connector and the MHSAPM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Adjustable Pedal Hall Signal circuit for an open. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the MHSAPM C1 connector. Disconnect the Adjustable Pedal Motor connector. Measure the resistance of the Adjustable Pedal Hall Signal circuit to ground. Is the resistance below 1000 ohms? Yes → Repair the Adjustable Pedal Hall Signal circuit for a short to ground. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Go To 5	All

HALL FEEDBACK SIGNAL OPEN - MHSAPM/MSAPM — Continued

TEST	ACTION	APPLICABILITY
5	Turn ignition off. Ensure the MHSAPM is fully connected before proceeding. Disconnect the Adjustable Pedal Motor Connector. Connect a jumper wire between Adjustable Pedal Motor Hall Sense and Adjustable Pedal Hall Signal circuits. Turn ignition on. Measure the voltage of the Adjustable Pedal Hall Signal circuit at the MHSAPM C1 connector. Is the voltage above 4.5 volts? Yes → Replace the Adjustable Pedal Assembly in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Go To 7	All
6	Turn ignition off. Disconnect the MHSAPM C1 connector. Disconnect the Adjustable Pedal Motor connector. Measure the resistance of the Adjustable Pedal Motor Hall Sense circuit between the Adjustable Pedal Motor connector and the MHSAPM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the Adjustable Pedal Motor Hall Sense circuit for an open. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
7	Turn ignition off. Disconnect the MHSAPM C1 connector. Measure the resistance of the Adjustable Pedal Motor Hall Sense circuit to body ground. Is the resistance below 100.0 ohms? Yes → Repair the Adjustable Pedal Motor Hall Sense circuit for a short to ground. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

Symptom:

PEDAL FORWARD SWITCH STUCK - MHSAPM/MSAPM

When Monitored and Set Condition:

PEDAL FORWARD SWITCH STUCK - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects message longer than 35 seconds from the DDM.

POSSIBLE CAUSES
PEDAL FORWARD SWITCH STUCK

TEST	ACTION	APPLICABILITY
1	View repair. Repair This DTC is for reference only. Check for DTC's in the Driver Door Module and refer to the symptom list. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

Symptom:

PEDAL HALL INPUT SHORTED HIGH - MHSAPM/MSAPM

When Monitored and Set Condition:

PEDAL HALL INPUT SHORTED HIGH - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects voltage higher than 4.6 volts on the Adjustable Pedal Hall Signal circuit.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
ADJUSTABLE PEDAL MOTOR HALL SENSE CIRCUIT SHORTED HIGH
CHECK VOLTAGE ON ADJUSTABLE PEDAL HALL SIGNAL CIRCUIT
ADJUSTABLE PEDAL HALL SIGNAL CIRCUIT HIGH
ADJUSTABLE PEDAL HALL SIGNAL CIRCUIT SHORT TO MOTOR/MHSAPM
ADJUSTABLE PEDAL HALL SENSE RETURN CIRCUIT OPEN
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory Heated Seat Adjustable Pedal Module (MHSAPM). Operate the adjustable pedal's and memory system. Turn the ignition switch to the OFF position then start the engine and let run for one minute. Operate the adjustable pedal's to both stop limits. With the DRB check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the Adjustable Pedal Motor connector. Measure the resistance of the Adjustable Pedal Hall Sense Return circuit at the Adjustable Pedal Motor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Go To 7	All

PEDAL HALL INPUT SHORTED HIGH - MHSAPM/MSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Adjustable Pedal Motor connector. Turn ignition on. Measure the voltage between Adjustable Pedal Motor Hall Sense circuit and ground. Is the voltage above 5.5 volts? Yes → Repair the Adjustable Pedal Motor Hall Sense circuit for a short to battery. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn ignition off. Disconnect the Adjustable Pedal Motor Connector. Disconnect the MHSAPM C1 Connector. Turn ignition on. Measure the voltage between Adjustable Pedal Hall Signal circuit and ground. Is the voltage above 0.2 volts? Yes → Repair the Adjustable Pedal Hall Signal circuit for a short to voltage. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Disconnect the Adjustable Pedal Motor Connector. Ensure the MHSAPM is fully connected before proceeding. Turn ignition on. Measure the voltage of the Adjustable Pedal Hall Signal circuit at the MHSAPM C1 connector. Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Adjustable Pedal Assembly in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
6	Ensure all connectors are connected and Adjustable Pedal Motor is operational. Measure the voltage of the Adjustable Pedal Hall Signal circuit while operating the Adjustable Pedal Motor to both stop limits. Did the voltage ever go above 7.0 volts only when the motor was in operation? Yes → Replace the Adjustable Pedal Assembly in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

PEDAL HALL INPUT SHORTED HIGH - MHSAPM/MSAPM — Continued

TEST	ACTION	APPLICABILITY
7	Turn ignition off. Disconnect the MHSAPM C1 connector. Disconnect the Adjustable Pedal Motor connector. Measure the resistance of the Adjustable Pedal Hall Sense Return circuit between the Adjustable Pedal Motor connector and the MHSAPM C1 connector. Is the resistance below 5.0 ohms? Yes → Replace the Memory Heated Seat Adjustable Pedal Module in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Repair the Adjustable Pedal Hall Sense Return circuit for an open. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

Symptom:

PEDAL REARWARD SWITCH STUCK - MHSAPM/MSAPM

When Monitored and Set Condition:

PEDAL REARWARD SWITCH STUCK - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects message longer than 35 seconds from the DDM.

POSSIBLE CAUSES
PEDAL REARWARD SWITCH STUCK

TEST	ACTION	APPLICABILITY
1	View repair. Repair This DTC is for reference only. Check for DTC's in the Driver Door Module and refer to the symptom list. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

Symptom:

PEDAL SENSOR OUT OF RANGE HIGH - MHSAPM/MSAPM

When Monitored and Set Condition:

PEDAL SENSOR OUT OF RANGE HIGH - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects voltage higher than 4.6 volts on the Adjustable Pedal Sensor Signal circuit.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
ADJUSTABLE PEDAL SENSOR FEED CIRCUIT SHORTED HIGH
CHECK VOLTAGE ON ADJUSTABLE PEDAL SENSOR SIGNAL CIRCUIT
ADJUSTABLE PEDAL SENSOR SIGNAL CIRCUIT HIGH
ADJUSTABLE PEDAL SENSOR SIGNAL CIRCUIT SHORT TO MOTOR/MHSAPM
ADJUSTABLE PEDAL SENSOR RETURN CIRCUIT OPEN
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory Heated Seat Adjustable Pedal Module (MHSAPM). Operate the adjustable pedal's and memory system. Turn the ignition switch to the OFF position then start the engine and let run for one minute. Operate the adjustable pedal's to both stop limits. With the DRB check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the Adjustable Pedal Sensor connector. Measure the resistance of the Adjustable Pedal Sensor Return circuit at the Adjustable Pedal Sensor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Go To 7	All

PEDAL SENSOR OUT OF RANGE HIGH - MHSAPM/MSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Adjustable Pedal Sensor connector. Turn ignition on. Measure the voltage between Adjustable Pedal Sensor Feed circuit and ground. Is the voltage above 5.5 volts? Yes → Repair the Adjustable Pedal Sensor Feed circuit for a short to battery. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn ignition off. Disconnect the Adjustable Pedal Sensor Connector. Disconnect the MHSAPM C1 Connector. Turn ignition on. Measure the voltage between Adjustable Pedal Sensor Signal circuit and ground. Is the voltage above 0.2 volts? Yes → Repair the Adjustable Pedal Sensor Signal circuit for a short to voltage. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Disconnect the Adjustable Pedal Sensor Connector. Ensure the MHSAPM is fully connected before proceeding. Turn ignition on. With the DRBIII® in MHSAPM Sensors, Read the Adjustable Pedal Sensor voltage. Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Adjustable Pedal Sensor in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
6	Ensure all connectors are connected and Adjustable Pedal Motor is operational. With the DRBIII® in MHSAPM Sensors, monitor the Adjustable Pedal Sensor while operating the Adjustable Pedal Motor to both stop limits. Did the voltage ever go above 7.0 volts only when the motor was in operation? Yes → Replace the Adjustable Pedal Sensor in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

PEDAL SENSOR OUT OF RANGE HIGH - MHSAPM/MSAPM — Continued

TEST	ACTION	APPLICABILITY
7	Turn ignition off. Disconnect the MHSAPM C1 connector. Disconnect the Adjustable Pedal Sensor connector. Measure the resistance of the Adjustable Pedal Sensor Return circuit between the Adjustable Pedal Sensor connector and the MHSAPM C1 connector. Is the resistance below 5.0 ohms? Yes → Replace the Memory Heated Seat Adjustable Pedal Module in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Repair the Adjustable Pedal Sensor Return circuit for an open. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

Symptom:

PEDAL SENSOR OUT OF RANGE LOW - MHSAPM/MSAPM

When Monitored and Set Condition:

PEDAL SENSOR OUT OF RANGE LOW - MHSAPM/MSAPM

When Monitored: Ignition On - Continuously

Set Condition: The MHSAPM/MSAPM detects voltage lower than 0.2 volts on the Adjustable Pedal Sensor Signal circuit

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
ADJUSTABLE PEDAL SENSOR SIGNAL CIRCUIT OPEN
ADJUSTABLE PEDAL SENSOR SIGNAL CIRCUIT SHORT TO GROUND
ADJUSTABLE PEDAL SENSOR SIGNAL CIRCUIT LOW
ADJUSTABLE PEDAL SENSOR FEED CIRCUIT OPEN
ADJUSTABLE PEDAL SENSOR FEED CIRCUIT SHORT TO GROUND
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory Heated Seat Adjustable Pedal Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the OFF position then start the engine and let run for one minute. Operate the adjustable pedal's to both stop limits. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Ensure the MHSAPM is fully connected before proceeding. Disconnect the Adjustable Pedal Sensor connector. Turn ignition on. Measure the voltage of the Adjustable Pedal Sensor Feed circuit at the Adjustable Pedal Sensor connector. Is the voltage above 4.5 volts? Yes → Go To 3 No → Go To 6	All

PEDAL SENSOR OUT OF RANGE LOW - MHSAPM/MSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Adjustable Pedal Sensor Connector. Disconnect the MHSAPM C1 Connector. Measure the resistance of the Adjustable Pedal Sensor Signal circuit between the Adjustable Pedal Sensor connector and the MHSAPM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Adjustable Pedal Sensor Signal circuit for an open. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the MHSAPM C1 connector. Disconnect the Adjustable Pedal Sensor connector. Measure the resistance of the Adjustable Pedal Sensor Signal circuit to ground. Is the resistance below 1000 ohms? Yes → Repair the Adjustable Pedal Sensor Signal circuit for a short to ground. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Ensure the MHSAPM is fully connected before proceeding. Disconnect the Adjustable Pedal Sensor Connector. Connect a jumper wire between Adjustable Pedal Sensor Feed and Adjustable Pedal Sensor Signal circuits. Turn ignition on. With the DRBIII® select MHSAPM Sensors. Read the Adjustable Pedal Sensor voltage. Is the voltage above 4.5 volts? Yes → Replace the Adjustable Pedal Sensor in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
6	Turn ignition off. Disconnect the MHSAPM C1 connector. Disconnect the Adjustable Pedal Sensor connector. Measure the resistance of the Adjustable Pedal Sensor Feed circuit between the Adjustable Pedal Sensor connector and the MHSAPM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the Adjustable Pedal Sensor Feed circuit for an open. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

PEDAL SENSOR OUT OF RANGE LOW - MHSAPM/MSAPM — Continued

TEST	ACTION	APPLICABILITY
7	Turn ignition off. Disconnect the MHSAPM C1 connector. Measure the resistance of the Adjustable Pedal Sensor Feed circuit to body ground. Is the resistance below 100.0 ohms? Yes → Repair the Adjustable Pedal Sensor Feed circuit for a short to ground. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module in accordance with the Service Information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

Symptom:

PEDAL SWITCH STUCK - DDM

When Monitored and Set Condition:

PEDAL SWITCH STUCK - DDM

When Monitored: Ignition On - Continuously

Set Condition: The DDM detects Adjustable Pedal Switch active continuously for 30 seconds.

POSSIBLE CAUSES
DTC PRESENT
ADJUSTABLE PEDAL SWITCH
ADJUSTABLE PEDAL SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the pedal switch mechanical operation and also check for a possible obstruction. Correct if necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Adjustable Pedal Switch in both positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PEDAL SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 30 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display PEDAL SWITCH STUCK? Yes → Go To 3 No → Replace the Adjustable Pedal Switch. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

PEDAL SWITCH STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Adjustable Pedal Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Adjustable Pedal Switch MUX circuit as necessary. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

Symptom List:

ACCELEROMETER 1
INTERNAL 1
INTERNAL 2
INTERNAL 3
INTERNAL 4
OUTPUT DRIVER 1
OUTPUT DRIVER 2
STORED ENERGY FIRING 1

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ACCELEROMETER 1.

When Monitored and Set Condition:

ACCELEROMETER 1

When Monitored: With the ignition on, the module on board diagnostics continuously performs internal circuit tests.

Set Condition: This DTC will set if the module identifies an out of range internal circuit.

INTERNAL 1

When Monitored: With the ignition on, the module on board diagnostics continuously performs internal circuit tests.

Set Condition: This DTC will set if the module identifies an out of range internal circuit.

INTERNAL 2

When Monitored: With the ignition on, the module on board diagnostics continuously performs internal circuit tests.

Set Condition: This DTC will set if the module identifies an out of range internal circuit.

INTERNAL 3

When Monitored: With the ignition on, the module on board diagnostics continuously performs internal circuit tests.

Set Condition: This DTC will set if the module identifies an out of range internal circuit.

INTERNAL 4

When Monitored: With the ignition on, the module on board diagnostics continuously performs internal circuit tests.

Set Condition: This DTC will set if the module identifies an out of range internal circuit.

ACCELEROMETER 1 — Continued

OUTPUT DRIVER 1

When Monitored: With the ignition on, the module on board diagnostics continuously performs internal circuit tests.

Set Condition: This DTC will set if the module identifies an out of range internal circuit.

OUTPUT DRIVER 2

When Monitored: With the ignition on, the module on board diagnostics continuously performs internal circuit tests.

Set Condition: This DTC will set if the module identifies an out of range internal circuit.

STORED ENERGY FIRING 1

When Monitored: With the ignition on, the module on board diagnostics continuously performs internal circuit tests.

Set Condition: This DTC will set if the module identifies an out of range internal circuit.

POSSIBLE CAUSES
AIRBAG CONTROL MODULE - ACM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** Select the appropriate module and DTC type combination: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 2 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

Symptom List:

AIRBAG WARNING INDICATOR DRIVER
AIRBAG WARNING INDICATOR OPEN
AIRBAG WARNING INDICATOR SHORT

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be AIRBAG WARNING INDICATOR DRIVER.

When Monitored and Set Condition:

AIRBAG WARNING INDICATOR DRIVER

When Monitored: With ignition on the ACM monitors the PCI Bus for a message from the MIC containing the airbag warning indicator status. The ACM request the warning lamp status from the MIC once every second.

Set Condition: This DTC will set if the ACM receives a bus message indicating that the airbag lamp driver has failed.

AIRBAG WARNING INDICATOR OPEN

When Monitored: With ignition on the ACM monitors the PCI Bus for a message from the MIC containing the airbag warning indicator status. The ACM request the warning lamp status from the MIC once every second.

Set Condition: This DTC will set immediately if the indicator status is OPEN.

AIRBAG WARNING INDICATOR SHORT

When Monitored: With ignition on the ACM monitors the PCI Bus for a message from the MIC containing the airbag warning indicator status. The ACM request the warning lamp status from the MIC once every second.

Set Condition: This DTC will set immediately if the indicator status is SHORT.

POSSIBLE CAUSES
MIC, COMMUNICATION FAILURE
WARNING INDICATOR
ACM, WARNING INDICATOR
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

AIRBAG WARNING INDICATOR DRIVER — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Ensure the battery is fully charged. **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	With the DRBIII®, ensure PCI Bus communications with the Instrument Cluster. Is the Instrument Cluster communicating on the PCI Bus? Yes → Go To 3 No → Refer to category COMMUNICATION CATEGORY and select the related symptom NO RESPONSE or INSTRUMENT CLUSTER BUS +/- SIGNAL OPEN. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	With the DRBIII® select PASSIVE RESTRAINTS, AIRBAG and MONITOR DISPLAY. Using the DRBIII®, read the WARNING LAMP MONITOR screen. Select the LAMP STATUS displayed on the DRB monitors screen. Observe the Lamp Driver State and Actual Lamp State. Is the LAMP DRIVER and ACTUAL LAMP STATE: OK? YES Go To 4 NO Replace Instrument Cluster. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

AIRBAG WARNING INDICATOR DRIVER — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
CALIBRATION MISMATCH

When Monitored and Set Condition:

CALIBRATION MISMATCH

When Monitored: With ignition on, the ACM monitors the PCI Bus for the VIN message containing the body style. Note: The VIN message should match the vehicle VIN plate.

Set Condition: If the Body style stored in ACM does not exactly match the vehicle body style indicated by the PCM for 2 consecutive VIN messages, then the fault shall be set.

POSSIBLE CAUSES
PCM, PCI COMMUNICATION FAILURE
PCM VEHICLE IDENTIFICATION NUMBERS INCORRECT OR MISSING
ACM CALIBRATION MISMATCH
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** Connect the DRB to the data link connector and select PASSIVE RESTRAINTS, AIRBAG, SYSTEM TEST. With the DRBIII®, read the system test. Does the DRB show PCM Active on the Bus:? Yes → Go To 3 No → Refer to category COMMUNICATION CATEGORY and select the related symptom. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

CALIBRATION MISMATCH — Continued

TEST	ACTION	APPLICABILITY
3	With the DRB select ENGINE MISCELLANEOUS, select MISC FUNCTION, and then CHECK VIN to read the Vehicle Identification Number in the Powertrain Control Module. Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match? Yes → Go To 4 No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
CLUSTER MESSAGE MISMATCH

When Monitored and Set Condition:

CLUSTER MESSAGE MISMATCH

When Monitored: After the MIC bulb test is completed, the ACM compares the Lamp Request by ACM, On or Off, and the Lamp on by MIC, On or Off, PCI Bus messages. Each message is transmitted one time per second or when a change in the lamp state occur.

Set Condition: If the Lamp Request by ACM, On or Off, and the Lamp on by MIC, On or Off, messages do not match, the code will set.

POSSIBLE CAUSES
MIC DIAGNOSTIC CODES
CLUSTER MESSAGE MISMATCH
STORED CODE OR INTERMITTENT CONDITION
ACM, CLUSTER MESSAGE MISMATCH
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Ensure the battery is fully charged. **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Turn the ignition on. With the DRBIII®, read the MIC DTCs. Does the DRBIII® display any active Diagnostic Codes? Yes → Refer to symptom list for problems related to Instrument Cluster. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All

CLUSTER MESSAGE MISMATCH — Continued

TEST	ACTION	APPLICABILITY
3	With the DRBIII® select PASSIVE RESTRAINTS, AIRBAG, MONITOR DISPLAY and WARNING LAMP STATUS. Cycle the ignition key and observe the LAMP ON BY MIC and LAMP REQ BY ACM monitors after the 6 to 8 second indicator test. Does the LAMP ON BY MIC and LAMP REQ BY ACM monitors match? YES Go To 4 NO Replace Mechanical Instrument Cluster. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER KNEE BLOCKER CIRCUIT OPEN

When Monitored and Set Condition:

DRIVER KNEE BLOCKER CIRCUIT OPEN

When Monitored: With the ignition on, the ACM monitors the resistance of the Driver Knee Blocker Squib 1 circuits.

Set Condition: The ACM detects an open circuit or high resistance in the Driver Knee Blocker Squib 1 circuits.

POSSIBLE CAUSES
DRIVER KNEE BLOCKER AIRBAG SQUIB 1 CIRCUIT OPEN
DRIVER KNEE BLOCKER SQUIB 1 LINE 1 OR LINE 2 CIRCUIT OPEN
ACM, DRIVER KNEE BLOCKER SQUIB 1 CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER KNEE BLOCKER CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Knee Blocker Airbag connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Knee Blocker Airbag connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER KNEE BLOCKER SQUIB 1 CIRCUIT OPEN? Yes → Go To 3 No → Replace the Driver Knee Blocker Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Knee Blocker Airbag connector. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Knee Blocker Squib 1 Line 1 and Line 2 circuits between the ACM Adaptor and the Driver Knee Blocker Airbag connector. Is the resistance below 1.0 ohms on both circuits? Yes → Go To 4 No → Repair open or high resistance in Driver Knee Blocker Squib 1 Line 1 or Line 2 circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER KNEE BLOCKER CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER KNEE BLOCKER CIRCUIT SHORT

When Monitored and Set Condition:

DRIVER KNEE BLOCKER CIRCUIT SHORT

When Monitored: With the ignition on, the ACM monitors the resistance of the Driver Knee Blocker Squib 1 circuits.

Set Condition: With the ignition on, the ACM monitors the resistance of the Driver Knee Blocker Squib 1 circuits.

POSSIBLE CAUSES
DRIVER KNEE BLOCKER SQUIB 1 CIRCUIT SHORT
ACM, DRIVER KNEE BLOCKER SQUIB 1 CIRCUIT SHORT
DRIVER KNEE BLOCKER SQUIB 1 LINE 1 SHORT TO LINE 2
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure that the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER KNEE BLOCKER CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Knee Blocker Airbag connector. **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Knee Blocker Airbag connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER KNEE BLOCKER SQUIB 1 CIRCUIT SHORT? Yes → Go To 3 No → Replace Driver Knee Blocker Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Knee Blocker Airbag connector. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adapter to the Airbag Control Module connector. Measure the resistance between Driver Knee Blocker Squib 1 Line 1 and Line 2 circuits at the Driver Knee Blocker Airbag connector. Is the resistance below 10K ohms? Yes → Repair Driver Knee Blocker Squib 1 Line 1 circuit short to Squib 1 Line 2 circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER KNEE BLOCKER CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER KNEE BLOCKER SHORT TO BATTERY

When Monitored and Set Condition:

DRIVER KNEE BLOCKER SHORT TO BATTERY

When Monitored: With the ignition on, the ACM monitors the voltage of the Driver Knee Blocker Squib 1 circuits.

Set Condition: The ACM has detected high voltage on the Driver Knee Blocker Squib 1 circuits.

POSSIBLE CAUSES
DRIVER KNEE BLOCKER SQUIB 1 SHORT TO BATTERY
DRIVER KNEE BLOCKER SQUIB 1 LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, DRIVER KNEE BLOCKER SQUIB 1 SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure that the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER KNEE BLOCKER SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Knee Blocker Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** Connect the appropriate Load Tool to the Driver Knee Blocker Airbag connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER KNEE BLOCKER SQUIB 1 SHORT TO BATTERY? Yes → Go To 3 No → Replace Driver Knee Blocker Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Knee Blocker Airbag connector. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s) **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage on the Driver Knee Blocker Squib 1 Line 1 and Line 2 circuits between the Driver Knee Blocker Airbag connector and ground. Is there any voltage present? Yes → Repair Driver Knee Blocker Squib 1 Line 1 or Line 2 circuit short to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER KNEE BLOCKER SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER KNEE BLOCKER SHORT TO GROUND

When Monitored and Set Condition:

DRIVER KNEE BLOCKER SHORT TO GROUND

When Monitored: With the ignition on, the ACM monitors the resistance of the Driver Knee Blocker Squib 1 circuits.

Set Condition: When the ACM detects low resistance in either Driver Knee Blocker Squib 1 circuits.

POSSIBLE CAUSES
DRIVER KNEE BLOCKER AIRBAG SQUIB 1 SHORT TO GROUND
DRIVER KNEE BLOCKER SQUIB 1 LINE 1 AND LINE 2 SHORT TO GROUND
ACM, DRIVER KNEE BLOCKER SQUIB 1 CIRCUIT SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure that the battery is fully charged.** **NOTE: Connect the appropriate Load Tool to the Driver Knee Blocker Airbag connector.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER KNEE BLOCKER SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Knee Blocker Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** Connect the appropriate Load Tool to the Driver Knee Blocker Airbag connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER KNEE BLOCKER SQUIB 1 SHORT TO GROUND? Yes → Go To 3 No → Replace the Driver Knee Blocker Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Knee Blocker Airbag connector. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Knee Blocker Squib 1 Line 1 or Line 2 circuits between the Driver Knee Blocker Airbag Module Connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair Driver Knee Blocker Squib 1 Line 1 and Line 2 circuits for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER KNEE BLOCKER SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SEAT BELT TENSIONER CIRCUIT OPEN

When Monitored and Set Condition:

DRIVER SEAT BELT TENSIONER CIRCUIT OPEN

When Monitored: With the ignition on the ACM monitors the resistance of the Driver Seat Belt Tensioner circuits.

Set Condition: The ACM has detected an open circuit or high resistance on the Driver Seat Belt Tensioner circuits.

POSSIBLE CAUSES
DRIVER SEAT BELT TENSIONER CIRCUITS OPEN
DRIVER SEAT BELT TENSIONER LINE 1 OR LINE 2 CIRCUIT OPEN
ACM, DRIVER SEAT BELT TENSIONER CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**NOTE: Ensure the battery is fully charged.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Seat Belt Tensioner connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Seat Belt Tensioner connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® display DRIVER SBT CIRCUIT OPEN? Yes → Go To 3 No → Replace Driver Seat Belt Tensioner in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Seat Belt Tensioner connector. Disconnect the Airbag Control Module Connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). Measure the resistance of the Driver SBT Line 1 and Line 2 circuits between the Load Tool Adapter and the Driver SBT connector. Is the resistance below 1.0 ohms on both circuit? Yes → Go To 4 No → Repair open or high resistance in Driver Seat Belt Tensioner Line 1 Line 2 circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT, PERSONAL INJURY OR DEATH, .** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with the Service information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SEAT BELT TENSIONER CIRCUIT SHORT

When Monitored and Set Condition:

DRIVER SEAT BELT TENSIONER CIRCUIT SHORT

When Monitored: With the ignition on the ACM monitors the resistance of the Driver Seat Belt Tensioner circuits

Set Condition: The ACM has detected low resistance in the Driver Seat Belt Tensioner circuits.

POSSIBLE CAUSES
DRIVER SEAT BELT TENSIONER SHORT
DRIVER SEAT BELT TENSIONER LINE 1 SHORT TO LINE 2
ACM, DRIVER SEAT BELT TENSIONER CIRCUIT SHORT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Seat Belt Tensioner connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Seat Belt Tensioner connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® display DRIVER SEAT BELT TENSIONER CIRCUIT SHORT? Yes → Go To 3 No → Replace Driver Seat Belt Tensioner in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Seat Belt Tensioner connector. Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). Measure the resistance between the Driver SBT Line 1 and Line 2 circuit at the Driver SBT connector. Is the resistance below 10K Ohms? Yes → Repair Driver Seat Belt Tensioner Line 1 circuit short to Driver Seat Belt Tensioner Line 2 circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SEAT BELT TENSIONER SHORT TO BATTERY

When Monitored and Set Condition:

DRIVER SEAT BELT TENSIONER SHORT TO BATTERY

When Monitored: With the ignition on the ACM monitors the voltage of the Driver Seat Belt Tensioner circuits.

Set Condition: The ACM has detected high voltage on the Driver Seat Belt Tensioner circuits.

POSSIBLE CAUSES
DRIVER SEAT BELT TENSIONER SHORT TO BATTERY
DRIVER SBT LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, DRIVER SEAT BELT TENSIONER SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Seat Belt Tensioner connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Seat Belt Tensioner connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH,TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® display DRIVER SEAT BELT TENSIONER SHORT TO BATTERY? Yes → Go To 3 No → Replace Driver Seat Belt Tensioner in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Seat Belt Tensioner connector. Disconnect the Airbag Control Module Connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Driver SBT Line 1 and Line 2 circuits between the Driver SBT connector and ground. Is there any voltage present? Yes → Repair Driver Seat Belt Tensioner Line 1 or Line 2 circuit short to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SEAT BELT TENSIONER SHORT TO GROUND

When Monitored and Set Condition:

DRIVER SEAT BELT TENSIONER SHORT TO GROUND

When Monitored: With the ignition on the ACM monitors the voltage of the Driver Seat Belt Tensioner circuits.

Set Condition: When the ACM detects a short to ground in either Driver Seat Belt Tensioner circuits.

POSSIBLE CAUSES
DRIVER SEAT BELT TENSIONER SHORT TO GROUND
DRIVER SEAT BELT LINE 1 OR LINE 2 SHORT TO GROUND
ACM, DRIVER SEAT BELT TENSIONER SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Seat Belt Tensioner connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Seat Belt Tensioner connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® display DRIVER SEAT BELT TENSIONER SHORT TO GROUND? Yes → Go To 3 No → Replace the Driver Seat Belt Tensioner in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SEAT BELT TENSIONER SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Seat Belt Tensioner connector. Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). Measure the resistance of the Driver SBT Line 1 and Line 2 circuits between the Driver SBT connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair Driver Seat Belt Tensioner Line 1 or Line 2 circuits short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with the Service information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SEAT BELT TENSIONER SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SQUIB 1 CIRCUIT OPEN

When Monitored and Set Condition:

DRIVER SQUIB 1 CIRCUIT OPEN

When Monitored: With the ignition on, the ACM monitors the resistance of the Driver Squib 1 circuits.

Set Condition: The ACM detects an open circuit or high resistance in the Driver Squib 1 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG SQUIB 1 CIRCUIT OPEN
CLOCKSPRING SQUIB 1 CIRCUIT OPEN
DRIVER SQUIB 1 LINE 1 OR LINE 2 CIRCUITS OPEN
ACM, DRIVER SQUIB 1 CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Airbag Squib connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Driver Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 1 CIRCUIT OPEN? Yes → Go To 3 No → Replace the Driver Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Airbag connector(s). Disconnect the Clockspring connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 1 CIRCUIT OPEN? Yes → Go To 4 No → Replace the Clockspring in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Clockspring connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s). Measure the resistance of the Driver Squib 1 Line 1 and Line 2 circuits between the ACM Adaptor and the Clockspring connector(s). Is the resistance below 1.0 ohm on both circuits? Yes → Go To 5 No → Repair open or high resistance in the Driver Squib 1 Line 1 or Line 2 circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SQUIB 1 CIRCUIT SHORT

When Monitored and Set Condition:

DRIVER SQUIB 1 CIRCUIT SHORT

When Monitored: With the ignition on, the ACM monitors the resistance of the Driver Squib 1 circuits.

Set Condition: The ACM has detected low resistance on the Driver Squib 1 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG SQUIB 1 CIRCUIT SHORT
CLOCKSPRING, DRIVER SQUIB 1 CIRCUITS SHORT
DRIVER AIRBAG SQUIB 1 LINE 1 SHORT TO LINE 2
ACM, DRIVER SQUIB LINE 1 SHORT TO LINE 2
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

DRIVER SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Driver Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 1 CIRCUIT SHORT? Yes → Go To 3 No → Replace the Driver Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Airbag connector(s). Disconnect the Clockspring connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 1 CIRCUIT SHORT? Yes → Go To 4 No → Replace the Clockspring in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Clockspring connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s). Measure the resistance between the Driver Squib 1 Line 1 and Line 2 at the Clockspring connector. Is the resistance below 10K ohms? Yes → Repair the Driver Squib 1 Line 1 circuit shorted to Driver Squib 1 Line 2 circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All

DRIVER SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SQUIB 1 SHORT TO BATTERY

When Monitored and Set Condition:

DRIVER SQUIB 1 SHORT TO BATTERY

When Monitored: With the ignition on, the ACM monitors the voltage of the Driver Squib 1 circuits.

Set Condition: The ACM has detected high voltage on the Driver Squib 1 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG SQUIB 1 SHORT TO BATTERY
CLOCKSPRING, DRIVER SQUIB 1 SHORT TO BATTERY
DRIVER SQUIB 1 LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, DRIVER SQUIB 1 SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED ACM DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Airbag Squib connector(s). **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 1 SHORT TO BATTERY? Yes → Go To 3 No → Replace the Driver Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Airbag connector(s). Disconnect the Clockspring connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 1 SHORT TO BATTERY ? Yes → Go To 4 No → Replace the Clockspring in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Disconnect the Load Tool from the Clockspring connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage on the Driver Squib 1 Line 1 and Line 2 circuits between the Clockspring connector and ground. Is there any voltage present? Yes → Repair the Driver Squib 1 Line 1 or Line 2 circuits shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SQUIB 1 SHORT TO GROUND

When Monitored and Set Condition:

DRIVER SQUIB 1 SHORT TO GROUND

When Monitored: With the ignition on, the ACM monitors the resistance of the Driver Squib 1 circuits.

Set Condition: When the ACM detects a short to ground in either Driver Squib 1 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG SQUIB 1 SHORT TO GROUND
CLOCKSPRING, DRIVER SQUIB 1 SHORT TO GROUND
DRIVER SQUIB 1 LINE 1 OR LINE 2 SHORTED TO GROUND
ACM, DRIVER SQUIB 1 SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Airbag Squib connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Driver Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 1 SHORT TO GROUND? Yes → Go To 3 No → Replace the Driver Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Airbag connector(s). Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 1 SHORT TO GROUND? Yes → Go To 4 No → Replace the Clockspring in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Clockspring connector. Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Squib 1 Line 1 and Line 2 circuits between Clockspring connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair Driver Squib 1 Line 1 or Line 2 circuits shorted to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All

DRIVER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT, PERSONAL INJURY OR DEATH, .** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SQUIB 2 CIRCUIT OPEN

When Monitored and Set Condition:

DRIVER SQUIB 2 CIRCUIT OPEN

When Monitored: With the ignition on, the ACM monitors the resistance of the Driver Squib 2 circuits.

Set Condition: The ACM detects an open circuit or high resistance in the Driver Squib 2 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG SQUIB 2 CIRCUIT OPEN
CLOCKSPRING, DRIVER SQUIB 2 CIRCUIT OPEN
DRIVER SQUIB 2 LINE 1 OR LINE 2 CIRCUITS OPEN
ACM, DRIVER SQUIB 2 CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Airbag Squib connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Connect the appropriate Load Tool to the Driver Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 2 CIRCUIT OPEN? Yes → Go To 3 No → Replace the Driver Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Clockspring connector. Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 2 CIRCUIT OPEN? Yes → Go To 4 No → Replace the Clockspring in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Clockspring connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s) Measure the resistance of the Driver Squib 2 Line 1 and Line 2 circuits between the ACM Adaptor and the Clockspring connector. Is the resistance below 1.0 ohm on both circuits? Yes → Go To 5 No → Repair open or high resistance in the Driver Squib 2 Line 1 or Line 2 circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SQUIB 2 CIRCUIT SHORT

When Monitored and Set Condition:

DRIVER SQUIB 2 CIRCUIT SHORT

When Monitored: With the ignition on, the ACM monitors the resistance of the Driver Squib 2 circuits.

Set Condition: The ACM detects low resistance on the Driver Squib 2 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG SQUIB 2 CIRCUIT SHORT
CLOCKSPRING, DRIVER SQUIB 2 CIRCUIT SHORT
DRIVER SQUIB 2 LINE 1 SHORT TO LINE 2
ACM, DRIVER SQUIB 2 CIRCUIT SHORT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER SQUIB 2 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Driver Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRB show DRIVER SQUIB 2 CIRCUIT SHORT? Yes → Go To 3 No → Replace Driver Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Airbag connector(s). Disconnect the Clockspring connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRB show DRIVER SQUIB 2 CIRCUIT SHORT? Yes → Go To 4 No → Replace Clockspring in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Clockspring connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s). Measure the resistance between the Driver Squib 2 Line 1 and Line 2 circuits at the Clockspring connector. Is the resistance below 10K ohms? Yes → Repair the Driver Squib 2 Line 1 circuit shorted to Driver Squib 2 Line 2 circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All

DRIVER SQUIB 2 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SQUIB 2 SHORT TO BATTERY

When Monitored and Set Condition:

DRIVER SQUIB 2 SHORT TO BATTERY

When Monitored: With the ignition on, the ACM monitors the voltage of the Driver Squib 2 circuits.

Set Condition: The ACM detects high voltage on the Driver Squib 2 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG SQUIB 2 SHORT TO BATTERY
CLOCKSPRING, DRIVER SQUIB 2 SHORT TO BATTERY
DRIVER SQUIB 2 LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, DRIVER SQUIB 2 SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER SQUIB 2 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH,TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Airbag connector(s). **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH,TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show DRIVER SQUIB 2 SHORT TO BATTERY? Yes → Go To 3 No → Replace the Driver Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Airbag connector(s). Disconnect the Clockspring connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRB show DRIVER SQUIB 2 SHORT TO BATTERY ? Yes → Go To 4 No → Replace the Clockspring in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Clockspring connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage on the Driver Squib 2 Line 1 and Line 2 from the Clockspring connector to ground. Is there any voltage present? Yes → Repair the Driver Squib 2 Line 1 or Line 2 circuits shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All

DRIVER SQUIB 2 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
DRIVER SQUIB 2 SHORT TO GROUND

When Monitored and Set Condition:

DRIVER SQUIB 2 SHORT TO GROUND

When Monitored: With the ignition on, the ACM monitors the resistance of the Driver Squib 2 circuits.

Set Condition: The ACM detects a short to ground in either Driver Squib 2 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG SQUIB 2 SHORT TO GROUND
CLOCKSPRING, DRIVER SQUIB 2 SHORT TO GROUND
DRIVER SQUIB 2 LINE 1 OR LINE 2 SHORT TO GROUND
ACM, DRIVER SQUIB 2 SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 6 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER SQUIB 2 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH,TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Driver Airbag connectors(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH,TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRB show DRIVER SQUIB 2 SHORT TO GROUND? Yes → Go To 3 No → Replace the Driver Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH,TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Driver Airbag connector(s). Disconnect the Clockspring connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH,TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRB show DRIVER SQUIB 2 SHORT TO GROUND? Yes → Go To 4 No → Replace the Clockspring in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Clockspring connector. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Squib 2 Line 1 and Line 2 circuits between Clockspring connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair Driver Squib 2 Line 1 or Line 2 circuits shorted to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All

DRIVER SQUIB 2 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LEFT CURTAIN OR SEAT SQUIB CIRCUIT OPEN

When Monitored and Set Condition:

LEFT CURTAIN OR SEAT SQUIB CIRCUIT OPEN

When Monitored: With the ignition on, the ACM monitors the resistance of the Left Curtain or Seat Squib circuits.

Set Condition: When the ACM detects an open circuit or high resistance on the Left Curtain or Seat Squib circuits.

POSSIBLE CAUSES
LEFT CURTAIN OR SEAT SQUIB CIRCUIT OPEN
LEFT CURTAIN OR SEAT SQUIB LINE 1 OR LINE 2 CIRCUIT OPEN
ACM, LEFT CURTAIN OR SEAT SQUIB CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure that the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

LEFT CURTAIN OR SEAT SQUIB CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Left Curtain or Seat Airbag connector. **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Connect the appropriate Load Tool to the Left Curtain or Seat Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** **NOTE: Check connectors - Clean and repair as necessary.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® show LEFT CURTAIN OR SEAT SQUIB SEAT OPEN? Yes → Go To 3 No → Replace Left Curtain or Seat Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Load Tool from the Left Curtain or Seat Airbag connector. Disconnect the Airbag Control Module Connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adapter to the Airbag Control Module connector(s). Measure the resistance of the Left Curtain or Seat Squib Line 1 and Line 2 circuit. Is the resistance below 1.0 ohms on both circuits? Yes → Replace the Airbag Control Module in accordance with the Service information. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Repair open or high resistance in the Left Curtain or Seat Squib Line 1 or Line 2 circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LEFT CURTAIN OR SEAT SQUIB CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LEFT CURTAIN OR SEAT SQUIB CIRCUIT SHORT

When Monitored and Set Condition:

LEFT CURTAIN OR SEAT SQUIB CIRCUIT SHORT

When Monitored: With the ignition on, the ACM monitors the resistance between the Left Curtain or Seat Squib circuits.

Set Condition: When the ACM detects a low resistance between the Left Curtain or Seat Squib circuits.

POSSIBLE CAUSES
LEFT CURTAIN OR SEAT SQUIB CKT SHORT
LEFT CURTAIN OR SEAT SQUIB LINE 1 SHORTED TO LINE 2
ACM, LEFT CURTAIN OR SEAT SQUIB CIRCUIT SHORT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure that the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

LEFT CURTAIN OR SEAT SQUIB CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Left Curtain or Seat Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** Connect the appropriate Load Tool to the Left Curtain or Seat Airbag connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® display LEFT CURTAIN OR SEAT SQUIB CIRCUIT SHORT? Yes → Go To 3 No → Replace the Left Curtain or Seat Airbag in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Load Tool from the Left Curtain or Seat Airbag connector. Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM adaptor to the ACM connector(s). Measure the resistance of the Left Curtain Seat Squib Line 1 and Line 2 circuits at the Left Curtain Seat Airbag connector. Is the resistance below 10K ohms? Yes → Repair Left Curtain Seat Squib Line 1 shorted to Line 2. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Information. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LEFT CURTAIN OR SEAT SQUIB CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LEFT CURTAIN OR SEAT SQUIB SHORT TO BATTERY

When Monitored and Set Condition:

LEFT CURTAIN OR SEAT SQUIB SHORT TO BATTERY

When Monitored: With the ignition on, the ACM monitors the voltage of the Left Curtain or Seat Squib circuits.

Set Condition: When the ACM detects voltage on the Left Curtain or Seat Squib circuits.

POSSIBLE CAUSES
LEFT CURTAIN OR SEAT SQUIB SHORT TO BATTERY
LEFT CURTAIN OR SEAT SQUIB LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, LEFT CURTAIN OR SEAT SQUIB SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure that the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Left Curtain or Seat Airbag connector. **NOTE: Check connectors - Clean repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Connect the appropriate Load Tool to the Left Curtain or Seat Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® show LEFT CURTAIN OR SEAT SQUIB SHORT TO BATTERY? Yes → Go To 3 No → Replace Left Curtain or Seat Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LEFT CURTAIN OR SEAT SQUIB SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Airbag Load Tool from the Left Curtain or Seat Airbag connector. Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adapter to the ACM connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, THEN RECONNECT THE BATTERY.** Measure the voltage on the Left Curtain or Seat Squib Line 1 and Line 2 circuits between the Left Curtain or Seat Airbag connector and ground. Is there any voltage on either Curtain or Seat Squib circuit? Yes → Repair Left Curtain or Seat Squib Line 1 or Line 2 circuit short to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Information. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LEFT CURTAIN OR SEAT SQUIB SHORT TO GROUND

When Monitored and Set Condition:

LEFT CURTAIN OR SEAT SQUIB SHORT TO GROUND

When Monitored: With the ignition on, the ACM monitors the resistance of the Left Curtain or Seat Squib circuits.

Set Condition: When the ACM detects low resistance in either Left Curtain or Seat Squib circuits.

POSSIBLE CAUSES
LEFT CURTAIN OR SEAT SQUIB SHORT TO GROUND
LEFT CURTAIN OR SEAT SQUIB LINE 1 OR LINE 2 SHORTED TO GROUND
ACM, LEFT CURTAIN OR SEAT SQUIB SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure that the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

LEFT CURTAIN OR SEAT SQUIB SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Left Curtain or Seat Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Connect the appropriate Load Tool to the Left Curtain or Seat Airbag connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® display LEFT CURTAIN OR SEAT SQUIB SHORT TO GROUND? Yes → Go To 3 No → Replace the Left Curtain or Seat Airbag in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Load Tool from the Left Curtain or Seat Airbag connector. Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM adaptor to the ACM connector(s). Measure the resistance of the Left Curtain or Seat Squib Line 1 and Line 2 circuits between the Left Curtain or Seat Airbag connector and ground. Is the resistance below 10K ohms on either Left Curtain or Seat circuit? Yes → Repair Left Curtain or Seat Squib Line 1 or Line 2 shorted to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Information. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LEFT CURTAIN OR SEAT SQUIB SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LEFT FRONT IMPACT SENSOR INTERNAL 1

When Monitored and Set Condition:

LEFT FRONT IMPACT SENSOR INTERNAL 1

When Monitored: The Left Front Impact sensors is equipped with onboard diagnostics to monitor the sensors internal circuits. If a problem is identified the sensor sends the Left Front Impact sensor internal 1 message to the ACM.

Set Condition: The code will set if the ACM receives an internal 1 message from the Left Front Impact Sensor.

POSSIBLE CAUSES
ACM, LEFT FRONT IMPACT SENSOR 1
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Replace the Left Front Impact Sensor 1. Reconnect the vehicle wire harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Left Front Impact Sensor 1 DTC return? Yes → Go To 3 No → Test Complete.	All

LEFT FRONT IMPACT SENSOR INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LEFT SIDE IMPACT SENSOR 1 INTERNAL 1

When Monitored and Set Condition:

LEFT SIDE IMPACT SENSOR 1 INTERNAL 1

When Monitored: At ignition on, the Left Side Impact Sensor 1 is equipped with onboard diagnostics to monitor the sensors internal circuits. If a problem is identified the sensor sends the Left Side Impact Sensor 1 internal 1 message to the ACM.

Set Condition: The code will set, if the ACM receives an Impact Sensor Internal 1 message from the Left Side Impact Sensor 1.

POSSIBLE CAUSES
ACM, LEFT SIDE IMPACT SENSOR 1
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Replace the Left Side Impact Sensor 1. Reconnect the vehicle wire harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Left Side Impact Sensor 1 DTC return? Yes → Go To 3 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LEFT SIDE IMPACT SENSOR 1 INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LEFT SIDE IMPACT SENSOR 2 INTERNAL 1

When Monitored and Set Condition:

LEFT SIDE IMPACT SENSOR 2 INTERNAL 1

When Monitored: At ignition on, the Left Side Impact Sensor 2 is equipped with onboard diagnostics to monitor the sensors internal circuits. If a problem is identified the sensor sends the Left Side Impact Sensor 1 internal 1 message to the ACM.

Set Condition: The code will set, if the ACM receives an Impact Sensor Internal 1 message from the Left Side Impact Sensor 2.

POSSIBLE CAUSES
ACM, LEFT SIDE IMPACT SENSOR 2
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Replace the Left Side Impact Sensor 2. Reconnect the vehicle wire harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Left Side Impact Sensor 2 DTC return? Yes → Go To 3 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LEFT SIDE IMPACT SENSOR 2 INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LEFT SIDE IMPACT SENSOR 3 INTERNAL 1

When Monitored and Set Condition:

LEFT SIDE IMPACT SENSOR 3 INTERNAL 1

When Monitored: At ignition on, the Left Side Impact Sensor 3 is equipped with onboard diagnostics to monitor the sensors internal circuits. If a problem is identified the sensor sends the Left Side Impact Sensor 1 internal 1 message to the ACM.

Set Condition: The code will set, if the ACM receives an Impact Sensor Internal 3 message from the Left Side Impact Sensor 1.

POSSIBLE CAUSES
ACM, LEFT SIDE IMPACT SENSOR 3
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Replace the Left Side Impact Sensor 3. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Left Side Impact Sensor 3 Internal 1 DTC return? Yes → Go To 3 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LEFT SIDE IMPACT SENSOR 3 INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom List:

LOSS OF IGNITION RUN - START
ORC RUN - START DRIVER OPEN
ORC RUN - START DRIVER SHORT TO GROUND

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be LOSS OF IGNITION RUN - START.

When Monitored and Set Condition:

LOSS OF IGNITION RUN - START

When Monitored: With the ignition in the Run - Start position the ACM monitors the Run-Start Driver circuit for proper system voltage.

Set Condition: If the voltage on the Run - Start Driver circuit drops below 4.5 volts, the code will set.

ORC RUN - START DRIVER OPEN

When Monitored: After the ignition is turned OFF, the IPM controlled transistor (high side driver) places a diagnostic voltage on the ORC Run Only circuit for 60 seconds. An open high side driver (HSD) circuit voltage is between 2.4 and 5.0 volts.

Set Condition: This code will set within 8 second. Note: the diagnostic voltage will only last for 60 seconds after the ignition is turned off.

ORC RUN - START DRIVER SHORT TO GROUND

When Monitored: The IPM uses a microprocessor controlled transistor (high side driver) to supply power to the ACM. The microprocessor monitors for short to ground when the ignition is in the Run or Start position.

Set Condition: The code will set within 1 second.

POSSIBLE CAUSES
ORC, LOSS OF IGNITION RUN - START
ACM, ORC RUN - START CIRCUIT OPEN
IPM, ORC RUN - START CIRCUIT OPEN
RUN - START DRIVER CIRCUIT OPEN
IPM, ORC RUN - START SHORT
ORC RUN - START SHORT
ACM, ORC RUN - START SHORT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
1	Ensure the battery is fully charged. Turn the ignition on. **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT MODULE AND DTC TYPE: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 8 IPM - ACTIVE DTC Go To 3 IPM - STORED DTC Go To 8 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	With the DRBIII®, read the active IPM DTC's. Are there any active ORC RUN - START DRIVER DTC's? Yes → Go To 3 No → WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	Select the IPM active RUN - START DTC displayed on the DRB. 1. ORC RUN-START DRIVER OPEN Go To 4 2. ORC RUN-START DRIVER SHORT TO GROUND Go To 6	All

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Disconnect the Airbag Control Module connector(s). Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, TO AVOID PERSONAL INJURY OR DEATH, THEN RECONNECT THE BATTERY.** Connect a test light to ground and the ORC Run-Start Driver circuit at the ACM adaptor. Turn the ignition off, wait 90 seconds, then turn the ignition on. With the DRBIII®, read the active IPM DTC's. Does the DRB show an active ORC RUN - START DRIVER OPEN code? Yes → Go To 5 No → WARNING: MAKE SURE THE BATTERY IS DISCONNECTED, THEN WAIT TWO MINUTES BEFORE PROCEEDING. Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
5	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the IPM connector. **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the ORC Run - Start Driver circuit between the IPM connector and the ACM Adapter. Is the resistance below 1.0 ohms? Yes → Repair the open ORC Run - Start Driver circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Replace the IPM. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the IPM connector. **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the ORC Run - Start Driver circuit between the IPM connector and ground. Is the resistance below 500K ohms? Yes → Go To 7 No → Replace the IPM. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
7	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the ORC Run - Start Driver circuit between the IPM connector and ground. Is the resistance below 500K ohms? Yes → Repair the ORC Run - Start Driver circuit shorted to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → WARNING: MAKE SURE THE BATTERY IS DISCONNECTED, THEN WAIT TWO MINUTES BEFORE PROCEEDING. Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom List:

LOSS OF IGNITION RUN ONLY
ORC RUN ONLY DRIVER OPEN
ORC RUN ONLY DRIVER SHORT TO GROUND

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be LOSS OF IGNITION RUN ONLY.

When Monitored and Set Condition:

LOSS OF IGNITION RUN ONLY

When Monitored: With the ignition in the run only position the ACM monitors the ORC Run Only Driver circuit for proper system voltage.

Set Condition: If the voltage on the ORC Run Only Driver circuit drops below 4.5 volts, the code will set.

ORC RUN ONLY DRIVER OPEN

When Monitored: After the ignition is turned OFF, the IPM controlled transistor (high side driver) places a diagnostic voltage on the ORC Run Only circuit for 60 seconds. An open high side driver (HSD) circuit voltage is between 2.4 and 5.0 volts.

Set Condition: This code will set within 8 second. Note: the diagnostic voltage will only last for 60 seconds after the ignition is turned off.

ORC RUN ONLY DRIVER SHORT TO GROUND

When Monitored: The IPM uses a microprocessor controlled transistor (high side driver) to supply power to the ACM. The microprocessor monitors for short to ground when the ignition is in the Run position.

Set Condition: The code will set within 1 second.

POSSIBLE CAUSES
ACM, LOSS OF IGNITION RUN ONLY
ACM, ORC RUN ONLY CIRCUIT OPEN
IPM, ORC RUN ONLY DRIVER CIRCUIT OPEN
IPM, ORC RUN ONLY CIRCUIT SHORT TO GROUND
ACM, ORC RUN ONLY CIRCUIT SHORT TO GROUND
ORC RUN ONLY CIRCUIT SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
1	Ensure the battery is fully charged. Turn the ignition on. **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ONE: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 7 IPM - ACTIVE DTC Go To 3 IPM - STORED DTC Go To 7 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	With the DRBIII®, read the active IPM DTCs. Are there any active ORC RUN ONLY DRIVER codes? Yes → Go To 3 No → Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	Select the active ORC RUN ONLY DTC displayed on the DRB. 1. ORC RUN ONLY DRIVER OPEN Go To 4 3. ORC RUN-START SHORT TO GROUND Go To 5	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. Connect a test light to ground and the ORC Run Only Driver circuit at the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Turn the ignition off, wait 90 seconds and then turn the ignition ON. With the DRBIII®, read the active IPM DTCs. Does the DRB show an active ORC RUN ONLY DRIVER OPEN code? Yes → Test Complete. No → Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
5	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Gain access to the connectors on the bottom of the IPM. Disconnect the IPM C7 connector. **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the ORC Run Only Driver circuit between the IPM C7 connector and ground. Is the resistance below 500K ohms? Yes → Go To 6 No → Replace the IPM. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	Disconnect the Airbag Control Module connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, IF THE OCCUPANT RESTRAINT CONTROLLER IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. Measure the resistance of the ORC Run Only Driver circuit between the IPM C7 connector and ground. Is the resistance below 500K ohms? Yes → Repair the ORC Run Only Driver circuit shorted to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → WARNING: MAKE SURE THE BATTERY IS DISCONNECTED, THEN WAIT TWO MINUTES BEFORE PROCEEDING. Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
7	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO CLUSTER MESSAGE

When Monitored and Set Condition:

NO CLUSTER MESSAGE

When Monitored: With ignition on, the ACM monitors the PCI Bus for a message from the MIC containing the airbag warning indicator status. The MIC transmits the message one time at ignition on, lamp state change, or in response to the ACM message.

Set Condition: If the MIC message is not received for 10 consecutive seconds, the code will set.

POSSIBLE CAUSES
MIC, COMMUNICATION FAILURE
ACM, NO CLUSTER MESSAGES
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Turn the ignition on. With the DRBIII®, ensure PCI Bus communications with the Instrument Cluster. Is the Instrument Cluster communicating on the PCI Bus? Yes → Go To 3 No → Refer to category COMMUNICATION CATEGORY and select the related symptom NO RESPONSE or INSTRUMENT CLUSTER BUS +/- SIGNAL OPEN. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO CLUSTER MESSAGE — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO LEFT FRONT IMPACT SENSOR COMMUNICATION

When Monitored and Set Condition:

NO LEFT FRONT IMPACT SENSOR COMMUNICATION

When Monitored: The ACM continuously communicates with the Left Front Impact Sensor over the sensor signal circuit. The sensor communication and onboard diagnostics are powered by the ACM signal.

Set Condition: The code will set, if the ACM and Left Front Sensor do not establish and maintain valid data communications.

POSSIBLE CAUSES
SIGNAL CIRCUIT SHORTED TO BATTERY
SIGNAL CIRCUIT SHORT TO GROUND
LEFT FRONT SENSOR 1 CIRCUITS SHORTED TOGETHER
GROUND CIRCUIT OPEN
SIGNAL CIRCUIT OPEN
ACM, LEFT FRONT IMPACT SENSOR 1
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 9 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

NO LEFT FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Left front Impact Sensor 1 connector. Disconnect the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Left Front Impact Sensor 1 Signal circuit and sensor ground circuit at the Left Front Sensor 1 connector and ground. Is there any voltage present? Yes → Repair the Left Front Impact Sensor 1 circuits shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the resistance of the Left Front Impact Sensor 1 Signal circuit between the Left Front Impact Sensor 1 connector and ground. Is the resistance below 100K ohms? Yes → Repair the Left Font Impact Sense signal circuit shorted for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the resistance between the Left Front Impact Sensor 1 Signal and Sensor Ground circuits at the Left Front Impact Sensor 1 connector. Is the resistance below 100K ohms? Yes → Repair the Left Front Impact Sensor 1 circuits shorted together. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Left Front Impact Sensor 1 Ground circuit between the Driver Side Impact Sensor connector and the Load Tool ACM Adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Left front Impact Sensor 1 Ground circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	Measure the resistance of the Left Front Impact Sensor 1 Signal circuit between the Driver Side Impact Sensor connector and the Load Tool ACM Adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Left Front Impact Sensor 1 Signal circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO LEFT FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
7	Replace the Left Front Impact Sensor 1. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Driver Side Impact Sensor DTC return? Yes → Go To 8 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO LEFT FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION

When Monitored and Set Condition:

NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION

When Monitored: The ACM continuously communicates with the Left Side Impact Sensor 1 over the sensor signal circuit. The sensor communication and onboard diagnostics are powered by the ACM signal.

Set Condition: The code will set, if the ACM and Left Side Impact Sensor 1 do not establish and maintain valid data communications.

POSSIBLE CAUSES
SIGNAL CIRCUIT SHORTED TO BATTERY
SIGNAL CIRCUIT SHORT TO GROUND
LEFT SIDE SENSOR 1 CIRCUITS SHORTED TOGETHER
GROUND CIRCUIT OPEN
SIGNAL CIRCUIT OPEN
ACM, LEFT SIDE IMPACT SENSOR 1
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 9 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Left Side Impact Sensor 1 connector. Disconnect the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Left Side Impact Sensor 1 Signal circuit and sensor 1 ground circuit at the Left Side Sensor 1 connector and ground. Is there any voltage present? Yes → Repair the Left Side Impact Sensor 3 circuits shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the resistance of the Left Side Impact Sensor 1 Signal circuit between the Driver Side Impact Sensor 1 connector and ground. Is the resistance below 100K ohms? Yes → Repair the Left Side Impact Sense 1 Signal circuit shorted for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the resistance between the Driver Side Impact Sensor Signal and Sensor Ground circuits at the Left Side Impact Sensor 1 connector. Is the resistance below 100K ohms? Yes → Repair the Left Side Impact Sensor 1 circuits shorted together. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Left Side Impact Sensor 1 Ground circuit between the Left Side Impact Sensor 1 connector and the Load Tool ACM Adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Left Side Impact Sensor 1 Ground circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	Measure the resistance of the Left Side Impact Sensor 1 Signal circuit between the Left Side Impact Sensor 1 connector and the Load Tool ACM Adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Left Side Impact Sensor 1 Signal circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
7	Replace the Left Side Impact Sensor 1. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Left Side Impact Sensor 1 DTC return? Yes → Go To 8 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO LEFT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO LEFT SIDE IMPACT SENSOR 2 COMMUNICATION

When Monitored and Set Condition:

NO LEFT SIDE IMPACT SENSOR 2 COMMUNICATION

When Monitored: The ACM continuously communicates with the Left Side Impact Sensor 2 over the sensor signal circuit. The sensor communication and onboard diagnostics are powered by the ACM signal.

Set Condition: The code will set, if the ACM and Left Side Impact Sensor 2 do not establish and maintain valid data communications.

POSSIBLE CAUSES
SIGNAL CIRCUIT SHORTED TO BATTERY
SIGNAL CIRCUIT SHORT TO GROUND
LEFT SIDE SENSOR 2 CIRCUITS SHORTED TOGETHER
GROUND CIRCUIT OPEN
SIGNAL CIRCUIT OPEN
ACM, LEFT SIDE IMPACT SENSOR 2
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 9 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

NO LEFT SIDE IMPACT SENSOR 2 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Left Side Impact Sensor connector. Disconnect the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Left Side Impact Sensor 2 Signal circuit and sensor 2 ground circuit at the Left Side Sensor 2 connector and ground. Is there any voltage present? Yes → Repair the Left Side Impact Sensor 2 circuits shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the resistance of the Left Side Impact Sensor 2 Signal circuit between the Left Side Impact Sensor 2 connector and ground. Is the resistance below 100K ohms? Yes → Repair the Left Side Impact Sense 2 signal circuit shorted for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the resistance between the Left Side Impact Sensor 2 Signal and Sensor Ground circuits at the Left Side Impact Sensor 2 connector. Is the resistance below 100K ohms? Yes → Repair the Left Side Impact Sensor 2 circuits shorted together. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Side Impact Sensor Ground circuit between the Left Side Impact Sensor 2 connector and the Load Tool ACM Adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Left Side Impact Sensor 2 Ground circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	Measure the resistance of the Left Side Impact Sensor 2 Signal circuit between the Left Side Impact Sensor 2 connector and the Load Tool ACM Adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Left Side Impact Sensor Signal 2 circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO LEFT SIDE IMPACT SENSOR 2 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
7	Replace the Left Side Impact Sensor 2. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Left Side Impact Sensor 2 DTC return? Yes → Go To 8 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO LEFT SIDE IMPACT SENSOR 2 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO LEFT SIDE IMPACT SENSOR 3 COMMUNICATION

When Monitored and Set Condition:

NO LEFT SIDE IMPACT SENSOR 3 COMMUNICATION

When Monitored: The ACM continuously communicates with the Left Side Impact Sensor 3 over the sensor signal circuit. The sensor communication and onboard diagnostics are powered by the ACM signal.

Set Condition: The code will set, if the ACM and Left Side Impact Sensor 3 do not establish and maintain valid data communications.

POSSIBLE CAUSES
SIGNAL CIRCUIT SHORTED TO BATTERY
SIGNAL CIRCUIT SHORT TO GROUND
LEFT SIDE SENSOR 3 CIRCUITS SHORTED TOGETHER
SIGNAL CIRCUIT OPEN
ACM, LEFT SIDE IMPACT SENSOR 3
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 8 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

NO LEFT SIDE IMPACT SENSOR 3 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Left Side Impact Sensor 3 connector. Disconnect the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Left Side Impact Sensor 3 Signal circuit and sensor ground at the Left Side Impact Sensor 3 connector. Is there any voltage present? Yes → Repair the Left Side Impact Sensor 3 Signal circuit shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the resistance of the Left Side Impact Sensor 3 Signal circuit between the Left Side Impact Sensor 3 connector and ground. Is the resistance below 100K ohms? Yes → Repair the Left Side Sense 3 Signal circuit shorted for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the resistance between the Passenger Side Impact Sensor Signal and Sensor Ground circuits at the Passenger Side Impact Sensor connector. Is the resistance below 100K ohms? Yes → Repair the Left Side Impact Sensor 3 circuits shorted together. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Measure the resistance of the Left Side Impact Sensor 3 Signal circuit between the Left Side Impact Sensor 3 connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Left Side Impact Sensor 3 Signal circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO LEFT SIDE IMPACT SENSOR 3 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
6	Replace the Left Side Impact Sensor 3. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Left Side Impact Sensor 3 DTC return? Yes → Go To 7 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
7	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO LEFT SIDE IMPACT SENSOR 3 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
8	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO ODOMETER MESSAGE

When Monitored and Set Condition:

NO ODOMETER MESSAGE

When Monitored: With ignition on, the ACM monitors the PCI Bus for the Odometer message from the Body Control Module. The PCM transmits the odometer message at 1 second intervals.

Set Condition: The code will set, if the ACM does not see the odometer message for 10 seconds.

POSSIBLE CAUSES
PCM, PCI COMMUNICATION FAILURE
NO ODOMETER MESSAGE
STORED CODE OR INTERMITTENT CONDITION
ACM, NO ODOMETER MESSAGE
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** Turn the ignition on. SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Connect the DRBIII® to the data link connector and select PASSIVE RESTRAINTS, AIRBAG, SYSTEM TEST. With the DRBIII®, read the PCM Active on the Bus:. Does the DRB show PCM ACTIVE ON THE BUS? Yes → Go To 3 No → Refer to category ″ COMMUNICATION CATEGORY″ and select the related symptom. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO ODOMETER MESSAGE — Continued

TEST	ACTION	APPLICABILITY
3	With the DRB select ENGINE, MISCELLANEOUS, SELECT MISC FUNCTION, and then CHECK VIN to read the Vehicle Identification Number in the Powertrain Control Module. Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match? Yes → Go To 4 No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

NO ODOMETER MESSAGE — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO PCI TRANSMISSION

When Monitored and Set Condition:

NO PCI TRANSMISSION

When Monitored: With the ignition on and the module transmitting information on the BUS.

Set Condition: The code will set immediately if the onboard diagnostic cannot detect the module transmitting information on the BUS. NOTE: Any Bus Failure will may cause a stored code to set.

POSSIBLE CAUSES
AIRBAG CONTROL MODULE - ACM
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** From the list below, select the appropriate module and DTC type for this diagnostic trouble code. DETERMINE ACTIVE OR STORED DTC ACM - ACTIVE Go To 2 ACM - STORED Go To 3 **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRE-CAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO PCI TRANSMISSION — Continued

TEST	ACTION	APPLICABILITY
3	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO RIGHT FRONT IMPACT SENSOR COMMUNICATION

When Monitored and Set Condition:

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION

When Monitored: The ACM continuously communicates with the Right Front Impact Sensor over the sensor signal circuit. The sensor communication and onboard diagnostics are powered by the ACM signal.

Set Condition: The code will set, if the ACM and Right Front Sensor do not establish and maintain valid data communications.

POSSIBLE CAUSES
SIGNAL CIRCUIT SHORTED TO BATTERY
SIGNAL CIRCUIT SHORT TO GROUND
RIGHT FRONT SENSOR 1 CIRCUITS SHORTED TOGETHER
GROUND CIRCUIT OPEN
SIGNAL CIRCUIT OPEN
ACM, PASSENGER SIDE IMPACT SENSOR
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 9 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Right Front Impact Sensor connector. Disconnect the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the right Front Impact Sensor Signal circuit and sensor ground at the Right Front Impact Sensor connector. Is there any voltage present? Yes → Repair the Right Front Impact Sensor 1 Signal circuit shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the resistance of the Right Front Impact Sensor Signal circuit between the Right Front Impact Sensor connector and ground. Is the resistance below 2.0L ohms? Yes → Repair the Right Front Sense signal circuit shorted for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the resistance between the Right Front Impact Sensor 1 Signal and Sensor Ground circuits at the Right Front Impact Sensor 1 connector. Is the resistance below 100K ohms? Yes → Repair the Right Front Impact Sensor circuits shorted together. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Right Front Impact Sensor 1 ground circuit between the Right Front Impact Sensor 1 connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Right Front Impact Sensor 1 ground circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	Measure the resistance of the Right Side Impact Sensor Signal circuit between the Right Side Impact Sensor connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Right Front Impact Sensor 1 signal circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
7	Replace the Right Front Impact Sensor 1. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Right Front Impact Sensor 1 DTC return? Yes → Go To 8 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION

When Monitored and Set Condition:

NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION

When Monitored: The ACM continuously communicates with the Right Side Impact Sensor 1 over the sensor signal circuit. The sensor communication and onboard diagnostics are powered by the ACM signal.

Set Condition: The code will set, if the ACM and Right Side Impact Sensor 1 do not establish and maintain valid data communications.

POSSIBLE CAUSES
SIGNAL CIRCUIT SHORTED TO BATTERY
SIGNAL CIRCUIT SHORT TO GROUND
RIGHT SIDE SENSOR 1 CIRCUITS SHORTED TOGETHER
GROUND CIRCUIT OPEN
SIGNAL CIRCUIT OPEN
ACM, RIGHT SIDE IMPACT SENSOR 1
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 9 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Right Side Impact Sensor 1 connector. Disconnect the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Right Side Impact Sensor 1 Signal circuit and sensor 1 ground at the Right Side Impact Sensor 1 connector. Is there any voltage present? Yes → Repair the Right Side Impact Sensor 1 Signal circuit shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the resistance of the Right Side Impact Sensor 1 Signal circuit between the Right Side Impact Sensor 1 connector and ground. Is the resistance below 100K ohms? Yes → Repair the Right Side Sense 1 Signal circuit shorted for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the resistance between the Right Side Impact Sensor 1 Signal and Sensor 1 Ground circuits at the Right Side Impact Sensor 1 connector. Is the resistance below 100K ohms? Yes → Repair the Right Side Impact Sensor 1 circuits shorted together. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Right Side Impact Sensor 1 Ground circuit between the Right Side Impact Sensor 1 connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Right Side Front Impact Sensor 1 Ground circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	Measure the resistance of the Right Side Impact Sensor 1 Signal circuit between the Right Side Impact Sensor 1 connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Right Side Impact Sensor 1 Signal circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
7	Replace the Right Side Impact Sensor 1 . Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Right Side Impact Sensor 1 DTC return? Yes → Go To 8 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO RIGHT SIDE IMPACT SENSOR 1 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO RIGHT SIDE IMPACT SENSOR 2 COMMUNICATION

When Monitored and Set Condition:

NO RIGHT SIDE IMPACT SENSOR 2 COMMUNICATION

When Monitored: The ACM continuously communicates with the Right Side Impact Sensor 2 over the sensor signal circuit. The sensor communication and onboard diagnostics are powered by the ACM signal.

Set Condition: The code will set, if the ACM and Right Side Impact Sensor 2 do not establish and maintain valid data communications.

POSSIBLE CAUSES
SIGNAL CIRCUIT SHORTED TO BATTERY
SIGNAL CIRCUIT SHORT TO GROUND
RIGHT SIDE SENSOR 2 CIRCUITS SHORTED TOGETHER
GROUND CIRCUIT OPEN
SIGNAL CIRCUIT OPEN
ACM, RIGHT SIDE IMPACT SENSOR 2
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 9 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

NO RIGHT SIDE IMPACT SENSOR 2 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Right Side Impact Sensor 2 connector. Disconnect the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Right Side Impact Sensor 2 Signal circuit and sensor 2 ground at the Right Side Impact Sensor 2 connector. Is there any voltage present? Yes → Repair the Right Side Impact Sensor 2 Signal circuit shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the resistance of the Right Side Impact Sensor 2 Signal circuit between the Right Side Impact Sensor 2 connector and ground. Is the resistance below 100K ohms? Yes → Repair the Right Side Sense 2 Signal circuit shorted for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the resistance between the Right Side Impact Sensor 2 Signal and Sensor 2 Ground circuits at the Right Side Impact Sensor 2 connector. Is the resistance below 100K ohms? Yes → Repair the Right Side Impact Sensor 2 circuits shorted together. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Right Side Impact Sensor 2 Ground circuit between the Right Side Impact Sensor 2 connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Right Side Impact Sensor 2 Ground circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	Measure the resistance of the Right Side Impact Sensor 2 Signal circuit between the Right Side Impact Sensor 2 connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Right Side Impact Sensor 2 Signal circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO RIGHT SIDE IMPACT SENSOR 2 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
7	Replace the Right Side Impact Sensor. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Right Side Impact Sensor 2 DTC return? Yes → Go To 8 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO RIGHT SIDE IMPACT SENSOR 2 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
NO RIGHT SIDE IMPACT SENSOR 3 COMMUNICATION

When Monitored and Set Condition:

NO RIGHT SIDE IMPACT SENSOR 3 COMMUNICATION

When Monitored: The ACM continuously communicates with the Right Side Impact Sensor 3 over the sensor signal circuit. The sensor communication and onboard diagnostics are powered by the ACM signal.

Set Condition: The code will set, if the ACM and Right Side Impact Sensor 3 do not establish and maintain valid data communications.

POSSIBLE CAUSES
SIGNAL CIRCUIT SHORTED TO BATTERY
SIGNAL CIRCUIT SHORT TO GROUND
RIGHT SIDE SENSOR 3 CIRCUITS SHORTED TOGETHER
GROUND CIRCUIT OPEN
SIGNAL CIRCUIT OPEN
ACM, RIGHT SIDE IMPACT SENSOR 3
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 9 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

NO RIGHT SIDE IMPACT SENSOR 3 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Right Side Impact Sensor 3 connector. Disconnect the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Right Side Impact Sensor 3 Signal circuit and sensor 3 ground circuit at the Right Side Sensor 3 connector and ground. Is there any voltage present? Yes → Repair the Right Side Impact Sensor 3 circuits shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the resistance of the Right Side Impact Sensor 3 Signal circuit between the Right Side Impact Sensor 3 connector and ground. Is the resistance below 100K ohms? Yes → Repair the Right Side Impact Sense 3 signal circuit shorted for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the resistance between the Right Side Impact Sensor 3 Signal and Sensor 3 Ground circuits at the Right Side Impact Sensor 3 connector. Is the resistance below 100K ohms? Yes → Repair the Right Side Impact Sensor 3 circuits shorted together. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Right Side Impact Sensor 3 Ground circuit between the Right Side Impact Sensor 3 connector and the Load Tool ACM Adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Right Side Impact Sensor 3 Ground circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
6	Measure the resistance of the Right Side Impact Sensor 3 Signal circuit between the Right Side Impact Sensor 3 connector and the Load Tool ACM Adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Right Side Impact Sensor 3 Signal circuit open or high resistance. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO RIGHT SIDE IMPACT SENSOR 3 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
7	Replace the Right Side Impact Sensor 3. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Right Side Impact Sensor 3 DTC return? Yes → Go To 8 No → Test Complete.	All
8	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

NO RIGHT SIDE IMPACT SENSOR 3 COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN

When Monitored and Set Condition:

PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN

When Monitored: With the ignition on, the ACM monitors the resistance of the Passenger Seat Belt Tensioner circuits.

Set Condition: When the ACM detects an open circuit or high resistance in the Passenger Seat Belt Tensioner circuits.

POSSIBLE CAUSES
PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN
PASSENGER SEAT BELT TENSIONER LINE 1 OR LINE 2 CIRCUIT OPEN
ACM, PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Seat Belt Tensioner connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Seat Belt Tensioner connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® display PASSENGER SBT CIRCUIT OPEN? Yes → Go To 3 No → Replace the Passenger Seat Belt Tensioner in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger SBT connector. Disconnect the Airbag control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. Measure the resistance of the Passenger Seat Belt Tensioner Line 1 and Line 2 circuits between the Load Tool Adaptor and the Passenger SBT connector. Is the resistance below 1.0 ohms on either circuit ? Yes → Go To 4 No → Repair open or high resistance in Passenger Seat Belt Tensioner Line 1 or Line 2 circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with the Service information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SEAT BELT TENSIONER CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT

When Monitored and Set Condition:

PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT

When Monitored: With the ignition on, the ACM monitors the resistance between the Passenger Seat Belt Tensioner circuits.

Set Condition: When the ACM detects low resistance in the Passenger Seat Belt Tensioner circuits.

POSSIBLE CAUSES
PASSENGER SEAT BELT TENSIONER LINE 1 SHORT TO LINE 2
PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT
ACM, PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Seat Belt Tensioner connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Seat Belt Tensioner connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT? Yes → Go To 3 No → Replace the Passenger Seat Belt Tensioner in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Seat Belt Tensioner connector. Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). Measure the resistance between the Passenger SBT Line 1 and line 2 circuit at the Passenger Seat Belt Tensioner connector. Is the resistance below 10K ohms? Yes → Repair the Passenger Seat Belt Tensioner Line 1 short to Line 2 circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SEAT BELT TENSIONER CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY

When Monitored and Set Condition:

PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY

When Monitored: When the ignition is on, the ACM monitors the voltage of the Passenger Seat Belt Tensioner circuits.

Set Condition: When the ACM detects voltage on the Passenger Seat Belt Tensioner circuits.

POSSIBLE CAUSES
PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY
PASSENGER SEAT BELT TENSIONER LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, PASSENGER SBT SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Seat Belt Tensioner connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Seat Belt Tensioner connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® display PASSENGER SBT SHORT TO BATTERY? Yes → Go To 3 No → Replace the Passenger Seat Belt Tensioner in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Seat Belt Tensioner connector. Disconnect the Airbag Control Module Connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Passenger SBT Line 1 and Line 2 circuits between the Passenger Seat Belt Tensioner connector and ground. Is there any voltage on either circuit? Yes → Repair the Passenger Seat Belt Tensioner Line 1 or Line 2 short to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SEAT BELT TENSIONER SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SEAT BELT TENSIONER SHORT TO GROUND

When Monitored and Set Condition:

PASSENGER SEAT BELT TENSIONER SHORT TO GROUND

When Monitored: With the ignition on, the ACM monitors the resistance of the Passenger Seat Belt Tensioner circuits.

Set Condition: When the ACM detects la short to ground in either Passenger Seat Belt Tensioner circuits.

POSSIBLE CAUSES
PASSENGER SEAT BELT TENSIONER SHORT TO GROUND
PASSENGER SEAT BELT TENSIONER LINE 1 OR LINE 2 SHORTED TO GROUND
ACM, PASSENGER SBT SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Seat Belt Tensioner connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Seat Belt Tensioner connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® display PASSENGER SBT SHORT TO GROUND? Yes → Go To 3 No → Replace the Passenger Seat Belt Tensioner in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SEAT BELT TENSIONER SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Seat Belt Tensioner connector. Disconnect the Airbag Control Module Connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector(s). Measure the resistance of the Passenger Seat Belt Tensioner Line 1 and Line 2 circuits between the Passenger SBT connector and ground. Is the resistance below 10K Ohms on either circuit? Yes → Repair the Passenger Seat Belt Tensioner Line 1 or Line 2 short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SEAT BELT TENSIONER SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SQUIB 1 CIRCUIT OPEN

When Monitored and Set Condition:

PASSENGER SQUIB 1 CIRCUIT OPEN

When Monitored: With the ignition on, the ACM monitors the resistance of the Passenger Squib 1 circuits.

Set Condition: When the ACM detects an open circuit or high resistance on the Passenger Squib 1 circuits.

POSSIBLE CAUSES
PAB SQUIB 1 CIRCUIT OPEN
PAB SQUIB 1 LINE 1 OR LINE 2 CIRCUIT OPEN
ACM, PAB SQUIB 1 CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the Load Tool to the Passenger Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show PASSENGER SQUIB 1 CIRCUIT OPEN? Yes → Go To 3 No → Replace the Passenger Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Airbag connector(s). Disconnect the Airbag Control module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the Load Tool ACM Adaptor to the Airbag Control Module connector(s). Measure the resistance of the Passenger Squib 1 Line 1 and Line 2 circuit between the ACM Adaptor and the Passenger Airbag connector. Is the resistance below 1.0 ohms on both circuits? Yes → Go To 4 No → Repair open or high resistance in Passenger Squib 1 Line 1 or Line 2 circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SQUIB 1 CIRCUIT SHORT

When Monitored and Set Condition:

PASSENGER SQUIB 1 CIRCUIT SHORT

When Monitored: With the ignition on, the ACM monitors the resistance between the Passenger Squib 1 circuits.

Set Condition: When the ACM detects low resistance in the Passenger Squib 1 circuits.

POSSIBLE CAUSES
PAB SQUIB 1 CIRCUIT SHORT
PAB SQUIB 1 LINE 1 SHORT TO LINE 2
ACM, PAB SQUIB 1 CIRCUIT SHORT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Passenger Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show PASSENGER SQUIB 1 CIRCUIT SHORT? Yes → Go To 3 No → Replace the Passenger Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Airbag connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adapter to the Airbag Control Module connector(s). Measure the resistance between Passenger Squib 1 Line 1 and Line 2 circuits at the Passenger Airbag connector. Is the resistance below 10K ohms? Yes → Repair Passenger Squib 1 Line 1 circuit short to Passenger Squib 1 Line 2 circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SQUIB 1 SHORT TO BATTERY

When Monitored and Set Condition:

PASSENGER SQUIB 1 SHORT TO BATTERY

When Monitored: With the ignition on, the ACM monitors the voltage on the Passenger Squib 1 circuits.

Set Condition: When the ACM detects voltage on the Passenger Squib 1 circuits.

POSSIBLE CAUSES
PAB SQUIB 1 CIRCUITS SHORT TO BATTERY
PAB SQUIB 1 LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, PAB SQUIB 1 CIRCUIT SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Passenger Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show PASSENGER SQUIB 1 CIRCUIT SHORT TO BATTERY? Yes → Go To 3 No → Replace Passenger Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Airbag connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s). **WARNING: AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage on the Passenger Squib 1 Line 1 and Line 2 circuits between the Passenger Airbag connector and ground. Is there any voltage present? Yes → Repair Passenger Squib 1 Line 1 or Line 2 circuit short to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SQUIB 1 SHORT TO GROUND

When Monitored and Set Condition:

PASSENGER SQUIB 1 SHORT TO GROUND

When Monitored: With the ignition on, the ACM monitors the resistance of the Passenger Squib 1 circuits.

Set Condition: When the ACM detects a short to ground in either Passenger Squib 1 circuits.

POSSIBLE CAUSES
PAB SQUIB 1 CIRCUITS SHORT TO GROUND
PAB SQUIB 1 LINE 1 OR LINE 2 SHORT TO GROUND
ACM, PAB SQUIB 1 SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Passenger Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show PASSENGER SQUIB 1 SHORT TO GROUND? Yes → Go To 3 No → Replace the Passenger Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Airbag connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector. Measure the resistance of the Passenger Squib 1 Line 1 or Line 2 circuit between the Passenger Airbag Module Connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair Passenger Squib 1 Line 1 and Line 2 circuits for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SQUIB 2 CIRCUIT OPEN

When Monitored and Set Condition:

PASSENGER SQUIB 2 CIRCUIT OPEN

When Monitored: With the ignition on, the ACM monitors the resistance of the Passenger Squib 2 circuits.

Set Condition: When the ACM detects an open circuit or high resistance on the Passenger Squib 2 circuits.

POSSIBLE CAUSES
PASSENGER AIRBAG SQUIB 2 CIRCUIT OPEN
PASSENGER SQUIB 2 LINE 1 OR LINE 2 CIRCUIT OPEN
ACM, PASSENGER SQUIB 2 CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Passenger Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show PASSENGER SQUIB 2 CIRCUIT OPEN? Yes → Go To 3 No → Replace the Passenger Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Airbag connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool adaptor to the Airbag Control Module connector(s). Measure the resistance of the Passenger Squib 2 Line 1 and Line 2 circuits between the ACM Adaptor and the Passenger Airbag connector. Is the resistance below 1.0 ohms on both circuits? Yes → Go To 4 No → Repair open or high resistance in Passenger Squib 2 Line 1 or Line 2 circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SQUIB 2 CIRCUIT SHORT

When Monitored and Set Condition:

PASSENGER SQUIB 2 CIRCUIT SHORT

When Monitored: With the ignition on, the ACM monitors the resistance between the Passenger Squib 2 circuits.

Set Condition: When the ACM detects low resistance in the Passenger Squib 2 circuits.

POSSIBLE CAUSES
PASSENGER AIRBAG SQUIB 2 CIRCUIT SHORT
PASSENGER SQUIB 2 LINE 1 SHORT TO LINE 2
ACM, PASSENGER SQUIB 2 CIRCUIT SHORT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER SQUIB 2 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Passenger Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show PASSENGER SQUIB 2 CIRCUIT SHORT? Yes → Go To 3 No → Replace Passenger Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Airbag connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s). Measure the resistance between the Passenger Squib 2 Line 1 and line 2 circuits at the Passenger Airbag connector(s). Is the resistance below 10K ohms? Yes → Repair Passenger Squib 2 Line 1 circuit short to Passenger Squib 2 Line 2 circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 2 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SQUIB 2 SHORT TO BATTERY

When Monitored and Set Condition:

PASSENGER SQUIB 2 SHORT TO BATTERY

When Monitored: With the ignition on, the ACM monitors the voltage of the Passenger Squib 2 circuits.

Set Condition: When the ACM detects voltage on the Passenger Squib 2 circuits.

POSSIBLE CAUSES
PASSENGER AIRBAG SQUIB 2 CIRCUIT SHORT TO BATTERY
PASSENGER SQUIB 2 LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, PASSENGER SQUIB 2 CIRCUIT SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER SQUIB 2 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Passenger Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show PASSENGER SQUIB 2 SHORT TO BATTERY? Yes → Go To 3 No → Replace Passenger Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Airbag connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage on the Passenger Squib 2 Line 1 and Line 2 circuits between the Passenger Airbag connector and ground. Is there any voltage present? Yes → Repair Passenger Squib 2 Line 1 or Line 2 circuit shorted to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 2 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
PASSENGER SQUIB 2 SHORT TO GROUND

When Monitored and Set Condition:

PASSENGER SQUIB 2 SHORT TO GROUND

When Monitored: With the ignition on, the ACM monitors the resistance of the Passenger Squib 2 circuits.

Set Condition: When the ACM detects a short to ground in either Passenger Squib 2 circuits.

POSSIBLE CAUSES
PASSENGER AIRBAG SQUIB 2 CIRCUIT SHORT TO GROUND
PASSENGER SQUIB 2 LINE 1 OR LINE 2 SHORT TO GROUND
ACM, PASSENGER SQUIB 2 CIRCUIT SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER SQUIB 2 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool to the Passenger Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag Control Module DTC's. Does the DRBIII® show PASSENGER SQUIB 2 CIRCUIT SHORT TO GROUND? Yes → Go To 3 No → Replace the Passenger Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** Disconnect the Load Tool from the Passenger Airbag connector(s). Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean repair as necessary.** Connect the appropriate Load Tool Adaptor to the Airbag Control Module connector(s). Measure the resistance of the Passenger Squib 2 Line 1 and Line 2 circuits between the Passenger Airbag Module connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair Passenger Squib 2 Line 1 or Line 2 circuit for a short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair: Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 2 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
POWER SUPPLY VOLTAGE LOW

When Monitored and Set Condition:

POWER SUPPLY VOLTAGE LOW

When Monitored: The ACM continuously monitors the Ignition Run - Start and Run Only circuits to guarantee that the Side Impact Sensors will have sufficient voltage to function properly.

Set Condition: Once both ignition feeds into the ACM are determined to be below 7.4 volts, with at least one above 5.5 volts. The code will remain set until at least one ignition circuit is above 8.0 volts.

POSSIBLE CAUSES
RUN OR RUN - START ACTIVE TROUBLE CODES
RUN AND RUN - START CIRCUITS VOLTAGE LOW
ACM, LOW SUPPLY VOLTAGE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Ensure the battery is fully charged. **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** Repair all Ignition Run and Run-Start circuit DTCs before performing this test. SELECT ACTIVE OR STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	With the DRBIII®, read the active DTCs. **NOTE: A Diagnostic trouble code will set if the voltage on the Ignition Run or Run - Start circuits is less than 5.5 volts** Verify that all Ignition Run and Run - Start circuits DTCs have been repaired before performing the ACTIVE Power Supply Voltage Low DTC. Any active Run or Run - Start codes? Yes → Refer to symptom list for problems related to Fused Ignition Switch Output Run and Run - Start circuits. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All

POWER SUPPLY VOLTAGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** Connect the appropriate Load Tool ACM Adaptor to the Airbag Control Module connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Using a 12-volt test light connected to ground, check the Run and Run - Start circuits at the ACM adaptor. The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Does the test light illuminate brightly on both circuits? Yes → Go To 4 No → Repair the high resistance in the Fused Ignition Switch Output Run and Run - Start circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

POWER SUPPLY VOLTAGE LOW — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
RIGHT CURTAIN OR SEAT SQUIB CIRCUIT OPEN

When Monitored and Set Condition:

RIGHT CURTAIN OR SEAT SQUIB CIRCUIT OPEN

When Monitored: With the ignition on, the ACM monitors the resistance of the Right Curtain or Seat Squib circuits.

Set Condition: When the ACM detects an open circuit or high resistance on the Right Curtain or Seat Squib circuits.

POSSIBLE CAUSES
RIGHT SEAT AIRBAG CIRCUIT OPEN
RIGHT SEAT SQUIB LINE 1 OR LINE 2 CIRCUIT OPEN
ACM, RIGHT SEAT SQUIB CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 IACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

RIGHT CURTAIN OR SEAT SQUIB CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Right Seat Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** Connect the appropriate Load Tool to the Right Curtain or Seat Airbag connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® show RIGHT CURTAIN OR SEAT SQUIB CIRCUIT OPEN? Yes → Go To 3 No → Replace Right Seat Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Load Tool from the Passenger Seat Airbag connector. Disconnect the Airbag Control Module Connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the Side Impact Airbag Control Module connector. Measure the resistance of the Passenger Seat Squib Line 1 and Line 2 circuits between the Load Tool ACM adaptor and the Passenger Seat Airbag connector. Is the resistance below 1.0 ohms on both circuits? Yes → Replace the Airbag Control Module in accordance with the Service information. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Repair open or high resistance in the Right Seat Squib Line 1 or Line 2 circuits. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

RIGHT CURTAIN OR SEAT SQUIB CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
RIGHT CURTAIN OR SEAT SQUIB CIRCUIT SHORT

When Monitored and Set Condition:

RIGHT CURTAIN OR SEAT SQUIB CIRCUIT SHORT

When Monitored: With the ignition on, the ACM monitors the resistance between the Right Curtain or Seat Squib circuits.

Set Condition: When the ACM detects a low resistance between the Right Curtain or Seat Squib circuits.

POSSIBLE CAUSES
RIGHT SEAT SQUIB CIRCUIT SHORT
PASSENGER SEAT SQUIB LINE 1 SHORT TO LINE 2
ACM, PASSENGER SEAT SQUIB CIRCUIT SHORT
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

RIGHT CURTAIN OR SEAT SQUIB CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Right Seat Airbag connector. **NOTE: Check connectors - Clean repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** Connect the appropriate Load Tool to the Right Curtain or Seat Airbag connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® show RIGHT CURTAIN SQUIB OR SEAT SHORT? Yes → Go To 3 No → Replace Right Seat Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Load Tool from the Passenger Seat Airbag connector(s). Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** Connect the appropriate Load Tool ACM Adaptor to the ACM connector(s). Measure the resistance between the Passenger Seat Squib Line 1 and Line 2 circuits at the Passenger Seat Airbag connector. Is the resistance below 10K ohms? Yes → Repair Passenger Seat Squib Line 1 short to Line 2 circuit. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

RIGHT CURTAIN OR SEAT SQUIB CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
RIGHT CURTAIN OR SEAT SQUIB SHORT TO BATTERY

When Monitored and Set Condition:

RIGHT CURTAIN OR SEAT SQUIB SHORT TO BATTERY

When Monitored: With the ignition on, the ACM monitors the voltage of the Right Curtain or Seat Squib circuits.

Set Condition: When the ACM detects voltage on the Right Curtain or Seat Squib circuits.

POSSIBLE CAUSES
RIGHT CURTAIN OR SEAT AIRBAG SHORT TO BATTERY
RIGHT CURTAIN OR SEAT SQUIB LINE 1 OR LINE 2 SHORTED TO BATTERY
ACM, RIGHT CURTAIN OR SEAT SQUIB SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

RIGHT CURTAIN OR SEAT SQUIB SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Right Curtain or Seat Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Connect the appropriate Load Tool to the Right Curtain or Seat Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® display RIGHT CURTAIN OR SEAT SQUIB SHORT TO BATTERY? Yes → Go To 3 No → Replace Right Curtain or Seat Airbag in accordance with the Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Load Tool from the Right Curtain or Seat Squib connector. Disconnect the Airbag Control Module connector(s). **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM Adaptor to the ACM connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Right Curtain or Seat Squib Line 1 and Line 2 circuits between the Right Curtain or Seat Airbag connector and ground. Is any voltage present on either circuit? Yes → Repair Right Curtain or Seat Squib Line 1 or Line 2 short to battery. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Information. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

RIGHT CURTAIN OR SEAT SQUIB SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
RIGHT CURTAIN OR SEAT SQUIB SHORT TO GROUND

When Monitored and Set Condition:

RIGHT CURTAIN OR SEAT SQUIB SHORT TO GROUND

When Monitored: With the ignition on, the ACM monitors the resistance of the Right Curtain or Seat Squib circuits.

Set Condition: When the ACM detects low resistance in either Right Curtain or Seat Squib circuits.

POSSIBLE CAUSES
PASSENGER CURTAIN SQUIB SHORT TO GROUND
PASSENGER SEAT SQUIB LINE 1 OR LINE 2 SHORT TO GROUND
ACM, RIGHT SEAT SQUIB SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

RIGHT CURTAIN OR SEAT SQUIB SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Seat Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** Connect the appropriate Load Tool to the Passenger Seat Airbag connector(s). **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read active Airbag Control Module DTC's. Does the DRBIII® display PASSENGER CURTAIN OR SEAT SQUIB SHORT TO GROUND? Yes → Go To 3 No → Replace the Passenger Seat Airbag in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector(s). Disconnect the Load Tool from the Right Seat Airbag connector(s). **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, DO NOT PLACE AN INTACT UNDEPLOYED CURTAIN AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED.** Connect the appropriate Load Tool ACM Adaptor to the ACM connector(s). Measure the resistance of the Right Curtain or Seat Squib Line 1 and Line 2 circuits between the Right Curtain or Seat Squib connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair Passenger Seat Squib Line 1 or Line 2 short to ground. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

RIGHT CURTAIN OR SEAT SQUIB SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
RIGHT FRONT IMPACT SENSOR INTERNAL 1

When Monitored and Set Condition:

RIGHT FRONT IMPACT SENSOR INTERNAL 1

When Monitored: The Right Front Impact sensors is equipped with onboard diagnostics to monitor the sensors internal circuits. If a problem is identified the sensor sends the Right Front Impact sensor internal 1 message to the ACM.

Set Condition: The code will set if the ACM receives an internal 1 message from the Right Front Impact Sensor.

POSSIBLE CAUSES
ACM, PASSENGER SIDE IMPACT SENSOR 1
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Replace the Right Front Impact Sensor 1. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Right Front Impact Sensor 1 Internal 1 DTC return? Yes → Go To 3 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

RIGHT FRONT IMPACT SENSOR INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
RIGHT SIDE IMPACT SENSOR 1 INTERNAL 1

When Monitored and Set Condition:

RIGHT SIDE IMPACT SENSOR 1 INTERNAL 1

When Monitored: At ignition on, the Right Side Impact Sensor 1 is equipped with onboard diagnostics to monitor the sensors internal circuits. If a problem is identified the sensor sends the Right Side Impact Sensor 1 internal 1 message to the ACM.

Set Condition: The code will set, if the ACM receives an Impact Sensor Internal 1 message from the Right Side Impact Sensor 1.

POSSIBLE CAUSES
ACM, RIGHT SIDE IMPACT SENSOR 1
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Replace the Right Side Impact Sensor 1. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Right Side Impact Sensor 1 Internal 1 DTC return? Yes → Go To 3 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

RIGHT SIDE IMPACT SENSOR 1 INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
RIGHT SIDE IMPACT SENSOR 2 INTERNAL 1

When Monitored and Set Condition:

RIGHT SIDE IMPACT SENSOR 2 INTERNAL 1

When Monitored: At ignition on, the Right Side Impact Sensor 2 is equipped with onboard diagnostics to monitor the sensors internal circuits. If a problem is identified the sensor sends the Right Side Impact Sensor 1 internal 1 message to the ACM.

Set Condition: The code will set, if the ACM receives an Impact Sensor Internal 2 message from the Passenger Side Impact Sensor 1.

POSSIBLE CAUSES
ACM, RIGHT SIDE IMPACT SENSOR 2
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Replace the Right Side Impact Sensor 2. Reconnect the vehicle body harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Right Side Impact Sensor 2 Internal 1 DTC return? Yes → Go To 3 No → Repair is complete. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

RIGHT SIDE IMPACT SENSOR 2 INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
RIGHT SIDE IMPACT SENSOR 3 INTERNAL 1

When Monitored and Set Condition:

RIGHT SIDE IMPACT SENSOR 3 INTERNAL 1

When Monitored: At ignition on, the Right Side Impact Sensor 3 is equipped with onboard diagnostics to monitor the sensors internal circuits. If a problem is identified the sensor sends the Right Side Impact Sensor 1 internal 1 message to the ACM.

Set Condition: The code will set, if the ACM receives an Impact Sensor Internal 3 message from the Right Side Impact Sensor 1.

POSSIBLE CAUSES
ACM, RIGHT SIDE IMPACT SENSOR 3 INTERNAL 1
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: Ensure the battery is fully charged.** **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Replace the Right Side Impact Sensor 3. Reconnect the vehicle wire harness to the impact sensor. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Connect the DRB to the Data Link Connector - use the most current software available. Use the DRB III and erase the stored codes in all airbag system modules. Turn the Ignition Off, and wait 15 seconds before turning the Ignition On. Wait one minute, and read active codes and if there are none present read the stored codes. DID the active Left Side Impact Sensor 3 DTC return? Yes → Go To 3 No → Test Complete.	All

RIGHT SIDE IMPACT SENSOR 3 INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
VEHICLE BODY STYLE MISMATCH

When Monitored and Set Condition:

VEHICLE BODY STYLE MISMATCH

When Monitored: When the ignition is on, the ACM monitors the PCI Bus for the VIN message containing the vehicle body style from the Powertrain Control Module. The PCM transmits the VIN message every 14 seconds.

Set Condition: With ignition on, If the ACM does not receive 2 consecutive matching (vehicle Body Style) VIN messages on the bus the code will set.

POSSIBLE CAUSES
PCM, PCI COMMUNICATION FAILURE
VEHICLE BODY STYLE MISMATCH
ACM, VEHICLE BODY STYLE MISMATCH
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Ensure the battery is fully charged. **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** SELECT ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Turn the ignition on. Connect the DRBIII® to the data link connector and select PASSIVE RESTRAINTS, AIRBAG, SYSTEM TEST. With the DRBIII®, read the PCM Active on the Bus:. Does the DRB show PCM ACTIVE ON THE BUS:? Yes → Go To 3 No → Refer to category COMMUNICATION CATEGORY and select the related symptom. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

VEHICLE BODY STYLE MISMATCH — Continued

TEST	ACTION	APPLICABILITY
3	With the DRB select ENGINE, MISCELLANEOUS, SELECT MISC FUNCTION, and then CHECK VIN to read the Vehicle Identification Number in the Powertrain Control Module. Compare the VIN displayed on the DRB screen and the Vehicle VIN plate. Does the VIN plate and the PCM VIN match? Yes → Go To 4 No → Replace the Powertrain Control Module and program with the correct vehicle identification number. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND PERSONAL INJURY OR DEATH.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components the Ignition must be turned off and the Battery must be disconnected.**	All

VEHICLE BODY STYLE MISMATCH — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII®, record and erase all DTC's from all Airbag modules. If equipped with Passenger Airbag On - Off switch, read the DTC's in all switch positions. If any ACTIVE codes are present they must be resolved before diagnosing any stored codes. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Look for chaffed, pierced, pinched, or partially broken wires and broken, bent, pushed out, spread, corroded, or contaminated terminals. The following additional checks may assist you in identifying a possible intermittent problem. Reconnect any disconnected components and harness connector. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII® monitor active codes as you work through the following steps. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, MAINTAIN A SAFE DISTANCE FROM ALL AIRBAGS WHILE PERFORMING THE FOLLOWING STEPS.** Wiggle the wiring harness and connectors of the related airbag circuit or component. If codes are related to the Driver Airbag circuits, rotate the steering wheel from stop to stop. IF only stored codes return continue the test until the problem area has been isolated In the previous steps you have attempted to recreate the conditions responsible for setting active DTC in question. Are any ACTIVE DTCs present? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
*AIRBAG INDICATOR ON WITHOUT ACTIVE TROUBLE CODES

POSSIBLE CAUSES
AIRBAG WARNING INDICATOR ON WITHOUT ACTIVE TROUBLE CODES
INSTRUMENT CLUSTER PROBLEMS

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the battery is fully charged.** Turn the ignition on. Make sure that all active DTC's have been repaired before performing this procedure. With the DRBIII® select the PASSIVE RESTRAINTS, AIRBAG, MONITOR DISPLAY and read the WARNING LAMP STATES. With no active DTCs, Does the LAMP REQ by ACM monitor show ON? Yes → Replace the Airbag Control Module in accordance with Service Instructions. Perform __AIRBAG VERIFICATION TEST - VER 1. No → Refer to INSTRUMENT CLUSTER CATEGORY symptom list for problems related to Instrument Cluster. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

Symptom:
ALL OUTPUTS SHORT

When Monitored and Set Condition:

ALL OUTPUTS SHORT

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: The radio has sensed a short on the output for more than 10 seconds.

POSSIBLE CAUSES
DETERMINE FAULT
SPEAKER SECTION OF AMPLIFIER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
RADIO (+) & (-) CIRCUITS SHORTED TOGETHER
SPEAKER SECTION OF RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, erase the audio DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the audio DTC's. Does the DRBIII® display ALL OUTPUTS SHORT? Yes → Go To 2 No → Refer to the wiring diagrams located in the service information to help isolate a possible short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Turn the ignition on. Turn the radio on. With the DRBIII®, erase the audio DTCs. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read DTC's. Does the DRBIII® display ALL OUTPUTS SHORT? Yes → Go To 3 No → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

ALL OUTPUTS SHORT — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Radio (C1 on premium) harness connector. Measure the resistance between ground and each radio right and left (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the radio right or left (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Radio (C1 on premium) harness connector. Measure the resistance between ground and each radio right and left (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the radio right or left (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Radio (C1 on premium) harness connector. Measure the resistance between each radio (+) circuit and each radio (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the radio circuits shorted together. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
ANTENNA HARDWARE FAILURE - SDARS

When Monitored and Set Condition:

ANTENNA HARDWARE FAILURE - SDARS

When Monitored: With radio turned on.

Set Condition: If the antenna is connected, and the antenna has an internal failure.

POSSIBLE CAUSES
INTERNAL ANTENNA FAILURE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. **NOTE: Disconnect the Satellite Radio Receiver harness connector and check the related wiring terminals for corrosion, damage or terminal push out. Repair as necessary.** **NOTE: Disconnect the Satellite Receiver Antenna connector and check the related wiring terminals for corrosion, damage or terminal push out. Repair as necessary.** Using the schematics as a guide, inspect the wire harness and connectors. Pay particular attention to all Power and Ground circuits. Check the Antenna assembly for physical damage. If there are no other possible causes, view repair. Repair Replace Antenna in accordance with service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
ANTENNA NOT CONNECTED - SDARS

When Monitored and Set Condition:

ANTENNA NOT CONNECTED - SDARS

When Monitored: With the radio turned on.

Set Condition: When either of the antenna cables is not connected.

POSSIBLE CAUSES
SATELLITE SIGNAL CIRCUIT OPEN
TERR SIGNAL OPEN
TERR SIGNAL CIRCUIT SHORTED TO GROUND
SATELLITE SIGNAL CIRCUIT SHORTED TO GROUND
ANTENNA INTERNAL FAILURE
SATELLITE RADIO RECEIVER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Satellite Receiver Antenna connector. Disconnect the Satellite Radio Receiver harness connectors. Measure the resistance of the TERR Signal circuit between the Satellite Receiver Antenna connector and the Satellite Radio Receiver connector. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Repair the TERR Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Satellite Receiver Antenna connector. Disconnect the Satellite Radio Receiver harness connectors. Measure the resistance between ground and the TERR Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the TERR Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Satellite Receiver Antenna connector. Disconnect the Satellite Radio Receiver harness connectors. Measure the resistance of the Satellite Signal circuit between the Satellite Receiver Antenna connector and the Satellite Radio Receiver connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Satellite Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

ANTENNA NOT CONNECTED - SDARS — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Satellite Receiver Antenna connector. Disconnect the Satellite Radio Receiver harness connectors. Measure the resistance between ground and the Satellite Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the Satellite Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Check the antenna for physical damage. Disconnect the Satellite Receiver Antenna connector. Disconnect the Satellite Radio Receiver harness connectors. **NOTE: Check the related wiring terminals for corrosion, damage or terminal push out. Repair as necessary.** Using the schematics as a guide, inspect the wire harness and connectors. Pay particular attention to all Power and Ground circuits. Replace the Satellite Receiver Antenna in accordance with the service information. Turn the ignition and the radio on and place the radio in Satellite mode. Does the DTC return? Yes → Go To 6 No → Repair is complete. Perform BODY VERIFICATION TEST - VER 1.	All
6	**NOTE: Disconnect the Satellite Radio Receiver harness connectors and check the related wiring terminals for corrosion, damage or terminal push out. Repair as necessary.** Using the schematics as a guide, inspect the wire harness and connectors. Pay particular attention to all Power and Ground circuits. If there are no possible causes remaining, view repair. Repair Replace the Satellite Radio Receiver in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

BUS BUSY - SDARS
PCI BUS SHORTED TO BATTERY
PCI BUS SHORTED TO GROUND
PCI BUS SHORTED TO BATTERY - MHSAPM
PCI BUS SHORTED TO GROUND - MHSAPM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be BUS BUSY - SDARS.

When Monitored and Set Condition:

BUS BUSY - SDARS

When Monitored: With the ignition in run, and the IOD fuse installed.

Set Condition: Anytime the module detects a short to battery on the PCI Bus circuit.

PCI BUS SHORTED TO BATTERY

When Monitored: Continuously.

Set Condition: Anytime the module detects a short to battery on the PCI Bus circuit. DTC will mature immediately.

PCI BUS SHORTED TO GROUND

When Monitored: Continuously.

Set Condition: Anytime the module detects a short to ground on the PCI Bus circuit. DTC will mature immediately.

PCI BUS SHORTED TO BATTERY - MHSAPM

When Monitored: Continuously.

Set Condition: Anytime the module detects a short to battery on the PCI Bus circuit. DTC will mature immediately.

PCI BUS SHORTED TO GROUND - MHSAPM

When Monitored: Continuously.

Set Condition: Anytime the module detects a short to ground on the PCI Bus circuit. DTC will mature immediately.

POSSIBLE CAUSES
INTERMITTENT CONDITION

BUS BUSY - SDARS — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: For this code to be active, the DRB will not be able to communicate with any modules on the vehicle (except the PCM).** **NOTE: Clear the code. If this code continues to set and the DRB can still communicate with the module, it will be necessary to replace the module.** **NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the complete bus failure condition. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

BUS LOW - SDARS

When Monitored and Set Condition:

BUS LOW - SDARS

When Monitored: With the ignition in the run position, and the IOD fuse installed.

Set Condition: Anytime the module detects a short to ground on the PCI Bus circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	**NOTE: For this code to be active, the DRB will not be able to communicate with any modules on the vehicle (except the PCM).** **NOTE: Clear the code. If this code continues to set and the DRB can still communicate with the module, it will be necessary to replace the module.** **NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the complete bus failure condition. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

CASSETTE PLAYER INOP
CD MECHANICAL FAILURE
REAR TRANSMITTER FAILURE
***AM/FM SWITCH INOPERATIVE**
***ANY STATION PRESET SWITCH INOPERATIVE**
***BALANCE INOPERATIVE**
***CD EJECT SWITCH INOPERATIVE**
***EQUALIZER INOPERATIVE**
***FADER INOPERATIVE**
***FF/RW SWITCH INOPERATIVE**
***HOUR/MINUTE SWITCHES INOPERATIVE**
***PAUSE/PLAY SWITCH INOPERATIVE**
***PWR SWITCH INOPERATIVE**
***SCAN SWITCH INOPERATIVE**
***SEEK SWITCH INOPERATIVE**
***SET SWITCH INOPERATIVE**
***TAPE EJECT SWITCH INOPERATIVE**
***TIME SWITCH INOPERATIVE**
***TUNE SWITCH INOPERATIVE**

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be CASSETTE PLAYER INOP.

When Monitored and Set Condition:

CASSETTE PLAYER INOP

When Monitored: Continuously with the ignition and radio turned on.

Set Condition: The code will set if the radio detects a internal cassette failure.

CD MECHANICAL FAILURE

When Monitored: Continuously with the ignition and CD player turned on.

Set Condition: The code will set if the radio detects a CD mechanical failure.

REAR TRANSMITTER FAILURE

When Monitored: Continuously with the ignition and radio turned on.

Set Condition: The code will set if the radio detects a internal rear transmitter failure.

POSSIBLE CAUSES
INTERNAL FAILURE

CASSETTE PLAYER INOP — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: If a DTC is set, erase the DTC and attempt to reset the DTC. If DTC resets, follow this test.** This is an internal radio failure. View repair Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
CD CHANGER MECHANICAL FAILURE

When Monitored and Set Condition:

CD CHANGER MECHANICAL FAILURE

When Monitored: Continuously with the ignition and CD Changer turned on.

Set Condition: The code will set if the CD Changer detects a mechanical failure.

POSSIBLE CAUSES
INTERNAL FAILURE

TEST	ACTION	APPLICABILITY
1	**NOTE: Erase DTC and attempt to reset. If DTC resets, follow this test.** This is an internal CD Changer failure. View repair Repair Replace the CD Changer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
CD CHANGER READ FAILURE

When Monitored and Set Condition:

CD CHANGER READ FAILURE

When Monitored: Continuously with the ignition and CD Changer turned on.

Set Condition: The code will set if a CD that is not formatted as a music CD is installed in the CD Changer.

POSSIBLE CAUSES
CD CHANGER READ FAILURE

TEST	ACTION	APPLICABILITY
1	Replace the problem CD with a good, clean, unscratched, music CD. Turn the radio on and select the good CD. With the DRBIII®, read DTC's. Does the DRBIII® display CD CHANGER READ FAILURE? Yes → Replace the CD Changer. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
CD CHANGER TEMPERATURE HIGH

When Monitored and Set Condition:

CD CHANGER TEMPERATURE HIGH

When Monitored: Continuously with the ignition and CD Changer turned on.

Set Condition: The code will set if the temperature inside the CD Changer is above +65° C (+145° F).

POSSIBLE CAUSES
HIGH TEMPERATURE FAILURE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the audio DTC's. Start the engine and allow the engine to reach normal operating temperature. If the vehicle has been in the hot sunlight or extreme cold move the vehicle indoors and open the doors to allow the inside temperature to stabilize. The CD Changer will operate between -23° C and 65° C (-10° F and +145° F). With the DRBIII®, read DTC's. Does the DRBIII® display CD CHANGER TEMPERATURE HIGH? Yes → Replace the CD Changer. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
CD PLAY FAILURE

When Monitored and Set Condition:

CD PLAY FAILURE

When Monitored: Continuously with the ignition and the radio CD player turned on.

Set Condition: The code will set if a CD that is not formatted as a music CD or is scratched, dirty so the radio can not play the CD.

POSSIBLE CAUSES
CD PLAY FAILURE

TEST	ACTION	APPLICABILITY
1	Replace the problem CD with a good, clean, unscratched, music CD. Turn the radio CD player on. With the DRBIII®, read DTC's. Does the DRBIII® display CD PLAY FAILURE? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
CD READ FAILURE

When Monitored and Set Condition:

CD READ FAILURE

When Monitored: Continuously with the ignition and the radio CD player turned on.

Set Condition: The code will set if a CD that is not formatted as a music CD is installed in the radio CD player.

POSSIBLE CAUSES
CD READ FAILURE

TEST	ACTION	APPLICABILITY
1	Replace the problem CD with a good, clean, unscratched, music CD. Turn the radio CD player on. With the DRBIII®, read DTC's. Does the DRBIII® display CD READ FAILURE? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
CD TEMPERATURE HIGH

When Monitored and Set Condition:

CD TEMPERATURE HIGH

When Monitored: Continuously with the ignition and the radio CD player turned on.

Set Condition: The code will set if the temperature inside the radio CD player is above +85° C (+185° F).

POSSIBLE CAUSES
HIGH TEMPERATURE FAILURE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the audio DTC's. Start the engine and allow the engine to reach normal operating temperature. If the vehicle has been in the hot sunlight or extreme cold move the vehicle indoors and open the doors to allow the inside temperature to stabilize. The radio CD player will operate between -30° C and 85° C (-22° F and +185° F). With the DRBIII®, read DTC's. Does the DRBIII® display CD TEMPERATURE HIGH? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
EQ FAULT - NO EQ ACTIVE - AMPLIFIER

When Monitored and Set Condition:

EQ FAULT - NO EQ ACTIVE - AMPLIFIER

When Monitored: When the DRBIII® performs the Identify EQ Test.

Set Condition: When the Amplifier detects a fault with the current EQ mode.

POSSIBLE CAUSES
AMPLIFIER
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition present? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the wiring diagrams in the service information to help isolate a possible intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INTERNAL FAILURE - AMPLIFIER

When Monitored and Set Condition:

INTERNAL FAILURE - AMPLIFIER

When Monitored: With the ignition on.

Set Condition: The module has failed the loop back test.

POSSIBLE CAUSES
INTERNAL FAILURE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
INTERNAL FAILURE - SDARS

When Monitored and Set Condition:

INTERNAL FAILURE - SDARS

When Monitored: Ignition key in accessory or run position.

Set Condition: Internal bus communication failure between processors.

POSSIBLE CAUSES
INTERNAL SDARS FAILURE

TEST	ACTION	APPLICABILITY
1	The Satellite Radio Receiver is reporting internal errors, view repair to continue. Repair Replace the Satellite Radio Receiver in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INTERNAL RECEIVER FAILURE - SDARS

When Monitored and Set Condition:

INTERNAL RECEIVER FAILURE - SDARS

When Monitored: Ignition key in accessory or run position.

Set Condition: Internal failure is detected.

POSSIBLE CAUSES
INTERNAL RECEIVER FAILURE

TEST	ACTION	APPLICABILITY
1	The Satellite Radio Receiver is reporting internal errors, view repair to continue. Repair Replace the Satellite Radio Receiver in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LOSS OF COMMUNICATION ON PRIVATE BUS - SDARS

When Monitored and Set Condition:

LOSS OF COMMUNICATION ON PRIVATE BUS - SDARS

When Monitored: With the ignition in run, and the IOD fuse installed.

Set Condition: The radio does not receive any messages from the Satellite Receiver for at least 12 seconds.

POSSIBLE CAUSES
AUDIO BUS 2 SHORT TO GROUND
AUDIO BUS 2 OPEN
AUDIO BUS 2 SHORT TO VOLTAGE
AUDIO BUS 1 OPEN
AUDIO BUS 1 SHORT TO GROUND
AUDIO BUS 1 SHORT TO VOLTAGE
RADIO INTERNAL FAILURE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Satellite Receiver Module harness connectors. Disconnect the Satellite Radio Multiplexer harness connectors. Measure the resistance between ground and the Audio Bus 2 circuit. Is the resistance below 100 ohms? Yes → Repair the Audio Bus 2 circuit for a short to ground between the Satellite Receiver Module and the Multiplexer. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Satellite Receiver Module harness connectors. Disconnect the Satellite Radio Multiplexer harness connectors. Measure the resistance of the Audio Bus 2 circuit between the Satellite Receiver Module and the Multiplexer. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Audio Bus 2 circuit for an open between the Satellite Receiver Module and the Multiplexer. Perform BODY VERIFICATION TEST - VER 1.	All

LOSS OF COMMUNICATION ON PRIVATE BUS - SDARS — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Satellite Receiver Module harness connectors. Disconnect the Satellite Radio Multiplexer harness connectors. Turn the ignition on. Measure the voltage of the Audio Bus 2 circuit. Is the voltage above 2 volts? Yes → Repair the Audio Bus 2 circuit for a short to voltage between the Satellite Receiver Module and the Multiplexer. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Satellite Radio Multiplexer harness connectors. Disconnect the Radio harness connector. Measure the resistance between ground and the Audio Bus 1 circuit. Is the resistance below 100 ohms? Yes → Repair the Audio Bus 1 circuit for a short to ground between the Radio and the Multiplexer. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Radio harness connector. Disconnect the Satellite Radio Multiplexer harness connectors. Measure the resistance of the Audio Bus 1 circuit between the Radio and the Multiplexer. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Audio Bus 1 circuit for an open between the Radio and the Multiplexer. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Radio harness connector. Disconnect the Satellite Radio Multiplexer harness connectors. Turn the ignition on. Measure the voltage of the Audio Bus 1 circuit. Is the voltage above 2 volts? Yes → Repair the Audio Bus 1 circuit for a short to voltage between the Radio and the Multiplexer. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All

LOSS OF COMMUNICATION ON PRIVATE BUS - SDARS — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. **NOTE: Disconnect the Satellite Receiver Module harness connectors and check the related wiring terminals for corrosion, damage or terminal push out. Repair as necessary.** **NOTE: Disconnect the Satellite Radio Multiplexer harness connectors and check the related wiring terminals for corrosion, damage or terminal push out. Repair as necessary.** **NOTE: Disconnect the Radio harness connector and check the related wiring terminals for corrosion, damage or terminal push out. Repair as necessary.** Using the schematics as a guide, inspect the wire harness and connectors, repair as necessary. Pay particular attention to all Power and Ground circuits. Replace the Satellite Radio Multiplexer in accordance with the service information. Reconnect harness connectors and start the engine. Attempt to reset the DTC. Does the DTC reset? Yes → Go To 8 No → Test Complete.	All
8	Replace the Satellite Receiver Module in accordance with the service information. Start the vehicle and operate the Satellite Radio. Attempt to reset the DTC. Does the DTC reset? Yes → Go To 9 No → Test Complete.	All
9	If there are no other possible causes remaining, view repair. Repair Replace the Radio in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LOW VOLTAGE LEVEL

When Monitored and Set Condition:

LOW VOLTAGE LEVEL

When Monitored:

Set Condition: The radio detects lower than normal voltage.

POSSIBLE CAUSES
CHECK CHARGING SYSTEM
CHECK VOLTAGE LEVEL AT RADIO
RADIO

TEST	ACTION	APPLICABILITY
1	Check the charging system in accordance with the service information. Is the charging system operating properly? Yes → Go To 2 No → Refer to the appropriate service information and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Radio C1 harness connector. Start the engine. Measure the voltage of the Fused B+ circuit. Is the voltage above or approximately 14 volts? Yes → Go To 3 No → Repair the circuit for high resistance. Perform BODY VERIFICATION TEST - VER 1.	All
3	**Note: Reconnect all previously disconnected components.** Turn the ignition and Radio on. With the DRBIII®, erase the audio DTC's. Start the engine. With the DRBIII®, read the audio DTC's. Did this DTC reset? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

NAV MESSAGES NOT RECEIVED - AMPLIFIER

When Monitored and Set Condition:

NAV MESSAGES NOT RECEIVED - AMPLIFIER

When Monitored: With the ignition on.

Set Condition: The module does not receive any messages from the navigation module.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE NAVIGATION MODULE
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the navigation module. Was the DRBIII® able to I/D or communicate with the NAV? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
NO ANTENNA CONNECTION

When Monitored and Set Condition:

NO ANTENNA CONNECTION

When Monitored: With the ignition on and the radio in seek up/down mode.

Set Condition: With the radio in seek mode for two minutes and the radio does not detect an antenna connection or does not receive a radio station signal.

POSSIBLE CAUSES
BAD ANTENNA CONNECTION
TEST ANTENNA
RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Radio Antenna connector. Inspect the Radio Antenna connection. Was the Antenna connection clean and tight? Yes → Go To 2 No → Repair Antenna connection as needed. Perform BODY VERIFICATION TEST - VER 1.	All
2	Refer to the Audio System in the service information and test the Antenna in accordance with the service procedure. Is the Antenna ok? Yes → Go To 3 No → Repair or replace the Antenna assembly as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
3	**NOTE: Reconnect all previously disconnected components.** Turn the ignition and Radio on. **NOTE: Move vehicle outside approximately 30ft from any structure.** With the DRBIII®, erase the audio DTC's, put the radio in seek up and seek down mode for approximately 2 minutes before proceeding. With the DRBIII®, read the audio DTC's. Did this DTC reset? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
NO COMMUNICATION WITH AMPLIFIER - RADIO

When Monitored and Set Condition:

NO COMMUNICATION WITH AMPLIFIER - RADIO

When Monitored: With the ignition on.

Set Condition: The module misses 5 successive periodic messages or has not received an in frame response after 3 consecutive retries.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE AMPLIFIER
RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Amplifier. Was the DRBIII® able to I/D or communicate with the Amplifier? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

NO COMMUNICATION WITH BCM - RADIO

When Monitored and Set Condition:

NO COMMUNICATION WITH BCM - RADIO

When Monitored: With the ignition on.

Set Condition: The module misses 5 successive periodic messages or has not received an in frame response after 3 consecutive retries.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Body Control Module. Was the DRBIII® able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
NO COMMUNICATION WITH CD/DVD CHANGER - RADIO

When Monitored and Set Condition:

NO COMMUNICATION WITH CD/DVD CHANGER - RADIO

When Monitored: With the ignition on.

Set Condition: The module misses 5 successive periodic messages or has not received an in frame response after 3 consecutive retries.

POSSIBLE CAUSES
FUSED B+ CIRCUIT OPEN
CD/DVD CHANGER WIRING HARNESS
PCI BUS CIRCUIT OPEN
IGNITION RUN/ACC SIGNAL CIRCUIT OPEN
RADIO GROUND CKT OPEN
CD/DVD CHANGER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the CD/DVD Changer harness connector. Turn the Radio and the CD/DVD Changer on. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. Is the test light illuminated? Yes → Go To 2 No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the CD/DVD Changer harness connector. Visually inspect the connectors for damage. Check for open circuits in the wiring harness between the Radio and the CD/DVD Changer. Measure the resistance of the each circuit between the Radio C2 connector and the CD/DVD Changer connector. Check for shorted circuits in the wiring harness between the Radio and the CD/DVD Changer. Measure the resistance between each circuit at the Radio C2 connector. Are any of the circuits shorted together or open? Yes → Replace/repair the CD/DVD Changer wiring harness. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

NO COMMUNICATION WITH CD/DVD CHANGER - RADIO — Continued

TEST	ACTION	APPLICABILITY
3	Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Disconnect the CD/DVD Changer harness connector. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the CD/DVD Changer connector. Reconnect the Radio C2 harness connector. Turn the ignition on. Turn the Radio and CD/DVD Changer on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 4 No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the CD/DVD Changer harness connector. Turn the ignition on. Turn the Radio and the CD/DVD Changer on. Using a 12-volt test light connected to ground, probe the Ignition RUN/ACC Signal circuit. Is the test light illuminated? Yes → Go To 5 No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the CD/DVD Changer harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Replace the CD/DVD Changer in accordance with the service information Perform BODY VERIFICATION TEST - VER 1. No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

NO COMMUNICATION WITH NAV - RADIO

When Monitored and Set Condition:

NO COMMUNICATION WITH NAV - RADIO

When Monitored: With the ignition on.

Set Condition: The module misses 5 successive periodic messages or has not received an in frame response after 3 consecutive retries.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE NAVIGATION MODULE
RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the navigation module. Was the DRBIII® able to I/D or communicate with the NAV? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
NO COMMUNICATION WITH SDARS - RADIO

When Monitored and Set Condition:

NO COMMUNICATION WITH SDARS - RADIO

When Monitored: With the ignition on.

Set Condition: The module misses 5 successive periodic messages or has not received an in frame response after 3 consecutive retries.

POSSIBLE CAUSES
SDARS WIRING HARNESS
PCI BUS CIRCUIT OPEN
IGNITION RUN/ACC SIGNAL CIRCUIT OPEN
RADIO GROUND CKT OPEN
SATELLITE RADIO RECEIVER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Satellite Radio Receiver Module harness connector. Visually inspect the connectors for damage. Check for open circuits in the wiring harness between the Radio and the Satellite Radio Receiver. Measure the resistance of the each circuit between the Radio C2 connector and the Satellite Radio Receiver connector. Check for shorted circuits in the wiring harness between the Radio and the Satellite Radio Receiver. Measure the resistance between each circuit at the Radio C2 connector. **NOTE: If vehicle is equipped with a satellite radio multiplexer, check connectors. This device is a pass through for the satellite radio receiver circuits.** Are any of the circuits shorted together or open? Yes → Replace/repair the SDARS wiring harness. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

NO COMMUNICATION WITH SDARS - RADIO — Continued

TEST	ACTION	APPLICABILITY
2	Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Disconnect the Satellite Radio Receiver harness connector. **NOTE: If vehicle is equipped with a satellite radio multiplexer, check connectors. This device is a pass through for the satellite radio receiver circuits.** Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Satellite Radio Receiver connector. Reconnect the Radio C2 harness connector. Turn the ignition on. Turn the Radio and place the radio in the Satellite mode. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 3 No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Satellite Radio Receiver harness connector. **NOTE: If vehicle is equipped with a satellite radio multiplexer, check connectors. This device is a pass through for the satellite radio receiver circuits.** Turn the ignition on. Turn the Radio and place the radio in the Satellite mode. Using a 12-volt test light connected to ground, probe the Ignition RUN/ACC Signal circuit. Is the test light illuminated? Yes → Go To 4 No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Satellite Radio Receiver harness connector. **NOTE: If vehicle is equipped with a satellite radio multiplexer, check connectors. This device is a pass through for the satellite radio receiver circuits.** Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Replace the Satellite Radio Receiver in accordance with the service information Perform BODY VERIFICATION TEST - VER 1. No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
NO J1850 COMMUNICATION - SDARS

POSSIBLE CAUSES
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	**NOTE: For this code to be active, the DRB will not be able to communicate with any modules on the vehicle (except the PCM).** **NOTE: Clear the code. If this code continues to set and the DRB can still communicate with the module, it will be necessary to replace the module.** **NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the complete bus failure condition. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
NO PCI TRANSMISSION

When Monitored and Set Condition:

NO PCI TRANSMISSION

When Monitored: With the ignition on.

Set Condition: The module fails a phase 1 recovery in 8 consecutive attempts.

POSSIBLE CAUSES
NO PCI TRANSMISSION
RADIO-NO PCI TRANSMISSION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, erase the audio DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the audio DTC's. Did this DTC reset? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the wiring diagrams located in the service information to help isolate a possible short. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

PCI BUS SHORTED TO BATTERY - AMPLIFIER
PCI BUS SHORTED TO GROUND - AMPLIFIER

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be PCI BUS SHORTED TO BATTERY - AMPLIFIER.

When Monitored and Set Condition:

PCI BUS SHORTED TO BATTERY - AMPLIFIER

When Monitored: With the ignition on.

Set Condition: Anytime the module detects a short to battery on the PCI Bus circuit.

PCI BUS SHORTED TO GROUND - AMPLIFIER

When Monitored: With the ignition on.

Set Condition: Anytime the module detects a short to ground on the PCI Bus circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	**NOTE: For this code to be active, the DRB will not be able to communicate with any modules on the vehicle (except the PCM).** **NOTE: Clear the code. If this code continues to set and the DRB can still communicate with the module, it will be necessary to replace the module.** **WARNING: WHEN THE ENGINE IS OPERATING, DO NOT STAND IN A DIRECT LINE WITH THE FAN. DO NOT PUT YOUR HANDS NEAR THE PULLEYS, BELTS OR FAN. DO NOT WEAR LOOSE CLOTHING.** **NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the complete bus failure condition. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
PCM MESSAGES NOT RECEIVED - AMPLIFIER

When Monitored and Set Condition:

PCM MESSAGES NOT RECEIVED - AMPLIFIER

When Monitored: With the ignition in run.

Set Condition: The module does not receive any messages from the PCM.

POSSIBLE CAUSES
PCM MESSAGES NOT RECEIVED
ATTEMPT TO COMMUNICATE WITH THE PCM
PCI BUS CIRCUIT OPEN
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, enter Instrument Cluster, System Tests then PCM Monitor. Does the DRBIII® display: PCM active on the BUS? Yes → Erase the DTC, if DTC resets, replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to communicate with the PCM? Yes → Go To 3 No → Refer to the communication category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the PCM harness connector. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Measure the resistance of the PCI Bus circuit between the DLC and the PCM connector. Is the resistance below 5.0 ohms? Yes → Replace and program the Powertrain Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
POWER AMP SHUTDOWN

When Monitored and Set Condition:

POWER AMP SHUTDOWN

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: The radio has sensed a short on the output for more than 10 seconds.

POSSIBLE CAUSES
DETERMINE FAULT
SPEAKER SECTION OF AMPLIFIER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
RADIO (+) & (-) CIRCUITS SHORTED TOGETHER
SPEAKER SECTION OF RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, erase the audio DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the audio DTC's. Does the DRBIII® display POWER AMP SHUTDOWN? Yes → Go To 2 No → Refer to the wiring diagrams located in the service information to help isolate a possible short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Turn the ignition on. Turn the radio on. With the DRBIII®, erase the audio DTCs. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read DTC's. Does the DRBIII® display POWER AMP SHUTDOWN? Yes → Go To 3 No → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

POWER AMP SHUTDOWN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Radio (C1 on premium) harness connector. Measure the resistance between ground and each radio right and left (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the radio right or left (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Radio (C1 on premium) harness connector. Measure the resistance between ground and each radio right and left (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the radio right or left (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Radio (C1 on premium) harness connector. Measure the resistance between each radio (+) circuit and each radio (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the radio circuits shorted together. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RADIO MESSAGES NOT RECEIVED - AMPLIFIER

When Monitored and Set Condition:

RADIO MESSAGES NOT RECEIVED - AMPLIFIER

When Monitored: With the ignition on.

Set Condition: The module does not receive any messages from the radio.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE RADIO AMPLIFIER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRB, attempt to communicate with the Radio. Was the DRB able to I/D or communicate with the Radio? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
REMOTE RADIO SWITCH OPEN

When Monitored and Set Condition:

REMOTE RADIO SWITCH OPEN

When Monitored: With the ignition on.

Set Condition: The radio control MUX voltage at the BCM is greater than 4.8 volts for at least 10 seconds.

POSSIBLE CAUSES
OPEN RADIO CONTROL MUX CIRCUIT AT THE SWITCH
OPEN RADIO CONTROL MUX RETURN CIRCUIT AT THE SWITCH
REMOTE RADIO SWITCH
BODY CONTROL MODULE - INTERNAL SHORT
OPEN CLOCKSPRING
OPEN RADIO CONTROL MUX CIRCUIT
OPEN RADIO CONTROL MUX RETURN CIRCUIT
BODY CONTROL MODULE - OPEN INTERNAL

TEST	ACTION	APPLICABILITY
1	Turn the ignition and radio on. Operate both remote radio switches. Are both remote radio control switches inoperative? Yes → Go To 2 No → Go To 7	All
2	Turn the ignition off. Disconnect the Clockspring C2 harness connector. Turn the ignition on. With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage. Is the voltage approximately 5.0 volts? Yes → Go To 3 No → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

REMOTE RADIO SWITCH OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Clockspring C2 harness connector. Turn the ignition on. Connect a jumper wire between the Radio Control MUX circuit and the Radio Control MUX Return circuit at the Clockspring C2 connector. With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage. Is the voltage approximately 0.0 volts? Yes → Check the circuits between the clockspring connector and the splice for an open. If ok, replace the Clockspring. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Clockspring C2 harness connector. Disconnect the BCM C5 harness connector. Measure the resistance of the Radio Control MUX circuit between the BCM connector and the Clockspring connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Radio Control MUX circuit for an open between the clockspring and the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Clockspring C2 harness connector. Disconnect the BCM C4 harness connector. Measure the resistance of the Radio Control MUX Return circuit between the BCM connector and the Clockspring connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Radio Control MUX Return circuit for an open between the clockspring and the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

REMOTE RADIO SWITCH OPEN — Continued

TEST	ACTION	APPLICABILITY
7	**WARNING: Turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.** **CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidently deployed.** Remove the Driver Airbag Module. Disconnect both remote radio switch harness connectors. Turn the ignition on, reconnect the battery. Measure the voltage of the Radio Control MUX circuit at the inoperative remote radio switch. Is the voltage approximately 5.0 volts? Yes → Go To 8 No → Repair the Radio Control MUX circuit for an open between the inoperative switch and the splice. Perform BODY VERIFICATION TEST - VER 1.	All
8	**WARNING: Turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.** **CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidently deployed.** Remove the Driver Airbag Module. Disconnect both remote radio switch harness connectors. Disconnect the Clockspring harness connector. Measure the resistance of the Radio Control MUX Return circuit between the inoperative remote radio switch and the clockspring connector. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the Radio Control MUX Return circuit for an open between the inoperative switch and the clockspring. Perform BODY VERIFICATION TEST - VER 1.	All
9	If there are no possible causes remaining, view repair. Repair Replace the inoperative Remote Radio Switch. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REMOTE RADIO SWITCH STUCK

When Monitored and Set Condition:

REMOTE RADIO SWITCH STUCK

When Monitored: With the ignition on.

Set Condition: The code will set if the BCM detects a stuck switch or a short to ground on the Radio Control MUX circuit for more than 10 seconds.

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT REMOTE RADIO SWITCH SHORTED TO GROUND
RIGHT REMOTE RADIO SWITCH SHORTED TO GROUND
RADIO CONTROL MUX CIRCUIT SHORTED TO GROUND AT THE SWITCH
RADIO CONTROL MUX CIRCUIT SHORTED TO THE RETURN CIRCUIT AT THE SWITCH
CLOCKSPRING SHORTED TO GROUND
RADIO CONTROL MUX CIRCUIT SHORTED TO GROUND
RADIO CONTROL MUX CKT SHORTED TO THE RADIO CONTROL MUX RETURN CKT
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRB, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Go To 2 No → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent short. Perform BODY VERIFICATION TEST - VER 1.	All
2	**WARNING: Turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.** **CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidently deployed.** Remove the Driver Airbag Module. Disconnect the Left Remote Radio Switch harness connector. Turn the ignition on, reconnect the battery. With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage. Is the voltage approximately 4.5 volts or higher? Yes → Replace the Left Remote Radio Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

REMOTE RADIO SWITCH STUCK — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: Turn the ignition off, disconnect the battery and wait 2 minutes before proceeding.** **CAUTION: Do not place an intact undeployed airbag module face down on a hard surface, the airbag module will propel into the air if accidently deployed.** Remove the Driver Airbag Module. Disconnect the Right Remote Radio Switch harness connector. Turn the ignition on, reconnect the battery. With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage. Is the voltage approximately 4.5 volts or higher? Yes → Replace the Right Remote Radio Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Clockspring harness connector. Turn the ignition on. With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage. Is the voltage approximately 5.0 volts? Yes → Go To 5 No → Go To 6	All
5	Turn the ignition off. Disconnect the Clockspring harness connector. **NOTE: Ensure both remote radio switches are disconnected.** Measure the resistance between ground and each Radio Control MUX circuit at the clockspring harness connector. Is the resistance below 5.0 ohms? Yes → Repair the Radio Control MUX circuit for a short to ground between the clockspring and the remote radio switches. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Radio Control MUX circuit for a short to the Radio Control MUX Return circuit between the clockspring and the remote radio switches. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Clockspring C2 harness connector. Turn the ignition on. With the DRB, enter Body Computer then Sensors and monitor the Radio Control SW voltage. Is the voltage approximately 5.0 volts? Yes → Replace the Clockspring in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All

REMOTE RADIO SWITCH STUCK — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Clockspring C2 harness connector. Disconnect the BCM C5 harness connector. Measure the resistance between ground and the Radio Control MUX circuit. Is the resistance below 5.0 ohms? Yes → Repair the Radio Control MUX circuit for a short to ground between the clockspring and the BCM. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Turn the ignition off. Disconnect the Clockspring C2 harness connector. Disconnect the BCM C4 and C5 harness connectors. Measure the resistance between the Radio Control MUX circuit and the Radio Control MUX Return circuit. Is the resistance below 5.0 ohms? Yes → Repair the Radio Control MUX circuit for a short to the Radio Control MUX Return circuit between the clockspring and the BCM. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

SOFTWARE CHECKSUM FAILURE - AMPLIFIER

When Monitored and Set Condition:

SOFTWARE CHECKSUM FAILURE - AMPLIFIER

When Monitored: When the DRBIII® performs the PCI Amplifier Test.

Set Condition: When the Amplifier detects a fault with the software checksum.

POSSIBLE CAUSES
AMPLIFIER
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	**NOTE: The fault condition must be present to continue diagnosis. Use the DRBIII® to perform the Amplifier pretest to verify the fault condition is present before continuing diagnosis.** Turn the ignition on. With the DRBIII®, perform the Amplifier pretest. Is the fault condition present? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the wiring diagrams in the service information to help isolate a possible intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*AMPLIFIER PRETEST

POSSIBLE CAUSES
AMPLIFIER PRETEST
NO FAULT MESSAGE DISPLAYED

TEST	ACTION	APPLICABILITY
1	**NOTE: Perform this test if the vehicle is experiencing a problem with no sound or poor sound quality from a speaker or channel.** Turn the ignition on. Turn the radio on. With the DRBIII® enter Body, Audio Systems, Digital Audio Amplifier then System Tests. With the DRBIII® enter any one of the amplifier tests. **NOTE: The Continuous Tone test will send a continuous tone to each speaker. This test will verify the integrity of an individual speaker channel, but will not display any fault messages.** **NOTE: The PCI Amplifier Test will detect a Software Checksum Failure, and will a display fault message.** **NOTE: The Identify EQ Test will return the current EQ mode, and will display a fault message.** **NOTE: The Input test will detect activity on the amplifier input channels. This test will verify the integrity of the input channels.** Did the DRBIII® display a fault message? Yes → Perform the appropriate corresponding test. Perform BODY VERIFICATION TEST - VER 1. No → If the DRB does not display a fault message and the vehicle is experiencing a problem with a speaker or channel, refer to the wiring diagrams in the service information to help isolate a possible open in the wiring to the affected speaker or channel. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*INOP NO FAULT CODES - SDARS

POSSIBLE CAUSES
SDARS SUBSCRIPTION
FUSED B+ CIRCUIT
FUSED IGNITION SWITCH OUTPUT
GROUND CIRCUIT OPEN
SATELLITE RADIO RECEIVER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the SDARS subscription status. Does the subscription status read ″subscribed?″ Yes → Go To 2 No → Customer has not subscribed to this feature. No repair at this time. Perform BODY VERIFICATION TEST - VER 1.	All
2	**NOTE: Diagnose and repair any DTCs before continuing.** Disconnect the Satellite Radio Receiver harness connectors. Turn the ignition on and the radio on. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Fused B+ circuit for an open. Check related fuses, if fuse is open, repair short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Satellite Radio Receiver harness connectors. Turn the ignition and the radio on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit. Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Satellite Radio Receiver harness connectors. Using a 12-volt test light connected to 12-volts, probe the Ground circuit. Does the test light illuminate brightly? Yes → Go To 5 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*INOP NO FAULT CODES - SDARS — Continued

TEST	ACTION	APPLICABILITY
5	If there are no other possible causes remaining, view repair. Repair Replace Satellite Radio Receiver in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*POOR RECEPTION - SDARS

POSSIBLE CAUSES
*POOR SDARS RECEPTION

TEST	ACTION	APPLICABILITY
1	**NOTE: At times SDARS reception will better than FM radio, and other times FM radio reception will be better than SDARS.** **NOTE: The Satellite Radio system is still under development and there are areas where reception may be lost.** **NOTE: To check SDARS reception, vehicle must be outside the shop.** **NOTE: The SDARS antenna must be be free of damage and not be covered by any objects.** **NOTE: Large buildings in downtown areas can block the satellite signal and cause poor reception.** **NOTE: Check DTC's and record them. Repair any DTC's prior to continuing with test.** Inspect SDARS antenna for damage. Drive vehicle outside of shop and attempt to verify poor reception complaint. Verify good reception in your area with know good SDARS system. Is there any physical damage to the SDARS antenna? Yes → Replace SDARS antenna. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

*CHIME INOPERATIVE AT ALL TIMES

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	If there are no possible causes remaining, view repair. Repair Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***KEY IN IGNITION AND DRIVER'S DOOR OPEN CHIME NOT OPERATING PROPERLY**

POSSIBLE CAUSES
BODY CONTROL MODULE DIAGNOSTIC TROUBLE CODE
DRB CHIME ACTUATOR
DRIVER DOOR AJAR STATUS
IGNITION SWITCH
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBlll®, read BCM DTC's. Does the DRBIII® display any Cluster Wake Up Output or Communication DTC's? Yes → Refer to symptom list for the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII® under MIC, actuate the CHIME. Does chime sound a warning? Yes → Go To 3 No → Replace the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
3	Open the driver door. With the DRBlll®, in Driver Door Module Input/Outputs, read the ″DOOR AJAR″ state. Does the DRBIII® display ″DOOR AJAR: AJAR ″? Yes → Go To 4 No → Refer to symptom list for problems related to Door Ajar. Perform BODY VERIFICATION TEST - VER 1.	All
4	With the DRBIII® in BCM Inputs/Outputs, read the Ignition Status while inserting the key in and out of the ignition switch. Does the DRBIII® display change from ″Key In″ to ″Lock″? Yes → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Check the Ignition Lock Cylinder for damage. If OK replace the Ignition Switch. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***PROBLEM WITH THE VEHICLE SPEED WARNING CHIME**

POSSIBLE CAUSES
INCORRECT COUNTRY CODE PROGRAMMED IN BCM
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Note: The high speed warning chime is for Gulf Coast Countries only. With the DRBIII® in Miscellaneous check the Body Control Module country code setting. Is the country code incorrect? Yes → Program the correct country code setting. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
ABS MESSAGES NOT RECEIVED

When Monitored and Set Condition:

ABS MESSAGES NOT RECEIVED

When Monitored: With the ignition in run or run/start.

Set Condition: The module does not receive any messages from the CAB module. Time to mature for the BCM, DDM, IPM and PDM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE CONTROLLER ANTILOCK BRAKE MODULE
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Controller Antilock Brake Module. Was the DRBIII® able to I/D or communicate with the CAB? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
ATC MODULE MESSAGES NOT RECEIVED

When Monitored and Set Condition:

ATC MODULE MESSAGES NOT RECEIVED

When Monitored: With the ignition in run or run/start.

Set Condition: The module does not receive any messages from the ATC module. Time to mature for the BCM, DDM and PDM is 5 seconds. Time to mature for the IPM is 20 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE AUTOMATIC TEMPERATURE CONTROL MODULE MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Automatic Temp Control. Was the DRB able to I/D or communicate with the ATC module? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
AUDIO MESSAGES NOT RECEIVED

When Monitored and Set Condition:

AUDIO MESSAGES NOT RECEIVED

When Monitored: With the ignition in run or ACC, and battery voltage above 10 volts.

Set Condition: The module does not receive any messages from the radio. Time to mature for the BCM, DDM and PDM is 5 seconds. Time to mature for the IPM is 7.5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE RADIO
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRB, attempt to communicate with the Radio. Was the DRB able to I/D or communicate with the Radio? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
BCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

BCM MESSAGES NOT RECEIVED

When Monitored: With the ignition in run or run/start and vehicle not in shipping mode.

Set Condition: The module does not receive any messages from the BCM. Time to mature for the DDM, IPM and PDM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Body Control Module. Was the DRBIII® able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
CMTC MESSAGE MISMATCH

When Monitored and Set Condition:

CMTC MESSAGE MISMATCH

When Monitored: With the ignition on.

Set Condition: BCM has learned EC Mirror but the vehicle is Not equipped with EC Mirror. Time to mature for the BCM is 5 seconds.

POSSIBLE CAUSES
INTERMITTENT CONDITION
CMTC COMMUNICATION
CMTC MODULE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: All communication DTC(s) that may have set along with this DTC must be diagnosed before continuing.** With the DRBIII®, erase the DTC. Cycle the ignition on and off several times, leaving the ignition on for at least 15 seconds. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Go To 2 No → Go To 4	All
2	Turn the ignition on. With the DRBIII®, attempt to communicate with the CMTC Module. Can communication be established with the CMTC Module? Yes → Go To 3 No → Refer to the Communication Category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All

CMTC MESSAGE MISMATCH — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Install a substitute CMTC Module in place of the original module. With the DRBIII®, erase DTCs. Turn the ignition on. Cycle the ignition on and off, leaving the ignition in the on position for at least 15 seconds each time. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the CMTC Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
4	**WARNING: WHEN THE ENGINE IS OPERATING, DO NOT STAND IN A DIRECT LINE WITH THE FAN. DO NOT PUT YOUR HANDS NEAR THE PULLEYS, BELTS OR FAN. DO NOT WEAR LOOSE CLOTHING.** **NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, monitor the DRB parameters related to the DTC while wiggling the wiring harness. Look for parameter values to change and/or a DTC to set. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

CMTC MESSAGES NOT RECEIVED

When Monitored and Set Condition:

CMTC MESSAGES NOT RECEIVED

When Monitored: With the ignition in run.

Set Condition: The module does not receive any messages from the CMTC. Time to mature for the BCM, DDM and PDM is 5 seconds. Time to mature for the IPM is 10 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE CMTC
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the CMTC. Was the DRBIII® able to I/D or communicate with the CMTC? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
DDM MESSAGE RESPONSE FAULT

When Monitored and Set Condition:

DDM MESSAGE RESPONSE FAULT

When Monitored: Immediately

Set Condition: The passenger door module does not receive a window up, down, or express message from the driver door module. Time to mature for the PDM is 140ms.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE DRIVER DOOR MODULE
CLEAR DTC
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the driver door module. Was the DRB able to I/D or communicate with the driver door module? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	**NOTE: If any window switch related DTC's are set, perform them first before continuing with this test.** With the DRB, erase DTC's. Cycle the ignition switch from off to on. Operate the window up, down, and express switches from the driver door module. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the Driver Door Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Refer to the wiring diagrams located in the service information for any possible intermittent wiring problems. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DDM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

DDM MESSAGES NOT RECEIVED

When Monitored: With the ignition in run or ACC and vehicle not in shipping mode.

Set Condition: The module does not receive any messages from the DDM. Time to mature for the BCM, IPM and PDM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE DRIVER DOOR MODULE
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Driver Door Module. Was the DRBIII® able to I/D or communicate with the DDM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on, operate the door locks from the driver's door and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
INTERNAL BCM FAILURE

When Monitored and Set Condition:

INTERNAL BCM FAILURE

When Monitored: Continuously.

Set Condition: Time to mature is 125ms.

POSSIBLE CAUSES
INTERNAL BCM FAILURE

TEST	ACTION	APPLICABILITY
1	Connect the DRB to the Data Link Connector. Turn the ignition on. With the DRB, erase DTC's. Turn the ignition off then turn the ignition on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the BCM in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
INTERNAL DDM FAILURE

When Monitored and Set Condition:

INTERNAL DDM FAILURE

When Monitored: Continuously.

Set Condition: Time to mature is 125ms.

POSSIBLE CAUSES
INTERNAL DDM FAILURE

TEST	ACTION	APPLICABILITY
1	Connect the DRB to the Data Link Connector. Turn the ignition on. With the DRB, erase DTC's. Turn the ignition off then turn the ignition on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the DDM in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
INTERNAL IPM FAILURE

When Monitored and Set Condition:

INTERNAL IPM FAILURE

When Monitored: Continuously.

Set Condition: Time to mature is 125ms.

POSSIBLE CAUSES
INTERNAL IPM FAILURE

TEST	ACTION	APPLICABILITY
1	Connect the DRB to the Data Link Connector. Turn the ignition on. With the DRB, erase DTC's. Turn the ignition off then turn the ignition on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the IPM in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
INTERNAL PDM FAILURE

When Monitored and Set Condition:

INTERNAL PDM FAILURE

When Monitored: Continuously.

Set Condition: Time to mature is 125ms.

POSSIBLE CAUSES
INTERNAL PDM FAILURE

TEST	ACTION	APPLICABILITY
1	Connect the DRB to the Data Link Connector. Turn the ignition on. With the DRB, erase DTC's. Turn the ignition off then turn the ignition on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the PDM in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
IPM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

IPM MESSAGES NOT RECEIVED

When Monitored: With the ignition in run, start or unlock.

Set Condition: The module does not receive any messages from the IPM. Time to mature for the BCM, DDM and PDM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE INTERGRATED POWER MODULE
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the IPM. Was the DRB able to I/D or communicate with the IPM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LIFTGATE MODULE MESSAGES NOT RECEIVED

When Monitored and Set Condition:

LIFTGATE MODULE MESSAGES NOT RECEIVED

When Monitored: When the Body Control Module is awake.

Set Condition: The BCM does not receive any messages from the power liftgate module. Time to mature for the BCM is 1 second.

POSSIBLE CAUSES
CHECK FOR DTCS
VERIFY DTC
ATTEMPT TO COMMUNICATE WITH THE POWER LIFTGATE MODULE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read BCM DTC's. Are any Liftgate Wakeup Output DTC's set? Yes → Refer to symptom list for problems related to the Liftgate wakeup circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, erase DTC's. Operate the liftgate with either the key fob or the overhead console. With the DRBIII®, read BCM DTC's. Did this DTC reset? Yes → Go To 3 No → The condition that caused this DTC is currently not present. Use the wiring diagrams/schematic as a guide, and inspect the related wiring harness for a possible intermittent. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition on. With the DRB, attempt to communicate with the Power Liftgate Module. Was the DRB able to I/D or communicate with the Power Liftgate Module? Yes → Go To 4 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

LIFTGATE MODULE MESSAGES NOT RECEIVED — Continued

TEST	ACTION	APPLICABILITY
4	With the DRB, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. Operate the liftgate with either the key fob or the overhead console. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
MEMORY SEAT MODULE RESPONSE INCORRECTLY

When Monitored and Set Condition:

MEMORY SEAT MODULE RESPONSE INCORRECTLY

When Monitored: Continuously.

Set Condition: The door module receives a message, but not with the requested data. Time to mature for the DDM and PDM is 3.75ms.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE MEMORY SEAT MODULE
READ DTCS
CLEAR DTC
OBSERVE THE SEAT SWITCH INPUT TO THE DOOR MODULE
MEMORY SEAT MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the memory seat module. Was the DRB able to I/D or communicate with the memory seat module? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, read the door module DTC's. Are any seat switch related DTCs set? Yes → Refer to the appropriate category and perform the related symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	With the DRB, erase DTC's. Cycle the ignition switch from off to on. Operate the seat switches in all directions. With the DRB, read DTC's. Did this DTC reset? Yes → Go To 4 No → No problem found at this time. Refer to the wiring diagrams located in the service information for any possible intermittent wiring problems. Perform BODY VERIFICATION TEST - VER 1.	All

MEMORY SEAT MODULE RESPONSE INCORRECTLY — Continued

TEST	ACTION	APPLICABILITY
4	With the DRB, observe the seat switch voltage in the appropriate door module. Operate the seat switch in all directions while observing the DRB. Does the seat switch voltage change in each seat switch position? Yes → Replace the Memory Seat Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Check the circuits between the seat switch and the door module. If ok, replace the seat switch and retest. If after replacement of the seat switch condition is not corrected replace the door module that set this DTC. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MIC MESSAGES NOT RECEIVED

When Monitored and Set Condition:

MIC MESSAGES NOT RECEIVED

When Monitored: With the ignition in run.

Set Condition: The module does not receive any messages from the MIC. Time to mature for the BCM, DDM, IPM and PDM is 5 seconds.

POSSIBLE CAUSES
CHECK FOR DTCS
VERIFY DTC
ATTEMPT TO COMMUNICATE WITH THE MIC
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read BCM DTC's. Are any Cluster Wakeup Output DTC's set? Yes → Refer to symptom list for problems related to the cluster wakeup circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, erase DTC's. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Go To 3 No → The condition that caused this DTC is currently not present. Use the wiring diagrams/schematic as a guide, and inspect the related wiring harness for a possible intermittent. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition on. With the DRBIII®, attempt to communicate with the Instrument Cluster (MIC). Was the DRBIII® able to I/D or communicate with the Instrument Cluster (MIC)? Yes → Go To 4 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

MIC MESSAGES NOT RECEIVED — Continued

TEST	ACTION	APPLICABILITY
4	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
MSM MESSAGE RESPONSE FAULT

When Monitored and Set Condition:

MSM MESSAGE RESPONSE FAULT

When Monitored: Continuously.

Set Condition: The door module does not receive a memory message from the memory seat module. Time to mature for the DDM is 10 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE MEMORY SEAT MODULE
CLEAR DTC
MEMORY SEAT MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the memory seat module. Was the DRB able to I/D or communicate with the memory seat module? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on. Reset the memory positions. Operate the memory system. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the Memory Seat Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Refer to the wiring diagrams located in the service information for any possible intermittent wiring problems. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MSM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

MSM MESSAGES NOT RECEIVED

When Monitored: MSM did not respond to a messages request.

Set Condition: The module does not receive any messages from the MSM. Time to mature for the DDM and PDM is 8 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE MEMORY SEAT MODULE
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Memory Seat Module. Was the DRBIII® able to I/D or communicate with the MSM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Operate the memory seat system. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
ORC MESSAGES NOT RECEIVED

When Monitored and Set Condition:

ORC MESSAGES NOT RECEIVED

When Monitored: With the ignition in run or run/start and the IPM indicates the airbag power is on.

Set Condition: The module does not receive any messages from the ORC. Time to mature for the BCM, DDM, IPM and PDM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE AIRBAG CONTROL MODULE (ORC)
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the ORC. Was the DRB able to I/D or communicate with the ORC? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
PCI INTERNAL FAULT

When Monitored and Set Condition:

PCI INTERNAL FAULT

When Monitored: Continuously.

Set Condition: The same PCI Bus message can not be transmitted within 90ms. DTC will mature immediately.

POSSIBLE CAUSES
PCI INTERNAL FAULT

TEST	ACTION	APPLICABILITY
1	Connect the DRB to the Data Link Connector. Turn the ignition on. With the DRB, erase DTC's. Turn the ignition off then turn the ignition on. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
PCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

PCM MESSAGES NOT RECEIVED

When Monitored: With the ignition in run.

Set Condition: The module does not receive any messages from the PCM. Time to mature for the BCM, DDM and PDM is 5 seconds. Time to mature for the IPM is 2 seconds.

POSSIBLE CAUSES
PCM MESSAGES NOT RECEIVED
ATTEMPT TO COMMUNICATE WITH THE PCM
PCI BUS CIRCUIT OPEN
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, enter Instrument Cluster, System Tests then PCM Monitor. Does the DRBIII® display: PCM is active on BUS? Yes → Erase the DTC, if DTC resets, replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to communicate with the PCM? Yes → Go To 3 No → Refer to the communication category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the PCM harness connector. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Measure the resistance of the PCI Bus circuit between the DLC and the PCM connector. Is the resistance below 5.0 ohms? Yes → Replace and program the Powertrain Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PDM MESSAGE RESPONSE FAULT

When Monitored and Set Condition:

PDM MESSAGE RESPONSE FAULT

When Monitored: Continuously.

Set Condition: The door module does not receive a memory message from the passenger door module. Time to mature for the DDM is 10 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PASSENGER DOOR MODULE
CLEAR DTC
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the passenger door module. Was the DRB able to I/D or communicate with the passenger door module? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on. Reset the memory positions. Operate the memory system. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the Passenger Door Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Refer to the wiring diagrams located in the service information for any possible intermittent wiring problems. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PDM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

PDM MESSAGES NOT RECEIVED

When Monitored: With the ignition in run or ACC and vehicle not in shipping mode.

Set Condition: The module does not receive any messages from the PDM. Time to mature for the BCM, IPM and DDM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PASSENGER DOOR MODULE
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Passenger Door Module. Was the DRBIII® able to I/D or communicate with the PDM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on, operate the door locks from the passenger's door and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
RADIO MODULE MESSAGE RESPONSE FAULT

When Monitored and Set Condition:

RADIO MODULE MESSAGE RESPONSE FAULT

When Monitored: Continuously.

Set Condition: The door module does not receive a memory message from the radio. Time to mature for the DDM is 10 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE RADIO
CLEAR DTC
RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the radio. Was the DRB able to I/D or communicate with the radio? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on. Reset the memory positions. Operate the memory system. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the Radio in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Refer to the wiring diagrams located in the service information for any possible intermittent wiring problems. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
SKREEM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

SKREEM MESSAGES NOT RECEIVED

When Monitored: With the ignition in run/start.

Set Condition: The module does not receive any messages from the SKREEM. Time to mature for the BCM, DDM and PDM is 5 seconds. Time to mature for the IPM is 2.5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE SKREEM
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the SKREEM. Was the DRB able to I/D or communicate with the SKREEM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
SPI INTERNAL COMMUNICATION

When Monitored and Set Condition:

SPI INTERNAL COMMUNICATION

When Monitored: Continuously.

Set Condition: The module can not communication with the on board driver. Time to mature for the BCM and IPM is 10 seconds.

POSSIBLE CAUSES
SPI INTERNAL COMMUNICATION

TEST	ACTION	APPLICABILITY
1	Connect the DRB to the Data Link Connector. Turn the ignition on. With the DRB, erase DTC's. Turn the ignition off then turn the ignition on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
TCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

TCM MESSAGES NOT RECEIVED

When Monitored: With the ignition in unlock.

Set Condition: The module does not receive any messages from the TCM. Time to mature for the BCM, DDM, IPM and PDM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE TCM
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Transmission Control Module. Was the DRBIII® able to I/D or communicate with the TCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
*NO RESPONSE FROM AIRBAG CONTROL MODULE

POSSIBLE CAUSES
CHECKING FOR VOLTAGE
GROUND CIRCUIT OPEN
PCI BUS CIRCUIT OPEN
AIRBAG CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: Check the IPM for DTC's. If DTC's are present, go to the appropriate category and perform the DTC.** Ensure that the battery is fully charged. **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module harness connector. Connect the appropriate Load Tool ACM Adapter to the ACM connector Turn the ignition on and then reconnect the Battery. Using a 12-volt test light connected to ground, probe the ORC Run Driver Circuit and the ORC Run/Start Driver Circuit at the Airbag Control Module connector. NOTE: One open circuit will not cause a NO RESPONSE condition. Is the test light illuminated on both circuits? Yes → Go To 2 No → Repair the ORC Run Driver and the ORC Run/Start Driver circuits for an open. Perform __AIRBAG VERIFICATION TEST - VER 1. **NOTE: When reconnecting airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**Ensure that the battery is fully charged.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module harness connector. Connect the appropriate Load Tool ACM Adapter to the ACM connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. **NOTE: Make sure test light is connected to the Battery positive terminal.** Is the test light illuminated? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform __AIRBAG VERIFICATION TEST - VER 1. **When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

*NO RESPONSE FROM AIRBAG CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
3	**Note: Ensure there is PCI bus communication with other modules. If not, refer to the PCI Bus Communication Failure symptom and repair as necessary.** **WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module harness connector. Connect the appropriate Load Tool ACM Adapter to the ACM connector. Turn the ignition on and then reconnect the Battery. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Airbag Control Module connector. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 4 No → Repair the PCI Bus circuit for an open. Perform __AIRBAG VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with the Service information. Perform __AIRBAG VERIFICATION TEST - VER 1.	All

Symptom:
*NO RESPONSE FROM AMPLIFIER

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE RADIO
GROUND CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
FUSED ACCESSORY RELAY OUTPUT CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
AMPLIFIER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: The Radio must be turned on for the DRB to get a response from the Amplifier.** With the DRB, attempt to communicate with the Radio. Was the DRB able to I/D or communicate with the Radio? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Using a 12-volt test light connected to 12-volts, probe both ground circuits. Is the test light illuminated for both circuits? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Amplifier C1 harness connector. Using a 12-volt test light connected to ground, probe both Fused B(+) circuits. Is the test light illuminated for both circuits? Yes → Go To 4 No → Check IPM fuse #49 for an open. If OK, repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM AMPLIFIER — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Accessory Relay Output circuit. Is the test light illuminated? Yes → Go To 5 No → Check IPM fuse #25 for an open. If OK, repair the Fused Accessory Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Amplifier C2 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Amplifier connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Amplifier in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM AUTOMATIC TEMPERATURE CONTROL MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
GROUND CIRCUIT OPEN
FUSED (B+) CKT OPEN
FUSED RUN RELAY OUTPUT CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
AUTOMATIC TEMPERATURE CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Body Computer. Was the DRB able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the ATC C1 harness connector. Using a 12-volt test light connected to 12-volts, probe the Ground circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the ATC C1 harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the Fused B+ circuit for an open or short. Refer to the wiring diagrams in the service information. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the ATC C1 harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Run Relay Output circuit. Is the test light illuminated? Yes → Go To 5 No → Repair the Fused Run Relay Output circuit for an open or short. Refer to the wiring diagrams in the service information. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM AUTOMATIC TEMPERATURE CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the ATC C1 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the ATC connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 6 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Automatic Temperature Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM BODY CONTROL MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH ANOTHER MODULE
FUSED (B+) CKT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
OPEN GROUND CIRCUIT(S)
OPEN PCI BUS CIRCUIT
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the Airbag Control Module (ACM). With the DRB, attempt to communicate with the Instrument Cluster. Was the DRB able to I/D or communicate with the ACM and the CAB? Yes → Go To 2 No → Refer to symptom list for problems related to the PCI Bus Communication Failure. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the BCM C1 and C2 harness connectors. Using a 12-volt test light connected to ground, probe each Fused B+ circuit. Is the test light illuminated for each circuit? Yes → Go To 3 No → Check fuses in the IPM for an open. If ok, repair the Fused B+ circuit(s) for an open or short. Refer to the wiring diagrams in the service information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the BCM C2 harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the Fused Ignition Switch Output circuit for an open or short. Refer to the wiring diagrams in the service information. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM BODY CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the BCM C1 and C2 harness connectors. Using a 12-volt test light connected to 12-volts, probe both Ground circuits. Is the test light illuminated for each circuit? Yes → Go To 5 No → Repair the Ground circuit(s) for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the BCM C3 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the BCM connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE

POSSIBLE CAUSES
NO RESPONSE FROM CAB
GROUND CIRCUIT OPEN
OPEN FUSED RUN RELAY OUTPUT CIRCUIT/FUSED B(+) (VALVE) CIRCUIT
OPEN PCI BUS CIRCUIT
CONTROLLER ANTILOCK BRAKE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **Note: As soon as one or more module communicates with the DRB, answer the question.** With the DRB, attempt to communicate with the Airbag Control Module. With the DRB, attempt to communicate with the Body Control Module (BCM). Was the DRB able to I/D or establish communications with either of the modules? Yes → Go To 2 No → Refer to the Communications category and perform the symptom PCI Bus Communication Failure. Perform ABS VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the CAB harness connector. Using a 12-volt test light connected to 12-volts, probe both ground circuits. Is the test light illuminated for each circuit? Yes → Go To 3 No → Repair the ground circuit(s) for an open. Perform ABS VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the CAB harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Run Relay Output circuit and Fused B(+) (Valve) circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the Fused Run Relay Output circuit or Fused B(+) (Valve) circuit for an open. Perform ABS VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the CAB harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the CAB connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 5 No → Repair the PCI Bus circuit for an open. Perform ABS VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Controller Antilock Brake in accordance with the Service Information. Perform ABS VERIFICATION TEST - VER 1.	All

Symptom:

*NO RESPONSE FROM DRIVER DOOR MODULE

POSSIBLE CAUSES
OPEN FUSED DOOR NODE RELAY OUTPUT CIRCUIT
OPEN GROUND CIRCUIT
OPEN PCI BUS CIRCUIT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Turn the ignition off. Disconnect the Driver Door Module C1 harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Door Node Relay Output circuit. Is the test light illuminated? Yes → Go To 2 No → Repair the Fused Door Node Relay Output circuit for an open or short, refer to the wiring diagrams in the service information. Perform BODY VERIFICATION TEST - VER 1.	All
2	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Turn the ignition off. Disconnect the Driver Door Module C1 harness connector. Using a 12-volt test light connected to 12-volts, probe each ground circuit. Is the test light illuminated for each circuit? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM DRIVER DOOR MODULE — Continued

TEST	ACTION	APPLICABILITY
3	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Driver Door Module C3 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Driver Door Module connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 4 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Driver Door Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM HANDS FREE MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
GROUND CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
FUSED ACCESSORY RELAY OUTPUT CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
HANDS FREE MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the BCM. Was the DRB able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Hands Free Module harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Hands Free Module harness connector. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit. Is the test light illuminated? Yes → Go To 4 No → Check IPM fuse #48 for an open. If OK, repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Hands Free Module harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Accessory Relay Output circuit. Is the test light illuminated? Yes → Go To 5 No → Check IPM fuse #25 for an open. If OK, repair the Fused Accessory Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM HANDS FREE MODULE — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Hands Free Module harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Hands Free Module connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*NO RESPONSE FROM INSTRUMENT CLUSTER

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
FUSED B(+) CIRCUIT OPEN
GROUND CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
BCM
INSTRUMENT CLUSTER WAKE UP SIGNAL CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Body Computer. **NOTE: If communications can be established, check for any cluster wake up circuit related DTCs. If any are set, perform those related DTCs before proceeding.** Was the DRB able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Measure the voltage between the Fused B(+) circuit and ground. Is the voltage below 10.5 volts? Yes → Repair the Fused B(+) circuit for an open. If the fuse is open make sure to check for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the Ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*NO RESPONSE FROM INSTRUMENT CLUSTER — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Instrument Cluster C1 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Instrument Cluster connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 5 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Reconnect the Instrument Cluster C1 harness connector. Disconnect the BCM C4 harness connector. Measure the amperage between the Instrument Cluster Wake Up Signal circuit and ground. Does the amperage measure approximately 5uA (5 microampere)? Yes → Replace the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Disconnect the BCM C4 harness connector. Measure the resistance of the Instrument Cluster Wake Up Signal circuit. Is the resistance above 5.0 ohms? Yes → Repair the Instrument Cluster Wake Up Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*NO RESPONSE FROM INTEGRATED POWER MODULE

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
FUSED B+ CIRCUIT OPEN
GROUND CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Body Computer. Was the DRB able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Gain access to the underside of the IPM. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit (large positive terminal under the IPM). Is the test light illuminated? Yes → Go To 3 No → Check the battery connection. If ok, repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the IPM C5 harness connector. Using a 12-volt test light connected to 12-volts, probe the Ground circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM INTEGRATED POWER MODULE — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Turn the ignition off. Disconnect the negative battery cable. Disconnect the IPM C4 harness connector. Disconnect the DRBIII® from the DLC. Measure the resistance of the PCI Bus circuit between the IPM C4 connector and the DLC. Is the resistance below 5.0 ohms? Yes → Replace the Integrated Power Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
FUSED B+ CIRCUIT OPEN
GROUND CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Body Computer. Was the DRB able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Memory/Heated Seat Adjustable Pedal Module C4 harness connector. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit. Is the test light illuminated? Yes → Go To 3 No → Check the Power Seat Circuit Breaker for an open or short. If ok, repair the Fused B(+) circuit for an open or short. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Memory/Heated Seat Adjustable Pedal Module C4 harness connector. Using a 12-volt test light connected to 12-volts, probe the Ground circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Turn the ignition off. Disconnect the Memory/Heated Seat Adjustable Pedal Module C1 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Memory/Heated Seat Adjustable Pedal Module connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 5 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM NAVIGATION MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE INSTRUMENT CLUSTER
GROUND CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
FUSED ACCESSORY RELAY OUTPUT CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
NAVIGATION MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the Instrument Cluster. Was the DRB able to I/D or communicate with the Instrument Cluster? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Navigation Module harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Navigation Module harness connector. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit. Is the test light illuminated? Yes → Go To 4 No → Check IPM fuse #48 for an open. If OK, repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Navigation Module harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Accessory Relay Output circuit. Is the test light illuminated? Yes → Go To 5 No → Check IPM fuse #25 for an open. If OK, repair the Fused Accessory Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM NAVIGATION MODULE — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Navigation Module harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Navigation Module connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Navigation Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*NO RESPONSE FROM OVERHEAD CONSOLE

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
GROUND CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
FUSED ACCESSORY RELAY OUTPUT CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
OVERHEAD CONSOLE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the BCM. Was the DRB able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Overhead Console harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Overhead Console harness connector. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit. Is the test light illuminated? Yes → Go To 4 No → Check IPM fuse #48 for an open. If OK, repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Overhead Console harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Accessory Relay Output circuit. Is the test light illuminated? Yes → Go To 5 No → Check IPM fuse #25 for an open. If OK, repair the Fused Accessory Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM OVERHEAD CONSOLE — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Overhead Console harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Overhead Console connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace the Overhead Console in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*NO RESPONSE FROM PASSENGER DOOR MODULE

POSSIBLE CAUSES
OPEN FUSED DOOR NODE RELAY OUTPUT CIRCUIT
OPEN GROUND CIRCUIT
OPEN PCI BUS CIRCUIT
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Turn the ignition off. Disconnect the Passenger Door Module C1 harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Door Node Relay Output circuit. Is the test light illuminated? Yes → Go To 2 No → Repair the Fused Door Node Relay Output circuit for an open or short, refer to the wiring diagrams in the service information. Perform BODY VERIFICATION TEST - VER 1.	All
2	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Turn the ignition off. Disconnect the Passenger Door Module C1 harness connector. Using a 12-volt test light connected to 12-volts, probe each ground circuit. Is the test light illuminated for each circuit? Yes → Go To 3 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM PASSENGER DOOR MODULE — Continued

TEST	ACTION	APPLICABILITY
3	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Passenger Door Module C3 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Passenger Door Module connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 4 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Passenger Door Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*NO RESPONSE FROM PCM (PCI BUS)

POSSIBLE CAUSES
PCM PCI NO RESPONSE
POWERTRAIN CONTROL MODULE
PCI BUS CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: As soon as one or more module communicates with the DRB, answer the question.** With the DRB, enter Body then Body Computer With the DRB, enter Body then Electro/Mechanical Cluster (MIC). With the DRB, enter Passive Restraints then Airbag. Were you able to establish communications with any of the modules? Yes → Go To 2 No → Refer to symptom PCI Bus Communication Failure in the Communications category. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
2	With the DRB read the Powertrain DTC's. This is to ensure power and grounds to the PCM are operational. **NOTE: If the DRB will not read PCM DTC's, follow the NO RESPONSE TO PCM (PCM SCI only) symptom path.** Turn the ignition off. Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the appropriate terminal of special tool #8815. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Replace and program the Powertrain Control Module in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Repair the PCI Bus circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

Symptom:

***NO RESPONSE FROM PCM (PCM SCI ONLY)**

POSSIBLE CAUSES
CHECK PCM POWERS AND GROUNDS
PCM SCI TRANSMIT CIRCUIT SHORTED TO VOLTAGE
PCM SCI RECEIVE CIRCUIT SHORTED TO VOLTAGE
PCM SCI CIRCUITS SHORTED TOGETHER
PCM SCI TRANSMIT CIRCUIT SHORTED TO GROUND
PCM SCI RECEIVE CIRCUIT SHORTED TO GROUND
PCM SCI RECEIVE CIRCUIT OPEN
PCM SCI TRANSMIT CIRCUIT OPEN
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Perform the symptom Checking PCM Power and Ground Circuits in the Driveability category. **NOTE: With the DRBIII® in the generic scan tool mode, attempt to communicate with the PCM.** **NOTE: If the DRBIII® can communicate with the PCM in the generic scan tool mode, it may not be necessary to perform this step.** Did the vehicle pass this test? Yes → Go To 2 No → Repair as necessary. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
2	Turn the ignition off. Disconnect the DRBIII® from the DLC. Disconnect the PCM harness connectors. Turn the ignition on. Measure the voltage of the SCI Transmit (PCM) circuit at the Data Link harness connector (cav 7). Is the voltage above 1.0 volt? Yes → Repair the SCI Transmit (PCM) circuit for a short to voltage. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the DRBIII® from the DLC. Disconnect the PCM harness connectors. Turn the ignition on. Measure the voltage of the SCI Receive (PCM) circuit at the Data Link harness connector (cav 12). Is the voltage above 1.0 volt? Yes → Repair the SCI Receive (PCM) circuit for a short to voltage. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Go To 4	All

*NO RESPONSE FROM PCM (PCM SCI ONLY) — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the DRBIII® from the DLC. Disconnect the PCM harness connectors. Measure the resistance between the SCI Transmit (PCM) circuit and the SCI Receive (PCM) circuit at the Data Link harness connector (cavs 7 and 12). Is the resistance below 5.0 ohms? Yes → Repair the short between the SCI Transmit (PCM) and the SCI Receive (PCM) circuits. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the PCM harness connectors. Disconnect the DRBIII® from the DLC. Measure the resistance between ground and the SCI Transmit (PCM) circuit at the Data Link harness connector (cav 7). Is the resistance below 5.0 ohms? Yes → Repair the SCI Transmit (PCM) circuit for a short to ground. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the PCM harness connector. Disconnect the DRBIII® from the DLC. Measure the resistance between ground and the SCI Receive (PCM) circuit in the Data Link harness connector (cav 12). Is the resistance below 5.0 ohms? Yes → Repair the SCI Receive (PCM) circuit for a short to ground. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the PCM harness connector. Disconnect the DRBIII® from the DLC. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Measure the resistance of the SCI Receive (PCM) circuit from the Data Link harness connector (cav 12) to the appropriate terminal of special tool #8815. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the SCI Receive (PCM) circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

*NO RESPONSE FROM PCM (PCM SCI ONLY) — Continued

TEST	ACTION	APPLICABILITY
8	Turn the ignition off. Disconnect the PCM harness connector. Disconnect the DRBIII® from the DLC. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Measure the resistance of the SCI Transmit (PCM) circuit from the Data Link harness connector (cav 7) to the appropriate terminal of special tool #8815. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the SCI Transmit (PCM) circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
9	If there are no possible causes remaining, view repair. Repair Replace and program the Powertrain Control Module in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

Symptom:

***NO RESPONSE FROM POWER LIFTGATE MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
FUSED B(+) CIRCUIT OPEN
GROUND CIRCUIT OPEN
PCI BUS CIRCUIT OPEN
BODY CONTROL MODULE - LIFTGATE WAKE UP OUTPUT OPEN
LIFTGATE MODULE WAKE UP SIGNAL CIRCUIT OPEN
LIFTGATE MODULE WAKE UP SIGNAL CIRCUIT SHORT TO GROUND
POWER LIFTGATE MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Body Computer. **NOTE: If communications can be established, check for any liftgate wake up circuit related DTCs. If any are set, perform those related DTCs before proceeding.** Was the DRB able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the BCM. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Power Liftgate Module C1 harness connector. Measure the voltage of the Fused B(+) circuit. Is the voltage above 10.0 volts? Yes → Go To 3 No → Repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Power Liftgate Module C1 harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM POWER LIFTGATE MODULE — Continued

TEST	ACTION	APPLICABILITY
4	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Power Liftgate Module C2 harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Power Liftgate Module C2 connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 5 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the BCM C3 harness connector. Measure the voltage between the Liftgate Module Wake Up Signal circuit and ground. Is the voltage above 10.0 volts? Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the Body Control Module C3 harness connector. Disconnect the Power Liftgate Module C2 harness connector. Measure the resistance of the Liftgate Module Wake Up Signal circuit between the BCM C3 connector and the Power Liftgate Module C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the Liftgate Module Wake Up Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	Disconnect the Body Control Module C3 harness connector. Disconnect the Power Liftgate Module C2 harness connector. Measure the resistance between the Liftgate Module Wake Up Signal circuit and ground. Is the resistance below 100.0 ohms? Yes → Repair the Liftgate Module Wake Up Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All

*NO RESPONSE FROM POWER LIFTGATE MODULE — Continued

TEST	ACTION	APPLICABILITY
8	If there are no possible causes remaining, view repair. Repair Replace the Power Liftgate Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*NO RESPONSE FROM RADIO

POSSIBLE CAUSES
NO RESPONSE FROM RADIO
OPEN FUSED ACCESSORY RELAY OUTPUT CIRCUIT
OPEN FUSED B+ CIRCUIT
GROUND CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
RADIO

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **Note: As soon as one or more module communicates with the DRB, answer the question.** With the DRB, attempt to communicate with the Airbag Control Module. With the DRB, attempt to communicate with the Body Control Module (BCM). Was the DRB able to I/D or establish communications with either of the modules? Yes → Go To 2 No → Refer to the Communications category and perform the symptom PCI Bus Communication Failure. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Radio (C1 on premium) harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Accessory Relay Output circuit. Is the test light illuminated? Yes → Go To 3 No → Check fuse #25 in the IPM for an open. If ok, repair the Fused Accessory Relay Output circuit for an open or short. Refer to the wiring diagrams located in the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Radio (C1 on premium) harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. Is the test light illuminated? Yes → Go To 4 No → Check fuse #50 in the IPM for an open. If ok, repair the Fused B+ circuit for an open or short. Refer to the wiring diagrams located in the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM RADIO — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Radio (C1 on premium) harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Go To 5 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the Radio (C1 on premium) harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Radio connector. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 6 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Radio in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*NO RESPONSE FROM SATELLITE RADIO RECEIVER

POSSIBLE CAUSES
SDARS WIRING HARNESS
PCI BUS CIRCUIT OPEN
IGNITION RUN/ACC SIGNAL CIRCUIT OPEN
RADIO GROUND CKT OPEN
SATELLITE RADIO RECEIVER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the DRBIII® can communicate with the Radio, if not refer to the appropriate symptom.** Turn the ignition off. Disconnect the Radio C2 harness connector. Disconnect the Satellite Radio Receiver Module harness connector. Visually inspect the connectors for damage. Check for open circuits in the wiring harness between the Radio and the Satellite Radio Receiver. Measure the resistance of the each circuit between the Radio C2 connector and the Satellite Radio Receiver connector. Check for shorted circuits in the wiring harness between the Radio and the Satellite Radio Receiver. Measure the resistance between each circuit at the Radio C2 connector. **NOTE: If vehicle is equipped with a satellite radio multiplexer, check connectors. This devise is a pass through for the satellite radio receiver circuits.** Are any of the circuits shorted together or open? Yes → Replace/repair the SDARS wiring harness. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

*NO RESPONSE FROM SATELLITE RADIO RECEIVER — Continued

TEST	ACTION	APPLICABILITY
2	Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Disconnect the Satellite Radio Receiver harness connector. **NOTE: If vehicle is equipped with a satellite radio multiplexer, check connectors. This devise is a pass through for the satellite radio receiver circuits.** Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Satellite Radio Receiver connector. Reconnect the Radio C2 harness connector. Turn the ignition on. Turn the Radio on and place the radio in the Satellite mode. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 3 No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Satellite Radio Receiver harness connector. **NOTE: If vehicle is equipped with a satellite radio multiplexer, check connectors. This devise is a pass through for the satellite radio receiver circuits.** Turn the ignition on. Turn the Radio on and place the radio in the Satellite mode. Using a 12-volt test light connected to ground, probe the Ignition RUN/ACC Signal circuit. Is the test light illuminated? Yes → Go To 4 No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Satellite Radio Receiver harness connector. **NOTE: If vehicle is equipped with a satellite radio multiplexer, check connectors. This devise is a pass through for the satellite radio receiver circuits.** Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Replace the Satellite Radio Receiver in accordance with the service information Perform BODY VERIFICATION TEST - VER 1. No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM SENTRY KEY REMOTE ENTRY MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
GROUND CIRCUIT OPEN
IGNITION SWITCH OUTPUT CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
SENTRY KEY REMOTE ENTRY MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Body Computer. Was the DRB able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the BCM. Perform SKREEM VERIFICATION TEST - VER 1A.	All
2	Turn the ignition off. Disconnect the SKIM harness connector. Using a 12-volt test light connected to 12-volts, probe the Ground circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the ground circuit for an open. Perform SKREEM VERIFICATION TEST - VER 1A.	All
3	Turn the ignition off. Disconnect the SKREEM harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Ignition Switch Output circuit. Is the test light illuminated? Yes → Go To 4 No → Repair the Ignition Switch Output circuit for an open. Perform SKREEM VERIFICATION TEST - VER 1A.	All
4	Turn the ignition off. Disconnect the SKREEM harness connector. Using a 12-volt test light connected to ground, probe the Fused B(+) circuit. Is the test light illuminated? Yes → Go To 5 No → Repair the Fused B+ circuit for an open. Perform SKREEM VERIFICATION TEST - VER 1A.	All

*NO RESPONSE FROM SENTRY KEY REMOTE ENTRY MODULE — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the SKREEM harness connector. Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRBIII®. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the SKREEM connector. Turn the ignition on. Observe the voltage display on the DRBIII® Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 6 No → Repair the PCI Bus circuit for an open. Perform SKREEM VERIFICATION TEST - VER 1A.	All
6	If there are no possible causes remaining, view repair. Repair Replace and program the Sentry Key Remote Entry Module in accordance with the Service Information. Perform SKREEM VERIFICATION TEST - VER 1A.	All

Symptom:

*NO RESPONSE FROM TRANSMISSION CONTROL MODULE

POSSIBLE CAUSES
NO RESPONSE FROM TRANSMISSION CONTROL MODULE
IGNITION UNLOCK/RUN/START CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
GROUND CIRCUIT(S) OPEN
PCI BUS CIRCUIT OPEN
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **Note: As soon as one or more module communicates with the DRB, answer the question.** With the DRB, attempt to communicate with the Instrument Cluster. With the DRB, attempt to communicate with the Airbag Control Module. Was the DRB able to I/D or establish communications with both of the modules? Yes → Go To 2 No → Refer to the Communications category and perform the appropriate symptom. Perform 40/41TE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Turn the ignition on. Using a 12-volt test light connected to ground, probe the Ignition unlock/run/start circuit in the appropriate terminal of special tool #8815. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Is the test light illuminated? Yes → Go To 3 No → Repair the Ignition unlock/run/start circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform 40/41TE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM TRANSMISSION CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Using a 12-volt test light connected to ground, probe the Fused B(+) circuit in the appropriate terminal of special tool #8815. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Is the test light illuminated? Yes → Go To 4 No → Repair the Fused B(+) circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform 40/41TE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Using a 12-volt test light connected to 12-volts, probe each ground circuit in the appropriate terminal of special tool #8815. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Is the light illuminated at all ground circuits? Yes → Go To 5 No → Repair the Ground circuit(s) for an open. Check the main ground connection to engine block and/or chassis. Refer to the wiring diagrams located in the Service Information. Perform 40/41TE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM TRANSMISSION CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
5	**Note: Ensure there is PCI Bus communication with other modules on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Use Scope input cable CH7058, Cable to Probe adapter CH7062, and the red and black test probes. Connect the scope input cable to the channel one connector on the DRB. Attach the red and black leads and the cable to probe adapter to the scope input cable. With the DRBIII® select Pep Module Tools. Select lab scope. Select Live Data. Select 12 volt square wave. Press F2 for Scope. Press F2 and use the down arrow to set voltage range to 20 volts. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the appropriate terminal of special tool #8815. Turn the ignition on. Observe the voltage display on the DRB Lab Scope. Does the voltage pulse from 0 to approximately 7.5 volts? Yes → Go To 6 No → Repair the PCI Bus circuit for an open. Perform 40/41TE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.	All
6	Using the schematics as a guide, inspect the wiring and connectors. Repair as necessary. Pay particular attention to all power and ground circuits. If there are no possible causes remaining, view repair. Repair Replace and program the Powertrain Control Module in accordance with the service information. WITH THE DRBIII® PERFORM QUICK LEARN AND REPROGRAM PINION FACTOR. Perform 40/41TE (NGC) TRANSMISSION VERIFICATION TEST - VER 1.	All

Symptom:
*PCI BUS COMMUNICATION FAILURE

POSSIBLE CAUSES
WIRING HARNESS INTERMITTENT
OPEN PCI BUS CIRCUIT AT THE DATA LINK CONNECTOR (DLC)
PCI BUS CIRCUIT SHORTED TO VOLTAGE
MODULE SHORT TO VOLTAGE
PCI BUS CIRCUIT SHORTED TO GROUND
MODULE SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	**Note: Determine which modules this vehicle is equipped with before beginning.** **Note: When attempting to communicate with any of the modules on this vehicle, the DRB will display 1 of 2 different communication errors: a NO RESPONSE message or a BUS +/- SIGNALS OPEN message.** Turn the ignition on. Using the DRB, attempt to communicate with the following control modules: Airbag Control Module Body Control Module MIC (INSTRUMENT CLUSTER) Was the DRBIII® able to communicate with one or more Module(s)? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. **Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.** **Note: Visually inspect the related wire harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **Note: If the DRB can not communicate with a single module, refer to the category list for the related symptom.** Were any problems found? Yes → Repair wiring harness/connectors as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

*PCI BUS COMMUNICATION FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the PCM harness connectors. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Disconnect the DRB from the Data Link Connector (DLC). Disconnect the negative battery cable. Measure the resistance of the PCI Bus circuit between the Data Link Connector (DLC) and the PCM harness connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	**NOTE: Reconnect the PCM harness connector and the negative battery cable.** Turn the ignition on. Measure the voltage of the PCI Bus circuit at the Data Link Connector (DLC). Is the voltage above 7.0 volts? Yes → Go To 5 No → Go To 6	All
5	Turn the ignition off. Using a voltmeter, connect one end to the PCI Bus circuit at the DLC, and the other end to ground. **Note: When performing the next step turn the ignition off (wait one minute) before disconnecting any module. When the module is disconnected turn the ignition on to check for a short to voltage.** Turn the ignition on. While monitoring the voltmeter, disconnect each module the vehicle is equipped with one at a time. Is the voltage steadily above 7.0 volts with all the modules disconnected? Yes → Repair the PCI Bus circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the module that when disconnected the short to voltage was eliminated. Perform BODY VERIFICATION TEST - VER 1.	All

*PCI BUS COMMUNICATION FAILURE — Continued

TEST	ACTION	APPLICABILITY
6	Turn the ignition off. Disconnect the negative battery cable. Using a ohmmeter, connect one end to the PCI Bus circuit at the DLC, and the other end to ground. While monitoring the ohmmeter, disconnect each module the vehicle is equipped with one at a time. **NOTE: Total bus resistance to ground thru all of the modules is typically between 350 to 1000 ohms. The more modules on the bus, the lower the total bus resistance will be.** Is the resistance below 150.0 ohms with all the modules disconnected? Yes → Repair the PCI Bus circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the module that when disconnected the short to ground was eliminated. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***DRIVER DOOR AJAR CIRCUIT OPEN**

POSSIBLE CAUSES
DRIVER DOOR MODULE NOT RESPONDING TO INPUT
OPEN DRIVER DOOR AJAR SWITCH GROUND CKT
OPEN DRIVER DOOR LOCK MOTOR/AJAR SWITCH
OPEN DRIVER DOOR AJAR SWITCH SENSE CIRCUIT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Open the driver door. With the DRBIII® in Inputs/Outputs, read the DRVR DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Driver Door Lock Motor/Ajar switch connector Using a 12-volt Test Light connected to 12-volts, check the Ground circuit. Does the light illuminate? Yes → Go To 3 No → Repair the Driver Door Ajar Switch Ground circuit for an open top the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Driver Door Lock Motor/Ajar Switch connector. With the DRBIII® in Inputs/Outputs, read the DRVR DOOR AJAR SW state. Connect a jumper wire between Sense circuit and the Ground circuit. Does the DRBIII® display DRVR DOOR AJAR SW: CLOSED? Yes → Replace the Driver Door Lock Motor/Ajar Switch (door latch) in accordance with the Service Information. No → Go To 4	All
4	Disconnect the DDM harness connector. Disconnect the Driver Door Lock Motor/Ajar Switch harness connector. Measure the resistance of the Sense circuit. Is the resistance below 5.0 ohms? Yes → Replace the Driver Door Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Driver Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***DRIVER DOOR AJAR CIRCUIT SHORT TO GROUND**

POSSIBLE CAUSES
DRIVER DOOR LOCK MOTOR/AJAR SWITCH SHORT TO GROUND
DRIVER DOOR AJAR SWITCH SENSE CKT SHORT TO GROUND
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the DR DOOR AJAR SW state. Disconnect the Driver Door Lock Motor/Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the DR DOOR AJAR SW state. Does the Switch State change from CLOSED to OPEN? Yes → Replace the Driver Door Lock Motor/Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the DDM harness connector. Disconnect the Driver Door Lock Motor/Ajar Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Sense circuit. Does the Test Light illuminate? Yes → Repair the Driver Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*LEFT REAR DOOR AJAR CIRCUIT OPEN

POSSIBLE CAUSES
BCM NOT RESPONDING TO INPUT
GROUND CIRCUIT OPEN
LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH OPEN
LEFT REAR DOOR AJAR SWITCH SENSE CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Open the left rear door. With the DRBIII® in Inputs/Outputs, read the LR DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Left Rear Door Lock Motor/Ajar Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Ground circuit. Does the test light illuminate? Yes → Go To 3 No → Repair the ground circuit for an open to the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Left Rear Door Lock Motor/Ajar Switch harness connector. Connect a jumper wire between the Sense circuit and the Ground circuit. With the DRBIII® in Inputs/Outputs, read the LR DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Left Rear Door Lock Motor/Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Left Rear Door Lock Motor/Ajar Switch harness connector. Disconnect the BCM C2 connector. Measure the resistance of the Sense circuit from the BCM connector to the Door Lock Motor/Ajar Switch connector. . Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Left Rear Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*LEFT REAR DOOR AJAR CIRCUIT SHORT TO GROUND

POSSIBLE CAUSES
LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH SHORT TO GROUND
LEFT REAR DOOR AJAR SWITCH SENSE CKT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the LR DOOR AJAR SW state. Disconnect the Left Rear Door Lock Motor/Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the LR DOOR AJAR SW state. Does the Switch State change from CLOSED to OPEN? Yes → Replace the Left Rear Door Lock Motor/Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Left Rear Door Lock Motor/Ajar Switch harness connector. Disconnect the BCM C2 connector. Using a 12-volt Test Light connected to 12-volts, check the Sense circuit. Does the Test Light illuminate? Yes → Repair the Left Rear Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***LIFTGATE AJAR CIRCUIT OPEN**

POSSIBLE CAUSES
BCM NOT RESPONDING TO INPUT
GROUND CIRCUIT OPEN
LIFTGATE AJAR SWITCH SENSE CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Open the liftgate. With the DRBIII® in Inputs/Outputs, read the LIFTGATE AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Liftgate Ajar Switch (Liftgate Cinch/Release Motor) harness connector. Using a 12-volt Test Light connected to 12-volts, check the Ground circuit. Does the test light illuminate? Yes → Go To 3 No → Repair the Liftgate Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Liftgate Ajar Switch (Liftgate Cinch/Release Motor) harness connector. Disconnect the BCM C3 harness connector. Measure the resistance of the Sense circuit from the Latch connector to the BCM C3 connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Liftgate Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*LIFTGATE DOOR AJAR CIRCUIT SHORT TO GROUND

POSSIBLE CAUSES
LIFTGATE AJAR SWITCH SHORT TO GROUND
LIFTGATE AJAR SWITCH SENSE CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the LIFTGATE AJAR SW state. Disconnect the Liftgate Ajar Switch (Liftgate Cinch/Release Motor) harness connector. With the DRBIII® in Inputs/Outputs, read the LIFTGATE AJAR SW state. Does the Switch State change from CLOSED to OPEN? Yes → Replace the Liftgate Ajar Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the BCM C3 harness connector. Disconnect the Liftgate Ajar Switch (Liftgate Cinch/Release Motor) harness connectors. Using a 12-volt Test Light connected to 12-volts, check the Sense circuit. Does the Test Light illuminate? Yes → Repair the Liftgate Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***PASSENGER DOOR AJAR CIRCUIT OPEN**

POSSIBLE CAUSES
PASSENGER DOOR MODULE
OPEN PASSENGER DOOR AJAR SWITCH GROUND CIRCUIT
OPEN PASSENGER DOOR LOCK MOTOR/AJAR SWITCH
OPEN PASSENGER DOOR AJAR SWITCH SENSE CKT
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Open the passenger door. With the DRBIII® in Inputs/Outputs, read the PASS DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Passenger Door Lock Motor/Ajar switch connector Using a 12-volt Test Light connected to 12-volts, check the Ground circuit. Does the light illuminate? Yes → Go To 3 No → Repair the Passenger Door Ajar Switch Ground circuit for an open to the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Passenger Door Lock Motor/Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the PASS DOOR AJAR SW state. Connect a jumper wire between the Sense circuit and the Ground circuit. Does the DRBIII® display PASS DOOR AJAR SW: CLOSED? Yes → Replace the Passenger Door Lock Motor/Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the PDM harness connector. Disconnect the Passenger Door Lock Motor/Ajar Switch harness connector. Measure the resistance of the Sense circuit. Is the resistance below 5.0 ohms? Yes → Replace the Passenger Door Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Passenger Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***PASSENGER DOOR AJAR CIRCUIT SHORT TO GROUND**

POSSIBLE CAUSES
PASSENGER DOOR LOCK MOTOR/AJAR SWITCH SHORT TO GROUND
PASSENGER DOOR AJAR SWITCH SENSE CIRCUIT SHORT TO GROUND
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the PASS DOOR AJAR SW state. Disconnect the Passenger Door Lock Motor/Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the PASS DOOR AJAR SW state. Does the Switch State change from CLOSED to OPEN? Yes → Replace the Passenger Door Lock Motor/Ajar Switch (door latch) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the PDM harness connector. Disconnect the Passenger Door Lock Motor/Ajar Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Sense circuit. Does the Test Light illuminate? Yes → Repair the Passenger Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***RIGHT REAR DOOR AJAR CIRCUIT OPEN**

POSSIBLE CAUSES
BCM NOT RESPONDING TO INPUT
GROUND CIRCUIT OPEN
RIGHT REAR DOOR AJAR SWITCH OPEN
RIGHT REAR DOOR AJAR SWITCH SENSE CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Open the right rear door. With the DRBIII® in Inputs/Outputs, read the RR DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Right Rear Door Lock Motor/Ajar Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Ground circuit. Does the test light illuminate? Yes → Go To 3 No → Repair the ground circuit for an open to the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Right Rear Door Lock Motor/Ajar Switch harness connector. Connect a jumper wire between the Sense circuit and the Ground circuit. With the DRBIII® in Inputs/Outputs, read the RR DOOR AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Right Rear Door Lock Motor/Ajar Switch, Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Right Rear Door Lock Motor/Ajar Switch harness connector. Disconnect the BCM C3 harness connector. Measure the resistance of the Sense circuit. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Right Rear Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***RIGHT REAR DOOR AJAR CIRCUIT SHORT TO GROUND**

POSSIBLE CAUSES
RIGHT REAR DOOR LOCK MOTOR/AJAR SWITCH SHORT TO GROUND
RIGHT REAR DOOR AJAR SWITCH SENSE CKT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the RR DOOR AJAR SW state. Disconnect the Right Rear Door Lock Motor/Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the RR DOOR AJAR SW state. Does the Switch State change from CLOSED to OPEN? Yes → Replace the Right Rear Door Lock Motor/Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the BCM C3 harness connector. Disconnect the Right Rear Door Lock Motor/Ajar Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Sense circuit. Does the Test Light illuminate? Yes → Repair the Right Rear Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER HEATED SEAT SWITCH OPEN - DDM

When Monitored and Set Condition:

DRIVER HEATED SEAT SWITCH OPEN - DDM

When Monitored: Continuously.

Set Condition: If the switch MUX circuit is over 4.9 volts for over 10 second, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER SEAT SWITCH
SWITCH MUX WIRE OPEN
SWITCH MUX WIRE SHORT TO VOLTAGE
DRIVER DOOR MODULE
SEAT SWITCH MUX RETURN OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the switch indicated by the DRBlll® in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display the same DTC? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Review wiring schematics and inspect related wiring for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII® in Sensors, read the Seat Switch voltage of the switch that had the DTC. Select the voltage displayed. 4.4 to 5.1 volts. Go To 3 Over 5.2 volts Go To 5	All

DRIVER HEATED SEAT SWITCH OPEN - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Seat Switch connector. Turn the ignition on. Measure the voltage of the Switch MUX circuit indicated by the DRBlll® and ground. Is the voltage between 4.4 and 5.1 volts? Yes → Go To 4 No → Repair the Switch MUX wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Driver Seat Switch connector. Measure the resistance of the Seat Switch MUX Return circuit in the switch connector to ground. Is the resistance below 5.0 ohms? Yes → Replace the Driver Seat Switch. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Seat Switch MUX Return for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Driver Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Seat Switch MUX circuit that had the DTC for a possible short to voltage. Were there any problems found? Yes → Repair the MUX circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER HEATED SEAT SWITCH SHORT - DDM

When Monitored and Set Condition:

DRIVER HEATED SEAT SWITCH SHORT - DDM

When Monitored: Continuously.

Set Condition: If the MUX circuit is under 0.10 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
DRIVER HEATED SEAT SWITCH MUX SHORT TO GROUND
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the suspect switch in both positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER HEATED SEAT SWITCH SHORT? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER HEATED SEAT SWITCH SHORT? Yes → Go To 3 No → Replace the Power Seat Switch. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER HEATED SEAT SWITCH SHORT - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Heated Seat Switch MUX circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Heated Seat Switch MUX circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER HEATED SEAT SWITCH STUCK - DDM

When Monitored and Set Condition:

DRIVER HEATED SEAT SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
DRIVER HEATED SEAT SW MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the heated seat switch mechanical operation for a sticking condition. Correct as necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Heated Seat Switch several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER HEATED SEAT SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 30 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER HEATED SEAT SWITCH STUCK? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER HEATED SEAT SWITCH STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Heated Seat Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Heated Seat Switch MUX circuit as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER SEAT HEAT OUTPUT OPEN - MHSAPM

When Monitored and Set Condition:

DRIVER SEAT HEAT OUTPUT OPEN - MHSAPM

When Monitored: Ignition on, during the heated seat operation.

Set Condition: This code is set immediately after the Memory Heated Seat Adjustable Pedal Module senses an open on the seat heat element output circuit.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
DRIVER SEAT HEATER B(+) DRIVER WIRE OPEN
INTERMITTENT OPEN HEATER ELEMENT
DRIVER SEAT HEATER GROUND CIRCUIT OPEN
DRIVER HEATED SEAT CUSHION ELEMENT OPEN
DRIVER HEATED SEAT BACK ELEMENT OPEN
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Operate the heated seat system. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring schematic as a guide, inspect the wiring and connectors for an intermittent condition. Check for an intermittent open cushion or seat back element by applying pressure to seat with the heater on and watch the DRBIII for the DTC to reset. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the MHSAPM C3 connector. Measure the total resistance of the Driver Seat Heater Circuit by connecting one lead of the ohmmeter to the Driver Seat Heater B(+) Driver circuit and the Driver Seat Heater Ground circuit at the MHSAPM C3 connector. Is the resistance below 4.0 ohms? Yes → Replace the Memory Heated Seat Adjustable Pedal Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

DRIVER SEAT HEAT OUTPUT OPEN - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C3 connector. Measure the resistance of the Driver Seat Heater B(+) Driver circuit between the MHSAPM C3 connector and the Driver Heated Seat Cushion 4-way connector, harness side. Is the resistance below 1.0 ohms? Yes → Go To 4 No → Repair the open Driver Seat Heater B(+) Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All
4	Reconnect the Driver Heated Seat Cushion 4-way connector if disconnected. Disconnect the MHSAPM C3 connector. Disconnect the Driver Heated Seat Back 2-way connector. Measure the resistance of the Driver Seat Heater Ground circuit from the MHSAPM C3 connector to the Driver Heated Seat Back 2-way connector (harness side). Is the resistance below 1.0 ohms? Yes → Go To 5 No → Repair the Driver Seat Heater Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Driver Heated Seat Back 2-way connector. Measure the resistance of the SEAT CUSHION HEATER ELEMENT by connecting one lead to the Heated Seat Driver terminal at the 2-way and the other lead to the Driver Seat Heater B(+) Driver terminal in the Heated Seat Cushion 4-way Cushion Side connector. Is the resistance below 2.5 ohms? Yes → Go To 6 No → Replace the Driver Heated Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Driver Heated Seat Back 2-way connector. Measure the resistance of the SEAT BACK HEATER ELEMENT by connecting one lead to the Heated Seat Driver terminal and the other to the Driver Seat Heater Ground terminal in the Heated Seat Back 2-way connector. Is the resistance below 1.5 ohms? Yes → Using the wiring schematic as a guide, inspect the wiring and connectors for an intermittent condition. Check for an intermittent open element in either the cushion or seat back by applying pressure to seat with the ohmmeter connected to each element. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Heated Seat Back/Element as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER SEAT HEAT OUTPUT SHORT TO GROUND - MHSAPM

When Monitored and Set Condition:

DRIVER SEAT HEAT OUTPUT SHORT TO GROUND - MHSAPM

When Monitored: Ignition on, during the heated seat operation.

Set Condition: This code is set immediately after the Memory Heated Seat Adjustable Pedal Module detects an output shorted to ground.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
HEATED SEAT ELEMENT PIGTAIL SHORTED TO GROUND
HEATED SEAT B(+) DRIVER CIRCUIT SHORTED TO HEATER GROUND CIRCUIT
DRIVER SEAT BACK HEATER SHORT GROUND
DRIVER HEATED SEAT CUSHION SHORT TO GROUND
DRIVER SEAT HEATER B(+) DRIVER WIRE SHORT TO GROUND
DRIVER SEAT HEATER B(+) DRIVER WIRE SHORT TO GROUND FROM MHSAPM TO 4-WAY
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Operate the heated seat system. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Heated Seat Cushion 4-way connector. With the DRBIII®, erase DTC's. Turn the Driver Seat Heater on. Using the DRBIII re-read DTC's Does the DRBIII® show the same code? Yes → Go To 3 No → Go To 5	All

DRIVER SEAT HEAT OUTPUT SHORT TO GROUND - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the MHSAPM C3 connector. Measure the resistance of the Driver Seat Heater B(+) Driver circuit to the Driver Seat Heater Ground circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Seat Heater B(+) Driver wire for a short to the Driver Seat Heater Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn ignition off. Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the MHSAPM C3 connector. Measure the resistance of the Driver Seat Heater B(+) Driver circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Seat Heater B(+) Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Driver Heated Seat Back 2-way connector. Measure the resistance of the Driver Seat Heater B(+) Driver circuit in the Driver Heated Seat Cushion 4-way connector cushion side to body ground. Is the resistance below 1000.0 ohms? Yes → Replace the Driver Heated Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the Driver Heated Seat Back 2-way connector. Measure the resistance of the Heated Seat Driver circuit, in the Driver Heated Seat Back 2-way connector seat back side to body ground. Is the resistance below 1000.0 ohms? Yes → Replace the Driver Heated Seat Back/Element as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Reconnect the Driver Heated Seat Back 2-way connector if disconnected. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance of the Driver Seat Heater B(+) Driver circuit to the Driver Seat Heater Ground circuit at the Driver Heated Seat Cushion 4-way connector. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Seat Heater B(+) Driver circuit for a short to the Driver Seat Heater Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Inspect the heated seat wiring for a short that may have been removed during testing and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER THERMISTOR OUT OF RANGE HIGH - MHSAPM

When Monitored and Set Condition:

DRIVER THERMISTOR OUT OF RANGE HIGH - MHSAPM

When Monitored: Ignition on, during the heated seat operation.

Set Condition: This code is immediately set when the Memory Heated Seat Adjustable Pedal Module senses a greater value than the value stored in EEPROM.

POSSIBLE CAUSES
DRIVER SEAT TEMPERATURE SENSOR
STORED DIAGNOSTIC TROUBLE CODE
DRIVER SEAT TEMP SENSOR INPUT CKT SHORT TO VOLTAGE
DRIVER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY WIRE SHORT TO VOLTAGE
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Operate the heated seat system. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Heated Seat Cushion 4-way connector. Turn ignition on. Turn the Driver Heated Seat Switch on. Measure the voltage between Seat Temperature Sensor 5 Volt Supply circuit and ground. Is the voltage above 5.5 volts? Yes → Go To 3 No → Go To 4	All

DRIVER THERMISTOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C2 connector. Turn ignition on. Measure the voltage of the Driver Seat Temperature Sensor 5 Volt Supply circuit in the cushion side connector to ground. Is there ANY voltage on the Driver Seat Temperature Sensor 5 Volt Supply circuit? Yes → Repair the Driver Seat Temperature Sensor 5 Volt Supply ckt for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C2 connector. Turn ignition on. Measure the voltage between Driver Seat Temperature Sensor Input circuit and ground. Is there ANY voltage on the Driver Seat Temperature Sensor Input circuit? Yes → Repair the Driver Seat Temperature Sensor Input circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER THERMISTOR OUT OF RANGE LOW - MHSAPM

When Monitored and Set Condition:

DRIVER THERMISTOR OUT OF RANGE LOW - MHSAPM

When Monitored: Ignition on, during the heated seat operation.

Set Condition: This code is immediately set when the Memory Heated Seat Adjustable Pedal Module senses a lesser value than the value stored in EEPROM.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
DRIVER SEAT TEMP SENSOR INPUT OPEN
DRIVER SEAT TEMP SENSOR INPUT SHORT TO GROUND
DRIVER SEAT HEATER SENSOR OPEN
DRIVER SEAT TEMP SENSOR SHORT TO GROUND
DRIVER SEAT TEMPERATURE SENSOR 5 VOLT WIRE OPEN
DRIVER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY SHORT TO GROUND
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Operate the heated seat system. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Heated Seat Cushion 4-way connector. Turn ignition on. Turn the Driver Heated Seat Switch on. Measure the voltage of the Seat Sensor 5 Volt Supply circuit to ground. Is the voltage below 4.5 volts? No → Go To 3 Yes → Go To 7	All

DRIVER THERMISTOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C2 connector. Turn ignition off. Measure the resistance of the Driver Seat Temperature Sensor Input circuit from the MHSAPM connector to the driver heated seat cushion connector harness side. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Driver Seat Temperature Sensor Input circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Driver Heated Seat Cushion 4-way connector. Turn ignition off. Measure the resistance of the Driver Seat Temp Sensor Input in heated seat cushion connector to body ground. Is the resistance below 1000.0 ohms, should be infinite? Yes → Replace the Driver Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C2 connector. Turn ignition off. Measure the resistance of the Driver Seat Temperature Sensor Input circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Seat Temperature Sensor Input circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the Driver Heated Seat Cushion 4-way connector. Turn ignition off. Measure the resistance between the Driver Seat Temperature Sensor 5 Volt Supply circuit and the Driver Seat Temperature Sensor Input circuit in the heated seat cushion connector, cushion side. Is the resistance below 10000 (10K) ohms? Yes → Replace the Memory Heated Seat Adjustable Pedal Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
7	Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C2 connector. Turn ignition off. Measure the resistance of the Driver Seat Temperature Sensor 5 Volt Supply circuit to ground. Is the resistance below 1000.0 ohms? Should be infinite. Yes → Repair the Driver Seat Temperature Sensor 5 Volt Supply for a short to Ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All

DRIVER THERMISTOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
8	Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Module C2 connector. Turn ignition off. Measure the resistance of the Driver Seat Temperature Sensor 5 Volt Supply wire between the MHSAPM connector and the driver heated seat cushion connector, harness side. Is the resistance below 5.0 ohms? Yes → Replace the Memory Heated Seat Adjustable Pedal Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Driver Seat Temperature Sensor 5 Volt Supply circuit. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

EBL RELAY CONTROL CIRCUIT OPEN - IPM

When Monitored and Set Condition:

EBL RELAY CONTROL CIRCUIT OPEN - IPM

When Monitored: Continuously.

Set Condition: The output is off and a open condition exists. Time to mature 1 second.

POSSIBLE CAUSES
DTC PRESENT
FUSE #5
REAR WINDOW DEFOGGER RELAY (EBL)
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: EBL RELAY CONTROL CIRCUIT OPEN? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check fuse #5 in the IPM. Is the fuse open? Yes → Replace the fuse. Check for a short to ground in the Rear Window Defogger Relay Output circuit from the IPM to the defogger grid. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Install a substitute relay in place of the Rear Window Defogger Relay (EBL). With the DRBIII®, erase DTCs. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: EBL RELAY CONTROL CIRCUIT OPEN? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rear Window Defogger Relay (EBL). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

EBL RELAY CONTROL CIRCUIT SHORT TO BATTERY - IPM

When Monitored and Set Condition:

EBL RELAY CONTROL CIRCUIT SHORT TO BATTERY - IPM

When Monitored: Continuously.

Set Condition: The output is on and a short to battery condition exists. Time to mature 1 second.

POSSIBLE CAUSES
DTC PRESENT
REAR WINDOW DEFOGGER RELAY (EBL)
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: EBL RELAY CONTROL CIRCUIT SHORT TO BATTERY? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the Rear Window Defogger Relay (EBL). With the DRBIII®, erase DTCs. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: EBL RELAY CONTROL CIRCUIT SHORT TO BATTERY? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rear Window Defogger Relay (EBL). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER HEATED SEAT SWITCH OPEN - PDM

When Monitored and Set Condition:

PASSENGER HEATED SEAT SWITCH OPEN - PDM

When Monitored: Continuously.

Set Condition: If the switch MUX circuit is over 4.9 volts for over 10 second, this code will set.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER SEAT SWITCH MUX WIRE OPEN
PASSENGER SEAT SWITCH MUX WIRE SHORT TO VOLTAGE
SEAT SWITCH MUX RETURN
PASSENGER DOOR MODULE
PASSENGER SEAT SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the switch that had the DTC in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display the same DTC? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Review wiring schematics and inspect related wiring for intermittent open condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII® in Sensors, read the Seat Switch voltage of the switch that had the DTC. Select the voltage displayed. 4.4 to 5.1 volts. Go To 3 Over 5.2 volts Go To 5	All

PASSENGER HEATED SEAT SWITCH OPEN - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition on. Disconnect the Passenger Seat Switch connector. Measure the voltage of the Switch MUX circuit indicated by the DRBlll® and ground. Is the voltage between 4.4 and 5.1 volts? Yes → Go To 4 No → Repair the Passenger Seat Switch MUX wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Passenger Seat Switch connector. Measure the resistance of the Seat Switch MUX Return circuit in the switch connector. Is the resistance below 5.0 ohms? Yes → Replace the Passenger Seat Switch. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Seat Switch MUX Return for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Passenger Seat Switch connector. Disconnect the Passenger Door Module C2 connector. Inspect the Seat Switch MUX circuit that had the DTC for a possible short to voltage. Were there any problems found? Yes → Repair the Passenger Seat Switch MUX circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER HEATED SEAT SWITCH SHORT - PDM

When Monitored and Set Condition:

PASSENGER HEATED SEAT SWITCH SHORT - PDM

When Monitored: Continuously.

Set Condition: If the MUX circuit is under 0.10 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
PASSENGER HEATED SEAT SWITCH MUX SHORT TO GROUND
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the suspect switch in both positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER HEATED SEAT SWITCH SHORT? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Passenger Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER HEATED SEAT SWITCH SHORT? Yes → Go To 3 No → Replace the Power Seat Switch. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER HEATED SEAT SWITCH SHORT - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Power Seat Switch connector. Disconnect the Passenger Door Module C2 connector. Inspect the Passenger Heated Seat Switch MUX circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Passenger Heated Seat Switch MUX circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PASSENGER HEATED SEAT SWITCH STUCK - PDM

When Monitored and Set Condition:

PASSENGER HEATED SEAT SWITCH STUCK - PDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER POWER SEAT SWITCH
PASSENGER HEATED SEAT SWITCH MUX
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the heated seat switch mechanical operation for a sticking condition. Correct as necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Heated Seat Switch several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER HEATED SEAT SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Passenger Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 30 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER HEATED SEAT SWITCH STUCK? Yes → Go To 3 No → Replace the Passenger Power Seat Switch. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER HEATED SEAT SWITCH STUCK - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Power Seat Switch connector. Disconnect the Passenger Door Module C2 connector. Inspect the Passenger Heated Seat Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Passenger Heated Seat Switch MUX circuit as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER SEAT HEAT OUTPUT OPEN - MHSAPM

When Monitored and Set Condition:

PASSENGER SEAT HEAT OUTPUT OPEN - MHSAPM

When Monitored: Ignition on, during the heated seat operation.

Set Condition: This condition is set immediately after the Memory Heated Seat Adjustable Pedal Module loses the seat heat element output.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
INTERMITTENT OPEN HEATER ELEMENT
PASSENGER SEAT HEATER B(+) DRIVER WIRE OPEN
PASSENGER SEAT HEATER GROUND CIRCUIT OPEN
PASSENGER HEATED SEAT CUSHION ELEMENT OPEN
PASSENGER HEATED SEAT BACK ELEMENT OPEN
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Operate the heated seat system. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring schematic as a guide, inspect the wiring and connectors for an intermittent condition. Check for an intermittent open cushion or seat back element by applying pressure to seat with the heater on and watch the DRBIII for the DTC to reset. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the MHSAPM C1 connector. Measure the total resistance of the Passenger Seat Heater Circuit by connecting one lead of the ohmmeter to the Passenger Seat Heater B(+) Driver circuit and the Passenger Seat Heater Ground circuit at the MHSAPM C1 connector. Is the resistance below 4.0 ohms? Yes → Replace the Memory Heated Seat Adjustable Pedal Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

PASSENGER SEAT HEAT OUTPUT OPEN - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C1 connector. Measure the resistance of the Passenger Seat Heater B(+) Driver circuit between the MHSAPM C1 connector and the Passenger Heated Seat Cushion 4-way connector, harness side. Is the resistance below 1.5 ohms? Yes → Go To 4 No → Repair the open Passenger Seat Heater B(+) Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All
4	Reconnect the Passenger Heated Seat Cushion 4-way connector if disconnected. Disconnect the MHSAPM C1 connector. Disconnect the Passenger Heated Seat Back 2-way connector. Measure the resistance of the Passenger Seat Heater Ground circuit from the MHSAPM C1 connector to the Passenger Heated Seat Back 2-way connector (harness side). Is the resistance below 1.0 ohms? Yes → Go To 5 No → Repair the Passenger Seat Heater Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Passenger Heated Seat Back 2-way connector. Measure the resistance of the SEAT CUSHION HEATER ELEMENT by connecting one lead to the Heated Seat Driver terminal at the 2-way and the other lead to the Passenger Seat Heater B(+) Driver terminal in the Heated Seat Cushion 4-way Cushion Side connector. Is the resistance below 2.5 ohms? Yes → Go To 6 No → Replace the Passenger Heated Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Passenger Heated Seat Back 2-way connector. Measure the resistance of the SEAT BACK HEATER ELEMENT by connecting one lead to the Heated Seat Driver terminal and the other to the Passenger Seat Heater Ground terminal in the Heated Seat Back 2-way connector. Is the resistance below 1.5 ohms? Yes → Using the wiring schematic as a guide, inspect the wiring and connectors for an intermittent condition. Check for an intermittent open element in either the cushion or seat back by applying pressure to seat with the ohmmeter connected to each element. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Heated Seat Back/Element as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER SEAT HEAT OUTPUT SHORT TO GROUND - MHSAPM

When Monitored and Set Condition:

PASSENGER SEAT HEAT OUTPUT SHORT TO GROUND - MHSAPM

When Monitored: Ignition on, during the heated seat operation.

Set Condition: This code is set immediately after the Memory Heated Seat Adjustable Pedal Module detects an output shorted to ground.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
HEATED SEAT ELEMENT PIGTAIL SHORTED TO GROUND
HEATED SEAT B(+) DRIVER CIRCUIT SHORTED TO HEATER GROUND CIRCUIT
PASSENGER SEAT BACK HEATER SHORT GROUND
PASSENGER HEATED SEAT CUSHION SHORT TO GROUND
PASSENGER SEAT HEATER B(+) DRIVER WIRE SHORT TO GROUND
PASSENGER SEAT HEATER B(+) DRIVER WIRE SHORT TO GROUND FROM MHSAPM TO 4-WAY
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Operate the heated seat system. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Passenger Heated Seat Cushion 4-way connector. With the DRBIII®, erase DTC's. Turn the Passenger Seat Heater on. Using the DRBIII re-read DTC's Does the DRBIII® show the same code? Yes → Go To 3 No → Go To 5	All

PASSENGER SEAT HEAT OUTPUT SHORT TO GROUND - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the MHSAPM C1 connector. Measure the resistance of the Passenger Seat Heater B(+) Driver circuit to the Passenger Seat Heater Ground circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Seat Heater B(+) Driver wire for a short to the Passenger Seat Heater Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the MHSAPM C1 connector. Measure the resistance of the Passenger Seat Heater B(+) Driver circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Seat Heater B(+) Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Passenger Heated Seat Back 2-way connector. Measure the resistance of the Passenger Seat Heater B(+) Driver circuit in the Passenger Heated Seat Cushion 4-way connector cushion side to body ground. Is the resistance below 1000.0 ohms? Yes → Replace the Passenger Heated Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the Passenger Heated Seat Back 2-way connector. Measure the resistance of the Heated Seat Driver circuit, in the Passenger Heated Seat Back 2-way connector seat back side to body ground. Is the resistance below 1000.0 ohms? Yes → Replace the Passenger Heated Seat Back/Element as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Reconnect the Passenger Heated Seat Back 2-way connector if disconnected. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance of the Passenger Seat Heater B(+) Driver circuit to the Passenger Seat Heater Ground circuit at the Passenger Heated Seat Cushion 4-way connector. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Seat Heater B(+) Driver circuit for a short to the Passenger Seat Heater Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Inspect the heated seat wiring for a short that may have been removed during testing and repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER THERMISTOR OUT OF RANGE HIGH - MHSAPM

When Monitored and Set Condition:

PASSENGER THERMISTOR OUT OF RANGE HIGH - MHSAPM

When Monitored: Ignition on, during the heated seat operation.

Set Condition: This code is immediately set when the Memory Heated Seat Adjustable Pedal Module senses a greater value than the value stored in EEPROM.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
PASSENGER SEAT TEMP SENSOR INPUT CKT SHORT TO VOLTAGE
PASSENGER SEAT TEMPERATURE SENSOR
PASSENGER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY WIRE SHORT TO VOLTAGE
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Operate the heated seat system. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Passenger Heated Seat Cushion 4-way connector. Turn ignition on. Turn the Passenger Heated Seat Switch on. Measure the voltage between the Passenger Seat Temperature Sensor 5 Volt Supply circuit and ground in the harness side connector. Is the voltage above 5.5 volts? Yes → Go To 3 No → Go To 4	All

PASSENGER THERMISTOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C1 connector. Turn ignition on. Measure the voltage of the Passenger Seat Temperature Sensor 5 Volt Supply circuit in the cushion side connector to ground. Is there ANY voltage on the Seat Temperature 5 Volt Supply circuit? Yes → Repair the Passenger Seat Temperature Sensor 5 Volt Supply circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Memory Heated Seat Adjustable Pedal Module Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C1 connector. Turn ignition on. Measure the voltage between Passenger Seat Temperature Sensor Input circuit, in the harness side connector and body ground. Is there any voltage on the Passenger Seat Temperature Sensor Input circuit? Yes → Repair the Passenger Seat Temperature Sensor Input circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER THERMISTOR OUT OF RANGE LOW - MHSAPM

When Monitored and Set Condition:

PASSENGER THERMISTOR OUT OF RANGE LOW - MHSAPM

When Monitored: Ignition on, during the heated seat operation.

Set Condition: This code is immediately set when the Memory Heated Seat Adjustable Pedal Module senses a lesser value than the value stored in EEPROM.

POSSIBLE CAUSES
STORED DIAGNOSTIC TROUBLE CODE
PASSENGER SEAT TEMP SENSOR INPUT OPEN
PASSENGER SEAT TEMP SENSOR INPUT SHORT TO GROUND
PASSENGER SEAT HEATER SENSOR OPEN
PASSENGER SEAT TEMP SENSOR SHORT TO GROUND
PASSENGER SEAT TEMPERATURE SENSOR 5 VOLT WIRE OPEN
PASSENGER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY SHORT TO GROUND
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Operate the heated seat system. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Passenger Heated Seat Cushion 4-way connector. Turn ignition on. Turn the Passenger Heated Seat Switch on. Measure the voltage of the Passenger Seat Sensor 5 Volt Supply circuit to ground. Is the voltage below 4.5 volts? No → Go To 3 Yes → Go To 7	All

PASSENGER THERMISTOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C1 connector. Turn ignition off. Measure the resistance of the Passenger Seat Temperature Sensor Input circuit from the MHSAPM connector to the passenger heated seat cushion connector harness side. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Passenger Seat Temperature Sensor Input circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Passenger Heated Seat Cushion 4-way connector. Turn ignition off. Measure the resistance of the Passenger Seat Temp Sensor Input in heated seat cushion connector to body ground. Is the resistance below 1000.0 ohms, should be infinite? Yes → Replace the Passenger Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C1 connector. Turn ignition off. Measure the resistance of the Passenger Seat Temperature Sensor Input circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Seat Temperature Sensor Input circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the Passenger Heated Seat Cushion 4-way connector. Turn ignition off. Measure the resistance between the Passenger Seat Temperature Sensor 5 Volt Supply circuit and the Passenger Seat Temperature Sensor Input circuit in the heated seat cushion connector, cushion side. Is the resistance below 10000 (10K) ohms? Yes → Replace the Memory Heated Seat Adjustable Pedal Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Seat Cushion/Element as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER THERMISTOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
7	Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Pedal Module C1 connector. Turn ignition off. Measure the resistance of the Passenger Seat Temperature Sensor 5 Volt Supply circuit to ground. Is the resistance below 1000.0 ohms? Should be infinite. Yes → Repair the Passenger Seat Temperature Sensor 5 Volt Supply for a short to Ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Memory Heated Seat Adjustable Module C1 connector. Turn ignition off. Measure the resistance of the Passenger Seat Temperature Sensor 5 Volt Supply wire between the MHSAPM connector and the driver heated seat cushion connector, harness side. Is the resistance below 5.0 ohms? Yes → Replace the Memory Heated Seat Adjustable Pedal Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Passenger Seat Temperature Sensor 5 Volt Supply circuit. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

SEAT HEAT LOAD SHED CHARGING UNDER VOLTAGE - MHSAPM
CHARGING VOLTAGE HIGH MESSAGE - MHSAPM
CHARGING VOLTAGE LOW MESSAGE - MHSAPM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be SEAT HEAT LOAD SHED CHARGING UNDER VOLTAGE - MHSAPM.

When Monitored and Set Condition:

SEAT HEAT LOAD SHED CHARGING UNDER VOLTAGE - MHSAPM

When Monitored: With the engine running.

Set Condition: When the Memory/Heated Seat Adjustable Pedal Module receives a low charging system voltage message over the PCI Bus.

CHARGING VOLTAGE HIGH MESSAGE - MHSAPM

When Monitored: With the engine running.

Set Condition: When the Memory/Heated Seat Adjustable Pedal Module receives a high charging system voltage message over the PCI Bus.

CHARGING VOLTAGE LOW MESSAGE - MHSAPM

When Monitored: With the engine running.

Set Condition: When the Memory/Heated Seat Adjustable Pedal Module receives a low charging system voltage message over the PCI Bus.

POSSIBLE CAUSES
PCM TROUBLE CODES
STORED CODE COMMUNICATION PROBLEMS
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE
INTERMITTENT PROBLEM

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII® read Engine DTCs. Are there any Charging System DTC's set in the Powertrain Control Module? Yes → Refer to POWERTRAIN symptom list for related CHARGING SYSTEM diagnostic trouble codes. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 2	All

SEAT HEAT LOAD SHED CHARGING UNDER VOLTAGE - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
2	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 3 No → Test complete. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
3	**Note: Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires.** **Note: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **Note: Refer to any technical service bulletins that may apply.** Were any problems found? No → Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. Yes → Repair as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

***FRONT HEATED SEAT SWITCH INDICATOR TURNS ON THEN GOES OFF**

POSSIBLE CAUSES
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE COMMUNICATION
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, attempt to communicate with the MHSAPM and check for PCI bus communication DTC's. Were there any problems found? Yes → Refer to the Communication symptom list. Perform BODY VERIFICATION TEST - VER 1. No → Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BACKUP LAMP OUTPUT OPEN-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
GROUND CIRCUIT
BACKUP LAMP OPEN
BACKUP LAMP DRIVER CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Backup Lamps. With the DRBIII®, read the DTC information. Does the DRBIII® read: Backup Lamp Output Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for terminal push out or any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off Disconnect the inoperative rear tail lamp harness connector. Using a 12-volt test light connected to 12-volts, check the ground circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground Circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the inoperative rear tail lamp harness connector. Turn the ignition on. Engage the transmission to reverse. Using a 12-volt test light connected to ground, check the Backup Lamps Output circuit. Does the test light illuminate brightly? Yes → Replace the applicable Backup Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

BACKUP LAMP OUTPUT OPEN-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Body Control Module C2 harness connector. Disconnect the inoperative rear tail lamp harness connector. Measure the resistance of the Backup Lamp Driver Circuit. Is the resistance above 5.0 ohms? Yes → Repair the Backup Lamp Driver Circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BACKUP LAMP OUTPUT SHORT-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
BACKUP LAMP
BACKUP LAMP DRIVER CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Engine OFF. With the DRBIII®, clear all BCM DTC's. Place the transmission in reverse. With the DRBIII®, read the DTC information. Does the DRBIII® read: Backup Lamp Output Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. Engine OFF. Place the transmission in reverse. Using a 12-volt test light connected to ground, check the Backup Lamp Output circuit. Does the test light illuminate brightly? Yes → Replace the Backup Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Body Control Module C2 harness connector. Disconnect both rear tail lamp harness connector. Measure the resistance of the Backup Lamp Driver circuit and ground. Is the resistance below 5.0 ohms? Yes → Repair the Backup Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
HAZARD BATTERY POWER OPEN

When Monitored and Set Condition:

HAZARD BATTERY POWER OPEN

When Monitored: BCM is active.

Set Condition: When input voltage status is low.

POSSIBLE CAUSES
HAZARD BATTERY POWER FEED CIRCUIT SHORT TO GROUND
INTERMITTENT CONDITION
BODY CONTROL MODULE
HAZARD BATTERY POWER FEED CIRCUIT OPEN
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Check the Hazard Battery Power Feed fuse in the IPM. Is the fuse open? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. Disconnect the BCM harness connector. Measure the resistance between ground and the Hazard Battery Power Feed circuit. Is the resistance below 5.0 ohms? Yes → Repair the Hazard Battery Power Feed circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the BCM harness connector. Turn the ignition on. Using a 12-volt test light connected to ground, check the Hazard Battery Power Feed circuit. Does the test light illuminate brightly? Yes → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

HAZARD BATTERY POWER OPEN — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the IPM and BCM harness connectors. Measure the resistance of the Hazard Battery Power Feed circuit between the IPM connector and the BCM connector. Is the resistance below 5.0 ohms? Yes → Replace the Integrated Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Hazard Battery Power Feed circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
HEADLAMP SWITCH INPUT OPEN-BCM

POSSIBLE CAUSES
HEADLAMP SWITCH MUX CIRCUIT OPEN
HEADLAMP SWITCH MUX RETURN CIRCUIT OPEN
HEADLAMP SWITCH OPEN
INTERMITTENT WIRING AND CONNECTORS
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the headlamps to the ON position. With the DRBIII®, read DTCs. Does the DRBIII® display HEADLAMP SWITCH INPUT OPEN? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Connect a jumper wire between the Headlamp Switch MUX circuit and the Headlamp Switch MUX Return circuit in the Headlamp Switch harness connector. Turn the ignition on. With the DRBIII®, select Body, Body Controller and read the Headlamp Switch volts. Does the DRBIII® Headlamp Switch Sensor voltage read less than 0.5 Volts? Yes → Replace the Headlamp Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off to the lock position. Disconnect the Body Control Module C5 harness connector. Disconnect the Headlamp Switch harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance of the Headlamp Switch MUX circuit from the Body Control Module connector to the Headlamp Switch harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Headlamp Switch MUX circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

HEADLAMP SWITCH INPUT OPEN-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off to the lock position. Disconnect the Body Control Module C5 harness connector. Disconnect the Headlamp Switch harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance of the Headlamp Switch MUX Return circuit from the Body Control Module connector to the Headlamp Switch harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Headlamp Switch MUX Return circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
5	The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

HEADLAMP SWITCH INPUT SHORT-BCM

POSSIBLE CAUSES
HEADLAMP SWITCH SHORTED
HEADLAMP SWITCH MUX CIRCUIT SHORT TO MUX RETURN CIRCUIT
HEADLAMP SWITCH MUX CIRCUIT SHORT TO GROUND
INTERMITTENT WIRING AND CONNECTORS
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the headlamps to the ON position. With the DRBIII®, read DTCs. Does the DRBIII® display HEADLAMP SWITCH INPUT SHORT? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Turn the ignition on. With the DRBIII®, select Body, Body Control Module and read the Headlamp Switch voltage.. Does the DRB display a Headlamp Switch Voltage of more than 4.8 volts? Yes → Replace the Headlamp Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off to the lock position. Disconnect the Body Control Module C5 harness connector. Disconnect the Headlamp Switch harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance between the Headlamp Switch MUX Return circuit and the Headlamp Switch MUX circuit. Is the resistance less than 5.0 ohms? Yes → Repair the Headlamp Switch MUX circuit for a short to the Headlamp Switch MUX Return circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

HEADLAMP SWITCH INPUT SHORT-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off to the lock position. Disconnect the Body Control Module C5 harness connector. Disconnect the Headlamp Switch harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance between ground and the Headlamp Switch MUX circuit. Is the resistance less than 5.0 ohms? Yes → Repair the Headlamp Switch MUX Circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
5	The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LEFT FOG LAMP OPEN-IPM

When Monitored and Set Condition:

LEFT FOG LAMP OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 1 second.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
LEFT FRONT FOG LAMP
LEFT FRONT FOG LAMP DRIVER OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Fog Lamps on. With the DRB, read the IPM DTC's. Does the DRBIII® read: Left Fog Lamp Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Left Front Fog Lamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Left Front Fog Lamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Left Front Fog Lamp Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Left Front Fog Lamp Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

LEFT FOG LAMP OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Left Front Fog Lamp harness connector. Using a 12-volt test light connected to ground, check the Left Front Fog Lamp Driver circuit in the Left Front Fog Lamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the Fog Lamps on. Does the test light illuminate brightly? Yes → Replace the Left Front Fog Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LEFT FRONT FOG SHORT TO GROUND-IPM

When Monitored and Set Condition:

LEFT FRONT FOG SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
LEFT FRONT FOG LAMP
LEFT FRONT FOG LAMP DRIVER SHORT TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the Fog Lamps on. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Left Fog Lamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Left Fog Lamp Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Left Front Fog Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LEFT FRONT FOG SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Fog Lamps off. Install a substitute Fog Lamp Bulb in place of the Left Fog Lamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Fog Lamps on. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Left Front Fog Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Left Front Fog Lamp Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LEFT FRONT PARK LAMP OPEN-IPM

When Monitored and Set Condition:

LEFT FRONT PARK LAMP OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 1 second.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
LEFT FRONT PARK LAMP
LEFT FRONT PARK LAMP DRIVER OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Park Lamps on. With the DRB, read the IPM DTC's. Does the DRBIII® read: Left Front Park Lamp Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Left Front Park Lamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Left Front Park Lamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Left Front Park Lamp Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Left Front Park Lamp Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

LEFT FRONT PARK LAMP OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Left Front Park Lamp harness connector. Using a 12-volt test light connected to ground, check the Left Front Park Lamp Driver circuit in the Left Front Park Lamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the Park Lamps on. Does the test light illuminate brightly? Yes → Replace the Left Front Park Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LEFT FRONT PARK LAMP SHORT TO GROUND-IPM

When Monitored and Set Condition:

LEFT FRONT PARK LAMP SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
LEFT FRONT PARK LAMP
LEFT FRONT PARK LAMP DRIVER SHORT TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the Park Lamps on. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Left Front Park Lamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Left Front Park Lamp Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Left Front Park Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LEFT FRONT PARK LAMP SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Park Lamps off. Install a substitute Park Lamp Bulb in place of the Left Park Lamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Park Lamps on. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Left Front Park Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Left Front Park Lamp Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LEFT FRONT SIDE MARKER LAMP OPEN-IPM

When Monitored and Set Condition:

LEFT FRONT SIDE MARKER LAMP OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 1 second.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
LEFT FRONT SIDE MARKER LAMP
LEFT FRONT SIDE MARKER LAMP DRIVER OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Side Marker Lamps on. With the DRB, read the IPM DTC's. Does the DRBIII® read: Left Front Side Marker Lamp Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Left Front Side Marker Lamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Left Front Side Marker Lamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Left Front Side Marker Lamp Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Left Front Side Marker Lamp Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

LEFT FRONT SIDE MARKER LAMP OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Left Front Side Marker Lamp harness connector. Using a 12-volt test light connected to ground, check the Left Front Side Marker Lamp Driver circuit in the Left Front Side Marker Lamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the Side Marker Lamps on. Does the test light illuminate brightly? Yes → Replace the Left Front Side Marker Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LEFT FRONT SIDE MARKER LAMP SHORT TO GROUND-IPM

When Monitored and Set Condition:

LEFT FRONT SIDE MARKER LAMP SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
LEFT FRONT SIDE MARKER LAMP
LEFT FRONT SIDE MARKER LAMP DRIVER SHORT TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the Side Marker Lamps on. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Left Front Side Marker Lamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Left Front Side Marker Lamp Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Left Front Side Marker Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LEFT FRONT SIDE MARKER LAMP SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Side Marker Lamps off. Install a substitute Side Marker Lamp Bulb in place of the Left Front Side Marker Lamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Side Marker Lamps on. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Left Side Marker Park Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Left Front Side Marker Lamp Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

LEFT FRONT TURN SIGNAL OUTPUT OPEN-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
GROUND CIRCUIT OPEN
TURN SIGNAL LAMP OPEN
LEFT FRONT TURN SIGNAL LAMP DRIVER CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Turn Signals. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Front Turn Signal Output Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off Disconnect the Left Front Turn Signal harness connector. Using a 12-volt test light connected to 12-volts, check the ground circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground Circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Left Front Turn Signal Lamp connector. Turn the ignition on. Turn the Left Turn Signal on. Using a 12-volt test light connected to ground, check the Left Front Turn Signal Output circuit. Does the test light illuminate brightly? Yes → Replace the Turn Signal Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LEFT FRONT TURN SIGNAL OUTPUT OPEN-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the BCM C2 harness connector. Disconnect the left front turn signal lamp harness connector. Measure the resistance of the Left Front Turn Signal Output Circuit and ground. Is the resistance above 5.0 ohms? Yes → Repair the Left Front Turn Signal Lamp Driver Circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LEFT FRONT TURN SIGNAL OUTPUT SHORT-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT FRONT TURN SIGNAL LAMP DRIVER CIRCUIT SHORT TO GROUND
TURN SIGNAL LAMP
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Turn Signals. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Front Turn Signal Output Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Left Front Turn Signal Lamp connector. Disconnect the BCM C2 harness connector. Measure the resistance between the Left Front Turn Signal Lamp Driver circuit and ground. Is the resistance below 100.0 ohms? Yes → Repair the Left Front Turn Signal Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Left Front Turn Signal Lamp connector. Turn the ignition on. Turn the Left Turn Signal on. Using a 12-volt test light connected to ground, check the Left Front Turn Signal Lamp Driver circuit. Does the test light illuminate brightly? Yes → Replace the Turn Signal Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LEFT HEADLAMP HIGH BEAM OPEN-IPM

When Monitored and Set Condition:

LEFT HEADLAMP HIGH BEAM OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 5 seconds.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
LEFT HIGH BEAM DRIVER CIRCUIT OPEN
LEFT HIGH BEAM HEADLAMP
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRB, read the IPM DTC's. Does the DRBIII® read: Left Headlamp High Beam Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Left Headlamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Left Headlamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Left High Beam Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Left High Beam Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

LEFT HEADLAMP HIGH BEAM OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Left Headlamp harness connector. Using a 12-volt test light connected to ground, check the Left High Beam Driver circuit in the Left Headlamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the High Beam headlamps on. Does the test light illuminate brightly? Yes → Replace the Left High Beam Headlamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

LEFT HEADLAMP HIGH BEAM SHORT TO GROUND-IPM

When Monitored and Set Condition:

LEFT HEADLAMP HIGH BEAM SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
LEFT HIGH BEAM DRIVER CIRCUIT SHORTED TO GROUND
LEFT HIGH BEAM HEADLAMP
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Left Headlamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Left High Beam Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Left High Beam Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LEFT HEADLAMP HIGH BEAM SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Headlamps off. Install a substitute Headlamp Bulb in place of the Left High Beam Headlamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Left High Beam Headlamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Left High Beam Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LEFT HEADLAMP LOW BEAM OPEN-IPM

When Monitored and Set Condition:

LEFT HEADLAMP LOW BEAM OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 5 seconds.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
LEFT HEADLAMP
LEFT LOW BEAM DRIVER CIRCUIT OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRB, read the IPM DTC's. Does the DRBIII® read: Left Headlamp Low Beam Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Left Headlamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Left Headlamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Left Low Beam Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Left Low Beam Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

LEFT HEADLAMP LOW BEAM OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Left Headlamp harness connector. Using a 12-volt test light connected to ground, check the Left Low Beam Driver circuit in the Left Headlamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the low beam headlamps on. Does the test light illuminate brightly? Yes → Replace the Left Headlamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **Note: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LEFT HEADLAMP LOW BEAM SHORT TO GROUND-IPM

When Monitored and Set Condition:

LEFT HEADLAMP LOW BEAM SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
LEFT HEADLAMP
LEFT LOW BEAM DRIVER CIRCUIT SHORTED TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Left Headlamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Left Low Beam Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Left Low Beam Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LEFT HEADLAMP LOW BEAM SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Headlamps off. Install a substitute Headlamp Bulb in place of the Left Headlamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Left Headlamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Left Low Beam Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LEFT REAR PARK/MARKER LAMP OPEN-IPM

When Monitored and Set Condition:

LEFT REAR PARK/MARKER LAMP OPEN-IPM

When Monitored: The output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 1 second.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
LEFT REAR PARK LAMP
LEFT TAIL LAMP DRIVER OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Park Lamps on. With the DRB, read the IPM DTC's. Does the DRBIII® read: Left Rear Park/Marker Lamp Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Left Rear Park Lamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Left Rear Park Lamp. Disconnect the IPM C9 harness connector. Measure the resistance of the Left Tail Lamp Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Left Tail Lamp Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

LEFT REAR PARK/MARKER LAMP OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Left Rear Park Lamp harness connector. Using a 12-volt test light connected to ground, check the Left Tail Lamp Driver circuit in the Left Rear Park Lamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the Park Lamps on. Does the test light illuminate brightly? Yes → Replace the Left Rear Park Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LEFT REAR PARK/MARKER LAMP SHORT TO GROUND-IPM

When Monitored and Set Condition:

LEFT REAR PARK/MARKER LAMP SHORT TO GROUND-IPM

When Monitored: The output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
LEFT REAR PARK/MARKER LAMPS
LEFT TAIL LAMP DRIVER SHORT TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the Park Lamps on. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Left Rear Park/Marker Lamp. Disconnect the Intelligent Power Module C9 harness connector. Measure the resistance between Ground and the Left Tail Lamp Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Left Rear Tail Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LEFT REAR PARK/MARKER LAMP SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Park Lamps off. Install substitute Park/Marker Lamp Bulbs in place of the Left Rear Park/Marker Lamp Bulbs. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Park Lamps on. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Left Rear Park/Marker Lamp Bulbs. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Left Tail Lamp Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LEFT REAR TURN SIGNAL OUTPUT OPEN-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
GROUND CIRCUIT OPEN
TURN SIGNAL LAMP OPEN
LEFT REAR TURN SIGNAL LAMP DRIVER CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Turn Signals. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Rear Turn Signal Output Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Left Rear Turn Signal harness connector. Using a 12-volt test light connected to 12-volts, check the ground circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground Circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Left Rear Turn Signal Lamp connector. Turn the ignition on. Turn the Left Turn Signal on. Using a 12-volt test light connected to ground, check the Left Rear Turn Signal Output circuit. Does the test light illuminate brightly? Yes → Replace the Turn Signal Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LEFT REAR TURN SIGNAL OUTPUT OPEN-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Body Control Module C2 connector. Disconnect the left rear tail lamp connector. Measure the resistance of the Left Rear Turn Signal Driver Circuit to ground. Is the resistance above 5.0 ohms? Yes → Repair the Left Rear Turn Signal Lamp Driver Circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LEFT REAR TURN SIGNAL OUTPUT SHORT-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
LEFT REAR TURN SIGNAL DRIVER CIRCUIT SHORT TO GROUND
TURN SIGNAL LAMP
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Turn Signals. With the DRBIII®, read the DTC information. Does the DRBIII® read: Left Rear Turn Signal Output Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Left Rear Turn Signal Lamp connector. Disconnect the BCM harness connector. Measure the resistance between the Left Rear Turn Signal Driver circuit and ground. Is the resistance below 100.0 ohms? Yes → Repair the Left Rear Turn Signal Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Left Rear Turn Signal Lamp connector. Turn the ignition on. Turn the Left Turn Signal on. Using a 12-volt test light connected to ground, check the Left Rear Turn Signal Driver circuit. Does the test light illuminate brightly? Yes → Replace the Turn Signal Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LICENSE PLATE LAMP OUTPUT OPEN-IPM

When Monitored and Set Condition:

LICENSE PLATE LAMP OUTPUT OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 1 second.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
LICENSE PLATE LAMP
LICENSE PLATE LAMP DRIVER OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the License Plate Lamp on. With the DRB, read the IPM DTC's. Does the DRBIII® read: License Plate Lamp Output Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the License Plate Lamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the License Plate Lamp. Disconnect the IPM C9 harness connector. Measure the resistance of the License Plate Lamp Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the License Plate Lamp Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

LICENSE PLATE LAMP OUTPUT OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the License Plate Lamp harness connector. Using a 12-volt test light connected to ground, check the License Plate Lamp Driver circuit in the License Plate Lamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the License Plate Lamp on. Does the test light illuminate brightly? Yes → Replace the License Plate Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LICENSE PLATE LAMP OUTPUT SHORT TO GROUND-IPM

When Monitored and Set Condition:

LICENSE PLATE LAMP OUTPUT SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
LICENSE PLATE LAMP
LICENSE PLATE LAMP DRIVER SHORT TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the License Plate Lamp on. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the License Plate Lamp. Disconnect the Intelligent Power Module C9 harness connector. Measure the resistance between Ground and the License Plate Lamp Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the License Plate Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

LICENSE PLATE LAMP OUTPUT SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the License Plate Lamp off. Install a substitute License Plate Lamp Bulb in place of the License Plate Lamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the License Plate Lamp on. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original License Plate Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the License Plate Lamp Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RIGHT FOG LAMP OPEN-IPM

When Monitored and Set Condition:

RIGHT FOG LAMP OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 1 second.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
RIGHT FOG LAMP DRIVER OPEN
RIGHT FRONT FOG LAMP
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Fog Lamps on. With the DRB, read the IPM DTC's. Does the DRBIII® read: Right Fog Lamp Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Right Front Fog Lamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Right Front Fog Lamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Right Front Fog Lamp Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Right Fog Lamp Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

RIGHT FOG LAMP OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Right Front Fog Lamp harness connector. Using a 12-volt test light connected to ground, check the Right Front Fog Lamp Driver circuit in the Right Front Fog Lamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the Fog Lamps on. Does the test light illuminate brightly? Yes → Replace the Right Front Fog Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
RIGHT FRONT FOG SHORT TO GROUND-IPM

When Monitored and Set Condition:

RIGHT FRONT FOG SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
RIGHT FRONT FOG LAMP
RIGHT FRONT FOG LAMP DRIVER SHORT TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the Fog Lamps on. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Right Fog Lamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Right Fog Lamp Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Right Front Fog Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

RIGHT FRONT FOG SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Fog Lamps off. Install a substitute Fog Lamp Bulb in place of the Right Fog Lamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Fog Lamps on. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Right Front Fog Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Right Front Fog Lamp Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RIGHT FRONT PARK LAMP OPEN-IPM

When Monitored and Set Condition:

RIGHT FRONT PARK LAMP OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 1 second.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
RIGHT FRONT PARK LAMP
RIGHT FRONT PARK LAMP DRIVER OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Park Lamps on. With the DRB, read the IPM DTC's. Does the DRBIII® read: Right Front Park Lamp Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Right Front Park Lamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Right Front Park Lamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Right Front Park Lamp Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Right Front Park Lamp Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

RIGHT FRONT PARK LAMP OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Right Front Park Lamp harness connector. Using a 12-volt test light connected to ground, check the Right Front Park Lamp Driver circuit in the Right Front Park Lamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the Park Lamps on. Does the test light illuminate brightly? Yes → Replace the Right Front Park Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
RIGHT FRONT PARK LAMP SHORT TO GROUND-IPM

When Monitored and Set Condition:

RIGHT FRONT PARK LAMP SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
RIGHT FRONT PARK LAMP
RIGHT FRONT PARK LAMP DRIVER SHORT TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the Park Lamps on. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Right Front Park Lamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Right Front Park Lamp Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Right Front Park Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

RIGHT FRONT PARK LAMP SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Park Lamps off. Install a substitute Park Lamp Bulb in place of the Right Park Lamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Park Lamps on. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Right Front Park Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Right Front Park Lamp Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RIGHT FRONT SIDE MARKER LAMP OPEN-IPM

When Monitored and Set Condition:

RIGHT FRONT SIDE MARKER LAMP OPEN-IPM

When Monitored: Output is OFF

Set Condition: The IPM detects an open fault condition. Time to set is 1 second.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
RIGHT FRONT SIDE MARKER LAMP
RIGHT FRONT SIDE MARKER LAMP DRIVER OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Side Marker Lamps on. With the DRB, read the IPM DTC's. Does the DRBIII® read: Right Front Side Marker Lamp Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Right Front Side Marker Lamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Right Front Side Marker Lamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Right Front Side Marker Lamp Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Right Front Side Marker Lamp Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

RIGHT FRONT SIDE MARKER LAMP OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Right Front Side Marker Lamp harness connector. Using a 12-volt test light connected to ground, check the Right Front Side Marker Lamp Driver circuit in the Right Front Side Marker Lamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the Side Marker Lamps on. Does the test light illuminate brightly? Yes → Replace the Right Front Side Marker Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
RIGHT FRONT SIDE MARKER LAMP SHORT TO GROUND-IPM

When Monitored and Set Condition:

RIGHT FRONT SIDE MARKER LAMP SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
RIGHT FRONT SIDE MARKER LAMP
RIGHT FRONT SIDE MARKER LAMP DRIVER STG
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the Side Marker Lamps on. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Right Front Side Marker Lamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Right Front Side Marker Lamp Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Right Front Side Marker Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

RIGHT FRONT SIDE MARKER LAMP SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Side Marker Lamps off. Install a substitute Side Marker Lamp Bulb in place of the Right Side Marker Lamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Side Marker Lamps on. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Right Front Side Marker Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Right Front Side Marker Lamp Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RIGHT FRONT TURN SIGNAL OUTPUT OPEN-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
GROUND CIRCUIT OPEN
TURN SIGNAL LAMP OPEN
RIGHT FRONT TURN SIGNAL LAMP DRIVER CIRCUIT OPEN
RIGHT FRONT TURN SIGNAL DRIVER CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Turn Signals. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Front Turn Signal Output Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Right Front Turn Signal harness connector. Using a 12-volt test light connected to 12-volts, check the ground circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground Circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Right Front Turn Signal Lamp connector. Turn the ignition on. Turn the Right Turn Signal on. Using a 12-volt test light connected to ground, check the Right Front Turn Signal Driver circuit. Does the test light illuminate brightly? Yes → Replace the Turn Signal Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

RIGHT FRONT TURN SIGNAL OUTPUT OPEN-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the BCM C2 harness connector. Measure the resistance of the Right Front Turn Signal Driver Circuit and ground. Is the resistance above 5.0 ohms? Yes → Repair the Right Front Turn Signal Lamp Driver Circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Body Control Module C2 connector. Measure the resistance of the Right Front Turn Signal Driver Circuit to ground. Is the resistance above 5.0 ohms? Yes → Repair the Right Front Turn Signal Driver Circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RIGHT FRONT TURN SIGNAL OUTPUT SHORT-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT FRONT TURN SIGNAL LAMP DRIVER CIRCUIT SHORT TO GROUND
TURN SIGNAL LAMP
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Turn Signals. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Front Turn Signal Output Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Right Front Turn Signal Lamp connector. Disconnect the BCM C2 harness connector. Measure the resistance between the Right Front Turn Signal Lamp Driver circuit and ground. Is the resistance below 100.0 ohms? Yes → Repair the Right Front Turn Signal Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Right Front Turn Signal Lamp connector. Turn the ignition on. Turn the Right Turn Signal on. Using a 12-volt test light connected to ground, check the Right Front Turn Signal Lamp Driver circuit. Does the test light illuminate brightly? Yes → Replace the Turn Signal Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RIGHT HEADLAMP HIGH BEAM OPEN-IPM

When Monitored and Set Condition:

RIGHT HEADLAMP HIGH BEAM OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 5 seconds.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
RIGHT HIGH BEAM DRIVER CIRCUIT OPEN
RIGHT HIGH BEAM HEADLAMP
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRB, read the IPM DTC's. Does the DRBIII® read: Right Headlamp High Beam Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Right Headlamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Right Headlamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Right High Beam Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Right High Beam Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

RIGHT HEADLAMP HIGH BEAM OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Right Headlamp harness connector. Using a 12-volt test light connected to ground, check the Right High Beam Driver circuit in the Right Headlamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the High Beam headlamps on. Does the test light illuminate brightly? Yes → Replace the Right High Beam Headlamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
RIGHT HEADLAMP HIGH BEAM SHORT TO GROUND-IPM

When Monitored and Set Condition:

RIGHT HEADLAMP HIGH BEAM SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
RIGHT HIGH BEAM DRIVER CIRCUIT SHORTED TO GROUND
RIGHT HIGH BEAM HEADLAMP
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Right Headlamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Right High Beam Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Right High Beam Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

RIGHT HEADLAMP HIGH BEAM SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Headlamps off. Install a substitute Headlamp Bulb in place of the Right High Beam Headlamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Right High Beam Headlamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Right High Beam Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RIGHT HEADLAMP LOW BEAM OPEN-IPM

When Monitored and Set Condition:

RIGHT HEADLAMP LOW BEAM OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 5 seconds.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
RIGHT HEADLAMP
RIGHT LOW BEAM DRIVER CIRCUIT OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRB, read the IPM DTC's. Does the DRBIII® read: Right Headlamp Low Beam Open? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

RIGHT HEADLAMP LOW BEAM OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Right Headlamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the right Headlamp. Disconnect the IPM C5 harness connector. Measure the resistance of the Right Low Beam Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 5 No → Repair the Right Low Beam Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Right Headlamp harness connector. Using a 12-volt test light connected to ground, check the Right Low Beam Driver circuit in the Right Headlamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the low beam headlamps on. Does the test light illuminate brightly? Yes → Replace the Right Headlamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RIGHT HEADLAMP LOW BEAM SHORT TO GROUND-IPM

When Monitored and Set Condition:

RIGHT HEADLAMP LOW BEAM SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
RIGHT HEADLAMP
RIGHT LOW BEAM DRIVER CIRCUIT SHORTED TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Right Headlamp. Disconnect the Intelligent Power Module C5 harness connector. Measure the resistance between Ground and the Right Low Beam Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Right Low Beam Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

RIGHT HEADLAMP LOW BEAM SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Headlamps off. Install a substitute Headlamp Bulb in place of the Right Headlamp Bulb. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the headlamps on. Switch the headlamps between high beam and low beam several times, pausing for 5 seconds in each position. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Right Headlamp Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Right Low Beam Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RIGHT REAR PARK/MARKER LAMP OPEN-IPM

When Monitored and Set Condition:

RIGHT REAR PARK/MARKER LAMP OPEN-IPM

When Monitored: Output is OFF.

Set Condition: The IPM detects an open fault condition. Time to set is 1 second.

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
RIGHT REAR PARK LAMP
RIGHT TAIL LAMP DRIVER OPEN
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Park Lamps on. With the DRB, read the IPM DTC's. Does the DRBIII® read: Right Rear Park/Marker Lamp Open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Right Rear Park Lamp harness connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Right Rear Park Lamp. Disconnect the IPM C4 harness connector. Measure the resistance of the Right Tail Lamp Driver circuit. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Right Tail Lamp Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

RIGHT REAR PARK/MARKER LAMP OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Right Rear Park Lamp harness connector. Using a 12-volt test light connected to ground, check the Right Tail Lamp Driver circuit in the Right Rear Park Lamp harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Turn the Park Lamps on. Does the test light illuminate brightly? Yes → Replace the Right Rear Park Lamp Bulb. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
RIGHT REAR PARK/MARKER LAMP SHORT TO GROUND-IPM

When Monitored and Set Condition:

RIGHT REAR PARK/MARKER LAMP SHORT TO GROUND-IPM

When Monitored: Output is ON.

Set Condition: The IPM detects a short fault condition. Time to set is 1 second.

POSSIBLE CAUSES
INTEGRATED POWER MODULE
RIGHT REAR PARK/MARKER LAMPS
RIGHT TAIL LAMP DRIVER SHORT TO GROUND
WIRING PROBLEM
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear the IPM DTC's. Turn the Park Lamps on. With the DRBIII®, read IPM DTC's. Is this DTC present? Yes → Go To 3 No → Go To 2	All
2	Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Right Rear Park/Marker Lamp. Disconnect the Intelligent Power Module C4 harness connector. Measure the resistance between Ground and the Right Tail Lamp Driver circuit. Is the resistance below 100.0 ohms? Yes → Repair the Right Rear Tail Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

RIGHT REAR PARK/MARKER LAMP SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Turn the Park Lamps off. Install substitute Park/Marker Lamp Bulbs in place of the Right Rear Park/Marker Lamp Bulbs. Turn the ignition on. With the DRBIII®, erase the IPM DTC's. Turn the Park Lamps on. With the DRBIII®, read IPM DTC's. Does the DRBIII® display this DTC? Yes → Go To 5 No → Replace the original Right Rear Park/Marker Lamp Bulbs. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Inspect the wiring and connectors associated with the Right Tail Lamp Driver circuit. Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RIGHT REAR TURN SIGNAL OUTPUT OPEN-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
GROUND CIRCUIT
TURN SIGNAL LAMP
RIGHT REAR TURN SIGNAL DRIVER CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Turn Signals. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Rear Turn Signal Output Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Right Rear Turn Signal harness connector. Using a 12-volt test light connected to 12-volts, check the ground circuit. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground Circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Right Rear Turn Signal Lamp connector. Turn the ignition on. Turn the Right Turn Signal on. Using a 12-volt test light connected to ground, check the Right Rear Turn Signal Output circuit. Does the test light illuminate brightly? Yes → Replace the Turn Signal Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

RIGHT REAR TURN SIGNAL OUTPUT OPEN-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Body Control Module C2 connector. Measure the resistance of the Right Rear Turn Signal Driver Circuit and ground. Is the resistance above 5.0 ohms? Yes → Repair the Right Rear Turn Signal Lamp Driver Circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RIGHT REAR TURN SIGNAL OUTPUT SHORT-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
RIGHT REAR TURN SIGNAL LAMP DRIVER CIRCUIT SHORT TO GROUND
TURN SIGNAL LAMP
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Actuate the Turn Signals. With the DRBIII®, read the DTC information. Does the DRBIII® read: Right Rear Turn Signal Output Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced,pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Right Rear Turn Signal Lamp connector. Disconnect the BCM C2 harness connector. Measure the resistance between the Right Rear Turn Signal Lamp Driver circuit and ground. Is the resistance below 100.0 ohms? Yes → Repair the Right Rear Turn Signal Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Right Rear Turn Signal Lamp connector. Turn the ignition on. Turn the Right Turn Signal on. Using a 12-volt test light connected to ground, check the Right Rear Turn Signal Lamp Driver circuit. Does the test light illuminate brightly? Yes → Replace the Turn Signal Lamp. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

AC PRESSURE SENSOR FAULT (ACTIVE)
AC PRESSURE TOO HIGH
AC PRESSURE TOO LOW

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be AC PRESSURE SENSOR FAULT (ACTIVE).

When Monitored and Set Condition:

AC PRESSURE SENSOR FAULT (ACTIVE)

When Monitored: With the engine running and the A/C Relay energized.

Set Condition: This DTC will set if the A/C pressure sensor signal voltage at the Powertrain Control Module (PCM) goes below 0.58 volts for 2.6 seconds or above 4.92 volts.

AC PRESSURE TOO HIGH

When Monitored: When executing the AC Cooldown Test.

Set Condition: If the A/C Pressure Sensor value is above 300 psi.

AC PRESSURE TOO LOW

When Monitored: When executing the AC Cooldown Test.

Set Condition: If the A/C Pressure Sensor value is below 50 psi.

POSSIBLE CAUSES
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
IMPROPER REFRIGERANT SYSTEM CHARGE
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

AC PRESSURE SENSOR FAULT (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
2	Verify that the refrigerant system is properly charged in accordance with the Service Information. Is the refrigerant system properly charged? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Recharge the refrigerant system in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

AC PRESSURE SENSOR FAULT (STORED)
BODY STATUS MESSAGE MISSING (STORED)
BOOT CHECKSUM ERROR (STORED)
CALIBRATION CHECKSUM ERROR (STORED)
COOLANT TEMPERATURE MESSAGE MISSING (STORED)
DISPLAY STATUS MESSAGE MISSING (STORED)
DRIVER BLEND DOOR NOT RESPONDING (STORED)
DRIVER BLEND DOOR TRAVEL TOO LARGE (STORED)
DRIVER BLEND DOOR TRAVEL TOO SMALL (STORED)
DRV FRONT DOOR MESSAGE MISSING (STORED)
ENGINE SENSORS MESSAGE MISSING (STORED)
EVAP TEMP SENSOR OPEN (STORED)
EVAP TEMP SENSOR SHORTED (STORED)
FRONT IR SENSOR CHANGE TOO LARGE (STORED)
FRONT IR SENSOR HIGH (STORED)
FRONT IR SENSOR LOW (STORED)
FRONT MODE DOOR NOT RESPONDING (STORED)
FRONT MODE DOOR TRAVEL TOO LARGE (STORED)
FRONT MODE DOOR TRAVEL TOO SMALL (STORED)
LEFT IR SENSOR NOT CALIBRATED (STORED)
LOOPBACK FAILURE (STORED)
NO COMMUNICATION WITH BCM (STORED)
NO COMMUNICATION WITH DDM (STORED)
NO COMMUNICATION WITH MIC (STORED)
NO COMMUNICATION WITH PCM (STORED)
NO COMMUNICATION WITH PDM (STORED)
OPS CHECKSUM ERROR (STORED)
OUTSIDE AIR TEMP MESSAGE MISSING (STORED)
PAS FRONT DOOR MESSAGE MISSING (STORED)
PASSENGER BLEND DOOR NOT RESPONDING (STORED)
PASSENGER BLEND DOOR TRAVEL TOO LARGE (STORED)
PASSENGER BLEND DOOR TRAVEL TOO SMALL (STORED)
PCI BUS SHORTED HIGH (STORED)
PCI BUS SHORTED LOW (STORED)
REAR FAN POT OPEN (STORED)
REAR FAN POT SHORTED (STORED)
RECIRC DOOR NOT RESPONDING (STORED)
RECIRC DOOR TRAVEL TOO LARGE (STORED)
RECIRC DOOR TRAVEL TOO SMALL (STORED)
REFRIGERANT PRESS MESSAGE MISSING (STORED)
RIGHT IR SENSOR NOT CALIBRATED (STORED)
VEHICLE ODOMETER MESSAGE MISSING (STORED)
VEHICLE SPEED/RPM MESSAGE MISSING (STORED)
VF DIMMING MESSAGE MISSING (STORED)
VIN MESSAGE MISSING (STORED)

AC PRESSURE SENSOR FAULT (STORED) — Continued

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be AC PRESSURE SENSOR FAULT (STORED).

When Monitored and Set Condition:

AC PRESSURE SENSOR FAULT (STORED)

When Monitored: With the engine running and the A/C Relay energized.

Set Condition: This DTC will set if the A/C pressure sensor signal voltage at the Powertrain Control Module (PCM) goes below 0.58 volts for 2.6 seconds or above 4.92 volts.

BODY STATUS MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the message from the Body Control Module (BCM) for more than 5 seconds. This message provides Hood, Liftgate, Left Rear Door, and Right Rear Door Ajar status.

BOOT CHECKSUM ERROR (STORED)

When Monitored: With the ignition on and IOD fuse installed after a battery disconnect.

Set Condition: This DTC will set if the calculated check sum does not match the stored value.

CALIBRATION CHECKSUM ERROR (STORED)

When Monitored: With the ignition on and IOD fuse installed after a battery disconnect.

Set Condition: This DTC will set if the calculated check sum does not match the stored value.

COOLANT TEMPERATURE MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Coolant Temperature message from the Powertrain Control Module (PCM) for more than 7 seconds.

DISPLAY STATUS MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Display Status message from the Instrument Cluster (EMIC) for more than 5 seconds.

AC PRESSURE SENSOR FAULT (STORED) — Continued

DRIVER BLEND DOOR NOT RESPONDING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive feedback pulses within 5 seconds of the drive voltage being applied.

DRIVER BLEND DOOR TRAVEL TOO LARGE (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is greater than expected, the DTC will set.

DRIVER BLEND DOOR TRAVEL TOO SMALL (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is less than expected, the DTC will set.

DRV FRONT DOOR MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Left Front Door Ajar message from the Driver Door Module (DDM) for more than 5 seconds.

ENGINE SENSORS MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the message from the Powertrain Control Module (PCM) for more than 16 seconds. This message provides A/C Pressure Sensor Failure and Refrigerant Pressure Failure.

EVAP TEMP SENSOR OPEN (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the ATC detects an abnormally high voltage on the evaporator temperature sensor signal ckt. Evap Temp Sensor Open is also displayed as a AC Cooldown Test message if the ATC detects an abnormally high voltage on the evaporator temperature sensor signal ckt during the AC Cooldown Test.

EVAP TEMP SENSOR SHORTED (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the ATC detects an abnormally low voltage on the evaporator temperature sensor signal ckt. Evap Temp Sensor Shorted is also displayed as a AC Cooldown Test message if the ATC detects an abnormally low voltage on the evaporator temperature sensor signal ckt during the AC Cooldown Test.

AC PRESSURE SENSOR FAULT (STORED) — Continued

FRONT IR SENSOR CHANGE TOO LARGE (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) detects a temperature difference greater than 60 degrees between the IR sensors.

FRONT IR SENSOR HIGH (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the IR Sensor value is above 250 A/D counts (shorted).

FRONT IR SENSOR LOW (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the IR Sensor value is below 5 A/D counts (open).

FRONT MODE DOOR NOT RESPONDING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive feedback pulses within 5 seconds of the drive voltage being applied.

FRONT MODE DOOR TRAVEL TOO LARGE (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is greater than expected, the DTC will set.

FRONT MODE DOOR TRAVEL TOO SMALL (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is less than expected, the DTC will set.

LEFT IR SENSOR NOT CALIBRATED (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) cannot read the IR sensor offset and gain values.

LOOPBACK FAILURE (STORED)

When Monitored: When the ATC executes an internal loop-back test.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) fails to receive a known message while in loop-back mode.

AC PRESSURE SENSOR FAULT (STORED) — Continued

NO COMMUNICATION WITH BCM (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Body Control Module (BCM) for at least 5 seconds.

NO COMMUNICATION WITH DDM (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Driver Door Module (DDM) for at least 5 seconds.

NO COMMUNICATION WITH MIC (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Instrument Cluster (EMIC) for at least 5 seconds.

NO COMMUNICATION WITH PCM (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Powertrain Control Module (PCM) for at least 5 seconds.

NO COMMUNICATION WITH PDM (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Passenger Door Module (PDM) for at least 5 seconds.

OPS CHECKSUM ERROR (STORED)

When Monitored: With the ignition on and IOD fuse installed after a battery disconnect.

Set Condition: This DTC will set if the calculated check sum does not match the stored value.

OUTSIDE AIR TEMP MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Outside Air Temperature message from the Powertrain Control Module (PCM) for more than 5 seconds.

PAS FRONT DOOR MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Right Front Door Ajar message from the Passenger Door Module (PDM) for more than 5 seconds.

AC PRESSURE SENSOR FAULT (STORED) — Continued

PASSENGER BLEND DOOR NOT RESPONDING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive feedback pulses within 5 seconds of the drive voltage being applied.

PASSENGER BLEND DOOR TRAVEL TOO LARGE (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is greater than expected, the DTC will set.

PASSENGER BLEND DOOR TRAVEL TOO SMALL (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is less than expected, the DTC will set.

PCI BUS SHORTED HIGH (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) detects a short to voltage on the PCI Bus circuit.

PCI BUS SHORTED LOW (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) detects a short to ground on the PCI Bus circuit.

REAR FAN POT OPEN (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Rear Fan Sense input is above 253 A/D counts (4.9 volts).

REAR FAN POT SHORTED (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Rear Fan Sense input is below 3 A/D counts (0.059 volts).

RECIRC DOOR NOT RESPONDING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive feedback pulses within 5 seconds of the drive voltage being applied.

AC PRESSURE SENSOR FAULT (STORED) — Continued

RECIRC DOOR TRAVEL TOO LARGE (STORED)

When Monitored: With the ignition on and IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is greater than expected, the DTC will set.

RECIRC DOOR TRAVEL TOO SMALL (STORED)

When Monitored: With the ignition on and IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is less than expected, the DTC will set.

REFRIGERANT PRESS MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the message from the Powertrain Control Module (PCM) for more than 16 seconds. This message provides A/C Hi-Side Pressure and Intake Air Temperature.

RIGHT IR SENSOR NOT CALIBRATED (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) cannot read the IR sensor offset and gain values.

VEHICLE ODOMETER MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Vehicle Odometer message from the Body Control Module (BCM) for more than 5 seconds.

VEHICLE SPEED/RPM MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the message from the Powertrain Control Module (PCM) for more than 2 seconds. This message provides Engine RPM and Vehicle Speed.

VF DIMMING MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: If the Automatic Temperature Control (ATC) does not receive the VF Dimming message from the Body Control Module (BCM) for more than 5 seconds, then the VF display will default to daytime brightness and the DTC will set.

AC PRESSURE SENSOR FAULT (STORED) — Continued

VIN MESSAGE MISSING (STORED)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the VIN message from the Powertrain Control Module (PCM) for more than 16 seconds.

POSSIBLE CAUSES
CHECK FOR ACTIVE ATC DTCS AND COOLDOWN TEST FAULT MESSAGES
STORED CODES TEST COMPLETE

AC PRESSURE SENSOR FAULT (STORED) — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: Active DTCs must be resolved before diagnosing stored DTCs.** **NOTE: Anytime a DTC becomes active or a Cooldown Test fault message is displayed proceed to the conclusion question.** **NOTE: If multiple DTCs appear, diagnose those that relate to a short circuit first.** Start the engine. Press the ATC's PWR switch on. Verify that the front blower motor operates correctly in all speeds. Diagnose and repair all blower related faults before proceeding with this test. **CAUTION: The work area ambient temperature must be above 15.6°C (60°F) and the evaporator temperature must be above 12°C (53°F) in order to test A/C system operation.** **NOTE: Before actuating the AC Cooldown Test, verify that the A/C compressor is not running. If the compressor is running, turn the A/C off and allow the evaporator to warm up before proceeding with the test.** **NOTE: Running the AC Cooldown test will cause the DELAY & Snowflake VF segments to flash. If the test fails, the DELAY & Snowflake VF segments will continue to flash until the vehicle is driven more than 3 miles or a successful Cooldown test is performed.** **NOTE: Messages will display on the DRBIII® after running the AC Cooldown Test. These messages will clear after paging back out of this test function. Therefore, it is important to note all messages before doing so.** With the DRBIII® in ATC, System Tests, actuate the AC Cooldown test. If any Cooldown Test fault messages appear, proceed to the conclusion question, otherwise, proceed as follows: Set the front blower speed to low. Press the REAR fan mode switch on, so that it is in manual mode. The word ″REAR″ should display on the ATC display panel. The word ″AUTO″ should not be displayed. Press the DUAL mode switch off. The word ″DUAL″ should not be displayed on the ATC display panel. This will allow the DRIVER BLEND mode switch to control both driver and pass temp settings. Set the driver temperature to 60°F (16°C). The passenger temperature should also display 60°F (16°C). Monitor the DRBIII® for active ATC DTCs while performing the following test steps. Press the RECIRC mode switch on, wait 30 seconds, and then press it off. Press the A/C mode switch on, wait 30 seconds, and then press it off. Press the REAR DEFOG mode switch on, wait 30 seconds, and then press it off. Press the EBL mode switch on, wait 30 seconds, and then press it off. Press the DUAL mode switch on. Set the driver temperature to the max heat setting, wait 30 seconds, and then set it to the max cool setting. Repeat this step for the passenger temperature. Press the MODE switch, placing the mode door in each position for 30 seconds, and then return it to the panel position. Press the AUTO HI mode switch, wait 30 seconds, and then press the AUTO LO mode switch. When the function is complete, reset the front blower speed to low. Turn the Rear Booster Fan Rear Control switch to AUTO for 30 seconds, then slowly turn it from AUTO to high speed and then back to AUTO. With the DRBIII® in ATC, Miscellaneous, reset the ATC. Does the DRBIII® display any active ATC DTCs or Cooldown Test fault messages? Yes → Return to the Heating & A/C symptom list and choose the symptom(s) Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BODY STATUS MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

BODY STATUS MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the message from the Body Control Module (BCM) for more than 5 seconds. This message provides Hood, Liftgate, Left Rear Door, and Right Rear Door Ajar status.

POSSIBLE CAUSES
NO COMMUNICATION WITH BCM DTC SET
BODY CONTROL MODULE (BCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
BODY CONTROL MODULE (BCM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH BCM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read BCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

BODY STATUS MESSAGE MISSING (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition on. With the DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following messages: ″HOOD AJAR SW:″ ″LIFTGATE AJAR SW:″ ″LT R DOOR AJAR SW:″ ″RT R DOOR AJAR SW:″ Is ″NO RESPONSE″ displayed after any of these messages? Yes → Replace the Body Control Module (BCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

BOOT CHECKSUM ERROR (ACTIVE)
CALIBRATION CHECKSUM ERROR (ACTIVE)
FRONT IR SENSOR CHANGE TOO LARGE (ACTIVE)
FRONT IR SENSOR HIGH (ACTIVE)
FRONT IR SENSOR LOW (ACTIVE)
LEFT IR SENSOR NOT CALIBRATED (ACTIVE)
LOOPBACK FAILURE (ACTIVE)
OPS CHECKSUM ERROR (ACTIVE)
RIGHT IR SENSOR NOT CALIBRATED (ACTIVE)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be BOOT CHECKSUM ERROR (ACTIVE).

When Monitored and Set Condition:

BOOT CHECKSUM ERROR (ACTIVE)

When Monitored: With the ignition on and IOD fuse installed after a battery disconnect.

Set Condition: This DTC will set if the calculated check sum does not match the stored value.

CALIBRATION CHECKSUM ERROR (ACTIVE)

When Monitored: With the ignition on and IOD fuse installed after a battery disconnect.

Set Condition: This DTC will set if the calculated check sum does not match the stored value.

FRONT IR SENSOR CHANGE TOO LARGE (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) detects a temperature difference greater than 60 degrees between the IR sensors.

FRONT IR SENSOR HIGH (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the IR Sensor value is above 250 A/D counts (shorted).

FRONT IR SENSOR LOW (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the IR Sensor value is below 5 A/D counts (open).

BOOT CHECKSUM ERROR (ACTIVE) — Continued

LEFT IR SENSOR NOT CALIBRATED (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) cannot read the IR sensor offset and gain values.

LOOPBACK FAILURE (ACTIVE)

When Monitored: When the ATC executes an internal loop-back test.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) fails to receive a known message while in loop-back mode.

OPS CHECKSUM ERROR (ACTIVE)

When Monitored: With the ignition on and IOD fuse installed after a battery disconnect.

Set Condition: This DTC will set if the calculated check sum does not match the stored value.

RIGHT IR SENSOR NOT CALIBRATED (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) cannot read the IR sensor offset and gain values.

POSSIBLE CAUSES
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	View repair. Repair Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
COOLANT TEMPERATURE MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

COOLANT TEMPERATURE MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Coolant Temperature message from the Powertrain Control Module (PCM) for more than 7 seconds.

POSSIBLE CAUSES
NO COMMUNICATION WITH PCM DTC SET
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
POWERTRAIN CONTROL MODULE (PCM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH PCM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following message: ″COOLANT TEMP:″ Is ″NO RESPONSE″ displayed after this message? Yes → Replace the Powertrain Control Module (PCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

COOLDOWN TEST FAILED
COOLDOWN TIME EXCESSIVE FAULT

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be COOLDOWN TEST FAILED.

When Monitored and Set Condition:

COOLDOWN TEST FAILED

When Monitored: When executing the Cooldown Test.

Set Condition: This message will display if the A/C system is unable to bring the evaporator temperature down either 6.7°C (20°F) within two minutes at ambient temperatures of 21°C (70°F) or above, or bring the evaporator temperature down 9.4°C (15°F) within two minutes at ambient temperatures below 21°C (70°F).

COOLDOWN TIME EXCESSIVE FAULT

When Monitored: When executing the Cooldown Test.

Set Condition: This message will display if the A/C system is unable to bring the evaporator temperature down either 6.7°C (20°F) within two minutes at ambient temperatures of 21°C (70°F) or above, or bring the evaporator temperature down 9.4°C (15°F) within two minutes at ambient temperatures below 21°C (70°F).

POSSIBLE CAUSES
OTHER COOLDOWN TEST FAULT MESSAGES PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC) DTC(S) PRESENT
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
A/C SYSTEM TESTING

TEST	ACTION	APPLICABILITY
1	**CAUTION: The work area ambient temperature must be above 15.6°C (60°F) and the evaporator temperature must be above 12°C (53°F) in order to test A/C system operation.** Are other Cooldown Test fault messages displayed? Yes → Return to the Heating & A/C symptom list and choose the symptom(s). After the repair is complete, rerun the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

COOLDOWN TEST FAILED — Continued

TEST	ACTION	APPLICABILITY
2	**CAUTION: The work area ambient temperature must be above 15.6°C (60°F) and the evaporator temperature must be above 12°C (53°F) in order to test A/C system operation.** Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display any DTCs? Yes → Return to the Heating & A/C symptom list and choose the symptom(s). After the repair is complete, rerun the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	**CAUTION: The work area ambient temperature must be above 15.6°C (60°F) and the evaporator temperature must be above 12°C (53°F) in order to test A/C system operation.** Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). After the repair is complete, rerun the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the Service Information for additional Cooldown Test related diagnostic information and testing procedures. After the repair is complete, rerun the Cooldown Test. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DISPLAY STATUS MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

DISPLAY STATUS MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Display Status message from the Instrument Cluster (EMIC) for more than 5 seconds.

POSSIBLE CAUSES
NO COMMUNICATION WITH MIC DTC SET
INSTRUMENT CLUSTER DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
MIC

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH MIC? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read MIC DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following message: ″DISPLAY STATUS:″ Is ″NO RESPONSE″ displayed after this message? Yes → Replace the Instrument Cluster (EMIC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

DRIVER BLEND DOOR NOT RESPONDING (ACTIVE)
FRONT MODE DOOR NOT RESPONDING (ACTIVE)
PASSENGER BLEND DOOR NOT RESPONDING (ACTIVE)
RECIRC DOOR NOT RESPONDING (ACTIVE)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be DRIVER BLEND DOOR NOT RESPONDING (ACTIVE).

When Monitored and Set Condition:

DRIVER BLEND DOOR NOT RESPONDING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive feedback pulses within 5 seconds of the drive voltage being applied.

FRONT MODE DOOR NOT RESPONDING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive feedback pulses within 5 seconds of the drive voltage being applied.

PASSENGER BLEND DOOR NOT RESPONDING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive feedback pulses within 5 seconds of the drive voltage being applied.

RECIRC DOOR NOT RESPONDING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive feedback pulses within 5 seconds of the drive voltage being applied.

POSSIBLE CAUSES
DOOR DRIVER CIRCUIT SHORTED HIGH
DOOR DRIVER CIRCUIT SHORTED LOW
DOOR DRIVER CIRCUITS SHORTED TOGETHER
DOOR DRIVER (A) CIRCUIT SHORTED TO DOOR DRIVER (B) CIRCUIT
DOOR ACTUATOR SHORTED
AUTOMATIC TEMPERATURE CONTROL (ATC)
DOOR DRIVER (A) CIRCUIT OPEN

DRIVER BLEND DOOR NOT RESPONDING (ACTIVE) — Continued

POSSIBLE CAUSES
DOOR DRIVER (B) CIRCUIT OPEN
DOOR ACTUATOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the ATC C2 harness connector. Turn the ignition on. Measure the voltage between the applicable Door Driver (A) circuit and ground. Measure the voltage between the applicable Door Driver (B) circuit and ground. Is the voltage above 0.2 volts on either circuit? Yes → Repair the door driver circuit with voltage above 0.2 volts for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the ATC C2 harness connector. Measure the resistance between ground and the applicable Door Driver (A) circuit. Measure the resistance between ground and the applicable Door Driver (B) circuit. Is the resistance below 10K ohms on either circuit? Yes → Repair the door driver circuit with resistance below 10K ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the ATC C2 harness connector. **NOTE: Do NOT measure the resistance between the Door Driver circuits that connect to the same actuator.** Measure the resistance between the applicable Door Driver (A) circuit and each of the remaining Door Driver circuits. Measure the resistance between the applicable Door Driver (B) circuit and each of the remaining Door Driver circuits. Is the resistance below 10K ohms on any of the circuits? Yes → Repair the door driver circuits with a resistance below 10K ohms for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the ATC C2 harness connector. Measure the resistance between the applicable actuator's Door Driver (A) circuit and Door Driver (B) circuit. Is the resistance below 30.0 ohms? Yes → Go To 5 No → Go To 6	All

DRIVER BLEND DOOR NOT RESPONDING (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Disconnect the ATC C2 harness connector. Disconnect the applicable door actuator harness connector. Measure the resistance between the Door Driver (A) circuit and Door Driver (B) circuit. Is the resistance below 10K ohms? Yes → Repair the door driver circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the door actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the ATC C2 harness connector. Measure the resistance between the applicable actuator's Door Driver (A) circuit and Door Driver (B) circuit. Is the resistance above 70.0 ohms? Yes → Go To 7 No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Disconnect the ATC C2 harness connector. Disconnect the applicable door actuator harness connector. Measure the resistance of the Door Driver (A) circuit between the ATC C2 harness connector and the door actuator harness connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the Door Driver (A) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Disconnect the ATC C2 harness connector. Disconnect the applicable door actuator harness connector. Measure the resistance of the Door Driver (B) circuit between the ATC C2 harness connector and the door actuator harness connector. Is the resistance below 5.0 ohms? Yes → Replace the door actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Door Driver (B) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

DRIVER BLEND DOOR TRAVEL TOO LARGE (ACTIVE)
FRONT MODE DOOR TRAVEL TOO LARGE (ACTIVE)
PASSENGER BLEND DOOR TRAVEL TOO LARGE (ACTIVE)
RECIRC DOOR TRAVEL TOO LARGE (ACTIVE)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be DRIVER BLEND DOOR TRAVEL TOO LARGE (ACTIVE).

When Monitored and Set Condition:

DRIVER BLEND DOOR TRAVEL TOO LARGE (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is greater than expected, the DTC will set.

FRONT MODE DOOR TRAVEL TOO LARGE (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is greater than expected, the DTC will set.

PASSENGER BLEND DOOR TRAVEL TOO LARGE (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is greater than expected, the DTC will set.

RECIRC DOOR TRAVEL TOO LARGE (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is greater than expected, the DTC will set.

POSSIBLE CAUSES
DOOR NOT RESPONDING DTC(S) SET
DOOR ACTUATOR
DOOR LINKAGE/DOOR
AUTOMATIC TEMPERATURE CONTROL (ATC)

DRIVER BLEND DOOR TRAVEL TOO LARGE (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Are any Door Not Responding DTCs set? Yes → Return to the Heating & A/C symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Remove the applicable door actuator from the A/C-Heater Housing assembly. By hand, attempt to rotate the actuator in both directions. Does the actuator turn in either direction? Yes → Replace the door actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove the applicable door actuator from the A/C-Heater Housing assembly. Inspect the door linkage for excessive wear, disconnected, missing, and broken linkage. Also, inspect for a warped or broken door. Rotate the door from stop to stop. The door should rotate approximately 45 degrees. Were any mechanical problems found? Yes → Repair or replace the door/linkage as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER BLEND DOOR TRAVEL TOO SMALL (ACTIVE)

When Monitored and Set Condition:

DRIVER BLEND DOOR TRAVEL TOO SMALL (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is less than expected, the DTC will set.

POSSIBLE CAUSES
DRIVER BLEND DOOR NOT RESPONDING DTC SET
AUTOMATIC TEMPERATURE CONTROL (ATC)
OBSTRUCTED BLEND DOOR
DRIVER BLEND DOOR ACTUATOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: DRIVER BLEND DOOR NOT RESPONDING? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Driver Blend Door Actuator harness connector. Connect a 12-volt Test Light between the Driver Blend Door Actuator harness connector cavities. Turn the ignition on. While monitoring the test light, press the DRIVER BLEND mode switch to change the temp setting from lo to hi. **NOTE: Observe test light for approximately 30 seconds.** Does the test light start to flash and stay flashing? Yes → Go To 3 No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER BLEND DOOR TRAVEL TOO SMALL (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Driver Blend Door Actuator from the A/C-Heater Housing assembly. Rotate the driver blend door from stop to stop. Note: The door should rotate approximately 45 degrees from stop to stop. Does the driver blend door move smoothly in both directions? Yes → Replace the Driver Blend Door Actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair or replace the driver blend door as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRV FRONT DOOR MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

DRV FRONT DOOR MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Left Front Door Ajar message from the Driver Door Module (DDM) for more than 5 seconds.

POSSIBLE CAUSES
NO COMMUNICATION WITH DDM DTC SET
DRIVER DOOR MODULE (DDM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
DRIVER DOOR MODULE (DDM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH DDM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read DDM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following message: ″L FR DOOR AJAR SW:″ Is ″NO RESPONSE″ displayed after this message? Yes → Replace the Driver Door Module (DDM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
ENGINE SENSORS MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

ENGINE SENSORS MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the message from the Powertrain Control Module (PCM) for more than 16 seconds. This message provides A/C Pressure Sensor Failure and Refrigerant Pressure Failure.

POSSIBLE CAUSES
NO COMMUNICATION WITH PCM DTC SET
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
POWERTRAIN CONTROL MODULE (PCM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH PCM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following messages: ″AC PRES FAILURE:″ ″REFRIG PRESS FAILURE:″ Is ″NO RESPONSE″ displayed after either of these messages? Yes → Replace the Powertrain Control Module (PCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
EVAP TEMP SENSOR OPEN (ACTIVE)

When Monitored and Set Condition:

EVAP TEMP SENSOR OPEN (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the ATC detects an abnormally high voltage on the evaporator temperature sensor signal ckt. Evap Temp Sensor Open is also displayed as a AC Cooldown Test message if the ATC detects an abnormally high voltage on the evaporator temperature sensor signal ckt during the AC Cooldown Test.

POSSIBLE CAUSES
EVAP TEMP SENSOR SIGNAL CIRCUIT SHORTED TO VOLTAGE
EVAP TEMP SENSOR SIGNAL CIRCUIT SHORTED TO FRONT BLOWER MOTOR CONTROL CIRCUIT
EVAP TEMP SENSOR SIGNAL CIRCUIT SHORTED TO REAR BOOSTER FAN CONTROL CIRCUIT
AUTOMATIC TEMPERATURE CONTROL (ATC)
EVAP TEMP SENSOR SIGNAL CIRCUIT OPEN
SENSOR GROUND CIRCUIT OPEN
EVAPORATOR TEMPERATURE SENSOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the ATC C1 harness connector. Turn the ignition on. Measure the voltage of the Evaporator Temperature Sensor Signal circuit. Is the voltage above 0.2 volts? Yes → Repair the Evaporator Temperature Sensor Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the ATC C1 harness connector. Measure the resistance between the Evaporator Temperature Sensor Signal circuit and the Front Blower Motor Control circuit. Is the resistance below 10K ohms? Yes → Repair the Evaporator Temperature Sensor Signal circuit for a short to the Front Blower Motor Control circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

EVAP TEMP SENSOR OPEN (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the ATC C1 harness connector. Measure the resistance between the Evaporator Temperature Sensor Signal circuit and the Rear Booster Fan Control circuit. Is the resistance below 10K ohms? Yes → Repair the Evaporator Temperature Sensor Signal circuit for a short to the Rear Booster Fan Control circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the ATC C1 harness connector. Measure the resistance between the Evaporator Temperature Sensor Signal circuit and the Sensor Ground circuit. The approximate circuit resistance should be: 5,900 ohms @ 38°C (100°F). 6,600 ohms @ 35°C (95°F). 7,400 ohms @ 32°C (90°F). 8,300 ohms @ 29°C (85°F). 9,400 ohms @ 27°C (80°F). 10,600 ohms @ 24°C (75°F). 11,900 ohms @ 21°C (70°F). 13,500 ohms @ 18°C (65°F). 15,300 ohms @ 16°C (60°F). 17,500 ohms @ 13°C (55°F). 19,900 ohms @ 10°C (50°F). 22,800 ohms @ 7°C (45°F). 26,100 ohms @ 4°C (40°F). 30,000 ohms @ 2°C (35°F). 34,600 ohms @ -1°C (30°F). Is the resistance within the specifications? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the in-line C202 harness connector. Measure the resistance of the Evaporator Temperature Sensor Signal circuit between the ATC C1 harness connector and the in-line C202 harness connector (IP Side). Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Evaporator Temperature Sensor Signal circuit between the ATC C1 harness connector and the in-line C202 harness connector (IP side) for an open. Perform BODY VERIFICATION TEST - VER 1.	All

EVAP TEMP SENSOR OPEN (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
6	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the in-line C202 harness connector. Measure the resistance of the Sensor Ground circuit between the ATC C1 harness connector and the in-line C202 harness connector (IP side). Is the resistance below 5.0 ohms? Yes → Check the wiring harness between the in-line C202 harness connector (HVAC side) and the Evap Temp Sensor for an open. Repair as necessary. If Ok, replace the Evaporator Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Sensor Ground circuit between the ATC C1 harness connector and the in-line C202 harness connector (IP side) for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
EVAP TEMP SENSOR SHORTED (ACTIVE)

When Monitored and Set Condition:

EVAP TEMP SENSOR SHORTED (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the ATC detects an abnormally low voltage on the evaporator temperature sensor signal ckt. Evap Temp Sensor Shorted is also displayed as a AC Cooldown Test message if the ATC detects an abnormally low voltage on the evaporator temperature sensor signal ckt during the AC Cooldown Test.

POSSIBLE CAUSES
EVAPORATOR TEMPERATURE SENSOR
EVAP TEMP SENSOR SIGNAL CIRCUIT SHORTED TO GROUND
EVAP TEMP SENSOR SIGNAL CIRCUIT SHORT TO SENSOR GROUND CIRCUIT
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the in-line C202 harness connector. Turn the ignition on. With the DRBIII®, read the active DTCs. Does the DRBIII® display: EVAP TEMP SENSOR OPEN? Yes → Check the Evap Temp Sensor Signal circuit between the in-line C202 harness connector (HVAC side) and the Evap Temp Sensor for a short to ground. Repair as necessary. If Ok, replace the Evaporator Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the in-line C202 harness connector. Measure the resistance between ground and the Evaporator Temperature Sensor Signal circuit (IP side). Is the resistance above 100k ohms? Yes → Go To 3 No → Repair the Evaporator Temperature Sensor Signal circuit between the ATC C1 harness connector and the in-line C202 harness connector (IP side) for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

EVAP TEMP SENSOR SHORTED (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the in-line C202 harness connector. Measure the resistance between the Evaporator Temperature Sensor Signal circuit and the Sensor Ground circuit (IP side). Is the resistance above 100k ohms? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Evaporator Temperature Sensor Signal circuit between the ATC C1 harness connector and the in-line C202 harness connector (IP side) for a short to Sensor Ground. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
FRONT BLOWER RELAY OPEN

When Monitored and Set Condition:

FRONT BLOWER RELAY OPEN

When Monitored: With the ignition off.

Set Condition: This DTC will set if the Integrated Power Module (IPM) detects an open on the Front Blower Motor Relay Control circuit. This condition must be present for a least one second.

POSSIBLE CAUSES
B+ CIRCUIT OPEN
FRONT BLOWER RELAY
INTEGRATED POWER MODULE (IPM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove the Front Blower Relay from the IPM. Using a 12-volt test light connected to ground, probe cavity 85 of the blower relay connector. Is the test light illuminated? Yes → Go To 2 No → Check the B+ feed to the Integrated Power Module (IPM) for an open. If OK, replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the existing Front Blower Relay. Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off. With the DRBIII®, read IPM DTCs. Does the DRBIII® display: FRONT BLOWER RELAY OPEN? Yes → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the original Front Blower Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

FRONT BLOWER RELAY SHORT TO BATT

When Monitored and Set Condition:

FRONT BLOWER RELAY SHORT TO BATT

When Monitored: With the ignition on.

Set Condition: This DTC will set if the Integrated Power Module (IPM) detects excessive current when attempting to close the Front Blower Motor Relay. This condition must be present for a least one second.

POSSIBLE CAUSES
FRONT BLOWER RELAY
INTEGRATED POWER MODULE (IPM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Install a substitute relay in place of the existing Front Blower Relay. Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read IPM DTCs. Does the DRBIII® display: FRONT BLOWER RELAY SHORT TO BATT Yes → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the original Front Blower Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
FRONT MODE DOOR TRAVEL TOO SMALL (ACTIVE)

When Monitored and Set Condition:

FRONT MODE DOOR TRAVEL TOO SMALL (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is less than expected, the DTC will set.

POSSIBLE CAUSES
FRONT MODE DOOR NOT RESPONDING DTC SET
AUTOMATIC TEMPERATURE CONTROL (ATC)
FRONT MODE DOOR OBSTRUCTED
FRONT MODE DOOR ACTUATOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: FRONT MODE DOOR NOT RESPONDING? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Front Mode Door Actuator harness connector. Connect a 12-volt Test Light between the Front Mode Door Actuator harness connector cavities. Turn the ignition on. While monitoring the test light, press the MODE switch to place the mode door in each position. **NOTE: Observe test light for approximately 30 seconds.** Does the test light start to flash and stay flashing? Yes → Go To 3 No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

FRONT MODE DOOR TRAVEL TOO SMALL (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Front Mode Door Actuator from the A/C-Heater Housing assembly. Rotate the front mode door from stop to stop. Note: The door should rotate approximately 45 degrees from stop to stop. Does the front mode door move smoothly in both directions? Yes → Replace the Front Mode Door Actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair or replace the front mode door as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INVALID CONDITIONS FOR COOLDOWN TEST, EVAP TEMPERATURE TOO LOW

When Monitored and Set Condition:

INVALID CONDITIONS FOR COOLDOWN TEST, EVAP TEMPERATURE TOO LOW

When Monitored: When executing the Cooldown Test.

Set Condition: This message will be displayed if the Automatic Temperature Control (ATC) sees evaporator temperature below 11.6°C (53°F) when executing the Cooldown Test.

POSSIBLE CAUSES
EVAPORATOR TEMPERATURE TOO LOW
AUTOMATIC TEMPERATURE CONTROL (ATC) DTC(S) PRESENT
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
EVAPORATOR TEMPERATURE SENSOR
SENSOR GROUND CIRCUIT HIGH RESISTANCE
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT HIGH RESISTANCE
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	**CAUTION: The work area ambient temperature must be above 15.6°C (60°F) and the evaporator temperature must be above 12°C (53°F) in order to test A/C system operation.** Start the engine. Press the A/C mode switch off. The Snowflake should not be displayed on the ATC display panel. Set the blower speed to high. Allow the blower to run for 5 minutes to ensure that the Evaporator Temperature Sensor temperature is above 11.6°C (53°F). With the DRBIII®, actuate the AC Cooldown Test. Does the DRBIII® display the INVALID CONDITIONS FOR COOLDOWN TEST fault message? Yes → Go To 2 No → Perform additional testing as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

INVALID CONDITIONS FOR COOLDOWN TEST, EVAP TEMPERATURE TOO LOW — Continued

TEST	ACTION	APPLICABILITY
2	**CAUTION: The work area ambient temperature must be above 15.6°C (60°F) and the evaporator temperature must be above 12°C (53°F) in order to test A/C system operation.** Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display any DTCs? Yes → Return to the Heating & A/C symptom list and choose the symptom(s). After the repair is complete, with the DRBIII®, erase the DTC(s), then cycle the ignition switch, and then with the DRBIII®, actuate the AC Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	**CAUTION: The work area ambient temperature must be above 15.6°C (60°F) and the evaporator temperature must be above 12°C (53°F) in order to test A/C system operation.** Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). After the repair is complete, with the DRBIII®, erase the DTC(s), then cycle the ignition switch, and then with the DRBIII®, actuate the AC Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Evaporator Temperature Sensor harness connector. Turn the ignition on. With the DRBIII® in Sensor Display, read the Evaporator Temperature Sensor voltage. Is the voltage above 4.9 volts? Yes → Go To 5 No → Go To 6	All
5	Turn the ignition off. Disconnect the Evaporator Temperature Sensor harness connector. Connect a jumper wire between the Evaporator Temperature Sensor Signal circuit and the Sensor Ground circuit at the Evaporator Temperature Sensor harness connector. Turn the ignition on. With the DRBIII® in Sensor Display, read the Evaporator Temperature Sensor voltage. Is the voltage 0.0 volts? Yes → Replace the Evaporator Temperature Sensor in accordance with the Service Information. After the repair is complete, with the DRBIII®, actuate the AC Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All

INVALID CONDITIONS FOR COOLDOWN TEST, EVAP TEMPERATURE TOO LOW — Continued

TEST	ACTION	APPLICABILITY
6	**NOTE: Ensure that the Evaporator Temperature Sensor harness connector is connected to the Evaporator Temperature Sensor.** **NOTE: Ensure that the voltmeter leads meet the terminals in the connector and that there is good terminal to wire connection.** **NOTE: Ensure the voltmeter leads are connected for positive polarity.** Back probe the Sensor Ground circuit between the Evaporator Temperature Sensor harness connector and the ATC C1 harness connector. Turn the ignition on. Is the voltage below 0.10 volt? Yes → Go To 7 No → Repair the high resistance in the Sensor Ground circuit. After the repair is complete, with the DRBIII®, actuate the AC Cooldown Test. Perform BODY VERIFICATION TEST - VER 1.	All
7	**NOTE: Ensure that the Evaporator Temperature Sensor harness connector is connected to the Evaporator Temperature Sensor.** **NOTE: Ensure the voltmeter leads meet the terminals in the connector and that there is good terminal to wire connection.** **NOTE: Ensure the voltmeter leads are connected for positive polarity** Back probe the Evaporator Temperature Sensor Signal circuit between the Evaporator Temperature Sensor harness connector and the ATC C1 harness connector. Turn the ignition on. Is the voltage below 0.10 volt? Yes → Replace the Automatic Temperature Control (ATC). After the repair is complete, with the DRBIII®, actuate the AC Cooldown Test. Perform BODY VERIFICATION TEST - VER 1. No → Repair the high resistance in the Evaporator Temperature Sensor Signal circuit. After the repair is complete, with the DRBIII®, actuate the AC Cooldown Test. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

NO COMMUNICATION WITH BCM (ACTIVE)
NO COMMUNICATION WITH DDM (ACTIVE)
NO COMMUNICATION WITH MIC (ACTIVE)
NO COMMUNICATION WITH PCM (ACTIVE)
NO COMMUNICATION WITH PDM (ACTIVE)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be NO COMMUNICATION WITH BCM (ACTIVE).

When Monitored and Set Condition:

NO COMMUNICATION WITH BCM (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Body Control Module (BCM) for at least 5 seconds.

NO COMMUNICATION WITH DDM (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Driver Door Module (DDM) for at least 5 seconds.

NO COMMUNICATION WITH MIC (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Instrument Cluster (EMIC) for at least 5 seconds.

NO COMMUNICATION WITH PCM (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Powertrain Control Module (PCM) for at least 5 seconds.

NO COMMUNICATION WITH PDM (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive any messages from the Passenger Door Module (PDM) for at least 5 seconds.

POSSIBLE CAUSES
MODULE COMMUNICATION FAILURE
AUTOMATIC TEMPERATURE CONTROL (ATC)

NO COMMUNICATION WITH BCM (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the applicable module(s) (BCM, MIC, PCM, DDM, PDM). Is the DRBIII® able to ID or communicate with the module(s)? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the Communications category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
OUTSIDE AIR TEMP MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

OUTSIDE AIR TEMP MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Outside Air Temperature message from the Powertrain Control Module (PCM) for more than 5 seconds.

POSSIBLE CAUSES
NO COMMUNICATION WITH PCM DTC SET
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
POWERTRAIN CONTROL MODULE (PCM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH PCM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following message: ″OUTSIDE AIR TEMP:″ Is ″NO RESPONSE″ displayed after this message? Yes → Replace the Powertrain Control Module (PCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PAS FRONT DOOR MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

PAS FRONT DOOR MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Right Front Door Ajar message from the Passenger Door Module (PDM) for more than 5 seconds.

POSSIBLE CAUSES
NO COMMUNICATION WITH PDM DTC SET
PASSENGER DOOR MODULE (PDM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
PASSENGER DOOR MODULE (PDM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH PDM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read PDM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following message: "RT FR DOOR AJAR SW:" Is "NO RESPONSE" displayed after this message? Yes → Replace the Passenger Door Module (PDM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PASSENGER BLEND DOOR TRAVEL TOO SMALL (ACTIVE)

When Monitored and Set Condition:

PASSENGER BLEND DOOR TRAVEL TOO SMALL (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is less than expected, the DTC will set.

POSSIBLE CAUSES
PASSENGER BLEND DOOR NOT RESPONDING DTC SET
AUTOMATIC TEMPERATURE CONTROL (ATC)
OBSTRUCTED BLEND DOOR
PASSENGER BLEND DOOR ACTUATOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: PASSENGER BLEND DOOR NOT RESPONDING? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Passenger Blend Door Actuator harness connector. Connect a 12-volt Test Light between the Passenger Blend Door Actuator harness connector cavities. Turn the ignition on. While monitoring the test light, press the PASSENGER BLEND mode switch to change the temp setting from lo to hi. **NOTE: Observe test light for approximately 30 seconds.** Does the test light start to flash and stay flashing? Yes → Go To 3 No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER BLEND DOOR TRAVEL TOO SMALL (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Passenger Blend Door Actuator from the A/C-Heater Housing assembly. Rotate the passenger blend door from stop to stop. Note: The door should rotate approximately 45 degrees from stop to stop. Does the passenger blend door move smoothly in both directions? Yes → Replace the Passenger Blend Door Actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair or replace the passenger blend door as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

PCI BUS SHORTED HIGH (ACTIVE)
PCI BUS SHORTED LOW (ACTIVE)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be PCI BUS SHORTED HIGH (ACTIVE).

When Monitored and Set Condition:

PCI BUS SHORTED HIGH (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) detects a short to voltage on the PCI Bus circuit.

PCI BUS SHORTED LOW (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) detects a short to ground on the PCI Bus circuit.

POSSIBLE CAUSES
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	**NOTE: For this DTC to be active, the DRBIII® will not be able to communicate with any modules on the vehicle except the Powertrain Control Module (PCM).** **NOTE: Do NOT perform this test unless this DTC is ACTIVE. If this DTC is STORED, refer to PCI Bus Shorted High (Stored) or to PCI Bus Shorted Low (Stored) in the HEATING & A/C symptom list.** View repair. Repair Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

REAR BOOSTER FAN RELAY OPEN

When Monitored and Set Condition:

REAR BOOSTER FAN RELAY OPEN

When Monitored: With the ignition off.

Set Condition: If the Integrated Power Module (IPM) detects an open on the Rear Booster Fan Relay Control circuit.

POSSIBLE CAUSES
B+ CIRCUIT OPEN
REAR BOOSTER FAN RELAY
INTEGRATED POWER MODULE (IPM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove the Rear Booster Fan Relay from the IPM. Using a 12-volt test light connected to ground, probe cavity 85 of the rear booster fan relay connector. Is the test light illuminated? Yes → Go To 2 No → Check the B+ feed to the IPM for an open. If OK, replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the existing Rear Booster Fan Relay. Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off. With the DRBIII®, read IPM DTCs. Does the DRBIII® display: REAR BOOSTER FAN RELAY OPEN? Yes → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the original Rear Booster Fan Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REAR BOOSTER FAN RELAY SHORT TO BATT

When Monitored and Set Condition:

REAR BOOSTER FAN RELAY SHORT TO BATT

When Monitored: With the ignition on.

Set Condition: If the Integrated Power Module (IPM) detects excessive current when attempting to close the Rear Booster Fan Relay.

POSSIBLE CAUSES
REAR BOOSTER FAN RELAY
INTEGRATED POWER MODULE (IPM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Install a substitute relay in place of the existing Rear Booster Fan Relay. Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read IPM DTCs. Does the DRBIII® display: REAR BOOSTER FAN RELAY SHORT TO BATT Yes → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the original Rear Booster Fan Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REAR FAN POT OPEN (ACTIVE)

When Monitored and Set Condition:

REAR FAN POT OPEN (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Rear Fan Sense input is above 253 A/D counts (4.9 volts).

POSSIBLE CAUSES
REAR FAN SENSE SUPPLY CIRCUIT SHORTED TO VOLTAGE
AUTOMATIC TEMPERATURE CONTROL (ATC)
REAR FAN SENSE CIRCUIT SHORTED TO VOLTAGE
AUTOMATIC TEMPERATURE CONTROL (ATC)
REAR FAN SENSE CIRCUIT OPEN
AUTOMATIC TEMPERATURE CONTROL (ATC)
REAR FAN SENSE SUPPLY CIRCUIT SHORTED TO REAR FAN SENSE CIRCUIT
REAR FAN SENSE RETURN CIRCUIT OPEN
REAR BOOSTER FAN REAR CONTROL SWITCH
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Turn the ignition on. Measure the voltage of the Rear Fan Sense Supply circuit. Is the voltage above 5.3 volts? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Turn the ignition on. Measure the voltage between the Rear Fan Sense Supply circuit and ground. Is the voltage above 0.2 volts? Yes → Repair the Rear Fan Sense Supply circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

REAR FAN POT OPEN (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Turn the ignition on. Measure the voltage of the Rear Fan Sense circuit. What voltage is present? Above 5.1 Volts Go To 4 Below 0.25 Volts Go To 5 Between 0.25 & 5.1 Volts Go To 6	All
4	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Turn the ignition on. Measure the voltage between the Rear Fan Sense circuit and ground. Is the voltage above 0.2 volts? Yes → Repair the Rear Fan Sense circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance of the Rear Fan Sense circuit between the ATC C1 harness connector and the Rear Booster Fan Rear Control Switch harness connector. Is the resistance below 5.0 ohms? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Rear Fan Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance between the Rear Fan Sense Supply circuit and the Rear Fan Sense circuit. Is the resistance above 100K ohms? Yes → Go To 7 No → Repair the Rear Fan Sense Supply circuit for a short to the Rear Fan Sense circuit. Perform BODY VERIFICATION TEST - VER 1.	All

REAR FAN POT OPEN (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the ATC C2 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance of the Rear Fan Sense Return circuit between the ATC C2 harness connector and the Rear Booster Fan Rear Control Switch harness connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the Rear Fan Sense Return circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Reconnect all previously disconnected components. Connect DRBIII® X10 Scope Probe CH7061 to the DRBIII®. Select the following from the DRBIII® menu: PEP Module Tools; Lab Scope; Live Data; and Lab Scope. Select the following Lab Scope settings: Set the time to 10ms/Div. Set the voltage range to +10.0v. Set the Offset to 2.00v. Set the Probe to X10. Start the engine. Press the ATC's PWR switch on. Press the REAR fan mode switch on, so that it is in manual mode. The word ″REAR″ should display on the ATC display panel. The word ″AUTO″ should not be displayed. Turn the Rear Booster Fan Rear Control Switch to the AUTO position. Using the X10 Scope Probe, back probe the Rear Fan Sense circuit in the Rear Booster Fan Rear Control Switch harness connector. Slowly turn the Rear Booster Fan Rear Control through each of the 12 switch positions (Auto, Off, & Spds 1 - 10) while observing the DRBIII® display. The voltage should increase gradually from approx. 0.06 to 4.9 volts with no spikes or signal drop out. Was any loss of signal observed while rotating the switch? Yes → Replace the Rear Booster Fan Rear Control Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REAR FAN POT SHORTED (ACTIVE)

When Monitored and Set Condition:

REAR FAN POT SHORTED (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Rear Fan Sense input is below 3 A/D counts (0.059 volts).

POSSIBLE CAUSES
REAR FAN SENSE SUPPLY CIRCUIT SHORTED TO GROUND
REAR FAN SENSE SUPPLY CIRCUIT SHORTED TO REAR FAN SENSE RETURN CIRCUIT
REAR FAN SENSE SUPPLY CIRCUIT OPEN
REAR FAN SENSE CIRCUIT SHORTED TO GROUND
REAR FAN SENSE CIRCUIT SHORTED TO REAR FAN SENSE RETURN CIRCUIT
REAR BOOSTER FAN REAR CONTROL SWITCH
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance between ground and the Rear Fan Sense Supply circuit. Is the resistance above 100K ohms? Yes → Go To 2 No → Repair the Rear Fan Sense Supply circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the ATC C2 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance between the Rear Fan Sense Supply circuit and the Rear Fan Sense Return circuit. Is the resistance above 100K ohms? Yes → Go To 3 No → Repair the Rear Fan Sense Supply circuit for a short to the Rear Fan Sense Return circuit. Perform BODY VERIFICATION TEST - VER 1.	All

REAR FAN POT SHORTED (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance of the Rear Fan Sense Supply circuit between the ATC C1 harness connector and the Rear Booster Fan Rear Control Switch harness connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Rear Fan Sense Supply circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance between ground and the Rear Fan Sense circuit. Is the resistance above 100K ohms? Yes → Go To 5 No → Repair the Rear Fan Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the ATC C2 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance between the Rear Fan Sense circuit and the Rear Fan Sense Return circuit. Is the resistance above 100K ohms? Yes → Go To 6 No → Repair the Rear Fan Sense circuit for a short to the Rear Fan Sense Return circuit. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Reconnect the ATC C1 & C2 harness connectors. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Turn the ignition on. With the DRBIII®, read active ATC DTCs. Does the DRBIII® display: Rear Fan Pot Shorted? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rear Booster Fan Rear Control Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RECIRC DOOR TRAVEL TOO SMALL (ACTIVE)

When Monitored and Set Condition:

RECIRC DOOR TRAVEL TOO SMALL (ACTIVE)

When Monitored: With the ignition on and IOD fuse installed.

Set Condition: The Automatic Temperature Control (ATC) monitors the door's range of travel during system initialization. If the measured range is less than expected, the DTC will set.

POSSIBLE CAUSES
RECIRC DOOR NOT RESPONDING DTC SET
AUTOMATIC TEMPERATURE CONTROL (ATC)
OBSTRUCTED RECIRC DOOR
RECIRCULATION DOOR ACTUATOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: RECIRC DOOR NOT RESPONDING? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Recirculation Door Actuator harness connector. Connect a 12-volt Test Light between the Recirculation Door Actuator harness connector cavities. Turn the ignition on. While monitoring the test light, press the RECIRC mode switch from off to on. **NOTE: Observe test light for approximately 30 seconds.** Does the test light start to flash and stay flashing? Yes → Go To 3 No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

RECIRC DOOR TRAVEL TOO SMALL (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Recirculation Door Actuator from the A/C-Heater Housing assembly. Rotate the recirculation door from stop to stop. Note: The door should rotate approximately 45 degrees from stop to stop. Does the recirculation door move smoothly in both directions? Yes → Replace the Recirculation Door Actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair or replace the recirculation door as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REFRIGERANT PRESS MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

REFRIGERANT PRESS MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the message from the Powertrain Control Module (PCM) for more than 16 seconds. This message provides A/C Hi-Side Pressure and Intake Air Temperature.

POSSIBLE CAUSES
NO COMMUNICATION WITH PCM DTC SET
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
POWERTRAIN CONTROL MODULE (PCM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH PCM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following messages: ″A/C HI-SIDE PRESSURE:″ ″INTAKE AIR TEMP:″ Is ″NO RESPONSE″ displayed after either of these messages? Yes → Replace the Powertrain Control Module (PCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
VEHICLE ODOMETER MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

VEHICLE ODOMETER MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the Vehicle Odometer message from the Body Control Module (BCM) for more than 5 seconds.

POSSIBLE CAUSES
NO COMMUNICATION WITH BCM DTC SET
BODY CONTROL MODULE (BCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
BODY CONTROL MODULE (BCM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH BCM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read BCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With the DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following message: "ODO MSG PRESENT:" Does the DRBIII® display: ODO MSG PRESENT: YES? Yes → Replace the Automatic Temperature Control ATC in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module (BCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
VEHICLE SPEED/RPM MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

VEHICLE SPEED/RPM MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the message from the Powertrain Control Module (PCM) for more than 2 seconds. This message provides Engine RPM and Vehicle Speed.

POSSIBLE CAUSES
NO COMMUNICATION WITH PCM DTC SET
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
POWERTRAIN CONTROL MODULE (PCM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH PCM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following messages: ″ENGINE RPM:″ ″VEHICLE SPEED:″ Is ″NO RESPONSE″ displayed after either of these messages? Yes → Replace the Powertrain Control Module (PCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
VF DIMMING MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

VF DIMMING MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: If the Automatic Temperature Control (ATC) does not receive the VF Dimming message from the Body Control Module (BCM) for more than 5 seconds, then the VF display will default to daytime brightness and the DTC will set.

POSSIBLE CAUSES
NO COMMUNICATION WITH BCM DTC SET
BODY CONTROL MODULE (BCM) DTC(S) PRESENT
DIMMING MESSAGE NOT SEEN AT RATE EXPECTED
AUTOMATIC TEMPERATURE CONTROL (ATC)
BODY CONTROL MODULE (BCM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH BCM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read BCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	**NOTE: Make sure that the Panel Dimmer switch is not in set in Funeral Mode.** Turn the ignition on. Press the ATC Power switch on. Watch the ATC display panel while turning the Headlamp switch on and then off. Did the VF segments dim when the Headlamp switch was turned on? Yes → No problem found at this time. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

VF DIMMING MESSAGE MISSING (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition on. With the DRBIII® in ATC, Monitor Display, PCI Bus Messages, look for the following message: ″VF DIM MSG PRESENT:″ Does the DRBIII® display: VF DIM MSG PRESENT: YES? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module (BCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
VIN MESSAGE MISSING (ACTIVE)

When Monitored and Set Condition:

VIN MESSAGE MISSING (ACTIVE)

When Monitored: With the ignition on and the IOD fuse installed.

Set Condition: This DTC will set if the Automatic Temperature Control (ATC) does not receive the VIN message from the Powertrain Control Module (PCM) for more than 16 seconds.

POSSIBLE CAUSES
NO COMMUNICATION WITH PCM DTC SET
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
POWERTRAIN CONTROL MODULE (PCM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display: NO COMMUNICATION WITH PCM? Yes → Return to the Heating & A/C symptom list and choose the symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With the DRBIII® in Monitor Display, PCI Bus Messages, look for the following message: "VIN MSG PRESENT:" Does the DRBIII® display: VIN MSG PRESENT: YES? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Powertrain Control Module (PCM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*AUTOMATIC TEMPERATURE CONTROL (ATC) BACK LIGHTING INOPERATIVE

POSSIBLE CAUSES
INSTRUMENT CLUSTER DTC(S) PRESENT
BODY CONTROL MODULE (BCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)
INOPERATIVE BULB(S)
PANEL LAMPS DRIVER CIRCUIT OPEN
INSTRUMENT CLUSTER (EMIC)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read MIC DTCs. Does DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read BCM DTCs. Does DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Rotate the Panel Lamps Dimmer switch to the off position. Disconnect the ATC C1 harness connector. Turn the park lamps on. Measure the voltage of the Panel Lamps Driver circuit while rotating the Panel Lamps Dimmer switch from the off position to the full brightness position. Does the voltage change from approximately 4.5 volts to 11.5 volts? Yes → Go To 4 No → Go To 5	All
4	Turn the ignition off. Remove the inoperative bulb(s) from the Automatic Temperature Control (ATC) in accordance with the Service Information. Inspect the inoperative bulb(s). Is each inoperative bulb Okay? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the inoperative bulb(s) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

*AUTOMATIC TEMPERATURE CONTROL (ATC) BACK LIGHTING INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Disconnect the ATC C1 harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance of the Panel Lamps Driver circuit between the ATC C1 harness connector and the Instrument Cluster C1 harness connector. Is the resistance below 5.0 ohms? Yes → Replace the Instrument Cluster (EMIC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Panel Lamps Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*FRONT BLOWER MOTOR INOPERATIVE

POSSIBLE CAUSES
INTEGRATED POWER MODULE (IPM) DTC(S) PRESENT
INTERMITTENT CONDITION
FUSED FRONT BLOWER RELAY OUTPUT CIRCUIT SHORTED TO GROUND
FRONT BLOWER MOTOR
FRONT BLOWER POWER MODULE
GROUND CIRCUIT OPEN
FRONT BLOWER MOTOR CONTROL CIRCUIT SHORTED TO VOLTAGE
FRONT BLOWER MOTOR CONTROL CIRCUIT OPEN
FRONT BLOWER POWER MODULE
AUTOMATIC TEMPERATURE CONTROL (ATC)
FRONT BLOWER MOTOR
FRONT BLOWER POWER MODULE
INTEGRATED POWER MODULE (IPM) - OPEN CIRCUIT
INTEGRATED POWER MODULE (IPM) - OPEN CIRCUIT
FRONT BLOWER RELAY
INTEGRATED POWER MODULE (IPM) - OPEN CIRCUIT
FUSED FRONT BLOWER RELAY OUTPUT CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	**NOTE: Verify that the vehicle's odometer displays more than 3 miles. If not, drive the vehicle until the odometer displays more than 3 miles and then recheck blower motor operation. If still inoperative, proceed as follows:** Turn the ignition on. With the DRBIII®, read IPM DTCs. Does the DRBIII® display any DTCs? Yes → For Integrated Power Module (IPM) DTCs related to the front blower or rear fan relay circuits, refer to the Heating & A/C category. For all other IPM DTCs, refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Remove and inspect IPM Fuse #42 (Front Blower Fuse). Is the fuse open? Yes → Go To 3 No → Go To 6	All

*FRONT BLOWER MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
3	Replace IPM Fuse #42 (Front Blower Fuse). Turn the ignition on. Operate the Front Blower Motor in all speeds. Start the engine and operate the ATC system in all modes and speeds. Does the Front Blower Motor operate properly without blowing the fuse? Yes → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent short to ground condition. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Front Blower Power Module C1 harness connector. Measure the resistance between ground and the Fused Front Blower Relay Output circuit. Is the resistance below 10K ohms? Yes → Repair the Fused Front Blower Relay Output circuit for a short to ground. Replace IPM Fuse #42 (Front Blower Fuse). Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Replace IPM Fuse #42 (Front Blower Fuse). Disconnect the Front Blower Power Module C1 harness connector. Disconnect the Front Blower Power Module C2 harness connector. Connect a jumper wire between the Fused Front Blower Relay Output circuit in the Front Blower Power Module C1 harness connector and the Blower Motor Supply circuit in the Front Blower Power Module C2 harness connector. Connect a jumper wire between the Ground circuit in the Front Blower Power Module C1 harness connector and the Blower Motor Ground circuit in the Front Blower Power Module C2 harness connector. Turn the ignition on. Does the Front Blower Motor operate at full speed without blowing the fuse? Yes → Replace the Front Blower Power Module in accordance with the Service Information. Replace IPM Fuse #42 (Front Blower Fuse). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Blower Motor in accordance with the Service Information. Replace IPM Fuse #42 (Front Blower Fuse). Perform BODY VERIFICATION TEST - VER 1.	All
6	Ensure IPM Fuse #42 (Front Blower Fuse) is installed. Disconnect the Front Blower Power Module C1 harness connector. Turn the ignition on. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, back probe the Fused Front Blower Relay Output circuit in the Front Blower Power Module C1 harness connector. Does the test light illuminate brightly? Yes → Go To 7 No → Go To 13	All

*FRONT BLOWER MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Front Blower Power Module C1 harness connector. Measure the resistance between ground and the Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Disconnect the Front Blower Power Module C1 harness connector. Disconnect the ATC C1 harness connector. Turn the ignition on. Measure the voltage of the Front Blower Motor Control circuit. Is the voltage above 0.2 volts? Yes → Repair the Front Blower Motor Control circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Turn the ignition off. Disconnect the Front Blower Power Module C1 harness connector. Disconnect the ATC C1 harness connector. Measure the resistance of the Front Blower Motor Control circuit between the Front Blower Power Module C1 harness connector and the ATC C1 harness connector. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the Front Blower Motor Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Reconnect the Front Blower Power Module C1 harness connector. Reconnect the ATC C1 harness connector. Start the engine. Press the ATC's PWR switch on. Set the front blower speed to low. While back probing, measure the voltage of the Front Blower Motor Control circuit in the ATC C1 harness connector. Is the voltage above 7.5 volts? Yes → Go To 11 No → Replace the Front Blower Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

*FRONT BLOWER MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
11	Turn the ignition off. Reconnect all previously disconnected components. Connect the DRBIII® X10 Scope Probe CH7061 to the DRBIII®. Select the following from the DRBIII® menu: PEP Module Tools; Lab Scope; Live Data; and Lab Scope. Set the time to 10ms/Div. Set the voltage range to +20.0v. Set the offset to 4.00v. Set the Probe to X10. Start the engine. Press the ATC's PWR switch on. Using the X10 Scope Probe, back probe the Front Blower Motor Control circuit in the Front Blower Power Module C1 harness connector. **NOTE: The Blower Power Module provides a 12.0 volt signal to the ATC over the Front Blower Motor Control circuit. The ATC provides a variable duty cycle ground to the 12.0 volt signal based on input from the Front Blower Speed Control switch.** **NOTE: When the blower speed is set to low, the ATC provides a short duty cycle (less time grounding the signal voltage).** **NOTE: As higher blower speeds are requested, the ATC increases the duty cycle (more time grounding the signal voltage).** **NOTE: When the highest blower speed is requested, the duty cycle increases to where the signal pattern is almost a flat line (with brief voltage spikes).** Set the blower speed to low, then slowly increase the blower speed to high while observing the DRBIII® display. The voltage on the scope patten should cycle from approximately 0 volts (duty cycle on) to 12.0 volts (duty cycle off) for all blower speeds. The duty cycle pattern should change smoothly as the blower speed changes from low to high. Does the DRBIII® display the voltage range and duty cycle as described above? Yes → Go To 12 No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
12	Turn the ignition off. Disconnect the Front Blower Power Module C1 harness connector. Disconnect the Front Blower Power Module C2 harness connector. Connect a jumper wire between the Fused Front Blower Relay Output circuit in the Front Blower Power Module C1 harness connector and the Blower Motor Supply circuit in the Front Blower Power Module C2 harness connector. Connect a jumper wire between the Ground circuit in the Front Blower Power Module C1 harness connector and the Blower Motor Ground circuit in the Front Blower Power Module C2 harness connector. Turn the ignition on. Does the Front Blower Motor operate at full speed? Yes → Replace the Front Blower Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Front Blower Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

*FRONT BLOWER MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
13	Turn the ignition off. Remove the Front Blower Relay from the IPM. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, probe cavity 30 of the Front Blower Relay connector. Does the test light illuminate brightly? Yes → Go To 14 No → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
14	Turn the ignition off. Remove the Front Blower Relay from the IPM. Remove IPM Fuse #42 (Front Blower Fuse). Measure the resistance between cavity 87 of the Front Blower Relay connector and IPM Fuse #42 (power input cavity). Is the resistance below 5.0 ohms? Yes → Go To 15 No → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
15	Turn the ignition off. Make sure that the Front Blower Relay is installed. Remove IPM Fuse #42 (Front Blower Fuse). Turn the ignition on. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, probe IPM Fuse #42 (power input cavity). Does the test light illuminate brightly? Yes → Go To 16 No → Replace the Front Blower Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
16	Turn the ignition off. Remove IPM Fuse #42 (Front Blower Fuse). Disconnect the IPM C9 harness connector. Measure the resistance between IPM Fuse #42 (power output cavity) and cavity 8 of the IPM C9 connector (IPM side). Is the resistance below 5.0 ohms? Yes → Repair the Fused Front Blower Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***FRONT BLOWER RUNS AT ONLY ONE SPEED**

POSSIBLE CAUSES
FRONT BLOWER MOTOR CONTROL CIRCUIT SHORTED TO GROUND
AUTOMATIC TEMPERATURE CONTROL (ATC)
FRONT BLOWER POWER MODULE

TEST	ACTION	APPLICABILITY
1	**CAUTION: The ATC will clamp the blower speed if the PCM disables A/C compressor operation due to low or high A/C pressure, immanent overheat detection, or an overheat condition. Verify that none of these conditions exist before diagnosing blower concerns.** Turn the ignition off. Disconnect the Front Blower Power Module C1 harness connector. Disconnect the ATC C1 harness connector. Measure the resistance between ground and the Front Blower Motor Control circuit. Is the resistance below 10K ohms? Yes → Repair the Front Blower Motor Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

*FRONT BLOWER RUNS AT ONLY ONE SPEED — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition off. Reconnect all previously disconnected components. Connect the DRBIII® X10 Scope Probe CH7061 to the DRBIII®. Select the following from the DRBIII® menu: PEP Module Tools; Lab Scope; Live Data; and Lab Scope. Set the time to 10ms/Div. Set the voltage range to +20.0v. Set the offset to 4.00v. Set the Probe to X10. Start the engine. Press the ATC's PWR switch on. Using the X10 Scope Probe, back probe the Front Blower Motor Control circuit in the Front Blower Power Module C1 harness connector. **NOTE: The Blower Power Module provides a 12.0 volt signal to the ATC over the Front Blower Motor Control circuit. The ATC provides a variable duty cycle ground to the 12.0 volt signal based on input from the Front Blower Speed Control switch.** **NOTE: When the blower speed is set to low, the ATC Module provides a short duty cycle (less time grounding the signal voltage).** **NOTE: As higher blower speeds are requested, the ATC Module increases the duty cycle (more time grounding the signal voltage).** **NOTE: When the highest blower speed is requested, the duty cycle increases to where the signal pattern is almost a flat line (with brief voltage spikes).** Set the blower speed to low, then slowly raise the blower speed to high while observing the DRBIII® display. The voltage on the scope patten should cycle from approximately 0 volts (duty cycle on) to 12.0 volts (duty cycle off) for all blower speeds. The duty cycle pattern should change smoothly as the blower speed changes from low to high. Does the DRBIII® display the voltage range and duty cycle as described above? Yes → Replace the Front Blower Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***HVAC SYSTEM TEST**

POSSIBLE CAUSES
CHECK FOR HVAC RELATED DTCS IN THE POWERTRAIN CONTROL MODULE (PCM)
CHECK FOR ACTIVE ATC DTCS AND COOLDOWN TEST FAULT MESSAGES
CHECK FOR HVAC RELATED DTCS IN THE POWERTRAIN CONTROL MODULE (PCM)

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read PCM DTCs. Are any HVAC related DTCs present? Yes → Refer to the Powertrain Diagnostic Procedures for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

*HVAC SYSTEM TEST — Continued

TEST	ACTION	APPLICABILITY
2	**NOTE: Active DTCs must be resolved before diagnosing stored DTCs.** **NOTE: Anytime a DTC becomes active or a Cooldown Test fault message is displayed proceed to the conclusion question.** **NOTE: If multiple DTCs appear, diagnose those that relate to a short circuit first.** Start the engine. Press the ATC's PWR switch on. Verify that the front blower motor operates correctly in all speeds. Diagnose and repair all blower related faults before proceeding with this test. **CAUTION: The work area ambient temperature must be above 15.6°C (60°F) and the evaporator temperature must be above 12°C (53°F) in order to test A/C system operation.** **NOTE: Before actuating the AC Cooldown Test, verify that the A/C compressor is not running. If the compressor is running, turn the A/C off and allow the evaporator to warm up before proceeding with the test.** **NOTE: Running the AC Cooldown test will cause the DELAY & Snowflake VF segments to flash. If the test fails, the DELAY & Snowflake VF segments will continue to flash until the vehicle is driven more than 3 miles or a successful Cooldown test is performed.** **NOTE: Messages will display on the DRBIII® after running the AC Cooldown Test. These messages will clear after paging back out of this test function. Therefore, it is important to note all messages before doing so.** With the DRBIII® in ATC, System Tests, actuate the AC Cooldown test. If any Cooldown Test fault messages appear, proceed to the conclusion question, otherwise, proceed as follows: Set the front blower speed to low. Press the REAR fan mode switch on, so that it is in manual mode. The word ″REAR″ should display on the ATC display panel. The word ″AUTO″ should not be displayed. Press the DUAL mode switch off. The word ″DUAL″ should not be displayed on the ATC display panel. This will allow the DRIVER BLEND mode switch to control both driver and pass temp settings. Set the driver temperature to 60°F (16°C). The passenger temperature should also display 60°F (16°C). Monitor the DRBIII® for active ATC DTCs while performing the following test steps. Press the RECIRC mode switch on, wait 30 seconds, and then press it off. Press the A/C mode switch on, wait 30 seconds, and then press it off. Press the REAR DEFOG mode switch on, wait 30 seconds, and then press it off. Press the EBL mode switch on, wait 30 seconds, and then press it off. Press the DUAL mode switch on. Set the driver temperature to the max heat setting, wait 30 seconds, and then set it to the max cool setting. Repeat this step for the passenger temperature. Press the MODE switch, placing the mode door in each position for 30 seconds, and then return it to the panel position. Press the AUTO HI mode switch, wait 30 seconds, and then press the AUTO LO mode switch. When the function is complete, reset the front blower speed to low. Turn the Rear Booster Fan Rear Control switch to AUTO for 30 seconds, then slowly turn it from AUTO to high speed and then back to AUTO. With the DRBIII® in ATC, Miscellaneous, reset the ATC. Does the DRBIII® display any active ATC DTCs or Cooldown Test fault messages? Yes → Return to the Heating & A/C symptom list and choose the symptom(s) Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

*HVAC SYSTEM TEST — Continued

TEST	ACTION	APPLICABILITY
3	With the DRBIII®, read PCM DTC's. Are any HVAC related DTCs present? Yes → Refer to the Powertrain Diagnostic Procedures Manual for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

*OUTSIDE AIR TEMPERATURE DISPLAY INACCURATE OR INOPERATIVE

POSSIBLE CAUSES
AUTOMATIC TEMPERATURE CONTROL (ATC) DTC(S) PRESENT
POWERTRAIN CONTROL MODULE (PCM) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	**NOTE: The Outside Air Temp (OAT) display can be activated and deactivated by pressing the Outside Temp button on the ATC.** **NOTE: Anytime the vehicle is turned off for more than 2 hours, the Outside Air Temp (OAT) display will update instantly upon ignition on.** **NOTE: If the vehicle is turned off for less than 2 hours & the outside air temp increases, the OAT display may display a value that is colder than the actual outside air temp.** **NOTE: If the vehicle is driven for an extended time below 20 mph, the OAT display will not update for warmer outside air temps. If after this extended time the vehicle speed is increased to above 50 mph, the OAT display may display an erroneous value.** Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display any DTCs? Yes → Return to the Heating & A/C symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read PCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to the Powertrain Diagnostic Information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***REAR BOOSTER FAN INOPERATIVE**

POSSIBLE CAUSES
AUTOMATIC TEMPERATURE CONTROL (ATC) DTC(S) PRESENT
INTEGRATED POWER MODULE (IPM) DTC(S) PRESENT
INTERMITTENT CONDITION
FUSED REAR BOOSTER FAN RELAY OUTPUT CIRCUIT SHORTED TO GROUND
REAR BOOSTER FAN
REAR BOOSTER FAN POWER MODULE
GROUND CIRCUIT OPEN
REAR BOOSTER FAN CONTROL CIRCUIT SHORTED TO VOLTAGE
REAR BOOSTER FAN CONTROL CIRCUIT OPEN
REAR BOOSTER FAN POWER MODULE
AUTOMATIC TEMPERATURE CONTROL (ATC)
REAR BOOSTER FAN
REAR BOOSTER FAN POWER MODULE
INTEGRATED POWER MODULE (IPM) - OPEN CIRCUIT
INTEGRATED POWER MODULE (IPM) - OPEN CIRCUIT
REAR BOOSTER FAN RELAY
INTEGRATED POWER MODULE (IPM) - OPEN CIRCUIT
FUSED REAR BOOSTER FAN RELAY OUTPUT CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Press the ATC's PWR switch on. Press the REAR fan mode switch on, so that it is in manual mode. The word ″REAR″ should display on the ATC display panel. The word ″AUTO″ should not be displayed. Turn the Rear Booster Fan Rear Control switch to AUTO for 30 seconds, then slowly turn it from AUTO to high speed and then back to AUTO. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display any DTCs? Yes → Return to the Heating & A/C symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

*REAR BOOSTER FAN INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition on. With the DRBIII®, read IPM DTCs. Does the DRBIII® display any DTCs? Yes → For Integrated Power Module (IPM) DTCs related to the front blower or rear fan relay circuits, refer to the Heating & A/C category. For all other IPM DTCs, refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove and inspect IPM Fuse #34 (Rear Booster Fan Fuse). Is the fuse open? Yes → Go To 4 No → Go To 7	All
4	Replace IPM Fuse #34 (Rear Booster Fan Fuse). Turn the ignition on. Operate the Rear Booster Fan in all speeds. Start the engine and operate the ATC system in all modes and speeds. Does the Rear Booster Fan operate properly without blowing the fuse? Yes → Refer to the wiring diagrams located in the service information to help isolate a possible intermittent short to ground condition. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Rear Booster Fan Power Module C1 harness connector. Measure the resistance between ground and the Fused Rear Booster Fan Relay Output circuit. Is the resistance below 10K ohms? Yes → Repair the Fused Rear Booster Fan Relay Output circuit for a short to ground. Replace IPM Fuse #34 (Rear Booster Fan Fuse). Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All

*REAR BOOSTER FAN INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
6	Turn the ignition off. Replace IPM Fuse #34 (Rear Booster Fan Fuse). Disconnect the Rear Booster Fan Power Module C1 harness connector. Disconnect the Rear Booster Fan Power Module C2 harness connector. Connect a jumper wire between the Fused Rear Booster Fan Relay Output circuit in the Rear Booster Fan Power Module C1 harness connector and the Booster Fan Supply circuit in the Rear Booster Fan Power Module C2 harness connector. Connect a jumper wire between the Ground circuit in the Rear Booster Fan Power Module C1 harness connector and the Booster Fan Ground circuit in the Rear Booster Fan Power Module C2 harness connector. Turn the ignition on. Does the Rear Booster Fan operate at full speed without blowing the fuse? Yes → Replace the Rear Booster Fan Power Module in accordance with the Service Information. Replace IPM Fuse #34 (Rear Booster Fan Fuse). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rear Booster Fan in accordance with the Service Information. Replace IPM Fuse #34 (Rear Booster Fan Fuse). Perform BODY VERIFICATION TEST - VER 1.	All
7	Ensure IPM Fuse #34 (Rear Booster Fan Fuse) is installed. Disconnect the Rear Booster Fan Power Module C1 harness connector. Turn the ignition on. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, back probe the Fused Rear Booster Fan Relay Output circuit in the Rear Booster Fan Power Module C1 harness connector. Does the test light illuminate brightly? Yes → Go To 8 No → Go To 14	All
8	Turn the ignition off. Disconnect the Rear Booster Fan Power Module C1 harness connector. Measure the resistance between ground and the Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
9	Turn the ignition off. Disconnect the Rear Booster Fan Power Module C1 harness connector. Disconnect the ATC C1 harness connector. Turn the ignition on. Measure the voltage of the Rear Booster Fan Control circuit. Is the voltage above 0.2 volts? Yes → Repair the Rear Booster Fan Control circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 10	All

*REAR BOOSTER FAN INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
10	Turn the ignition off. Disconnect the Rear Booster Fan Power Module C1 harness connector. Disconnect the ATC C1 harness connector. Measure the resistance of the Rear Booster Fan Control circuit between the Rear Booster Fan Power Module C1 harness connector and the ATC C1 harness connector. Is the resistance below 5.0 ohms? Yes → Go To 11 No → Repair the Rear Booster Fan Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
11	Turn the ignition off. Reconnect the Rear Booster Fan Power Module C1 harness connector. Reconnect the ATC C1 harness connector. Start the engine. Press the ATC's PWR switch on. Press the REAR fan mode switch on, so that it is in manual mode. The word ″REAR″ should display on the ATC display panel. The word ″AUTO″ should not be displayed. Turn the Rear Booster Fan Rear Control switch to the low speed setting. While back probing, measure the voltage of the Rear Booster Fan Control circuit in the ATC C1 harness connector. Is the voltage above 7.5 volts? Yes → Go To 12 No → Replace the Rear Booster Fan Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

*REAR BOOSTER FAN INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
12	Turn the ignition off. Reconnect all previously disconnected components. Connect the DRBIII® X10 Scope Probe CH7061 to the DRBIII®. Select the following from the DRBIII® menu: PEP Module Tools; Lab Scope; Live Data; and Lab Scope. Set the time to 10ms/Div. Set the voltage range to +20.0v. Set the offset to 4.00v. Set the Probe to X10. Start the engine. Press the ATC's PWR switch on. Press the REAR fan mode switch on, so that it is in manual mode. The word ″REAR″ should display on the ATC display panel. The word ″AUTO″ should not be displayed. Using the X10 Scope Probe, back probe the Rear Booster Fan Control circuit in the ATC C1 harness connector. **NOTE: The RR Booster Fan Power Module provides a 12.0v signal to the ATC over the Rear Booster Fan Control circuit. The ATC provides a variable duty cycle ground to the 12.0v signal based on input from the Rear Booster Fan Rear Control switch.** **NOTE: When the fan speed is set to low, the ATC provides a short duty cycle (less time grounding the signal voltage).** **NOTE: As higher fan speeds are requested, the ATC increases the duty cycle (more time grounding the signal voltage).** **NOTE: When the highest fan speed is requested, the duty cycle increases to where the signal pattern is almost a flat line (with brief voltage spikes).** Set the fan speed to low, then slowly raise the fan speed to high while observing the DRBIII® display. The voltage on the scope patten should cycle from approximately 0 volts (duty cycle on) to 12.0 volts (duty cycle off) for all fan speeds. The duty cycle pattern should change smoothly as the fan speed changes from low to high. Does the DRBIII® display the voltage range and duty cycle as described above? Yes → Go To 13 No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
13	Turn the ignition off. Disconnect the Rear Booster Fan Power Module C1 harness connector. Disconnect the Rear Booster Fan Power Module C2 harness connector. Connect a jumper wire between the Fused Rear Booster Fan Relay Output circuit in the Rear Booster Fan Power Module C1 harness connector and the Booster Fan Supply circuit in the Rear Booster Fan Power Module C2 harness connector. Connect a jumper wire between the Ground circuit in the Rear Booster Fan Power Module C1 harness connector and the Booster Fan Ground circuit in the Rear Booster Fan Power Module C2 harness connector. Turn the ignition on. Does the Rear Booster Fan operate at full speed? Yes → Replace the Rear Booster Fan Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rear Booster Fan in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

*REAR BOOSTER FAN INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
14	Turn the ignition off. Remove the Rear Booster Fan Relay from the IPM. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, probe cavity 30 of the Rear Booster Fan Relay connector. Does the test light illuminate brightly? Yes → Go To 15 No → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
15	Turn the ignition off. Remove the Rear Booster Fan Relay from the IPM. Remove IPM Fuse #34 (Rear Booster Fan Fuse). Measure the resistance between cavity 87 of the Rear Booster Fan Relay connector and IPM Fuse #34 (power input cavity). Is the resistance below 5.0 ohms? Yes → Go To 16 No → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
16	Turn the ignition off. Make sure that the Rear Booster Fan Relay is installed. Remove IPM Fuse #34 (Rear Booster Fan Fuse). Turn the ignition on. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Using a 12-volt test light connected to ground, probe IPM Fuse #34 (power input cavity). Does the test light illuminate brightly? Yes → Go To 17 No → Replace the Rear Booster Fan Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
17	Turn the ignition off. Remove IPM Fuse #34 (Rear Booster Fan Fuse). Disconnect the IPM C8 harness connector. Measure the resistance between IPM Fuse #34 (power output cavity) and cavity 2 of the IPM C8 connector (IPM side). Is the resistance below 5.0 ohms? Yes → Repair the Fused Rear Booster Fan Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***REAR BOOSTER FAN REAR CONTROL SWITCH BACK LIGHTING INOPERATIVE**

POSSIBLE CAUSES
INSTRUMENT CLUSTER DTC(S) PRESENT
BODY CONTROL MODULE (BCM) DTC(S) PRESENT
REAR BOOSTER FAN REAR CONTROL SWITCH
PANEL LAMPS DRIVER CIRCUIT OPEN
INSTRUMENT CLUSTER (EMIC)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read MIC DTCs. Does DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read BCM DTCs. Does DRBIII® display any DTCs? Yes → Refer to the appropriate category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Rotate the Panel Lamps Dimmer switch to the off position. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Turn the park lamps on. Measure the voltage of the Panel Lamps Driver circuit while rotating the Panel Lamps Dimmer switch from the off position to the full brightness position. Does the voltage change from approximately 4.5 volts to 11.5 volts? Yes → Replace the Rear Booster Fan Rear Control Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*REAR BOOSTER FAN REAR CONTROL SWITCH BACK LIGHTING INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance of the Panel Lamps Driver circuit between the Rear Booster Fan Rear Control Switch harness connector and the Instrument Cluster C1 harness connector. Is the resistance below 5.0 ohms? Yes → Replace the Instrument Cluster (EMIC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Panel Lamps Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***REAR BOOSTER FAN REAR CONTROL SWITCH ON INDICATOR INOPERATIVE**

POSSIBLE CAUSES
REAR BOOSTER FAN REAR CONTROL SWITCH
REAR FAN ON INDICATOR DRIVER CIRCUIT SHORTED TO GROUND
REAR FAN ON INDICATOR DRIVER CIRCUIT OPEN
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Turn the ignition on. Press the REAR fan mode switch on. Measure the voltage of the Rear Fan On Indicator Driver circuit. Is the voltage between 7 and 9 volts? Yes → Replace the Rear Booster Fan Rear Control Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the ATC C2 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance between ground and the Rear Fan On Indicator Driver circuit. Is the resistance below 10K ohms? Yes → Repair the Rear Fan On Indicator Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the ATC C2 harness connector. Disconnect the Rear Booster Fan Rear Control Switch harness connector. Measure the resistance of the Rear Fan On Indicator Driver circuit between the ATC C2 harness connector and the Rear Booster Fan Rear Control Switch harness connector. Is the resistance below 5.0 ohms? Yes → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Rear Fan On Indicator Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***REAR BOOSTER FAN RUNS AT ONLY ONE SPEED**

POSSIBLE CAUSES
AUTOMATIC TEMPERATURE CONTROL (ATC) DTC(S) PRESENT
REAR BOOSTER FAN CONTROL CIRCUIT SHORTED TO GROUND
AUTOMATIC TEMPERATURE CONTROL (ATC)
REAR BOOSTER FAN POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Press the ATC's PWR switch on. Press the REAR fan mode switch on, so that it is in manual mode. The word ″REAR″ should display on the ATC display panel. The word ″AUTO″ should not be displayed. Turn the Rear Booster Fan Rear Control switch to AUTO for 30 seconds, then slowly turn it from AUTO to high speed and then back to AUTO. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display any DTCs? Yes → Return to the Heating & A/C symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Rear Booster Fan Power Module C1 harness connector. Disconnect the ATC C1 harness connector. Measure the resistance between ground and the Rear Booster Fan Control circuit. Is the resistance below 10K ohms? Yes → Repair the Rear Booster Fan Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

*REAR BOOSTER FAN RUNS AT ONLY ONE SPEED — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Reconnect all previously disconnected components. Connect the DRBIII® X10 Scope Probe CH7061 to the DRBIII®. Select the following from the DRBIII® menu: PEP Module Tools; Lab Scope; Live Data; and Lab Scope. Set the time to 10ms/Div. Set the voltage range to +20.0v. Set the offset to 4.00v. Set the Probe to X10. Start the engine. Press the ATC's PWR switch on. Press the REAR fan mode switch on, so that it is in manual mode. The word ″REAR″ should display on the ATC display panel. The word ″AUTO″ should not be displayed. Using the X10 Scope Probe, back probe the Rear Booster Fan Control circuit in the ATC C1 harness connector. **NOTE: The RR Booster Fan Power Module provides a 12.0v signal to the ATC over the Rear Booster Fan Control circuit. The ATC provides a variable duty cycle ground to the 12.0v signal based on input from the Rear Booster Fan Rear Control switch.** **NOTE: When the fan speed is set to low, the ATC provides a short duty cycle (less time grounding the signal voltage).** **NOTE: As higher fan speeds are requested, the ATC increases the duty cycle (more time grounding the signal voltage).** **NOTE: When the highest fan speed is requested, the duty cycle increases to where the signal pattern is almost a flat line (with brief voltage spikes).** Set the fan speed to low, then slowly raise the fan speed to high while observing the DRBIII® display. The voltage on the scope patten should cycle from approximately 0 volts (duty cycle on) to 12.0 volts (duty cycle off) for all fan speeds. The duty cycle pattern should change smoothly as the fan speed changes from low to high. Does the DRBIII® display the voltage range and duty cycle as described above? Yes → Replace the Rear Booster Fan Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*REAR MODE DOOR INOPERATIVE

POSSIBLE CAUSES
REAR MODE DOOR DRIVER CIRCUIT SHORTED HIGH
REAR MODE DOOR DRIVER CIRCUIT SHORTED LOW
REAR MODE DOOR DRIVER CIRCUITS SHORTED TOGETHER
REAR MODE DOOR ACTUATOR
REAR MODE DOOR DRIVER (A) CIRCUIT OPEN
REAR MODE DOOR DRIVER (B) CIRCUIT OPEN
REAR MODE DOOR ACTUATOR
AUTOMATIC TEMPERATURE CONTROL (ATC)
REAR MODE DOORS/LINKAGE BINDING, DISCONNECTED, MISSING, BROKEN, OR WARPED
REAR MODE DOOR ACTUATOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the ATC C2 harness connector. Turn the ignition on. Measure the voltage between the Rear Mode Door Driver (A) circuit and ground. Measure the voltage between the Rear Mode Door Driver (B) circuit and ground. Is the voltage above 0.2 volts on either circuit? Yes → Repair the Rear Mode Door Driver circuit with voltage above 0.2 volts for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the ATC C2 harness connector. Measure the resistance between the Rear Mode Door Driver (A) circuit and the Rear Mode Door Driver (B) circuit. What is the resistance? Below 30.0 ohms Go To 3 Above 70.0 ohms Go To 5 30.0 to 70.0 ohms Go To 7	All

*REAR MODE DOOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the ATC C2 harness connector. Measure the resistance between ground and the Rear Mode Door Driver (A) circuit. Measure the resistance between ground and the Rear Mode Door Driver (B) circuit. Is the resistance below 10K ohms on either circuit? Yes → Repair the Rear Mode Door Driver circuit with resistance below 10K ohms for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the ATC C2 harness connector. Disconnect the Rear Mode Door Actuator harness connector. Measure the resistance between the Rear Mode Door Driver (A) circuit and the Rear Mode Door Driver (B) circuit. Is the resistance below 10K ohms? Yes → Repair the Rear Mode Door Driver circuits for a short together. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rear Mode Door Actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the ATC C2 harness connector. Disconnect the Rear Mode Door Actuator harness connector. Measure the resistance of the Rear Mode Door Driver (A) circuit between the ATC C2 harness connector and the Rear Mode Door Actuator harness connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Rear Mode Door Driver (A) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the ATC C2 harness connector. Disconnect the Rear Mode Door Actuator harness connector. Measure the resistance of the Rear Mode Door Driver (B) circuit between the ATC C2 harness connector and the Rear Mode Door Actuator harness connector. Is the resistance below 5.0 ohms? Yes → Replace the Rear Mode Door Actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Rear Mode Door Driver (B) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*REAR MODE DOOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Rear Mode Door Actuator harness connector. Turn the ignition on. Set the MODE switch to the panel position. Wait approximately 15 seconds before proceeding to the next step. Turn the ignition off. Connect a 12-volt Test Light between the Rear Mode Door Driver (A) circuit and the Rear Mode Door Driver (B) circuit in the Rear Mode Door Actuator harness connector. Turn the ignition on. While monitoring the test light, set the MODE switch to the floor/mix/defrost position. The test light should flash for 10 seconds. While monitoring the test light, set the MODE switch to the panel position. The test light should flash for 10 seconds. Does the test light operate as specified? Yes → Go To 8 No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Remove the rear booster fan blower housing. Inspect the rear booster fan blower housing for a condition causing the rear mode doors or linkage to bind. Inspect for disconnected, missing, or broken door linkage. Inspect for warped or broken doors. By hand, attempt to move the rear mode doors in both directions. The doors should operate smoothly in both directions. Are there any mechanical problems with the doors, linkage, or housing? Yes → Repair or replace the rear mode doors, linkage, or rear booster fan blower housing as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rear Mode Door Actuator in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*VF SEGMENT(S)/LED(S) INOPERATIVE OR WILL NOT DIM

POSSIBLE CAUSES
OUTSIDE AIR TEMPERATURE DISPLAY INACCURATE OR INOPERATIVE
AUTOMATIC TEMPERATURE CONTROL (ATC) DTC(S) PRESENT
AUTOMATIC TEMPERATURE CONTROL (ATC)

TEST	ACTION	APPLICABILITY
1	Is the symptom outside air temp display inaccurate or inoperative? Yes → Refer to symptom *Outside Air Temperature Display Inaccurate Or Inoperative in the Heating & A/C category. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, read the active ATC DTCs. Does the DRBIII® display any DTCs? Yes → Return to the Heating & A/C symptom list and choose the symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. Press the ATC's PWR switch on. **NOTE: Compare with a known good ATC Head.** Operate all ATC switches while looking at the ATC display panel. Are all of the LEDs & VF Segments operating properly? Yes → Test Complete. No → Replace the Automatic Temperature Control (ATC) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

BCM IGNITION MUX ERROR - IPM

When Monitored and Set Condition:

BCM IGNITION MUX ERROR - IPM

When Monitored: When the IPM is powered up.

Set Condition: IPM detects Ignition Switch DTC set in the BCM for 5 seconds.

POSSIBLE CAUSES
INTERMITTENT CONDITION
IPM

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any BCM Ignition MUX DTC's before proceeding with this test.** With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Did this DTC reset? Yes → If there are no BCM Ignition MUX DTC's and this code resets, replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

BCM IOD FUSE OPEN - BCM

When Monitored and Set Condition:

BCM IOD FUSE OPEN - BCM

When Monitored: With the ignition on.

Set Condition: If battery voltage on the IOD circuit is less than 1 volt. Time to mature is 10 seconds.

POSSIBLE CAUSES
CLEAR DTC
OPEN FUSE #48
FUSED B+ CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: Make sure the IOD fuse is in the Normal Run position.** With the DRB, erase DTC's. Cycle the ignition switch from off to on. With the DRB, read DTC's. Did this DTC reset? Yes → Go To 2 No → No problem found at this time. Refer to the wiring diagrams located in the service information for any possible intermittent wiring problems. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove and inspect IPM fuse #48. Is the fuse open? Yes → Replace fuse. Check the Fused B+ circuit for a short, refer to the wiring diagrams located in the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Body Control Module C2 harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. **NOTE: Make sure fuse #48 is install in the IPM.** Does the test light illuminate brightly? Yes → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BTSI OUTPUT OPEN / SHORT TO VOLTAGE - IPM

When Monitored and Set Condition:

BTSI OUTPUT OPEN / SHORT TO VOLTAGE - IPM

When Monitored: When the ignition is on and the IPM detects no Brake input, the IPM output to the BTSI Solenoid is ″On″ (voltage applied).

Set Condition: The output is ″On″ and there is an open or short to voltage fault condition for 1 second.

POSSIBLE CAUSES
IPM OUTPUT (UNLOCK-RUN-START) CIRCUIT SHORT TO VOLTAGE
BTSI SOLENOID GROUND CIRCUIT OPEN
IPM OUTPUT (UNLOCK-RUN-START) CIRCUIT OPEN
BTSI SOLENOID
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. While back probing, measure the voltage of the IPM Output (Unlock-Run-Start) circuit. Is there any voltage present? Yes → Repair the IPM Output (Unlock-Run-start) circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the BTSI Solenoid harness connector. Turn the ignition on. Measure the voltage between the IPM Output (Unlock-Run-Start) circuit and ground. Is the voltage above 10.5 volts? Yes → Go To 3 No → Go To 4	All
3	Turn the ignition off. Disconnect the BTSI solenoid harness connector. Measure the resistance between ground and the BTSI Solenoid Ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the BTSI Solenoid Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the BTSI Solenoid in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

BTSI OUTPUT OPEN / SHORT TO VOLTAGE - IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the IPM C9 harness connector. Disconnect the BTSI solenoid harness connector. Measure the resistance of the IPM Output (Unlock-Run-Start) circuit between the IPM C9 connector and the BTSI solenoid connector. Is the resistance above 5.0 ohms? Yes → Repair the IPM Output (Unlock-Run-Start) circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

BTSI OUTPUT SHORT TO GROUND - IPM

When Monitored and Set Condition:

BTSI OUTPUT SHORT TO GROUND - IPM

When Monitored: When the output is ″Off.″

Set Condition: The output is ″Off″ and there is an short fault condition

POSSIBLE CAUSES
IPM OUTPUT (UNLOCK-RUN-START) CIRCUIT SHORT TO GROUND
BTSI SOLENOID
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the BTSI Solenoid harness connector. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display ″BTSI Output Open″? Yes → Replace the BTSI Solenoid in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the IPM C9 harness connector. Disconnect the BTSI Solenoid harness connector. Measure the resistance between ground and the IPM Output (Unlock-Run-Start) circuit. Is the resistance below 100 ohms? Yes → Repair the IPM Output (Unlock-Run-Start) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
CLUSTER WAKEUP OUTPUT SHORT - BCM

When Monitored and Set Condition:

CLUSTER WAKEUP OUTPUT SHORT - BCM

When Monitored: Output is On.

Set Condition: Feedback Sense high for 125 msec. (Excessive circuit load.)

POSSIBLE CAUSES
INSTRUMENT CLUSTER WAKE UP SIGNAL CIRCUIT SHORT TO GROUND
BCM
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the BCM C4 harness connector. With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Did this DTC reset? Yes → If this DTC resets, replace the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the BCM C4 harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the Instrument Cluster Wake Up Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the Instrument Cluster Wake Up Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DDM BATTERY VOLTS LOW - DDM

When Monitored and Set Condition:

DDM BATTERY VOLTS LOW - DDM

When Monitored: Continuously.

Set Condition: If battery voltage goes below 9 volts. Time to mature is 2 seconds.

POSSIBLE CAUSES
CLEAR DTC
OPEN FUSE #47
FUSED B+ CIRCUIT OPEN
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: Make sure the IOD fuse is in the Normal Run position.** With the DRB, erase DTC's. Cycle the ignition switch from off to on. With the DRB, read DTC's. Did this DTC reset? Yes → Go To 2 No → No problem found at this time. Refer to the wiring diagrams located in the service information for any possible intermittent wiring problems. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove and inspect IPM fuse #47 Is the fuse open? Yes → Replace fuse. Check the Fused B+ circuit for a short, refer to the wiring diagrams located in the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Driver Door Module C1 harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. **NOTE: Make sure fuse #47 is install in the IPM.** Does the test light illuminate brightly? Yes → Replace the Driver Door Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DOOR NODE POWER RELAY OPEN - IPM

When Monitored and Set Condition:

DOOR NODE POWER RELAY OPEN - IPM

When Monitored: When the output is off.

Set Condition: If the IPM senses that there is no voltage for over one second on the Door Node relay control circuit, this code will set.

POSSIBLE CAUSES
DTC PRESENT
IPM OPEN
RUN ONLY RELAY OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. **NOTE: If there are any Ignition or Ignition Switch related codes present, perform the tests for those codes before proceeding.** Does the DRBIII® display:DOOR NODE POWER RELAY OPEN? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Run Only Relay from the IPM. Using a 12-volt test light, connect one lead to cavity 85 and the other lead to cavity 86 in the Run Only Relay connector. Turn the ignition on. Does the test light illuminate brightly? Yes → Replace the Run Only Relay. Perform BODY VERIFICATION TEST - VER 1. No → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DOOR NODE POWER RELAY SHORT TO BATTERY - IPM

When Monitored and Set Condition:

DOOR NODE POWER RELAY SHORT TO BATTERY - IPM

When Monitored: Continuously..

Set Condition: The output is on and a short to battery condition exists. The code will set in 1 second.

POSSIBLE CAUSES
DTC PRESENT
DOOR NODE RELAY
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: DOOR NODE POWER RELAY SHORT TO BATTERY? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the existing Door Node Relay. With the DRBIII®, erase DTCs. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: DOOR NODE POWER RELAY SHORT TO BATTERY? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Door Node Relay. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

HORN INPUT STUCK - IPM

When Monitored and Set Condition:

HORN INPUT STUCK - IPM

When Monitored: Continuously.

Set Condition: The IPM has detected a short condition with the horn switch sense circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION
HORN SWITCH SENSE CIRCUIT SHORTED TO GROUND
HORN SWITCH
CLOCKSPRING
INTEGRATED CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase IPM DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read IPM DTCs. Does the DRBIII® display: HORN INPUT STUCK? Yes → Go To 2 No → The condition that caused this symptom is currently not present. Inspect the related wiring harness for a possible intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the IPM C4 connector. Measure the resistance between ground and the Horn Switch Sense circuit at the IPM C4 connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

HORN INPUT STUCK - IPM — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Remove the Driver airbag and disconnect the horn switch connector. Disconnect the IPM C4 connector. Measure the resistance between ground and the Horn Switch Sense circuit at the IPM connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Replace the horn switch as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Disconnect the Clockspring C1 connector. Disconnect the IPM C4 connector. Measure the resistance between ground and the Horn Switch Sense circuit at the IPM connector. Is the resistance below 5.0 ohms? Yes → Repair the Horn Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the clockspring. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

HORN RELAY CONTROL CIRCUIT OPEN - IPM

When Monitored and Set Condition:

HORN RELAY CONTROL CIRCUIT OPEN - IPM

When Monitored: Continuously.

Set Condition: The output is off and a open condition exists. Time to mature 1 second.

POSSIBLE CAUSES
DTC PRESENT
FUSE #28
HORN RELAY
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: HORN RELAY CONTROL CIRCUIT OPEN? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Check fuse #28 in the IPM. Is the fuse open? Yes → Replace the fuse. Check for a short to ground in the Horn Relay Output circuit from the IPM to the horns. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Install a substitute relay in place of the Horn Relay. With the DRBIII®, erase DTCs. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: HORN RELAY CONTROL CIRCUIT OPEN? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Horn Relay. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
HORN RELAY CONTROL CIRCUIT SHORT TO BATTERY - IPM

When Monitored and Set Condition:

HORN RELAY CONTROL CIRCUIT SHORT TO BATTERY - IPM

When Monitored: Continuously.

Set Condition: The output is on and a short to battery condition exists. Time to mature 1 second.

POSSIBLE CAUSES
DTC PRESENT
HORN RELAY
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: HORN RELAY CONTROL CIRCUIT SHORT TO BATTERY? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the Horn Relay. With the DRBIII®, erase DTCs. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: HORN RELAY CONTROL CIRCUIT SHORT TO BATTERY? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Horn Relay. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

IGNITION MUX SWITCH INPUT OPEN - BCM

When Monitored and Set Condition:

IGNITION MUX SWITCH INPUT OPEN - BCM

When Monitored: When the BCM detects battery voltage on Ignition Run/Start input.

Set Condition: The BCM detects the Ignition MUX Switch Input voltage is greater than 4.78 volts for 2 seconds.

POSSIBLE CAUSES
IGNITION SWITCH SENSE CIRCUIT SHORT TO VOLTAGE
IGNITION SWITCH SENSE CIRCUIT OPEN
SENSE RETURN CIRCUIT OPEN
IGNITION SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Ignition Switch harness connector. Disconnect the BCM C5 harness connector. Measure the voltage between the Ignition Switch Sense circuit and ground. Is there any voltage present? Yes → Repair the Ignition Switch Sense circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Ignition Switch harness connector. Connect a jumper wire between Ignition Switch Sense circuit and ground. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display ″Ignition MUX Switch Input Short″? Yes → Go To 3 No → Repair the Ignition Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Ignition Switch harness connector. Connect a jumper wire between cavity 1 and cavity 2. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display ″Ignition MUX Switch Input Short″? Yes → Replace the Ignition Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Sense Return circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
IGNITION MUX SWITCH INPUT SHORT - BCM

When Monitored and Set Condition:

IGNITION MUX SWITCH INPUT SHORT - BCM

When Monitored: When the BCM detects battery voltage on the Ignition Run/Start input.

Set Condition: The BCM detects the Ignition MUX Switch Input voltage is less than 0.27 volts for 10 seconds.

POSSIBLE CAUSES
IGNITION SWITCH SENSE CIRCUIT SHORT TO SENSE RETURN CIRCUIT
IGNITION SWITCH SENSE CIRCUIT SHORT TO GROUND
IGNITION SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Ignition Switch harness connector. Disconnect the BCM C4 and C5 harness connectors. Measure the resistance of the between the Ignition Switch Sense circuit and the Sense Return circuit. Is the resistance below 100 ohms? Yes → Repair the Ignition Switch Sense circuit for a short to the Sense Return circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Ignition Switch harness connector. Disconnect the BCM C5 harness connector. Measure the resistance between ground and the Ignition Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Ignition Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Ignition Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
IGNITION RUN/START INPUT MISMATCH - IPM

When Monitored and Set Condition:

IGNITION RUN/START INPUT MISMATCH - IPM

When Monitored: When the IPM is powered up.

Set Condition: IPM internal sense detects the hardwire Ign Run Switch in I/O's = ″OFF″ (no voltage), and the Ignition State in Monitors = ″Start″ (BCM Ignition Switch MUX-based PCI bus data) for 5 seconds.

POSSIBLE CAUSES
INTERMITTENT CONDITION
FUSED B(+) CIRCUIT SHORT TO GROUND
FUSED B(+) CIRCUIT OPEN
IGNITION SWITCH OUTPUT (RUN-START) CIRCUIT SHORT TO GROUND
IGNITION SWITCH OUTPUT (RUN-START) CIRCUIT OPEN
IGNITION SWITCH
SKREEM
BCM
IPM

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the battery is fully charged and battery cables are properly tightened.** **NOTE: Ensure the IPM battery and ground connections are clean and properly tightened.** Using the wiring diagram/schematic as a guide, measure the voltage between ground and the B(+) circuit to Fuse #30. Is the voltage above 10.5 volts? Yes → Go To 2 No → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove and inspect IPM Fuse #30. **NOTE: If fuse is open, replace with proper rated fuse. Turn the ignition to the ″RUN″ position only.** Turn the ignition off. Remove and inspect IPM Fuse #30. Is the IPM Fuse #30 open? Yes → Go To 3 No → Go To 10	All

IGNITION RUN/START INPUT MISMATCH - IPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the IPM C9 harness connector. Measure the resistance between ground and the IPM C9, terminal pin 2. Is the resistance below 5.0 ohms? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the IPM C9 harness connector. Disconnect the Ignition Switch harness connector. Measure the resistance between ground and the Fused B(+) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Fused B(+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Ignition Switch harness connector. Measure the resistance of the Ignition Switch terminal pin 3 to ground. Measure the resistance of the Ignition Switch terminal pin 5 to ground. Is the resistance below 5.0 ohms for either terminal pin? Yes → Replace the Ignition Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the IPM C9 harness connector. Disconnect the BCM C2 harness connector. Disconnect the Ignition Switch harness connector. Disconnect the SKREEM harness connector. Using the wiring diagram/schematic as a guide, measure the resistance between ground and the Ignition Switch Output (Run-Start) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Ignition Switch Output (Run-Start) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the IPM C9 harness connector. Remove the Fuel Pump relay from the IPM. Measure the resistance between ground and the IPM C9, terminal pin 13. Is the resistance below 5.0 ohms? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All

IGNITION RUN/START INPUT MISMATCH - IPM — Continued

TEST	ACTION	APPLICABILITY
8	Turn the ignition off. Reconnect the IPM C9 harness connector. Reconnect the BCM C2 harness connector. Install proper rated fuse to IPM Fuse #30. Turn the ignition the ″RUN/ON″ for approximately 15 seconds. Turn the ignition off. Remove and inspect IPM Fuse #30. Is the IPM Fuse #30 open? Yes → Replace the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Turn the ignition off. Reconnect the SKREEM harness connector. Turn the ignition on for approximately 15 seconds. Turn the ignition off. Remove and inspect IPM Fuse #30. Is IPM Fuse #30 open? Yes → Replace the SKREEM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness connectors and terminals. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. While back probing, measure the voltage of the Fused B(+) circuit in the Ignition Switch harness connector. Is the voltage above 10.5 volts? Yes → Go To 11 No → Go To 14	All
11	Turn the ignition off. Remove IPM Fuel Pump Relay. Remove IPM Starter Relay. Reconnect the Ignition Switch harness connector. Turn the ignition to the Run-Start position and hold while back probing. While back probing, measure the voltage at the Ignition Switch harness connector terminal 3. Is the voltage below 10.5 volts? Yes → Replace the Ignition Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 12	All

IGNITION RUN/START INPUT MISMATCH - IPM — Continued

TEST	ACTION	APPLICABILITY
12	Turn the ignition off. Disconnect the IPM C9 harness connector. Disconnect the Ignition Switch harness connector. Measure the resistance of the Ignition Switch Output (Run-Start) circuit between the IPM C9 connector and the Ignition Switch connector. Is the resistance above 5.0 ohms? Yes → Repair the Ignition Switch Output (Run-Start) circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 13	All
13	Turn the ignition off. Disconnect the IPM C9 harness connector. Remove the IPM Fuel Pump Relay. Using the wiring diagram/schematic as a guide, measure the IPM internal resistance between the C9 terminal pin 13 to the Fuel Pump Relay. Is the resistance above 5.0 ohms? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness connectors and terminals. Perform BODY VERIFICATION TEST - VER 1.	All
14	Turn the ignition off. Disconnect the IPM C9 harness connector. Disconnect the Ignition Switch harness connector. Measure the resistance of the Fused B(+) circuit between the IPM C9 connector and the Ignition Switch connector. Is the resistance above 5.0 ohms? Yes → Repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
IGNITION START INPUT MISMATCH - IPM

When Monitored and Set Condition:

IGNITION START INPUT MISMATCH - IPM

When Monitored: When the IPM is powered up.

Set Condition: The IPM internal sense detects the hardwire Ignition Switch I/O = ″OFF″ and the Ignition State in Monitors = ″Start″ (BCM Ignition Switch MUX-based PCI bus data) for 5 seconds.

POSSIBLE CAUSES
IGNITION SWITCH OUTPUT (START) CIRCUIT SHORT TO GROUND - IPM
INTERMITTENT CONDITION
IGNITION SWITCH OUTPUT (START) CIRCUIT SHORT TO GROUND - PCM
IGNITION SWITCH OUTPUT (START) CIRCUIT OPEN
IGNITION SWITCH
IPM INTERNAL OPEN
IPM INTERNAL SHORT

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any BCM Ignition MUX or IPM Ignition Run-Start Mismatch DTC's before proceeding with this test.** Turn the ignition off. Remove and inspect Fuse #30 in the IPM. If fuse is open, replace with proper rated fuse. Remove the Starter Relay from the IPM. Turn the ignition to the Start position for at least 5 seconds. Turn the ignition off. Remove and inspect Fuse #30 in the IPM. Is IPM Fuse #30 open? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the IPM harness C4 connector. Disconnect the Ignition Switch harness connector. Measure the resistance between ground and the Ignition Switch Output (Start) circuit. Is the resistance below 5 ohms? Yes → Repair the Ignition Switch Output (Start) circuit for a short to ground between the IPM and the Ignition Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

IGNITION START INPUT MISMATCH - IPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the IPM C7 harness connector. Disconnect the PCM harness connector. Measure the resistance between ground and the Ignition Switch Output (Start) circuit between the IPM and the PCM. Is the resistance below 5.0 ohms? Yes → Repair the Ignition Switch Output (Start) circuit for a short to ground between the IPM and the PCM. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Reconnect the Ignition Switch harness connector. Reconnect the IPM C4 harness connector. Install proper rated fuse to IPM Fuse #30. Turn the ignition to the Start position for at least 5 seconds. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the IPM C4 harness connector. Measure the voltage of the Ignition Switch Output (Start) circuit while holding the Ignition Switch in the Start position. Is the voltage above 10.5 volts? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the IPM C4 harness connector. Disconnect the Ignition Switch harness connector. Measure the resistance of the Ignition Switch Output (Start) circuit between the IPM C4 connector and the Ignition Switch connector. Is the resistance above 5.0 ohms? Yes → Repair the Ignition Switch Output (Start) circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All

IGNITION START INPUT MISMATCH - IPM — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the IPM C4 harness connector. While back probing, measure the voltage of the Ignition Switch Output (Start) circuit while holding the Ignition switch in the Start position. Is the voltage below 10.5 volts? Yes → Replace the Ignition Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PDM BATTERY VOLTS LOW - PDM

When Monitored and Set Condition:

PDM BATTERY VOLTS LOW - PDM

When Monitored: Continuously.

Set Condition: If battery voltage goes below 9 volts. Time to mature is 2 seconds.

POSSIBLE CAUSES
CLEAR DTC
OPEN FUSE #46
FUSED B+ CIRCUIT OPEN
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: Make sure the IOD fuse is in the Normal Run position.** With the DRB, erase DTC's. Cycle the ignition switch from off to on. With the DRB, read DTC's. Did this DTC reset? Yes → Go To 2 No → No problem found at this time. Refer to the wiring diagrams located in the service information for any possible intermittent wiring problems. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove and inspect IPM fuse #46 Is the fuse open? Yes → Replace fuse. Check the Fused B+ circuit for a short, refer to the wiring diagrams located in the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Passenger Door Module C1 harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. **NOTE: Make sure fuse #46 is install in the IPM.** Does the test light illuminate brightly? Yes → Replace the Passenger Door Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RUN ONLY RELAY OPEN - IPM

When Monitored and Set Condition:

RUN ONLY RELAY OPEN - IPM

When Monitored: Continuously..

Set Condition: The output is off and an open condition exists. The code will set in 1 second.

POSSIBLE CAUSES
DTC PRESENT
IPM OPEN
RUN ONLY RELAY OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. **NOTE: If there are any Ignition or Ignition Switch related codes present, perform the tests for those codes before proceeding.** Does the DRBIII® display: RUN ONLY RELAY OPEN? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Run Only Relay from the IPM. Using a 12-volt test light, connect one lead to cavity 85 and the other lead to cavity 86 in the Run Only Relay connector. Turn the ignition on. Does the test light illuminate brightly? Yes → Replace the Run Only Relay. Perform BODY VERIFICATION TEST - VER 1. No → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RUN ONLY RELAY SHORT TO BATTERY - IPM

When Monitored and Set Condition:

RUN ONLY RELAY SHORT TO BATTERY - IPM

When Monitored: Continuously..

Set Condition: The output is on and a short to battery condition exists. The code will set in 1 second.

POSSIBLE CAUSES
DTC PRESENT
RUN ONLY RELAY
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: RUN ONLY RELAY SHORT TO BATTERY? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the existing Run Relay. With the DRBIII®, erase DTCs. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: RUN ONLY RELAY SHORT TO BATTERY? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Run Relay. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RUN/ACCESSORY RELAY OPEN - IPM

When Monitored and Set Condition:

RUN/ACCESSORY RELAY OPEN - IPM

When Monitored: Continuously.

Set Condition: The output is off and a open condition exists. Time to mature 1 second.

POSSIBLE CAUSES
INTERMITTENT CONDITION
B+ CIRCUIT OPEN
RUN/ACCESSORY RELAY OPEN
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Run/Accessory Relay from the IPM. Using a 12-volt test light connected to ground, probe cavity 86 of the Run/Accessory relay connector. Is the test light illuminated? Yes → Go To 3 No → Check the B+ feed to the IPM for an open. If OK, replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

RUN/ACCESSORY RELAY OPEN - IPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Install a substitute relay in place of the existing Run/Accessory Relay. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the original Run/Accessory Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RUN/ACCESSORY RELAY SHORT TO BATTERY - IPM

When Monitored and Set Condition:

RUN/ACCESSORY RELAY SHORT TO BATTERY - IPM

When Monitored: Continuously.

Set Condition: The output is on and a short to battery condition exists. Time to mature 1 second.

POSSIBLE CAUSES
INTERMITTENT CONDITION
RUN/ACCESSORY RELAY
IPM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Go To 2 No → The condition that caused the symptom is not currently present. Refer to any Technical Service Bulletins (TSBs) that may apply. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Install a substitute relay in place of the existing Run/Accessory Relay. With the DRBIII®, erase DTCs. Turn the ignition on. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Replace the IPM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the original Run/Accessory Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RUN/START HARDWIRE FAILURE - BCM

When Monitored and Set Condition:

RUN/START HARDWIRE FAILURE - BCM

When Monitored: When the BCM is powered up.

Set Condition: The BCM detects 0 volts on the Ignition Switch Output (Run-Start) circuit hardwire input and the Ignition MUX input is ″Run″ or ″Start″ for 2 seconds.

POSSIBLE CAUSES
IGNITION SWITCH OUTPUT (RUN-START) CIRCUIT OPEN
BCM

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any IPM Ignition Mismatch or BCM Ignition MUX DTC's before proceeding with this test.** Using the wiring diagram/schematic as a guide, check the Ignition Switch Output (Run-Start) circuit for an open between the BCM C2 harness connector and the Ignition Switch harness connector. Was an open circuit condition found? Yes → Repair the Ignition Switch Output (Run-Start) circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. If this no open circuit condition exists, replace the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

TRANS IGNITION FEED OPEN OR SHORT TO BATT - IPM

When Monitored and Set Condition:

TRANS IGNITION FEED OPEN OR SHORT TO BATT - IPM

When Monitored: With the ignition off.

Set Condition: If the Integrated Power Module (IPM) detects a open or short to battery condition on the Ignition Unlock/Run/Start circuit. This condition must be present for a least one second.

POSSIBLE CAUSES
INTERMITTENT CONDITION
IGNITION UNLOCK/RUN/START CIRCUIT OPEN OR SHORTED
INTEGRATED POWER MODULE (IPM)
IGNITION UNLOCK/RUN/START CIRCUIT SHORTED TO VOLTAGE
POWERTRAIN CONTROL MODULE (PCM)
AUTOSTICK SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase IPM DTC's. Turn the ignition off. With the DRBIII®, read active IPM DTCs. Does the DRBIII® display: Trans Ignition Feed Open or Short To BATT? Yes → Go To 2 No → The condition that caused this DTC to set is not currently present. Using the wiring diagram as a guide, inspect for chaffed, pierced, pinched, and broken wires in the related wiring and connectors and pushed out terminals in the related connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, attempt to communicate with the Transmission Module. Is the DRBIII® able to ID or communicate with the Transmission Module? Yes → Go To 3 No → Refer to the Communication category for the related symptom. Perform BODY VERIFICATION TEST - VER 1.	All

TRANS IGNITION FEED OPEN OR SHORT TO BATT - IPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Integrated Power Module (IPM) C6 harness connector. Measure the voltage between the Ignition Unlock/Run/Start circuit and ground. Is the voltage above 0.2 volts? Yes → Go To 4 No → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Integrated Power Module (IPM) C6 harness connector. Disconnect the Autostick Switch harness connector. Disconnect the Powertrain Control Module (PCM) C1 harness connector. Measure the voltage of the Ignition Unlock/Run/Start circuit between the IPM C6 harness connector and ground. Is the voltage above 0.2 volts? Yes → Repair the Ignition Unlock/Run/Start circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Reconnect the Powertrain Control Module C1 harness connector. Leave the Autostick Switch harness connector and the Integrated Power Module (IPM) C6 harness connector disconnected. Measure the voltage of the Ignition Unlock/Run/Start circuit between the IPM C6 harness connector and ground. Is the voltage above 0.2 volts? Yes → Replace and program the Powertrain Control Module (PCM) in accordance with the Service Information. WITH THE DRBIII® PERFORM QUICK LEARN AND REPROGRAM PINION FACTOR. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Autostick Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

TRANS IGNITION FEED SHORT TO GND - IPM

When Monitored and Set Condition:

TRANS IGNITION FEED SHORT TO GND - IPM

When Monitored: With the ignition in Accessory, Run, or Start.

Set Condition: If the Integrated Power Module (IPM) detects a short to ground on the Ignition Unlock/Run/Start circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION
IGNITION UNLOCK/RUN/START CIRCUIT SHORTED
INTEGRATED POWER MODULE (IPM)

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, record and erase IPM DTC's. Turn the ignition off, wait 30 seconds, then turn the ignition on. With the DRBIII®, read active IPM DTCs. Does the DRBIII® display: Trans Ignition Feed Short To GND? Yes → Go To 2 No → The condition that caused this DTC to set is not currently present. Using the wiring diagram as a guide, inspect for chaffed, pierced, and pinched wires in the related wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, attempt to communicate with the Transmission Module. Is the DRBIII® able to ID or communicate with the Transmission Module? Yes → Replace the Integrated Power Module (IPM) in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the Communication category for the related symptom. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***HORNS INOPERATIVE**

POSSIBLE CAUSES
HORNS
CLOCKSPRING
HORN SWITCH
HORN SWITCH GROUND
HORN SWITCH SENSE OPEN
CHECK FOR IPM DTC'S
HORN RELAY
HORN RELAY OUTPUT CIRCUIT OPEN
HORN GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the current IPM DTC's. Does the DRBIII® display any Horn related DTC's? Yes → Refer to Ignition, Power, Accessory for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII®, actuate the Horn Relay. Do the horns operate? Yes → Go To 3 No → Go To 7	All
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **WARNING: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Gain access to the horn switch. Inspect the Horn Switch ground circuit. Is the Horn Switch ground wire connected properly? Yes → Go To 4 No → Repair the horn switch ground as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

*HORNS INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** **CAUTION: DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A HARD SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED, AND COULD RESULT IN SERIOUS OR FATAL INJURY.** Gain access to the horn switch connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Momentarily connect a jumper wire between the Horn Switch Sense circuit at the horn switch pigtail connector and ground. Did the horns sound? Yes → Repair or replace the wiring/horn switch as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the clockspring C1 connector. Momentarily connect a jumper wire between the Horn Switch Sense circuit at the clockspring connector and ground. Did the horns sound? Yes → Replace the clockspring. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the clockspring C1 connector. Disconnect the Integrated Power Module C4 connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance of the Horn Switch Sense circuit between the clockspring C1 connector and the Integrated Power Module C4 connector. Is the resistance below 5.0 ohms? Yes → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Horn Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Remove the Horn Relay from the Integrated Power Module. Substitute the original Horn Relay with a known good relay. Turn the ignition on. With the DRBIII® actuate the Horn Relay. Do the Horns operate? Yes → Replace the original Horn Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Disconnect each horn connector. With the DRBIII®, the actuate the horn relay. Using a 12-volt test light connected to ground, check for voltage at the Horn Relay Output circuit at each horn connector. Does the test light illuminate brightly at both connectors? Yes → Go To 9 No → Repair the Horn Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*HORNS INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
9	Disconnect the Horn connector. Using a 12-volt test light connected to 12-volts, check the Ground circuits in the horn connectors. Does the test light illuminate brightly? Yes → Replace the Horns as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

ABS INDICATOR OPEN
ABS INDICATOR SHORT
AIRBAG INDICATOR OPEN
AIRBAG INDICATOR SHORT

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ABS INDICATOR OPEN.

When Monitored and Set Condition:

ABS INDICATOR OPEN

When Monitored: With the ignition in the Run/Start position and when requested to illuminate by the ABS module.

Set Condition: The Instrument Cluster software detects the voltage across the ABS indicator LED is above 5.0 volts when ON.

ABS INDICATOR SHORT

When Monitored: With the ignition in the Run/Start position and when requested to illuminate by the ABS module.

Set Condition: The Instrument Cluster software detects the voltage across the ABS indicator LED is below 0.3 volts when ON.

AIRBAG INDICATOR OPEN

When Monitored: With the ignition in the Run/Start position and when requested to illuminate by the Airbag Control Module (ACM).

Set Condition: The Instrument Cluster software detects the voltage across the Airbag indicator LED is above 5.0 volts when ON.

AIRBAG INDICATOR SHORT

When Monitored: With the ignition in the Run/Start position or when requested to illuminate by the Airbag Control Module (ACM).

Set Condition: The Instrument Cluster software detects the voltage across the Airbag indicator LED is below 0.3 volts when ON.

POSSIBLE CAUSES
INSTRUMENT CLUSTER

ABS INDICATOR OPEN — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: The Instrument Cluster performs internal tests on the Airbag and ABS indicators during each ignition cycle.** With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. Did the Indicator Open or Short DTC reset? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

ABS MESSAGES NOT RECEIVED
BCM MESSAGES NOT RECEIVED
CMTC MESSAGES NOT RECEIVED
DDM MESSAGE NOT RECEIVED
IPM MESSAGES NOT RECEIVED
NAV MESSAGES NOT RECEIVED
ORC MESSAGES NOT RECEIVED
PCM MESSAGES NOT RECEIVED
PDM MESSAGE NOT RECEIVED
SKREEM MESSAGE NOT RECEIVED
TCM MESSAGES NOT RECEIVED

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ABS MESSAGES NOT RECEIVED.

When Monitored and Set Condition:

ABS MESSAGES NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive PCI bus messages from the ABS module for 5 seconds.

BCM MESSAGES NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive PCI bus messages from the BCM for 5 seconds.

CMTC MESSAGES NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive a PCI bus message from the CMTC (located in the Overhead Console) for 10 seconds.

DDM MESSAGE NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive a PCI bus message from the Driver Door Module (DDM) for 10 seconds.

IPM MESSAGES NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive PCI bus messages from the IPM for 10 seconds.

ABS MESSAGES NOT RECEIVED — Continued

NAV MESSAGES NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive a PCI bus message from the NAV Module for 10 seconds.

ORC MESSAGES NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive a PCI bus message from the ACM for 5 seconds.

PCM MESSAGES NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive PCI bus messages from the PCM for 0.5 seconds.

PDM MESSAGE NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive a PCI bus message from the Passenger Door Module (PDM) for 5 seconds.

SKREEM MESSAGE NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive a PCI bus message from the SKREEM for 2.5 seconds.

TCM MESSAGES NOT RECEIVED

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set if the Instrument Cluster does not receive a PCI bus message from the TCM for 4.5 seconds.

POSSIBLE CAUSES
COMMUNICATION DTC PRESENT
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

ABS MESSAGES NOT RECEIVED — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the module in question. Does the DRBIII® communicate with the module in question? Yes → Go To 2 No → Refer to COMMUNICATION for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did the DTC reset? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

EEPROM ERASE FAILURE
EEPROM WRITE FAILURE
INTERNAL CLUSTER FAILURE
INTERNAL HARDWARE FAILURE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be EEPROM ERASE FAILURE.

When Monitored and Set Condition:

INTERNAL CLUSTER FAILURE

When Monitored: The Instrument Cluster performs internal circuit and software tests at every power up.

Set Condition: This DTC will set if the Instrument Cluster internal memory checksum value does not equate to the calculated value. This indicates that the Instrument Cluster internal memory is corrupted.

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. When this code is set, the Instrument Cluster must be replaced. View Repair Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
EVIC SWITCH INPUT CIRCUIT OPEN

When Monitored and Set Condition:

EVIC SWITCH INPUT CIRCUIT OPEN

When Monitored: The MIC power-up diagnostics will test the EVIC Button A/D port for either an open circuit, short to power or ground, or a stuck button exists.

Set Condition: The Instrument Cluster detects no feedback on the EVIC Switch Sense circuit for 2 seconds.

POSSIBLE CAUSES
EVIC SWITCH SENSE CIRCUIT OPEN
EVIC/NAV SWITCH SENSE RETURN CIRCUIT OPEN
CLOCK MODULE
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Clock Module harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance of the EVIC/NAV Switch Sense Return circuit. Is the resistance above 5.0 ohms? Yes → Repair the EVIC/NAV Switch Sense Return circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Reconnect the Instrument Cluster C1 harness connector. Disconnect the Clock Module harness connector. Turn the ignition on. Measure the voltage between the EVIC Switch Sense circuit and ground. Is the voltage above 4.5 volts? Yes → Replace the Clock Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

EVIC SWITCH INPUT CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Disconnect the Clock Module harness connector. Measure the resistance of the EVIC Switch Sense circuit. Is the resistance above 5.0 ohms? Yes → Repair the EVIC Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
EVIC SWITCH INPUT CIRCUIT SHORT

When Monitored and Set Condition:

EVIC SWITCH INPUT CIRCUIT SHORT

When Monitored: The MIC power-up diagnostics will test the EVIC Button A/D port for either an open circuit, short to power or ground, or a stuck button exists.

Set Condition: This DTC will set when the Instrument Cluster detects excessive current on the EVIC Mux Signal circuit.

POSSIBLE CAUSES
EVIC MUX SIGNAL CIRCUIT SHORT TO RETURN CIRCUIT
INSTRUMENT PANEL SWITCH POD
EVIC MUX SIGNAL CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Turn the ignition off. Disconnect the Instrument Panel Switch Pod harness connector. Turn the ignition on, with the DRBIII®, read DTCs. Does the DRBIII® display ″EVIC Switch Input Open″? Yes → Replace the Instrument Panel Switch Pod in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Disconnect the Instrument Panel Switch Pod harness connector. Measure the resistance between the EVIC Mux Signal circuit and the EVIC/NAV Mux Return circuit. Is the resistance below 100.0 ohms? Yes → Repair the EVIC Mux Signal circuit for a short to the EVIC/NAV Mux Return circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

EVIC SWITCH INPUT CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Disconnect the Instrument Panel Switch Pod harness connector. Measure the resistance between ground and the EVIC Mux Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the EVIC Mux Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
EVIC SWITCH INPUT STUCK

When Monitored and Set Condition:

EVIC SWITCH INPUT STUCK

When Monitored: The MIC power-up diagnostics will test the EVIC Button A/D port for either an open circuit, short to power or ground, or a stuck button exists.

Set Condition: This DTC will set when the Instrument Cluster detects the EVIC Mux Signal circuit is active for 30 seconds.

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT PANEL SWITCH POD

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any EVIC Switch Input Short or Open DTC's before proceeding with this test.** With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF to ON. With the DRBIII®, read DTC's. Wait 30 seconds. Does the DRBIII® display EVIC SWITCH INPUT STUCK? Yes → Replace the Instrument Panel Switch Pod in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The conditions that caused this code to set are not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
FUEL SENSOR 1 OPEN - BCM

When Monitored and Set Condition:

FUEL SENSOR 1 OPEN - BCM

When Monitored: When the BCM is powered up.

Set Condition: This DTC will set when the BCM detects the Fuel Level Sensor 1 circuit resistance is greater than 1120 ohms for 10 seconds.

POSSIBLE CAUSES
FUEL LEVEL SENSOR GROUND CIRCUIT OPEN
FUEL LEVEL SENSOR
BODY CONTROL MODULE
FUEL LEVEL SENSE 1 CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Measure the resistance of the sensor ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Fuel Level Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Connect a jumper wire between the Fuel Level Sense 1 circuit and ground. Turn the ignition on, with the DRBIII®, read DTCs. Does the DRBIII® display ″Fuel Sensor 1 Short″? Yes → Replace the Fuel Level Sensor in accordance with the Service Information Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Disconnect the BCM harness connector. Measure the resistance of the Fuel Level Sense 1 circuit. Is the resistance above 5.0 ohms? Yes → Repair the Fuel Level Sense 1 circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

FUEL SENSOR 1 SHORT - BCM

When Monitored and Set Condition:

FUEL SENSOR 1 SHORT - BCM

When Monitored: When the BCM is powered up.

Set Condition: This DTC will set when the BCM detects the Fuel Level Sensor 1 circuit resistance is less than 25 ohms for 10 seconds.

POSSIBLE CAUSES
FUEL LEVEL SENSOR
FUEL LEVEL SENSE 1 CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Turn the ignition on, with the DRBIII®, read DTCs. Does the DRBIII® display ″Fuel Sensor 1 Open″? Yes → Replace the Fuel Level Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Disconnect the BCM harness connector. Measure the resistance between ground and the Fuel Level Sense 1 circuit. Is the resistance below 5.0 ohms? Yes → Repair the Fuel Level Sense 1 circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
FUEL SENSOR 2 OPEN - BCM

When Monitored and Set Condition:

FUEL SENSOR 2 OPEN - BCM

When Monitored: When the BCM is powered up.

Set Condition: This DTC will set when the BCM detects the Fuel Level Sensor 2 circuit resistance is greater than 1120 ohms for 10 seconds.

POSSIBLE CAUSES
FUEL LEVEL SENSOR GROUND CIRCUIT OPEN
FUEL LEVEL SENSOR
BODY CONTROL MODULE
FUEL LEVEL SENSE 2 CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Measure the resistance of the sensor ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Fuel Level Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Connect a jumper wire between the Fuel Level Sense 2 circuit and ground. Turn the ignition on, with the DRBIII®, read DTCs. Does the DRBIII® display ″Fuel Sensor 2 Short″? Yes → Replace the Fuel Level Sensor in accordance with the Service Information Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Disconnect the BCM harness connector. Measure the resistance of the Fuel Level Sense 2 circuit. Is the resistance above 5.0 ohms? Yes → Repair the Fuel Level Sense 2 circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

FUEL SENSOR 2 SHORT - BCM

When Monitored and Set Condition:

FUEL SENSOR 2 SHORT - BCM

When Monitored: When the BCM is powered up.

Set Condition: This DTC will set when the BCM detects the Fuel Level Sensor 2 circuit resistance is less than 25 ohms for 10 seconds.

POSSIBLE CAUSES
FUEL LEVEL SENSOR
FUEL LEVEL SENSE 2 CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Turn the ignition on, with the DRBIII®, read DTCs. Does the DRBIII® display ″Fuel Sensor 2 Open″? Yes → Replace the Fuel Level Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Fuel Pump Module harness connector. Disconnect the BCM harness connector. Measure the resistance between ground and the Fuel Level Sense 2 circuit. Is the resistance below 5.0 ohms? Yes → Repair the Fuel Level Sense 2 circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCORRECT ODOMETER VALUE

When Monitored and Set Condition:

INCORRECT ODOMETER VALUE

When Monitored: During power up.

Set Condition: If the Instrument Cluster detects the odometer value memory is corrupted or does not match the previously stored odometer value, this code will set. When this code is set the VF odometer will diplay [- -].

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**CAUTION: Do not attempt to exchange or "swap" an Instrument Cluster or a BCM from one vehicle to another. Module memory/configuration damage may occur. Refer to the Instrument Cluster Service Information.** Ensure that the Instrument Cluster has not been damaged or previously installed in a different vehicle. With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. When this code is set, the Instrument Cluster must be replaced. View Repair Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LEFT TURN SIGNAL INDICATOR OPEN - BCM

When Monitored and Set Condition:

LEFT TURN SIGNAL INDICATOR OPEN - BCM

When Monitored: Output is Off.

Set Condition: Feedback Sense is Low for 125 msec. (No circuit load.)

POSSIBLE CAUSES
INSTRUMENT CLUSTER
LEFT TURN SIGNAL CIRCUIT OPEN
BCM

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the BCM C4 harness connector. Turn the ignition on. Measure the voltage between the Left Turn Signal circuit and ground. Is the voltage below 5 volts? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the BCM C4 harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance of the Left Turn Signal circuit. Is the resistance above 5.0 ohms? Yes → Repair the Left Turn Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

LEFT TURN SIGNAL INDICATOR SHORT - BCM

When Monitored and Set Condition:

LEFT TURN SIGNAL INDICATOR SHORT - BCM

When Monitored: Output is On.

Set Condition: Feedback Sense is High for 125 msec. (Excessive circuit load.)

POSSIBLE CAUSES
BCM
LEFT TURN SIGNAL CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the BCM C4 harness connector. Turn the ignition on. With the DRBIII®, erase DTCs. Does the LEFT TURN SIGNAL INDICATOR SHORT reset? Yes → Replace the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the BCM C4 harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the Left Turn Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the Left Turn Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

NAV SWITCH INPUT CIRCUIT OPEN

When Monitored and Set Condition:

NAV SWITCH INPUT CIRCUIT OPEN

When Monitored: The MIC power-up diagnostics will test the NAV Button A/D port for either an open circuit, short to power or ground, or a stuck button exists.

Set Condition: The Instrument Cluster detects no feedback on the NAV Switch Sense circuit. The MIC will suspend operation of the NAV System until the fault is cleared.

POSSIBLE CAUSES
EVIC/NAV MUX RETURN CIRCUIT OPEN
INSTRUMENT PANEL SWITCH POD FAULT
NAV MUX SIGNAL CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Disconnect the Instrument Cluster Switch Pod harness connector. Measure the resistance of the EVIC/NAV Mux Return circuit. Is the resistance above 5.0 ohms? Yes → Repair the EVIC/NAV Mux Return circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Reconnect the Instrument Cluster C1 harness connector. Disconnect the Instrument Panel Switch Pod harness connector. Turn the ignition on. Measure the voltage between the NAV Switch Sense circuit and ground. Is the voltage below 4.5 volts? Yes → Go To 3 No → Replace the Instrument Panel Switch Pod in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

NAV SWITCH INPUT CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Disconnect the Instrument Panel Switch Pod harness connector. Measure the resistance of the NAV Mux Signal circuit. Is the resistance above 5.0 ohms? Yes → Repair the NAV Mux Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

NAV SWITCH INPUT CIRCUIT SHORT

When Monitored and Set Condition:

NAV SWITCH INPUT CIRCUIT SHORT

When Monitored: The MIC power-up diagnostics will test the NAV Button A/D port for either an open circuit, short to power or ground, or a stuck button exists.

Set Condition: The Instrument Cluster detects excessive current on the NAV Mux Signal circuit. The MIC will suspend operation of the NAV System until the fault is cleared.

POSSIBLE CAUSES
INSTRUMENT PANEL SWITCH POD FAULT
NAV MUX SIGNAL CIRCUIT SHORT TO RETURN CIRCUIT
NAV MUX SIGNAL CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Turn the ignition off. Disconnect the Instrument Cluster Panel Pod harness connector. Turn the ignition on, with the DRBIII®, read DTCs. Does the DRBIII® display ″NAV Switch Input Open″? Yes → Replace the Instrument Panel Switch Pod in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Disconnect the Instrument Panel Switch Pod harness connector. Measure the resistance between the NAV Mux Signal circuit and the EVIC/NAV Mux Return circuit. Is the resistance below 100.0 ohms? Yes → Repair the NAV Mux Signal circuit for a short to the EVIC/NAV Mux Return circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

NAV SWITCH INPUT CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Disconnect the Instrument Panel Switch Pod harness connector. Measure the resistance between ground and the NAV Mux Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the NAV Mux Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

NAV SWITCH INPUT STUCK

When Monitored and Set Condition:

NAV SWITCH INPUT STUCK

When Monitored: The MIC power-up diagnostics will test the NAV Button A/D port for either an open circuit, short to power or ground, or a stuck button exists.

Set Condition: This DTC will set when the Instrument Cluster detects the NAV Mux Signal circuit active for 30 seconds. The MIC will suspend operation of the NAV System until the fault is cleared.

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER SWITCH POD

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any NAV Switch Input Short or Open DTC's before proceeding with this test.** With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF to ON. With the DRBIII®, read DTC's. Wait 30 seconds. Does the DRBIII® display NAV SWITCH INPUT STUCK? Yes → Replace the Instrument Cluster Switch Pod in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The conditions that caused this code to set are not present at this time. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PWM DIMMING OUTPUT FAILURE

When Monitored and Set Condition:

PWM DIMMING OUTPUT FAILURE

When Monitored: When the Instrument Cluster is powered up.

Set Condition: This DTC will set when the Instrument Cluster detects the Panel Lamps Dimming output is On and an open circuit, short to power or ground condition exists on the Panel Lamps Driver circuit for 2 seconds.

POSSIBLE CAUSES
PANEL LAMPS DRIVER CIRCUIT OPEN
PANEL LAMPS DRIVER CIRCUIT SHORT TO VOLTAGE
PANEL LAMPS DRIVER CIRCUIT SHORT TO GROUND
DIMMED COMPONENT SHORTED
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: This DTC will set if the Panel Lamps Driver circuit is open to all dimmed components.** Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors related to the Panel Lamps Driver circuit for an open circuit condition. Was a Panel Lamps Driver circuit open condition found? Yes → Repair the Panel Lamps Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Measure the voltage between the Panel Lamps Driver circuit and ground. Is there any voltage present? Yes → Repair the Panel Lamps Driver circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

PWM DIMMING OUTPUT FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition on, with the DRBIII®, erase DTCs. Turn the ignition off. Using the wiring diagram/schematic as a guide, disconnect one of the dimmed components. Turn the ignition on, with the DRBIII®, read DTCs. If this DTC resets, repeat the above procedure with each dimmed component on the Panel Lamps Driver circuit. Was a dimmed component found to be shorted, allowing the DTC to be cleared? Yes → Replace the appropriate dimmed component in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Instrument Cluster C1 harness connector. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors related to the Panel Lamps Driver circuit for a short to ground condition. Was a Panel Lamps Driver circuit short to ground condition found? Yes → Repair the Panel Lamps Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RIGHT TURN SIGNAL INDICATOR OPEN - BCM

When Monitored and Set Condition:

RIGHT TURN SIGNAL INDICATOR OPEN - BCM

When Monitored: Output is Off.

Set Condition: Feedback Sense is Low for 125 msec. (No circuit load.)

POSSIBLE CAUSES
INSTRUMENT CLUSTER
RIGHT TURN SIGNAL CIRCUIT OPEN
BCM

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the BCM C4 harness connector. Turn the ignition on. Measure the voltage between the Right Turn Signal circuit and ground. Is the voltage below 5.0 volts? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the BCM C4 harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance of the Right Turn Signal circuit. Is the resistance above 5.0 ohms? Yes → Repair the Right Turn Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

RIGHT TURN SIGNAL INDICATOR SHORT - BCM

When Monitored and Set Condition:

RIGHT TURN SIGNAL INDICATOR SHORT - BCM

When Monitored: Output is On.

Set Condition: Feedback Sense is high for 125 msec. (Excessive circuit load.)

POSSIBLE CAUSES
BCM
RIGHT TURN SIGNAL CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the BCM C4 harness connector. Turn the ignition on. With the DRBIII®, erase DTCs. Does the RIGHT TURN SIGNAL INDICATOR SHORT reset? Yes → Replace the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the BCM C4 harness connector. Disconnect the Instrument Cluster C1 harness connector. Measure the resistance between ground and the Right Turn Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the Right Turn Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
TRACTION CONTROL SWITCH STUCK - BCM

When Monitored and Set Condition:

TRACTION CONTROL SWITCH STUCK - BCM

When Monitored: When the BCM is powered up.

Set Condition: The Traction Control Switch Input is active for more than 30 seconds.

POSSIBLE CAUSES
TRACTION CONTROL SWITCH SENSE CIRCUIT SHORT TO GROUND
TRACTION CONTROL SWITCH
BCM

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Traction Control Switch harness connector. Turn the ignition on, with the DRBIII®, read DTCs. Did this DTC reset? Yes → Go To 2 No → Replace the Traction Control Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Traction Control Switch harness connector. Disconnect the BCM C4 harness connector. Measure the resistance between ground and the Traction Control Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Traction Control Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the BCM in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BCM-COURTESY LAMP 1 OUTPUT SHORT

When Monitored and Set Condition:

BCM-COURTESY LAMP 1 OUTPUT SHORT

When Monitored: Ignition and Courtesy Lamps on.

Set Condition: BCM detects the output driver status low.

POSSIBLE CAUSES
INTERMITTENT CONDITION
OVERHEAD CONSOLE
COURTESY LAMP 1 OUTPUT CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase all BCM DTCs. Turn the Courtesy lamps on. With the DRBIII®, read the active DTCs. Does the DRBIII® display Courtesy Lamp 1 Output Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Overhead Console harness connector. Turn ignition on. With the DRBIII®, read the active BCM DTCs. Does the DRBIII® display Overhead Lamp 1 Output Short? Yes → Go To 3 No → Replace the Overhead Console. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the BCM C3 harness connector. Disconnect the Overhead Console harness connector. Measure the resistance between ground and the Courtesy Lamp 1 Output circuit. Is the resistance below 5.0 ohms? Yes → Repair the Courtesy Lamp 1 Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BCM-COURTESY LAMP 2 OUTPUT SHORT

When Monitored and Set Condition:

BCM-COURTESY LAMP 2 OUTPUT SHORT

When Monitored: Ignition and Courtesy Lamps on.

Set Condition: BCM detects the output driver status low.

POSSIBLE CAUSES
INTERMITTENT CONDITION
SHORTED LAMP UNIT
COURTESY LAMP 2 OUTPUT CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase all BCM DTCs. Turn the Courtesy lamps on. With the DRBIII®, read the active DTCs. Does the DRBIII® display Courtesy Lamp 2 Output Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the four Rear Courtesy Lamps and the Liftgate Courtesy Lamp. Turn the ignition on. With the DRBIII®, read the active BCM DTCs. Does the DRBIII® display Courtesy Lamp 2 Output Short? Yes → Go To 3 No → Repair the appropriate Lamp Unit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the BCM C3 harness connector. Disconnect the Rear Courtesy Lamps and Liftgate Courtesy Lamp. Measure the resistance between ground and the Courtesy Lamp 2 Output circuit, and the Liftgate Courtesy Lamp driver. Is the resistance below 5.0 ohms? Yes → Repair the Courtesy Lamp 2 Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DOME SWITCH INPUT OPEN-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
PANEL LAMPS DIMMER SIGNAL CIRCUIT OPEN
BODY CONTROL MODULE
HEADLAMP SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Dome Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® display: Dome Switch Input Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Body Control Module C5 harness connector. Disconnect the Headlamp Switch harness connector. Measure the resistance of the Panel Lamps Dimmer Signal Circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Panel Lamps Dimmer Signal Circuit for an open condition. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Body Control Module C5 harness connector. Measure the voltage of the Panel Lamps Dimmer Signal circuit. Is the voltage below 4.8 volts? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DOME SWITCH INPUT SHORT-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
PANEL LAMPS DIMMER SIGNAL CIRCUIT SHORT TO GROUND
HEADLAMP SWITCH
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Dome Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® display: Dome Switch Input Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Disconnect the Body Control Module C5 connector. Measure the resistance of the Panel Lamps Dimmer Signal Circuit to ground. Is the resistance below 1000 ohms? Yes → Repair the Panel Lamps Dimmer Signal Circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Headlamp Switch harness connector. Measure the resistance of the Panel Lamps Dimmer Signal Circuit and the Headlamp Switch MUX Return Circuit to ground. Is the resistance below 1000 ohms? Yes → Replace the Headlamp Switch. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
READING LAMP OUTPUT SHORT-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
READING LAMPS DRIVER CIRCUIT SHORT
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Reading Lamps on. With the DRBIII®, read the DTC information. Does the DRBIII® display: Reading Lamp Output Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the BCM C3 harness connector. Turn the reading lamps on. Does the DTC reset? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Reading Lamps Driver Circuit for a short condition. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

SEAT SWITCH ILLUMINATION OUTPUT SHORT TO BATTERY - DDM

When Monitored and Set Condition:

SEAT SWITCH ILLUMINATION OUTPUT SHORT TO BATTERY - DDM

When Monitored: No Accessory power, ignition switch off and accessory power delay removed.

Set Condition: If the Illumination Driver circuit is shorted to battery over 10 seconds.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
DRIVER DOOR SWITCH ILLUMINATION DRIVER SHORT TO BATTERY
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off, On and back Off. Open the door (to cancel accessory power delay). With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors.	All
2	Turn the ignition off. Disconnect the power seat switch connector. Turn the ignition on. Using the DRBIII®, erase DTC's. Cycle the ignition switch back Off and open the door. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Replace the power seat switch.	All
3	Turn the ignition off. Disconnect the Power Seat Switch connector. Turn the ignition on. Measure the voltage of the Driver Door Switch Illumination Driver circuit. Is the voltage above 1.0 volts? Yes → Repair the Driver Door Switch Illumination Driver circuit for a short to voltage. No → Replace the Driver Door Module.	All

Symptom:

SEAT SWITCH ILLUMINATION OUTPUT SHORT TO BATTERY - PDM

When Monitored and Set Condition:

SEAT SWITCH ILLUMINATION OUTPUT SHORT TO BATTERY - PDM

When Monitored: No Accessory power, ignition switch off and accessory power delay removed.

Set Condition: If the Illumination Driver circuit is shorted to battery over 10 seconds.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
PASSENGER DOOR SWITCH ILLUMINATION DRIVER SHORT TO BATTERY
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off, On and back Off. Open the door (to cancel accessory power delay). With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors.	All
2	Turn the ignition off. Disconnect the power seat switch connector. Turn the ignition on. Using the DRBIII®, erase DTC's. Cycle the ignition switch back Off and Open the door. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Replace the power seat switch.	All
3	Turn the ignition off. Disconnect the Power Seat Switch connector. Turn the ignition on. Measure the voltage of the Passenger Door Switch Illumination Driver circuit. Is the voltage above 1.0 volts? Yes → Repair the Passenger Door Switch Illumination Driver circuit for a short to voltage. No → Replace the Passenger Door Module.	All

Symptom:

SEAT SWITCH ILLUMINATION OUTPUT SHORT TO GROUND - DDM

When Monitored and Set Condition:

SEAT SWITCH ILLUMINATION OUTPUT SHORT TO GROUND - DDM

When Monitored: Accessory power applied (including accessory delay), ignition switch in accessory or on.

Set Condition: If the Illumination Driver circuit is shorted to ground over 10 seconds.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
DRIVER DOOR SWITCH ILLUMINATION DRIVER SHORTED TO GROUND

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. Attempt to turn the heated seats on and wait 10 seconds. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors.	All
2	Turn the ignition off. Disconnect the Passenger Power Seat Switch connector. Disconnect the Passenger Door Module C2 connector. Inspect the Driver Door Switch Illumination Driver circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Door Switch Illumination Driver circuit for a short to ground. No → Replace the power seat switch.	All

Symptom:

SEAT SWITCH ILLUMINATION OUTPUT SHORT TO GROUND - PDM

When Monitored and Set Condition:

SEAT SWITCH ILLUMINATION OUTPUT SHORT TO GROUND - PDM

When Monitored: Accessory power applied (including accessory delay), ignition switch in accessory or on.

Set Condition: If the Illumination Driver circuit is shorted to ground over 10 seconds.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
PASSENGER DOOR SWITCH ILLUMINATION DRIVER SHORTED TO GROUND

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On and wait 10 seconds. Attempt to turn the heated seats on and wait 10 seconds. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors.	All
2	Turn the ignition off. Disconnect the Passenger Power Seat Switch connector. Disconnect the Passenger Door Module C2 connector. Inspect the Passenger Seat Switch Illumination Driver circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Passenger Door Switch Illumination Driver circuit for a short to ground. No → Replace the power seat switch.	All

Symptom:
AMP MESSAGES NOT RECEIVED

When Monitored and Set Condition:

AMP MESSAGES NOT RECEIVED

When Monitored: At all times.

Set Condition: This DTC will set if the NAV Module does not receive 5 consecutive PCI bus messages from the AMP. The code will clear after 50 ignition cycles.

POSSIBLE CAUSES
DTC INTERMITTENT CONDITION
COMM FAULT PRESENT
NAVIGATION UNIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch from on to off and then back to on.. Turn the Navigation System on and try to select a location. With the DRBIII®, read DTCs. Does the DRBIII® display AMP MESSAGES NOT RECEIVED? No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 2	All
2	Turn the ignition on. With the DRBIII®, attempt to communicate with the AMP. Was the DRBIII® able to communicate with the AMP? Yes → Replace the Navigation Unit in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to COMMUNICATION for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

BCM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: This DTC will set if the NAV Module does not receive PCI bus messages from the BCM for 5 seconds. The code will clear after 50 ignition cycles.

POSSIBLE CAUSES
DTC INTERMITTENT CONDITION
COMM FAULT PRESENT
NAVIGATION UNIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch from on to off and then back to on.. Turn the Navigation System on and try to select a location. With the DRBIII®, read DTCs. Does the DRBIII® display BCM MESSAGES NOT RECEIVED? No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 2	All
2	Turn the ignition on. With the DRBIII®, attempt to communicate with the BCM. With the DRBIII®, read DTCs. **NOTE: If there are any BCM DTC's present, diagnose and repair them before proceeding with this test.** Was the DRBIII® able to communicate with the BCM? Yes → Replace the Navigation Unit in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to COMMUNICATION for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DISC READ ERROR

When Monitored and Set Condition:

DISC READ ERROR

When Monitored: With the ignition on.

Set Condition: This code will set if the NAV detects a system temperature out of range (above 158° F- 70°C) or detects a DVD read failure. It will not set for an over cold temperature but a warning message will display: ″Temperature too cold, please allow system to warm up before using″.

POSSIBLE CAUSES
DTC INTERMITTENT CONDITION
DISC ERROR
NAVIGATION UNIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch from on to off and then back to on.. Turn the Navigation System on and try to select a location. With the DRBIII®, read DTCs. Does the DRBIII® display DISC READ ERROR? No → The condition is not present at this time. Try removing and reinstalling the disc several times and operating the Navigation System. With the DRBIII®, recheck for any DTCs. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 2	All
2	**NOTE: Ensure the navigation unit has not been subjected to extreme temperatures.** Install a known good disc and turn Navigation on and select a location. Did the Navigation System respond correctly? Yes → Replace the defective disc. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Navigation Unit in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
GPS ANTENNA DISCONNECT

When Monitored and Set Condition:

GPS ANTENNA DISCONNECT

When Monitored: At all times.

Set Condition: When the Navigation Unit detects a high resistance on the antenna circuit, this code will set.

POSSIBLE CAUSES
DTC INTERMITTENT CONDITION
NAVIGATION UNIT
ANTENNA CABLE
ANTENNA

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch from on to off and then back to on.. Turn the Navigation System on and try to select a location. With the DRBIII®, read DTCs. Does the DRBIII® display GPS ANTENNA DISCONNECTED? No → The condition that caused this code to set is not present at this time. Check the antenna connections at the navigation unit and at the right A-Pillar (see service information). Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 2	All
2	Turn the ignition off. Gain access to the Navigation Unit in the rear of the vehicle. Disconnect the Antenna connector in the Navigation Unit Measure the resistance of the Antenna circuit between the center of the connector and the side tab (shield) of the harness connector.. Is the resistance approximately 200.0 ohms? Yes → Replace the Navigation Unit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

GPS ANTENNA DISCONNECT — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Gain access to the Navigation Unit in the rear of the vehicle. Disconnect the Antenna connector in the Navigation Unit Disconnect the Antenna Cable connector at the lower right side of the instrument panel. Measure the resistance of the Antenna circuit between the center of the connectors. Measure the resistance of the Antenna Shield circuit by back probing both connectors. Is the resistance below 2.0 ohms on both circuits? Yes → Replace the Antenna in accordance with service information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Antenna Cable in accordance with service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INTERNAL NAV MODULE FAILURE

When Monitored and Set Condition:

INTERNAL NAV MODULE FAILURE

When Monitored: When the Navigation Unit is powered up.

Set Condition: The NAV unit fails the loop back (internal PCI bus circuitry) test. Unit will stay off-line unless loop back test is passed.

POSSIBLE CAUSES
NAVIGATION UNIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. If this DTC resets, view repair. Repair Replace the Navigation Unit in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MIC MESSAGES NOT RECEIVED

When Monitored and Set Condition:

MIC MESSAGES NOT RECEIVED

When Monitored: At all times.

Set Condition: The NAV module will set this fault if it does not receive 5 consecutive bus messages from the MIC.

POSSIBLE CAUSES
TEST 1
DTC INTERMITTENT CONDITION
NAVIGATION UNIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch from on to off and then back to on.. Turn the Navigation System on and try to select a location. With the DRBIII®, read DTCs. Does the DRBIII® display MIC MESSAGES NOT RECEIVED? No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 2	All
2	With the DRBIII®, attempt to communicate with the Instrument Cluster. Were you able to communicate with the Instrument Cluster? No → Refer to INSTRUMENT CLUSTER for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. Yes → Replace the Navigation Unit in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

NAV SYSTEM OVER TEMP

When Monitored and Set Condition:

NAV SYSTEM OVER TEMP

When Monitored: With the ignition on.

Set Condition: The Navigation Unit detects internal module temperature exceeds 85°C (185°F). The NAV will suspend operation until the code is cleared.

POSSIBLE CAUSES
DTC INTERMITTENT CONDITION
NAVIGATION UNIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch from on to off and then back to on.. Turn the Navigation System on and try to select a location. With the DRBIII®, read DTCs. Does the DRBIII® display NAV SYSTEM OVER TEMP? No → The condition is not present at this time. Try removing and reinstalling the disc several times and operating the Navigation System. With the DRBIII®, recheck for any DTCs. Perform BODY VERIFICATION TEST - VER 1. Yes → Replace the Navigation Unit in accordance with service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

NO PCI BUS TRANSMISSION
PCI BUS SHORTED TO BATTERY
PCI BUS SHORTED TO GROUND

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be NO PCI BUS TRANSMISSION.

When Monitored and Set Condition:

NO PCI BUS TRANSMISSION

When Monitored: Ignition is in the Run position and an expected periodic bus message is missing 5 consecutive times.

Set Condition: A bus short to ground, short to battery, or an internal module fault is active.

PCI BUS SHORTED TO BATTERY

When Monitored: With the ignition on.

Set Condition: The module detects no bus idle period for 1.125 seconds.

PCI BUS SHORTED TO GROUND

When Monitored: Module is able to detect ignition status and has passed the loop-back test.

Set Condition: No bus activity has occurred for 1.125 seconds.

POSSIBLE CAUSES
DTC INTERMITTENT CONDITION
NAVIGATION UNIT

NO PCI BUS TRANSMISSION — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure there is communication with the Body Control Module, Instrument Cluster and other modules before proceeding.** **NOTE: For this code to be active, the DRBIII® will not be able to communicate with any modules on the vehicle, except the PCM.** With the DRBIII®, erase DTCs. Cycle the ignition switch from on to off and then back to on.. With the DRBIII®, read DTCs. Does the DRBIII® display PCI BUS SHORTED TO GROUND? No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1. Yes → Replace the Navigation Unit in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

PCM MESSAGES NOT RECEIVED

When Monitored: When the Navigation Unit is powered up.

Set Condition: If the Vehicle Speed message is not received, the NAV system will have the vehicle icon remain stationary. If no vehicle speed message is received for 2 seconds and the vehicle is in Drive, full programming will be disabled.

POSSIBLE CAUSES
DTC INTERMITTENT CONDITION
PCM DTC PRESENT
NAVIGATION UNIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch from on to off and then back to on.. Turn the Navigation System on and try to select a location. With the DRBIII®, read DTCs. Does the DRBIII® display PCM MESSAGES NOT RECEIVED? No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 2	All
2	**NOTE: Diagnose and repair any PCM DTCs present before proceeding with this test.** Turn the ignition on. With the DRBIII® monitor the Vehicle Speed while moving the vehicle. Does the DRBIII® display Vehicle Speed correctly? Yes → With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. If this code resets, replace the Navigation Unit in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to DRIVEABILITY for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
TCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

TCM MESSAGES NOT RECEIVED

When Monitored: At all times.

Set Condition: If no PCI Reverse message is received for 5 consecutive messages, the NAV system will assume forward motion and be reflected with movement of the vehicle icon.

POSSIBLE CAUSES
DTC INTERMITTENT CONDITION
PARK/NEUTRAL SWITCH FAULT OR TCM DTC PRESENT
NAVIGATION UNIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch from on to off and then back to on.. Turn the Navigation System on and try to select a location. With the DRBIII®, read DTCs. Does the DRBIII® display TCM MESSAGES NOT RECEIVED? No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 2	All
2	**NOTE: Diagnose and repair any TCM DTCs before proceeding with this test.** Turn the ignition on, engine not running. With the DRBIII®, monitor the Park/Neutral Position Switch input state. Move the gear selector through all gear positions. Does the DRBIII® display Park/Neutral and Drive/Reverse in the correct gear positions? Yes → Replace the Navigation Unit in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to symptom "*CHECKING PARK/NEUTRAL SWITCH OPERATION in the TRANSMISSION - NGC category. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

BCM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: This DTC will set if the OHC does not receive PCI bus messages from the BCM for 5 seconds. The OHC receives raw fuel and distance data from the BCM to compute the fuel and distance values displayed by the EVIC.

POSSIBLE CAUSES
COMM FAULT PRESENT
OVERHEAD CONSOLE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, attempt to communicate with the BCM. Was the DRBIII® able to communicate with the BCM? Yes → With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. If this code resets, replace the Overhead Console in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to COMMUNICATION for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

EC MIRROR DAY/NIGHT LINE FAULT

When Monitored and Set Condition:

EC MIRROR DAY/NIGHT LINE FAULT

When Monitored: With the ignition on.

Set Condition: The Overhead Console does not receive any messages from the EC Mirror.

POSSIBLE CAUSES
INTERMITTENT CONDITION
AUTOMATIC DAY/NIGHT MIRROR
AUTOMATIC HEADLAMP SIGNAL CIRCUIT OPEN
AUTOMATIC HEADLAMP SIGNAL CIRCUIT SHORTED TO GROUND
AUTOMATIC HEADLAMP SIGNAL CIRCUIT SHORTED TO VOLTAGE
OVERHEAD CONSOLE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC. Cycle the ignition on and off several times, leaving the ignition on for at least 15 seconds. With the DRBIII®, read DTCs. Did the DTC reset? Yes → Go To 2 No → The condition is not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connector. Turn the ignition on. Measure the voltage of the Automatic Headlamp Signal circuit in the Automatic Day/Night Mirror harness connector. Is the voltage 4.9 volts? Yes → Replace the Automatic Day/Night Mirror in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

EC MIRROR DAY/NIGHT LINE FAULT — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Overhead Console harness connector. Disconnect the Automatic Day/Night Mirror harness connector. Measure the resistance of the Automatic Headlamp Signal circuit between the Automatic Day/Night Mirror harness connector and the Overhead Console harness connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Automatic Headlamp Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Overhead Console harness connector. Disconnect the Automatic Day/Night Mirror harness connector. Measure the resistance of the Automatic Headlamp Signal circuit in the Overhead Console harness connector to ground. Is the resistance below 5.0 ohms? Yes → Repair the Automatic Headlamp Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Automatic Day/Night Mirror harness connector. Disconnect the Overhead Console harness connector. Using a 12 volt test light connected to ground, probe the Automatic Headlamp Signal circuit in the Automatic Day/Night Mirror harness connector. Does the test illuminate brightly? Yes → Repair the Automatic Headlamp Signal circuit for a shorted to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Overhead Console in accordance with the service information Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

INTERNAL MODULE FAILURE
LOOPBACK FAILURE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be INTERNAL MODULE FAILURE.

When Monitored and Set Condition:

INTERNAL MODULE FAILURE

When Monitored: During power-up each ignition cycle.

Set Condition: The OHC fails the module internal circuitry self test.

LOOPBACK FAILURE

When Monitored: During power-up each ignition cycle.

Set Condition: The OHC fails the internal PCI bus loop-back test.

POSSIBLE CAUSES
OVERHEAD CONSOLE

TEST	ACTION	APPLICABILITY
1	When this code is set, view repair. Repair Replace and program the Overhead Console Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MIC MESSAGES NOT RECEIVED

When Monitored and Set Condition:

MIC MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: This DTC will set if the OHC does not receive PCI bus messages from the MIC for 5 seconds.

POSSIBLE CAUSES
COMMUNICATION DTC PRESENT
OVERHEAD CONSOLE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the MIC. Was the DRBIII® able to communicate with the MIC? Yes → With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. If this code resets, replace the Overhead Console in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to COMMUNICATION for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

PCM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: This DTC will set if the OHC does not receive PCI bus messages from the PCM for 5 seconds.

POSSIBLE CAUSES
COMMUNICATION DTC PRESENT
OVERHEAD CONSOLE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to communicate with the PCM? Yes → With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. If this code resets, replace the Overhead Console in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to COMMUNICATION for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
TCM MESSAGES NOT RECEIVED

When Monitored and Set Condition:

TCM MESSAGES NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: This DTC will set if the OHC does not receive PCI bus messages from the TCM for 5 seconds. The OHC receives Reverse message from the TCM to provide the Back-Up Lamp Signal to the EC Mirror.

POSSIBLE CAUSES
PARK/NEUTRAL SWITCH FAULT OR TCM DTC PRESENT
OVERHEAD CONSOLE

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure the TCM communicates on the PCI bus.** **NOTE: Diagnose and repair any TCM DTCs before proceeding with this test.** Turn the ignition on, engine not running. With the DRBIII®, monitor the Park/Neutral Position Switch input state. Move the gear selector through all gear positions. Does the DRBIII® display Park/Neutral and Drive/Reverse in the correct gear positions? Yes → With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. With the DRBIII®, read DTCs. If this code resets, replace the Overhead Console in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Refer to symptom ″*CHECKING PARK/NUETRAL SWITCH OPERATION in the TRANSMISSION - NGC category. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

TEMP SENSOR CIRCUIT OPEN
TEMP SENSOR CIRCUIT SHORT

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be TEMP SENSOR CIRCUIT OPEN.

When Monitored and Set Condition:

TEMP SENSOR CIRCUIT OPEN

When Monitored: With the ignition on.

Set Condition: The OHC receives a PCI bus message from the PCM indicating an ambient temperature sensor fault. The outside temperature will display -40.

TEMP SENSOR CIRCUIT SHORT

When Monitored: With the ignition on.

Set Condition: The OHC receives a PCI bus message from the PCM indicating an ambient temperature sensor fault. The outside temperature will display 130.

POSSIBLE CAUSES
PCM DTC PRESENT

TEST	ACTION	APPLICABILITY
1	**NOTE: The ambient temperature sensor is hardwired to the PCM. This code sets in response to a PCI bus message from the PCM.** When this code is set, view repair. Repair Refer to DRIVEABILITY for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER CYLINDER LOCK SWITCH SHORT TO GROUND - DDM

When Monitored and Set Condition:

DRIVER CYLINDER LOCK SWITCH SHORT TO GROUND - DDM

When Monitored: Whenever the Driver Door Module is awake.

Set Condition: If the voltage on the Driver Cylinder Lock Switch Mux circuit is pulled below 0.5 volts for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER CYLINDER LOCK SWITCH SHORT TO GROUND
DRIVER CYLINDER LOCK SWITCH MUX CIRCUIT SHORT TO GROUND
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF to ON. With the DRBIII®, read DTC's. Remove the key from the ignition and operate the Driver Cylinder Lock Switch several times while monitoring the DRBIII®. Wait 10 seconds. Does the DRBIII® display DRIVER CYLINDER LOCK SWITCH SHORT TO GROUND? Yes → Go To 2 No → Check for any binding condition with the cylinder lock and linkage. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Cylinder Lock Switch connector. Turn the ignition on. With the DRBIII®, read the active DTCs. Does the DRBIII® display: DRIVER CYLINDER LOCK SWITCH SHORT TO GROUND? No → Replace the Driver Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 3	All

DRIVER CYLINDER LOCK SWITCH SHORT TO GROUND - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Cylinder Lock Switch connector. Disconnect the Driver Door Module C3 connector. Measure the resistance between Ground and the Driver Cylinder Lock Switch Mux circuit. Is the resistance below 100.0 ohms? Yes → Repair the Driver Cylinder Lock Switch Mux circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER CYLINDER LOCK SWITCH STUCK - DDM

When Monitored and Set Condition:

DRIVER CYLINDER LOCK SWITCH STUCK - DDM

When Monitored: Whenever the Driver Door Module is awake.

Set Condition: If the switch is held active for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER CYLINDER LOCK SWITCH STUCK
DRIVER CYLINDER LOCK SWITCH MUX SHORTED
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF to ON. With the DRBIII®, read DTC's. Remove the key from the ignition and operate the Driver Cylinder Lock Switch several times while monitoring the DRBIII®. Wait 10 seconds. Does the DRBIII® display DRIVER CYLINDER LOCK SWITCH STUCK? Yes → Go To 2 No → Check for any binding condition with the cylinder lock and linkage. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Cylinder Lock Switch connector. Turn the ignition on. With the DRBIII®, read the active DTCs. Does the DRBIII® display: DRIVER CYLINDER LOCK SWITCH STUCK? No → Replace the Driver Cylinder Lock Switch. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 3	All
3	Disconnect the Driver Cylinder Lock Switch connector. Disconnect the Driver Door Module connector. Measure the resistance between Ground and the Driver Cylinder Lock Switch Mux circuit. Is the resistance below 3000.0 ohms? Yes → Repair the Driver Cylinder Lock Switch Mux circuit for a partial short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER DOOR LOCK SWITCH STUCK - DDM

When Monitored and Set Condition:

DRIVER DOOR LOCK SWITCH STUCK - DDM

When Monitored: Whenever the Driver Door Module is awake.

Set Condition: If the switch is held active for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF to ON. With the DRBIII®, read DTC's. Operate the Driver Door Lock Switch several times while observing the DRBIII®. Wait 10 seconds. Does the DRBIII® display DRIVER DOOR LOCK SWITCH STUCK? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Ensure the switch moves freely. If it does not, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

LIFTGATE POWER RELEASE OUTPUT OPEN - BCM

When Monitored and Set Condition:

LIFTGATE POWER RELEASE OUTPUT OPEN - BCM

When Monitored: Continuously for non power liftgate vehicles

Set Condition: When the Body Control Module senses there is no resistance on the Liftgate Release Driver circuit after receiving a release command for longer than 125 ms, it will not send any current out on that circuit and will set this DTC.

POSSIBLE CAUSES
DTC PRESENT
LIFTGATE RELEASE MOTOR OPEN
LIFTGATE RELEASE DRIVER WIRE OPEN
BODY CONTROL MODULE - LIFTGATE RELEASE DRIVER OPEN

TEST	ACTION	APPLICABILITY
1	Ensure vehicle is unlocked before proceeding. Turn the ignition on. With the DRBIII®, record and erase DTC's. With the DRBIII®, read DTC's. Operate the Liftgate Release several times from the Liftgate Handle Switch while monitoring the DRBIII®. Does the DRBIII® display LIFTGATE POWER RELEASE OUTPUT OPEN? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Liftgate Ajar Switch (Power Release) connector. Using a 12-volt test light, connect one end of the light to the Liftgate Release Driver circuit and the other end to the Ground circuit in the harness connector. Have someone operate the liftgate handle and observe the test light. Does the test light illuminate brightly when the liftgate handle switch is activated?? Yes → Replace the Liftgate Release Motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

LIFTGATE POWER RELEASE OUTPUT OPEN - BCM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Liftgate Ajar Switch (Power Release) connector. Disconnect the Body Control Module C3 connector. Measure the resistance of the Liftgate Release Driver circuit between the BCM C 3 connector and the Liftgate Release Motor connector. Is the resistance below 5.0 ohms? Yes → Disconnect the BCM harness connector(s). Check connectors - Clean/repair as necessary. If okay, replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Liftgate Release Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LIFTGATE POWER RELEASE OUTPUT SHORT - BCM

When Monitored and Set Condition:

LIFTGATE POWER RELEASE OUTPUT SHORT - BCM

When Monitored: Continuously for non power liftgate vehicles

Set Condition: When the Body Control Module senses a low output on the Liftgate Release Driver circuit for longer than 500 ms during a liftgate release actuation.

POSSIBLE CAUSES
DTC PRESENT
BODY CONTROL MODULE - LIFTGATE RELEASE DRIVER SHORTED
LIFTGATE RELEASE DRIVER WIRE SHORT TO GROUND
LIFTGATE RELEASE MOTOR SHORTED

TEST	ACTION	APPLICABILITY
1	Ensure vehicle is unlocked before proceeding. Turn the ignition on. With the DRBIII®, record and erase DTC's. With the DRBIII®, read DTC's. Operate the Liftgate Release several times from the Liftgate Handle Switch while monitoring the DRBIII®. Does the DRBIII® display LIFTGATE POWER RELEASE OUTPUT SHORT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Body Control Module C3 connector. Measure the resistance between ground and the Liftgate Release Driver circuit. Is the resistance below 3.5 ohms? Yes → Go To 3 No → Disconnect the BCM harness connector(s). Check connectors - Clean/repair as necessary. If okay, replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Liftgate Ajar Switch (Power Release) connector. Disconnect the Body Control Module C3 connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance between Liftgate Release Driver circuit and ground. Is the resistance below 100.0 ohms? Yes → Repair the Liftgate Release Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Liftgate Release Motor. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER DOOR LOCK SWITCH SHORTED - PDM

When Monitored and Set Condition:

PASSENGER DOOR LOCK SWITCH SHORTED - PDM

When Monitored: Whenever the Passenger Door Module is awake.

Set Condition: If the analog switch inside the Passenger Door Module is shorted, this code will set.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF to ON. With the DRBIII®, read DTC's. Operate the Passenger Door Lock Switch several times while observing the DRBIII®. Wait 10 seconds. Does the DRBIII® display PASSENGER DOOR LOCK SWITCH SHORTED? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Ensure the switch moves freely. If it does not, replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER DOOR LOCK SWITCH STUCK - PDM

When Monitored and Set Condition:

PASSENGER DOOR LOCK SWITCH STUCK - PDM

When Monitored: Whenever the Passenger Door Module is awake.

Set Condition: If the switch is held active for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Cycle the ignition switch from ON to OFF to ON. With the DRBIII®, read DTC's. Operate the Passenger Door Lock Switch several times while observing the DRBIII®. Wait 10 seconds. Does the DRBIII® display PASSENGER DOOR LOCK SWITCH STUCK? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Ensure the switch moves freely. If it does not, replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ALL DOORS (EXCEPT DRIVER) FAIL TO LOCK

POSSIBLE CAUSES
DOOR LOCK DRIVER CIRCUIT SHORT TO GROUND
PASSENGER DOOR MODULE - PASSENGER DOORS FAIL TO LOCK

TEST	ACTION	APPLICABILITY
1	Remove the inner door trim panel to gain access to the Passenger Door Module connector. Disconnect the Passenger Door Module ″C1″ connector. Measure the resistance between Ground and the Door Lock Driver Circuit in the PDM ″C1″ connector. Is the resistance below 20 ohms? Yes → Repair the Door Lock Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ALL DOORS (EXCEPT DRIVER) FAIL TO LOCK AND UNLOCK

POSSIBLE CAUSES
OPEN DOOR LOCK DRIVER CIRCUIT
OPEN DOOR UNLOCK DRIVER CIRCUIT
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the active DTCs. If there are any Power Door Lock related DTC's, refer to symptom list for problems related to POWER DOOR LOCKS before proceeding. Remove the inner door trim panel to gain access to the Passenger Door Lock Motor/Ajar Switch connector. Disconnect the Passenger Door Lock Motor/Ajar Switch connector. Disconnect the Passenger Door Module ″C1″ connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance of the Door Lock Driver circuit between the PDM connector and the door lock motor connector. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Repair the Door Lock Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the inner door trim panel to gain access to the Passenger Door Lock Motor/Ajar Switch connector. Disconnect the Passenger Door Lock Motor/Ajar Switch connector. Disconnect the Passenger Door Module ″C1″ connector. Measure the resistance of the Door Unlock Driver circuit between the PDM connector and the door lock motor connector. Is the resistance below 5.0 ohms? Yes → Replace the Passenger Door Module Perform BODY VERIFICATION TEST - VER 1. No → Repair the Door Unlock Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ALL DOORS (EXCEPT DRIVER) FAIL TO UNLOCK

POSSIBLE CAUSES
DOOR UNLOCK DRIVER WIRE SHORT TO GND
PASSENGER DOOR MODULE - PASSENGER UNLOCK FAIL

TEST	ACTION	APPLICABILITY
1	Remove the inner door trim panel to gain access to the Passenger Door Module connector. Disconnect the Passenger Door Module ″C1″ connector. Measure the resistance between Ground and the Door Unlock Driver circuit in the PDM ″C1″ connector. Is the resistance below 20 ohms? Yes → Repair the Door Unlock Driver Wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*AUTO DOOR LOCKS INOPERATIVE

POSSIBLE CAUSES
AUTO DOOR LOCKS NOT ENABLED
PCM DTC'S PRESENT
DRIVER DOOR MODULE - AUTO LOCKS INOPERATIVE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, under ″CUSTOMER PREFERENCES″ read the ″Auto Door Lock″ status. Does the DRB show AUTO DOOR LOCKS ENABLED ? Yes → Go To 2 No → With the DRBIII, enable the Auto Door Locks and retest the System. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, read ENGINE DTC's. Are there any TPS or VEHICLE SPEED DTC's present? Yes → Refer to DRIVEABILITY for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***DRIVER DOOR FAILS TO LOCK**

POSSIBLE CAUSES
DRIVER DOOR LOCK DRIVER SHORT TO GROUND
DDM - DRIVER DOOR LOCK OPEN

TEST	ACTION	APPLICABILITY
1	Remove the inner door trim panel to gain access to the Driver Door Module ″C1″ connector. Disconnect the Driver Door Module ″C1″ connector. Measure the resistance of the Driver Door Lock Driver circuit in the Driver Door Module ″C1″ connector to body ground. Is the resistance below 20 ohms? Yes → Repair the Driver Door Lock Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*DRIVER DOOR FAILS TO LOCK AND UNLOCK

POSSIBLE CAUSES
DRIVER DOOR MODULE - OPEN DOOR LOCK DRIVER
DRIVER DOOR UNLOCK DRIVER WIRE OPEN
OPEN DRIVER DOOR LOCK DRIVER WIRE
DOOR LOCK MOTOR OPEN

TEST	ACTION	APPLICABILITY
1	Remove the inner door trim panel and gain access to the Driver Door Module. Disconnect the Driver Door Module ″C1″ connector. **NOTE: Check connectors - Clean/repair as necessary.** Ensure the drivers window is down and the door lock is LOCKED. Connect a jumper wire between the Driver Door Lock Driver circuit and the Ground circuit in the ″C1″ connector. Connect a jumper wire to the Driver Door Unlock Driver circuit and momentarily touch it to the Fused B(+) circuit and observe the door lock. Did the drivers door UNLOCK? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the inner door trim panel and gain access to the Door Lock Motor/Ajar Switch connector. Disconnect the Driver Door Module ″C1″ connector. Disconnect the Door Lock Motor/Ajar Switch connector. Measure the resistance of the Driver Door Unlock Driver circuit between the DDM connector and the door lock motor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Driver Door Unlock Driver wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the inner door trim panel and gain access to the Door Lock Motor/Ajar Switch connector. Disconnect the Driver Door Module ″C1″ connector. Disconnect the Door Lock Motor/Ajar Switch connector. Measure the resistance of the Driver Door Lock Driver circuit between the DDM connector and the door lock motor connector. Is the resistance below 5.0 ohms? Yes → Replace the Door Lock Motor. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Driver Door Lock Driver wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*DRIVER DOOR FAILS TO UNLOCK

POSSIBLE CAUSES
DRIVER DOOR UNLOCK DRIVER WIRE SHORT TO GND
DDM - DRIVER DOOR UNLOCK OPEN

TEST	ACTION	APPLICABILITY
1	Remove the inner door trim panel to gain access to the Driver Door Module ″C1″ connector. Disconnect the Driver Door Module ″C1″ connector. Measure the resistance between ground and the Driver Door Unlock Driver circuit in the Driver Door Module ″C1″ connector. Is the resistance below 20 ohms? Yes → Repair the Driver Door Unlock Driver Wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***LIFTGATE FAILS TO RELEASE - WITHOUT POWER LIFTGATE**

POSSIBLE CAUSES
OPEN LIFTGATE LOCK MOTOR
GROUND OPEN
LIFTGATE HANDLE SWITCH OPEN
SWITCH GROUND OPEN
LIFTGATE HANDLE SWITCH SENSE OPEN
LIFTGATE RELEASE DRIVER OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Remove the liftgate inner door trim panel to gain access to the Liftgate Release Motor connector. Disconnect the Liftgate Release Motor connector. **Note: Ensure the Passenger Door Module ″C1″ connector is connected.** Connect a test light between the Liftgate Release Driver and the Ground terminals in the liftgate lock motor connector. Press the ″LIFTGATE ″ button on the RKE transmitter, press the Liftgate Handle and the and observe the test light. Did the test light illuminate when the handle was pressed? Yes → Replace the Liftgate Release Motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the liftgate inner door trim panel to gain access to the Liftgate Release Motor connector. Disconnect the Liftgate Release Motor connector. Measure the resistance between ground and the Ground circuit in the Liftgate Release Motor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Liftgate Handle Switch connector. Press the door lock switch to the ″Unlock″ position. Ensure the Liftgate Release Motor is connected before proceeding.. Momentarily connect a jumper wire between the Liftgate Handle Switch Sense circuit and the Ground circuit in the switch harness connector and observe the Liftgate Release Motor. Did the Liftgate Release Motor operate when the switch was jumped? Yes → Replace the Liftgate Handle Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*LIFTGATE FAILS TO RELEASE - WITHOUT POWER LIFTGATE — Continued

TEST	ACTION	APPLICABILITY
4	Remove the liftgate inner door trim panel to gain access to the Liftgate Handle Switch connector. Disconnect the Liftgate Handle Switch harness connector. Measure the resistance between ground and the Ground circuit in the Liftgate Handle Switch harness connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Liftgate Handle Switch harness connector. Disconnect the BCM ″C2″ harness connector. Measure the resistance of the Liftgate Handle Switch Sense circuit between the BCM ″C2″ connector and the Liftgate Handle Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Liftgate Handle Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Remove the liftgate inner door trim panel to gain access to the Liftgate Release Motor connector. Disconnect the Liftgate Release Motor connector. Disconnect the Body Control Module ″C3″ connector. Measure the resistance of the Liftgate Release Driver circuit between the BCM ″C3″ connector and the Liftgate Release Motor connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Liftgate Release Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ONE PASSENGER DOOR FAILS TO LOCK AND UNLOCK

POSSIBLE CAUSES
OPEN DOOR LOCK MOTOR
OPEN DOOR LOCK DRIVER WIRE
OPEN DOOR UNLOCK DRIVER WIRE

TEST	ACTION	APPLICABILITY
1	Remove the inner door trim panel and gain access to the Door Lock Motor/Ajar Switch connector. Disconnect the Door Lock Motor/Ajar Switch connector. Ensure the Passenger Door Module ″C1″ connector is connected. Connect a test light between the Door Lock Driver and the Door Unlock Driver terminals in the Door Lock Motor/Ajar Switch connector. With the DRB III actuate the ″Pass Lock Relay″ and then the ″Pass Unlock Relay″ and observe the test light. Did the test light illuminate when the lock was actuated in both directions? Yes → Replace the Door Lock Motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the inner door trim panel and gain access to the Door Lock Motor/Ajar Switch connector. Disconnect the Door Lock Motor/Ajar Switch connector. Disconnect the Passenger Door Module ″C1″ connector. Measure the resistance of the Door Lock Driver circuit between the PDM C1 connector and the Door Lock Motor connector. Is the resistance below 5.0 ohms? Yes → Repair the Door Unlock Driver wire for an open. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Door Lock Driver wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*REMOTE KEYLESS ENTRY INOPERATIVE

POSSIBLE CAUSES
DOOR LOCKS SYSTEM CHECK
TEST TRANSMITTER WITH TESTER
RKE TRANSMITTER NOT PROGRAMMED
RKE TRANSMITTER BATTERY VOLTAGE LOW
RKE TRANSMITTER NOT PROGRAMMED
RKE TRANSMITTER DEFECTIVE
BODY CONTROL MODULE
DRIVER DOOR MODULE
SKREEM MODULE - RKE INOPERATIVE
SKREEM MODULE - RKE INOPERATIVE

TEST	ACTION	APPLICABILITY
1	Operate the door locks from both of the door lock switches. Did the door locks respond properly to both of the door lock switches? Yes → Go To 2 No → Refer to Power Door Locks/RKE in the Symptom List for the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All
2	**NOTE: Ensure there is communication between the SKREEM, BODY CONTROL MODULE and the DRIVER DOOR MODULE before proceeding.** Do you have access to the Miller Special Tool ″9001 RF DETECTOR″? No → Go To 3 Yes → Go To 8	All
3	Using a voltmeter, test the Batteries in the RKE Transmitter. Is the voltage above 3.0 volts in each battery? Yes → Go To 4 No → Replace the Batteries. Perform BODY VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, actuate the door LOCK and then door UNLOCK. Do the door locks operate using the DRBIII? Yes → Go To 5 No → Replace the Driver Door Module in accordance with the Service Information.. Perform BODY VERIFICATION TEST - VER 1.	All

*REMOTE KEYLESS ENTRY INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
5	With the DRBIII® select THEFT ALARM, SKIM, MONITORS and observe the ″FOB #″ and ″FOB Button″.. Press the LOCK button and then the UNLOCK button on the Transmitter. Does the DRBIII® display:″ UNLOCK″, ″LOCK″ and the ″FOB Number″? Yes → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	With the DRBIII® select THEFT ALARM, SKIM, then PROGRAM NEW KEY. Follow instructions on the screen. Exit PROGRAM NEW KEY. Try the Door Locks using the Transmitter. Did the Door Locks respond properly to the Transmitter commands ? Yes → Repair complete. Using the DRBIII, program other Transmitters used with this Vehicle. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Secure a known good Transmitter. Using the DRBIII® select THEFT ALARM, SKIM then PROGRAM NEW KEY and follow the instructions on the DRBIII® screen. Exit PROGRAM new key. Try the Door Locks using the Transmitter. Did the Door Locks respond properly to the Transmitter commands ? Yes → Replace the Transmitter. Program all Transmitters that will be used with this Vehicle. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Sentry Key RemotE Entry Module. Perform BODY VERIFICATION TEST - VER 1. **Note: When repairs are complete ensure all transmitters used with this vehicle are programmed**	All
8	Using the 9001 RF Detector, follow the instructions on the back of the tester and test the transmitter several times. Does the signal strength measure ″STRONG″? Yes → Go To 9 No → Check and replace the batteries if they are under 3.0 volts each and retest the transmitter. If the batteries are okay, replace the transmitter. Perform BODY VERIFICATION TEST - VER 1.	All
9	With the DRBIII®, select THEFT ALARM, SKIM then PROGRAM NEW KEY and follow the instructions on the screen. Exit PROGRAM NEW KEY. Activate the Door Locks using the RKE Transmitter. Did the door locks respond properly to the RKE transmitter commands? Yes → Repair complete. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Sentry Key RemotE Entry Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

AMBIENT TEMPERATURE SENSOR CIRCUIT OPEN

When Monitored and Set Condition:

AMBIENT TEMPERATURE SENSOR CIRCUIT OPEN

When Monitored: Whenever the Power Liftgate Module is awake.

Set Condition: If the module senses a resistance above 382K ohms on the Liftgate Temperature Sensor Signal circuit, this code will set. The normal range for the sensor is 1.2K to 382K ohms. At room temperature (68° F) the resistance will be between 11.2 K and 13.5K ohms.

POSSIBLE CAUSES
DTC PRESENT
POWER LIFTGATE MODULE - TEMPERATURE SENSE OPEN
LIFTGATE TEMPERATURE SENSOR SIGNAL WIRE OPEN
GROUND WIRE OPEN
LIFTGATE TEMPERATURE SENSOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the liftgate several times. With the DRBIII®, read DTCs. Does the DRBIII® display AMBIENT TEMPERATURE SENSOR CIRCUIT OPEN? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the power liftgate motor trim panel. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the liftgate Temperature Sensor Signal circuit to the Ground circuit (cavity 20) in the PLG C2 connector. Is the resistance between 1.2k and 382K ohms? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

AMBIENT TEMPERATURE SENSOR CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Remove the power liftgate motor trim panel. Disconnect the Power Liftgate Module C2 connector. Disconnect the License Lamp (light bar) connector. Measure the resistance of the liftgate Temperature Sensor Signal circuit between the License Lamp connector and the PLG C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Liftgate Temperature Sensor Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the power liftgate motor trim panel. Disconnect the Power Liftgate Module C2 connector. Disconnect the License Lamp (light bar) connector. Measure the resistance of the Ground circuit between the PLG C2 connector (cavity 20) and the License Lamp connector (cavity 8). Is the resistance below 5.0 ohms Yes → Go To 5 No → Repair the Liftgate Temperature Sensor Ground wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Liftgate Temperature Sensor (light bar). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

AMBIENT TEMPERATURE SENSOR CIRCUIT SHORT TO GROUND

When Monitored and Set Condition:

AMBIENT TEMPERATURE SENSOR CIRCUIT SHORT TO GROUND

When Monitored: Whenever the Power Liftgate Module is awake.

Set Condition: If the module senses a resistance below 1000 ohms on the Liftgate Temperature Sensor Signal circuit, this code will set. The normal range for the sensor is 1.2K to 382K ohms. At room temperature (68° F) the resistance will be between 11.2 K and 13.5K ohms.

POSSIBLE CAUSES
DTC PRESENT
LIFTGATE TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO GROUND.
POWER LIFTGATE MODULE - TEMP SENSE SHORT TO GROUND
LIFTGATE TEMPERATURE SENSOR SIGNAL WIRE SHORT TO GROUND WIRE
LIFTGATE TEMPERATURE SENSOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the liftgate several times. With the DRBIII®, read DTCs. Does the DRBIII® display AMBIENT TEMPERATURE SENSOR CIRCUIT SHORT TO GROUND? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the power liftgate motor trim panel. Disconnect the Power Liftgate Module C2 connector. Measure the resistance between ground and the liftgate Temperature Sensor Signal circuit. Is the resistance below 5000.0 ohms? Yes → Repair the Liftgate Temperature Sensor Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

AMBIENT TEMPERATURE SENSOR CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Remove the power liftgate motor trim panel. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the liftgate Temperature Sensor Signal circuit to the Ground circuit (cavity 20) in the PLG C2 connector. Is the resistance below 1000.0 ohms? Yes → Go To 4 No → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the power liftgate motor trim panel. Disconnect the Power Liftgate Module C2 connector. Disconnect the License Lamp (light bar) connector. Measure the resistance of the liftgate Temperature Sensor Signal circuit to the Ground circuit (cavity 20) in the PLG C2 connector. Is the resistance below 1000.0 ohms Yes → Repair the Liftgate Temperature Sensor Signal wire for a short to the Ground wire. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Liftgate Temperature Sensor (light bar). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
CONTROL MODULE FAILURE - INTERNAL FAILURE

When Monitored and Set Condition:

CONTROL MODULE FAILURE - INTERNAL FAILURE

When Monitored: Anytime the module is awake.

Set Condition: Whenever the module senses an internal failure (EEPROM, ROM, ADC) this code will set. The module must be replaced.

POSSIBLE CAUSES
POWER LIFTGATE MODULE - INTERNAL FAILURE

TEST	ACTION	APPLICABILITY
1	View repair. Repair Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE LATCH CINCH - NO PAWL TRANSITION

When Monitored and Set Condition:

INCOMPLETE LATCH CINCH - NO PAWL TRANSITION

When Monitored: Whenever the power liftgate in performing a cinching operation.

Set Condition: The pawl switch was not detected as returning to ground during the transition between secondary and primary cinch operation. NOTE: The liftgate may not be fully cinched during this condition. The liftgate may cinch to primary but not be fully seated and may pop off back to secondary.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
GROUND WIRE OPEN
LIFTGATE PAWL SWITCH SENSE WIRE OPEN
LIFTGATE PAWL SWITCH SENSE WIRE SHORT TO GROUND
PAWL SWITCH

TEST	ACTION	APPLICABILITY
1	**NOTE: This DTC will only set after the cinching operation. This may make it difficult to reproduce.** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE LATCH CINCH - NO PAWL TRANSITION? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the door several times and check for any binding or other obstructions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, lose/hard or torn seals, misaligned latch striker or anything that would cause an obstruction to proper operation. Manually operate the liftgate of a known good vehicle and notice the effort needed to open and close. Compare the effort needed on the disabled liftgate. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE LATCH CINCH - NO PAWL TRANSITION — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Power Liftgate C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance of the Ground wire between the PLG C2 connector (cavity 20) and the Liftgate Cinch/Release Motor connector (cavity 1). Wiggle the harness while observing the ohmmeter. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Ground wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance of the Liftgate Pawl Switch Sense wire between the PLG C2 connector and the Liftgate Cinch/Release Motor connector. Wiggle the harness while observing the ohmmeter. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Liftgate Pawl Switch Sense wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance between ground and the Liftgate Pawl Switch Sense circuit. Wiggle the harness while observing the ohmmeter. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Pawl Switch Sense wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Replace the Pawl Switch (latch assembly). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE LATCH CINCH - OVERCURRENT

When Monitored and Set Condition:

INCOMPLETE LATCH CINCH - OVERCURRENT

When Monitored: Whenever the power liftgate is performing a cinching operation.

Set Condition: The latch motor stall current of 6.2 amps has been detected, with no pawl or ratchet failure. This code is set during the first stage of the power cinching operation.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
LIFTGATE LATCH CINCH DRIVER WIRE OPEN
LIFTGATE LATCH RELEASE DRIVER OPEN
LIFTGATE LATCH CINCH DRIVER WIRE SHORT TO GROUND
LIFTGATE LATCH CINCH DRIVER WIRE SHORT TO HARNESS GROUND
LIFTGATE LATCH RELEASE DRIVER WIRE SHORT TO GROUND
LIFTGATE LATCH RELEASE DRIVER WIRE SHORT TO HARNESS GROUND
LATCH ASSEMBLY

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE LATCH CINCH - OVERCURRENT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding or other obstructions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper alignment, worn or binding hinges, weak liftgate prop assembly, loose/ hard weatherstrip, and track assembly for wear or anything that would cause an obstruction to proper operation. If necessary manually operate the power liftgate on a known good vehicle and notice the effort needed to open and close for comparison. Especially notice the effort needed to unlatch and close the liftgate. Were there any mechanical problems found? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE LATCH CINCH - OVERCURRENT — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance of the Liftgate Latch Cinch Driver circuit between the Power Liftgate Module C2 connector and the Liftgate Cinch/Release Motor connector. Wiggle the harness and check for an intermittent open condition. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Liftgate Latch Cinch Driver wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance of the Liftgate Latch Release Driver circuit between the Power Liftgate Module C2 connector and the Liftgate Cinch/Release Motor connector. Wiggle the harness and check for an intermittent open condition. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Liftgate Latch Release Driver wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance between ground and the Liftgate Latch Cinch Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Go To 6 No → Repair the Liftgate Latch Cinch Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance between the Ground circuit (cavity 20) and the Liftgate Latch Cinch Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Go To 7 No → Repair the Liftgate Latch Cinch Driver wire for a short to the Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE LATCH CINCH - OVERCURRENT — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance between ground and the Liftgate Latch Release Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Go To 8 No → Repair the Liftgate Latch Release Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance between the Ground circuit (cavity 20) and the Liftgate Latch Release Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Go To 9 No → Repair the Liftgate Latch Release Driver wire for a short to the Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
9	If there are no possible causes remaining, view repair. Repair Replace the Latch Assembly. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE LATCH RELEASE - NO REVERSE TO UNLOAD CLUTCH

When Monitored and Set Condition:

INCOMPLETE LATCH RELEASE - NO REVERSE TO UNLOAD CLUTCH

When Monitored: Whenever the power liftgate is opening.

Set Condition: If the cinch release motor takes longer than 1.4 seconds to perform a release operation this code will set. The main causes of this code setting is some type of sticking situation preventing the sector gear in the cinch release motor assembly from returning to its neutral position.

POSSIBLE CAUSES
DTC PRESENT
BINDING LATCH
CINCH RELEASE MOTOR ASSEMBLY

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE LATCH RELEASE - NO REVERSE TO UNLOAD CLUTCH? Yes → Go To 2 No → Operate the liftgate several times and check for any binding or other obstructions. To test the reverse action, open the liftgate part way and continue holding the handle for 4 seconds. The motor should run for approximately 2 seconds. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, torn seals or anything that would cause an obstruction to proper operation. Manually operate the liftgate of a known good vehicle and notice the effort needed to open and close. Compare the effort needed on the disabled liftgate. Especially notice the effort needed to unlatch and latch the liftgate. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Cinch Release Motor Assembly.. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE LATCH RELEASE - RATCHET SWITCH FAILURE

When Monitored and Set Condition:

INCOMPLETE LATCH RELEASE - RATCHET SWITCH FAILURE

When Monitored: Whenever the power liftgate is performing a release operation.

Set Condition: The pawl switch was grounded but the ratchet switch remained open. This code will set only in the release operation.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
POWER LIFTGATE MODULE - RATCHET CIRCUIT
GROUND WIRE OPEN
LIFTGATE AJAR SWITCH SENSE WIRE OPEN
RATCHET SWITCH

TEST	ACTION	APPLICABILITY
1	**NOTE: This DTC will only set during the releasing operation after the 4 second time out. This may make it difficult to reproduce.** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE LATCH RELEASE - RATCHET SWITCH FAILURE? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the door several times and check for any binding or other obstructions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, loose/ hard or torn seals, worn teeth on the gear or anything that would cause an obstruction to proper operation. Manually operate the liftgate of a known good vehicle and notice the effort needed to open and close. Compare the effort needed on the disabled liftgate. Especially notice the effort needed to unlatch and close the liftgate. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE LATCH RELEASE - RATCHET SWITCH FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	With the DRBIII® in Inputs/Outputs, read the RATCHET state. Open the liftgate to full open position. Using a screwdriver, click the latch to the second detent while observing the DRBIII®. Unlatch the latch by pressing the handle switch and observe the DRBIII® for a state change. Repeat this step several times while moving the liftgate in different positions and wiggling the wiring harness to check for an intermittent short. Did the DRB111® show the switch state changes correctly every time? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Power Liftgate C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance of the Ground wire between the PLG C2 connector (cavity 20) and the Liftgate Cinch/Release Motor connector (cavity 1). Wiggle the harness while observing the ohmmeter. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Ground wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector (latch assembly). Measure the resistance of the Liftgate Ajar Switch Sense wire between the PLG C2 connector and the Liftgate Cinch/Release Motor connector. Wiggle the harness and move the liftgate in different positions while observing the ohmmeter. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Liftgate Ajar Switch Sense wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Ratchet Switch (latch assembly). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE LATCH RELEASE- OVER CURRENT

When Monitored and Set Condition:

INCOMPLETE LATCH RELEASE- OVER CURRENT

When Monitored: Whenever the power liftgate latch is operated (power or manual).

Set Condition: The latch motor stall current of 6.2 amps was detected during a non-redundant release. The main causes of this code setting is some type of obstruction during the release or excessive draw on the motor. This code is set during the releasing operation.

POSSIBLE CAUSES
DTC PRESENT
BINDING DOOR
POOR GROUND
PAWL OR RATCHET SWITCH STUCK
CINCH RELEASE MOTOR ASSEMBLY

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE LATCH RELEASE - OVER CURRENT? Yes → Go To 2 No → Check for any other PLG DTC's before proceeding. If there are none, operate the liftgate several times and check for any binding or other obstructions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, lose/ hard or torn seals, worn teeth on the rack and gear (lower drive unit) or anything that would cause an obstruction to proper operation. Manually operate the liftgate of a known good vehicle and notice the effort needed to open and close. Compare the effort needed on the disabled liftgate. Especially notice the effort needed to unlatch and close the liftgate. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(S). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE LATCH RELEASE- OVER CURRENT — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Cinch/Release Motor connector (latch).. Using a 12-volt test light connected to 12-volts, check the Ground circuit (cavity 1). The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Ground circuit for high resistance. Perform BODY VERIFICATION TEST - VER 1.	All
4	With the DRBIII® in Inputs/Outputs, read the PAWL SW and the RATCHET SW states. Open and close the liftgate manually and observe the Ratchet and Pawl Switch states. Do both switches toggle from open to close? No → Replace the Cinch Release Motor (Latch) Assembly. Perform BODY VERIFICATION TEST - VER 1. Yes → Lubricate the latch and check for any sticking conditions. If unable to isolate problem, replace the Cinch Release Motor (Latch Assembly). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE LATCH RELEASE- PAWL SWITCH FAILURE

When Monitored and Set Condition:

INCOMPLETE LATCH RELEASE- PAWL SWITCH FAILURE

When Monitored: Whenever the power liftgate is operating in an opening direction.

Set Condition: The release operation was not completed due to the non-transition of the pawl switch during the power release operation. The ratchet switch was detected as grounded but the pawl remained open. This code is set during the power releasing operation from a fully closed liftgate.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
POWER LIFTGATE MODULE - PAWL CIRCUIT
GROUND WIRE OPEN
PAWL SWITCH SENSE WIRE OPEN
PAWL SWITCH

TEST	ACTION	APPLICABILITY
1	**NOTE: This DTC will only set during the cinching operation after the 4 second time out. This may make it difficult to reproduce.** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE LATCH RELEASE - PAWL SWITCH FAILURE? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the door several times and check for any binding or other obstructions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, loose/ hard or torn seals, track assembly or anything that would cause an obstruction to proper operation. Manually operate the liftgate of a known good vehicle and notice the effort needed to open and close. Compare the effort needed on the disabled liftgate. Especially notice the effort needed to unlatch and close the liftgate. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE LATCH RELEASE- PAWL SWITCH FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	With the DRBIII® in Inputs/Outputs, read the PAWL state. Open the liftgate to full open position. Using a screwdriver, click the latch to the first detent while observing the DRB111®. Unlatch the latch by pressing the handle switch and observe the DRB111® for a change of state. Repeat this step several times while moving the liftgate in different positions and wiggling the wiring harness to check for an intermittent open.. Did the DRB111® show the switch state changes correctly every time? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Power Liftgate C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance of the Ground wire between the PLG C2 connector (cavity 20) and the Liftgate Cinch/Release Motor connector (cavity 1). Wiggle the harness while observing the ohmmeter. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Ground wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Liftgate Control Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector (latch assembly). Measure the resistance of the Liftgate Pawl Switch Sense circuit between the PLG C2 connector and the Liftgate Cinch/Release Motor connector. Wiggle the harness while observing the ohmmeter. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Liftgate Pawl Switch Sense wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Liftgate Pawl Switch (latch assembly). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE LATCH RELEASE- SECTOR GEAR RETURN FAILURE

When Monitored and Set Condition:

INCOMPLETE LATCH RELEASE- SECTOR GEAR RETURN FAILURE

When Monitored: Whenever the power liftgate is operating.

Set Condition: If the cinch release motor takes longer than 700 ms to perform a release operation this code will set. The main causes of this code setting is some type of sticking situation preventing the sector gear in the cinch release motor assembly to return to its neutral position.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
LIFTGATE CINCH RELEASE MOTOR ASSEMBLY

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE LATCH RELEASE - SECTOR GEAR RETURN FAILURE? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the door several times and check for any binding or other obstructions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, loose/hard or torn seals, struts or anything that would cause an obstruction to proper operation. Manually operate the liftgate of a known good vehicle and notice the effort needed to open and close. Compare the effort needed on the disabled liftgate. Especially notice the effort needed to unlatch and close the liftgate. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Replace the Liftgate Cinch Release Motor Assembly.. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE POWER CLOSE - FULL OPEN SWITCH FAILURE

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - FULL OPEN SWITCH FAILURE

When Monitored: Whenever the power liftgate is closing.

Set Condition: The Full Open Switch was detected as closed before 200 optical pulses were counted since the start of the close operation. May be triggered by an intermittent full open switch failure, or non gear engagement

POSSIBLE CAUSES
DTC PRESENT
OBSTRUCTION OR STICKING FULL OPEN SWITCH
FULL OPEN SWITCH SHORT TO GROUND
FULL OPEN SWITCH

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - FULL OPEN SWITCH FAILURE? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding cables or other obstructions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, foreign material in the drive unit or anything that would cause an obstruction to proper operation of the Full Open Switch. With the DRBIII® in Inputs/Outputs, read the FULL OPEN SWITCH state. Manually operate the liftgate while monitoring the DRBIII®. Does the switch status change smoothly as the liftgate is pulled down from the full open position. Yes → Go To 3 No → Replace the Full Open Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER CLOSE - FULL OPEN SWITCH FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	With the DRBIII® in Inputs/Outputs, read the FULL OPEN SWITCH state. Open the liftgate to mid position. While monitoring the DRBIII®, wiggle the wiring harness from the Power Liftgate Module to the Full Open Switch on the Power Liftgate Motor assembly. Did the switch status ever change? Yes → Repair the Liftgate Full Open Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	If there are no possible causes remaining, view repair. Repair Replace the Full Open Switch. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE POWER CLOSE - EXCESSIVE OPTICAL COUNTS

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - EXCESSIVE OPTICAL COUNTS

When Monitored: During Power Liftgate closing cycle.

Set Condition: If the PLG Module detects that the Power Liftgate Motor has generated more than 700 optical pulses during a full power cycle, this code will set.

POSSIBLE CAUSES
DTC PRESENT
POWER LIFTGATE MODULE - OPTICAL SENSE OPEN
BINDING LIFTGATE
LIFTGATE CLUTCH DRIVER WIRE OPEN
LIFTGATE CLUTCH GROUND OPEN
PWR LIFTGATE DRIVE UNIT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the Power Liftgate several times from stop to stop if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - EXCESSIVE OPTICAL COUNTS? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper alignment, worn or binding hinges, weak liftgate prop assembly, loose/ hard weatherstrip, and track assembly for wear or anything that would cause an obstruction to proper operation. If necessary manually operate the power liftgate on a known good vehicle and notice the effort needed to open and close for comparison. Especially notice the effort needed to unlatch and close the liftgate. Were there any mechanical problems found? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER CLOSE - EXCESSIVE OPTICAL COUNTS — Continued

TEST	ACTION	APPLICABILITY
3	Operate the liftgate from the full closed position and put an obstacle in it's path to make it reverse. Did the liftgate reverse back to the closed position? Yes → Go To 4 No → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Power Liftgate Drive Unit connector Measure the resistance of the Ground circuit between the Drive Unit connector (cavity 9) and ground. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Liftgate Clutch Ground for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Power Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Liftgate Clutch Driver circuit between the Power Liftgate Drive Unit connector and the Power Liftgate Module C2 connector. Is the resistance below 5.0 ohms? Yes → Replace the Power Liftgate Drive Unit. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Liftgate Clutch Driver wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER CLOSE - INVALID PAWL TRANSITION

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - INVALID PAWL TRANSITION

When Monitored: During the Liftgate close cycle.

Set Condition: The module monitors liftgate position using the optical sensor inputs. If the module senses the pawl circuit open for over 3ms. to early in the close cycle (indicating wrong gate position), this code will set.

POSSIBLE CAUSES
DTC PRESENT
GROUND CIRCUIT OPEN
OPEN LIFTGATE AJAR CIRCUIT
LIFTGATE PAWL WIRE OPEN
CINCH/RELEASE MOTOR (LATCH)
PLG MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: When this code is set, the module will abort the power close cycle and begin "Clutch Pulsing". This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving (based on Optical Sensor inputs).** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate over 10 times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - INVALID PAWL TRANSITION? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Especially check the C307 connector and the Liftgate Pawl Switch circuit. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Liftgate Cinch/Release Motor connector. Using a 12-volt test light connected to 12-volts, check the GROUND (cavity 1) circuit. The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Does the test light illuminate brightly? Yes → Go To 3 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER CLOSE - INVALID PAWL TRANSITION — Continued

TEST	ACTION	APPLICABILITY
3	With the DRBIII®, read the Liftgate Ajar status. Manually open and close the Liftgate while monitoring the Liftgate Ajar circuit. Does the DRBIII® display OPEN and CLOSE as the Liftgate is opened and closed? Yes → Go To 4 No → Refer to symptom LIFTGATE AJAR CIRCUIT OPEN in the DOOR AJAR category. Perform BODY VERIFICATION TEST - VER 1.	All
4	With the DRBIII®, read the Liftgate Pawl Switch status. Manually open and close the Liftgate while monitoring the Liftgate Pawl Switch circuit. Does the DRBIII® display OPEN and CLOSE as the Liftgate is opened and closed? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Cinch/Release Motor connector. Measure the resistance of the Liftgate Pawl Switch Sense circuit between the Module connector and the Motor connector. Is the resistance below 5.0 ohms? Yes → Replace the Liftgate Cinch Release Motor (Latch Assy). Perform BODY VERIFICATION TEST - VER 1. No → Repair the Liftgate Pawl Switch Sense wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE POWER CLOSE - INVALID RATCHET TRANSITION

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - INVALID RATCHET TRANSITION

When Monitored: During the Liftgate close cycle.

Set Condition: When the module senses the ratchet switch open during the close cycle for over 40ms this code will set.

POSSIBLE CAUSES
DTC PRESENT
GROUND CIRCUIT OPEN
LIFTGATE AJAR WIRE OPEN
POWER LIFTGATE MODULE
PLG CINCH RELEASE MOTOR (LATCH)

TEST	ACTION	APPLICABILITY
1	**NOTE: : When this code is set, the module will abort the power close cycle and begin "Clutch Pulsing". This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving (based on Optical Sensor inputs). NOTE: The Ratchet Switch in the latch is connected by the Door Ajar circuit (information only).** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate over 10 times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - INVALID RATCHET TRANSITION? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Especially check the C307 connector and the Liftgate Ajar circuit. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER CLOSE - INVALID RATCHET TRANSITION — Continued

TEST	ACTION	APPLICABILITY
2	Open the liftgate Disconnect the Power Liftgate Module C2 connector. Measure the resistance between the Liftgate Ajar Switch Sense circuit and the Ground (cavity 20) circuit. While monitoring the ohmmeter, open and close the latch several times using a screwdriver and the Liftgate Service Release procedure. Wiggle the harness and connectors to verify there is not an intermittent failure. **NOTE: The ohmmeter should indicate a CLOSED circuit when the latch is OPENED and an OPEN circuit when the latch is CLOSED.** Does the ohmmeter indicate the switch is operating correctly? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	**NOTE: Ensure the Power Liftgate Module is connected before proceeding with this step.** Disconnect the Liftgate Cinch/Release Motor connector. Using a 12-volt test light connected to 12-volts, check the GROUND (cavity 1) circuit. The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. With the test light connected, move the liftgate and wiggle the harness to see if the light flickers. Does the test light illuminate brightly throughout the test? Yes → Go To 4 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Liftgate Cinch/Release Motor connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Liftgate Ajar Switch Sense wire between the Module connector and the Motor connector. While monitoring the ohmmeter, wiggle the harness and connectors to check for an intermittent condition. Is the resistance below 1.0 ohms? Yes → Replace the Power Liftgate Cinch Release Motor Assembly (Latch). Perform BODY VERIFICATION TEST - VER 1. No → Repair the Liftgate Ajar circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE POWER CLOSE - LIFTGATE DRIVER CIRCUIT SHORT TO GROUND

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - LIFTGATE DRIVER CIRCUIT SHORT TO GROUND

When Monitored: During chime operation on closing cycle.

Set Condition: When the module receives a closing command, it momentarily sends 12 volts to the Liftgate Open Driver circuit and then the Liftgate Close Driver circuit. If the module senses more than a half volt drop, it will stop operations and set this code.

POSSIBLE CAUSES
DTC PRESENT
LIFTGATE OPEN DRIVER WIRE SHORT TO GROUND
LIFTGATE CLOSE DRIVER WIRE SHORT TO GROUND
POWER LIFTGATE MODULE - SHORT TO GROUND
POWER LIFTGATE MOTOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - LIFTGATE DRIVER CIRCUIT SHORT TO GROUND? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Liftgate Module C1 connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Is the resistance below 10000.0 ohms? Yes → Go To 3 No → Go To 5	All

INCOMPLETE POWER CLOSE - LIFTGATE DRIVER CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Power Liftgate Module C1 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Liftgate Open Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Power Liftgate Module C1 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between ground and the Liftgate Close Driver circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Liftgate Close Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Motor assembly. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Power Liftgate Drive Unit connector. Ensure the Power Liftgate Module connectors are connected before proceeding. Measure the resistance between the Ground (cavity 1) circuit and the Liftgate Open Driver (cavity 6) circuit in the Drive Unit connector.. Is the resistance below 10000.0 ohms? Yes → Replace the Power Liftgate module. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

INCOMPLETE POWER CLOSE - OPTICAL SIGNAL MISSING

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - OPTICAL SIGNAL MISSING

When Monitored: Whenever the power liftgate is performing a power close operation.

Set Condition: The PLG Module detects that the motor is rotating (monitors optical pulses) but no optical pulses are being detected. This code is set during the power close (after the chime period) operation.

POSSIBLE CAUSES
DTC PRESENT
CLUTCH CONDITION
BINDING LIFTGATE
OPTICAL SENSOR GROUND CIRCUIT OPEN
LIFTGATE OPEN DRIVER CIRCUIT SHORT TO LIFTGATE CLOSE DRIVER CIRCUIT
OPTICAL SENSOR SIGNAL 1 OR 2 WIRE SHORT TO GROUND
OPTICAL SENSOR SUPPLY WIRE OPEN
OPTICAL SENSOR SUPPLY WIRE SHORT TO GROUND
OPTICAL SENSOR SIGNAL 1 OR 2 WIRE OPEN
OPTICAL SENSOR
POWER LIFTGATE MODULE - OPTICAL SENSE
POWER LIFTGATE MODULE - OPTICAL SENSOR SUPPLY OPEN

TEST	ACTION	APPLICABILITY
1	**NOTE: NOTE: When this code is set, the module will abort the power close cycle and begin "Clutch Pulsing". This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving (based on Optical Sensor inputs).** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times from stop to stop if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - OPTICAL SIGNAL MISSING? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER CLOSE - OPTICAL SIGNAL MISSING — Continued

TEST	ACTION	APPLICABILITY
2	Examine the liftgate for proper alignment, worn or binding hinges, weak liftgate prop assembly, loose/ hard weatherstrip, and track assembly for wear or anything that would cause an obstruction to proper operation. If necessary manually operate the power liftgate on a known good vehicle and notice the effort needed to open and close for comparison. Especially notice the effort needed to unlatch and close the liftgate. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Open the liftgate manually to the middle position. With the DRBIII®, actuate the CLUTCH ENGAGEMENT. Try to move the liftgate by hand to the full open and close positions. **NOTE: When the clutch is engaged by the DRBIII®, you should not be able to move the liftgate.** Were you able to move the liftgate at all? Yes → Replace the Power Liftgate Drive Unit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Power Liftgate Module C1 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between the Liftgate Close Driver circuit and the Liftgate Open Driver circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Liftgate Open Driver circuit for a short to the Liftgate Close Driver circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	**NOTE: Ensure all the Liftgate connectors are connected before proceeding.** With the DRBIII® in Sensors, read the OPTICAL SENS 1 and then OPTICAL SENS 2 counts. Manually open and close the liftgate while observing the DRBIII®. Did the sensor counts change smoothly for both sensors as the liftgate was moved to the full stops? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the Power Liftgate Drive Unit connector. Using a 12-volt test light connected to 12-volts, check the Optical Sensor Ground circuit (cavity 3) in the harness connector. Does the test light illuminate brightly? Yes → Go To 7 No → Repair the Optical Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER CLOSE - OPTICAL SIGNAL MISSING — Continued

TEST	ACTION	APPLICABILITY
7	Disconnect the Power Liftgate Drive Unit connector. Turn the ignition on. Measure the voltage between ground and the Optical Sensor Supply circuit in the harness connector. Is the voltage above 4.7 volts? Yes → Go To 8 No → Go To 10	All
8	Disconnect the Power Liftgate Module C2 connector. Measure the resistance between ground and the Optical Sensor Signal 1 then Optical Sensor Signal 2 circuits in the Power Liftgate C2 connector. Is the resistance below 20000.0 ohms in either circuits? Yes → Repair the Optical Sensor Signal 1 or 2 wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Turn the ignition off. Disconnect the Power Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Optical Sensor Signal 1 then 2 circuit between the Power Liftgate Drive Unit connector and the Power Liftgate Module C2 connector. Is the resistance below 2.0 ohms on both circuits? Yes → Replace the Optical Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Optical Sensor Signal 1 or 2 wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Disconnect the Power Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance between ground and the Liftgate Optical Sensor Supply circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Optical Sensor Supply wire for a short to Ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	Disconnect the Power Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Liftgate Optical Supply circuit between the Drive Unit connector and the Module connector. Is the resistance below 5.0 ohms? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Optical Sensor Supply wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER CLOSE - OVER CURRENT

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - OVER CURRENT

When Monitored: Anytime the liftgate is in a closing operation.

Set Condition: The drive motor stall current of over 24 amps has been detected for over 500 ms. or during the initial clutch engagement.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
GROUND CIRCUIT OPEN
LIFTGATE CLOSE DRIVER CIRCUIT SHORT TO GROUND
LIFTGATE LATCH RELEASE DRIVER CIRCUIT SHORT TO GROUND
LIFTGATE LATCH RELEASE DRIVER CIRCUIT SHORT TO HARNESS GROUND
LIFTGATE CLUTCH DRIVER CIRCUIT SHORT TO GROUND
LIFTGATE CLUTCH DRIVER CIRCUIT SHORT TO HARNESS GROUND
DRIVE MOTOR
LIFTGATE MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times (if possible). With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE- OVERCURRENT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER CLOSE - OVER CURRENT — Continued

TEST	ACTION	APPLICABILITY
2	Examine the liftgate for proper alignment, worn or binding hinges, weak or binding liftgate prop rods, loose/ hard weatherstrip, and track assembly for wear or anything that would cause an obstruction to proper operation. Manually operate the liftgate of a known good vehicle and notice the effort needed to open and close. Compare the effort needed on the disabled vehicle. Especially notice the effort needed to unlatch and close the liftgate. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Power Liftgate Module C1 connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. Wiggle the harness and check for an intermittent open condition. Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Power Liftgate Module C1 connector. Measure the resistance between ground and the Liftgate Close Driver circuit. Wiggle the harness and check for an intermittent short circuit condition. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Close Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Measure the resistance between ground and the Liftgate Latch Release Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Latch Release Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Measure the resistance between the Ground circuit (cavity 20) and the Liftgate Latch Release Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Latch Release Driver circuit for a short to the Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All

INCOMPLETE POWER CLOSE - OVER CURRENT — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between ground and the Liftgate Clutch Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Clutch Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between the Ground circuit (cavity 20) and the Liftgate Clutch Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Clutch Driver circuit for a short to the Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Ensure all module and motor connectors are connected at this time. Try to operate the liftgate in the close position. Did the motor start to close the liftgate but was very slow and labored extensively? Yes → Replace the Power Liftgate Drive Motor. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Module Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER CLOSE - TRANSISTOR SHORTED

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - TRANSISTOR SHORTED

When Monitored: Whenever the power liftgate is performing a power close operation.

Set Condition: The Power Liftgate Module senses current through the transistor even though the device is turned off. This is checked at the start of every power close cycle during the chime period, before the liftgate starts to move.

POSSIBLE CAUSES
DTC PRESENT
POWER LIFTGATE MODULE SHORT TO GROUND
LIFTGATE OPEN DRIVER WIRE SHORT TO GROUND
LIFTGATE CLOSE DRIVER WIRE SHORT TO GROUND
POWER LIFTGATE MOTOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - TRANSISTOR SHORTED? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Power Liftgate Module C1 harness connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Is the resistance below 1000.0 ohms? Yes → Go To 3 No → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER CLOSE - TRANSISTOR SHORTED — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Liftgate Module C1 harness connector. Disconnect the Power Liftgate Motor connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Open Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Power Liftgate Module C1 harness connector. Disconnect the Power Liftgate Motor connector. Measure the resistance between ground and the Liftgate Close Driver circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Close Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Motor. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER CLOSE - UNDER CURRENT/OVERHEAT

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - UNDER CURRENT/OVERHEAT

When Monitored: During the Liftgate close cycle.

Set Condition: When the module senses less than 1 amp on the Liftgate Open Driver circuit.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
WEAK CIRCUIT BREAKER
RESISTED OPEN DRIVER CIRCUIT
RESISTED CLOSE DRIVER CKT
PLG MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: When this code is set, the module will abort the power close cycle and begin "Clutch Pulsing". This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving (based on Optical Sensor inputs).** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate over 10 times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - UNDERCURRENT/OVERHEAT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	This test will determine if the Drive Unit circuit breaker is weak. When gate was operated in the previous step, did it operate properly and then quit suddenly? Yes → Replace the Drive Unit Motor (weak circuit breaker).. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER CLOSE - UNDER CURRENT/OVERHEAT — Continued

TEST	ACTION	APPLICABILITY
3	Examine the liftgate for proper fit and alignment, or anything that would cause an obstruction to proper operation. Check the prop rods to ensure liftgate will self rise from approximately 1/4 open position. Manually operate the liftgate several times. If necessary, manually operate the liftgate of a known good vehicle and notice the effort needed to open it. Does it take more effort to operate the liftgate of the disabled vehicle than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	**NOTE: Check all connectors for corrosion and proper fit and repair as necessary before proceeding** Disconnect the Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C1 connector. Measure the resistance of the Liftgate Open Driver circuit between the Liftgate Drive Unit connector and the Power Liftgate Module connector. Is the resistance below 1.0 ohms? Yes → Go To 5 No → Locate and repair the liftgate open driver circuit for high resistance. Perform BODY VERIFICATION TEST - VER 1.	All
5	**NOTE: Check all connectors for corrosion and proper fit and repair as necessary before proceeding** Disconnect the Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C1 connector. Measure the resistance of the Liftgate Close Driver circuit between the Liftgate Drive Unit connector and the Power Liftgate Module connector. Is the resistance below 1.0 ohms? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Locate and repair the liftgate close driver circuit for high resistance. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE POWER CLOSE - VOLTAGE BELOW MINIMUM LEVEL

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE - VOLTAGE BELOW MINIMUM LEVEL

When Monitored: Whenever the power liftgate is performing a power close operation.

Set Condition: The PLG Module detects that the voltage is below 9.5 volts during the power close operation.

POSSIBLE CAUSES
DTC PRESENT
MODULE VOLTAGE LOW
BINDING LIFTGATE
DRB OPERATING VOLTAGE LOW
PLG MODULE - HIGH RESISTANCE
POWER LIFTGATE DRIVE MOTOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - VOLTAGE BELOW MINIMUM LEVEL? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the door several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, or anything that would cause an obstruction to proper operation. Check the prop rods to ensure liftgate will fall closed from the approximately 3/4 closed position. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER CLOSE - VOLTAGE BELOW MINIMUM LEVEL — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Test the battery to ensure it is fully charged and in good condition before proceeding.** Turn the ignition off. Turn all lights and accessories off. With the DRBIII® in ″Power Liftgate″ ″Monitor Display″ ″PCI Bus Info″ read the ″Battery Voltage″ and compare it to the ″PLG Bat Volts Input″. **NOTE: If the difference is greater than 0.5 volts, backprobe the Fused B(+) at the module to verify.** Does the voltage vary more than 0.5 volts? Yes → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Locate and repair the reason for the voltage drop. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Turn all lights and accessories off. With the DRBIII® in ″Power Liftgate″″ ″Monitor Display″ ″PCI Bus Info″ read the ″Battery Voltage″ and compare it to the ″PLG Bat Volts Input″. Operate the power liftgate and observe the voltage difference. **NOTE: If the difference is greater than 1.6 volts, backprobe the Fused B(+) at the module to verify.** Does the voltage vary more than 1.6 volts when the liftgate is operating? Yes → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Locate and repair the reason for the voltage drop. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Turn all lights and accessories off. Open the Liftgate. Remove the left rear trim panel to gain access to the Power Liftgate Module. Remove the PLG module but leave it connected. Backprobe voltmeter leads between the Fused B(+) and the Liftgate Close Driver circuits in the PLG C1 connector. Operate the power liftgate in the CLOSED position and observe the voltage difference. Does the voltage vary more than 1.0 volts when the liftgate is operating?? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Check the wiring and connections from the module to the motor for high resistance. If the wiring is okay, replace the Power Liftgate Drive Motor. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE POWER CLOSE -TIME OUT

When Monitored and Set Condition:

INCOMPLETE POWER CLOSE -TIME OUT

When Monitored: Anytime the Power Liftgate is in a power close operation.

Set Condition: If the unit takes longer than 20 seconds to complete the close cycle, this code will set.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
LIFTGATE DRIVER CIRCUIT PARTIAL SHORT TO GROUND
MODULE VOLTAGE LOW
DRB OPERATING VOLTAGE LOW
PLG MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: When this code is set, the module will abort the power close cycle and begin "Clutch Pulsing". This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving (based on Optical Sensor inputs).** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - TIME OUT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, or anything that would cause an obstruction to proper operation. Check the prop rods to ensure liftgate will self rise from approximately 1/4 open position. Manually operate the liftgate several times. If necessary, manually operate the liftgate of a known good vehicle and notice the effort needed to open it. Does it take more effort to operate the liftgate of the disabled vehicle than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER CLOSE -TIME OUT — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Liftgate Drive Unit C1 connector. Measure the resistance between ground and the Liftgate Close Driver circuit. Is the resistance below 1000.0 ohms? Yes → Locate and repair the liftgate driver circuit for a partial short to ground. It could be in either the Open or the Close circuit. If the drive circuits are okay, replace the drive motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	**NOTE: Test the battery to ensure it is fully charged and in good condition before proceeding.** Turn the ignition off. Turn all lights and accessories off. **NOTE: Ensure all the connectors are connected before proceeding with this step.** With the DRBIII® in ″Power Liftgate″ ″Monitor Display″ ″PCI Bus Info″ read the ″Battery Voltage″ and compare it to the ″PLG Bat Volts Input″. **NOTE: If the difference is greater than 0.5 volts, backprobe the Fused B(+) at the module to verify.** Does the voltage vary more than 0.5 volts? Yes → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Locate and repair the reason for the voltage drop. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Turn all lights and accessories off. With the DRBIII® in ″Power Liftgate″″ ″Monitor Display″ ″PCI Bus Info″ read the BATTERY VOLTAGE and compare it to the MODULE VOLTAGE. Operate the power liftgate and observe the voltage difference. **NOTE: If the difference is greater than 1.6 volts, backprobe the Fused B(+) at the module to verify.** Does the voltage vary more than 1.6 volts when the liftgate is operating?? Yes → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Locate and repair the reason for the voltage drop. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER OPEN - FULL OPEN SWITCH FAILURE

When Monitored and Set Condition:

INCOMPLETE POWER OPEN - FULL OPEN SWITCH FAILURE

When Monitored: During the Power Liftgate open cycle.

Set Condition: The Full Open Switch was detected as closed before 200 optical pulses were counted since the start of the open operation. May be triggered by an intermittent full open switch failure.

POSSIBLE CAUSES
DTC PRESENT
FULL OPEN SWITCH INTERMITTENT SHORT TO GROUND
FULL OPEN SWITCH SENSE WIRE SHORT TO GROUND
FULL OPEN SWITCH
POWER LIFTGATE MODULE.

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE POWER OPEN - FULL OPEN SWITCH FAILURE? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding or obstructions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, foreign material in the drive unit or anything that would cause an obstruction to proper operation of the Full Open Switch. With the DRBIII® in Inputs/Outputs, read the FULL OPEN SWITCH state. Manually operate the liftgate while monitoring the DRBIII®. Does the switch status change smoothly as the liftgate is pulled down from the full open position. Yes → Go To 3 No → Go To 4	All

INCOMPLETE POWER OPEN - FULL OPEN SWITCH FAILURE — Continued

TEST	ACTION	APPLICABILITY
3	Remove the left rear trim panel to gain access to the Power Liftgate Drive Unit. With the DRBIII® in Inputs/Outputs, read the FULL OPEN SWITCH state. Open the liftgate to mid position. While monitoring the DRBIII®, wiggle the wiring harness from the Power Liftgate Module to the Full Open Switch on the Power Liftgate Drive Unit assembly. Did the switch status ever change? Yes → Repair the Full Open Switch Sense circuit for an intermittent short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
4	Remove the left rear trim panel to gain access to the Power Liftgate Drive Unit. Disconnect the Power Liftgate Drive Unit connector. Measure the voltage between Liftgate Full Open Switch Sense circuit and ground. While measuring the voltage, wiggle the harness from the PLG module to the Drive Unit connector. Is the voltage constantly above 4.6 volts? Yes → Replace the Full Open Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the Power Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C2 connector Measure the resistance between ground and the Liftgate Full Open Switch Sense circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Full Open Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER OPEN - EXCESSIVE OPTICAL COUNTS

When Monitored and Set Condition:

INCOMPLETE POWER OPEN - EXCESSIVE OPTICAL COUNTS

When Monitored: During Power Liftgate opening cycle.

Set Condition: If the PLG Module detects that the Power Liftgate Motor has generated more than 700 optical pulses during a full power cycle, this code will set.

POSSIBLE CAUSES
DTC PRESENT
POWER LIFTGATE MODULE - OPTICAL SENSE OPEN
BINDING LIFTGATE
LIFTGATE CLUTCH DRIVER CIRCUIT - SHORT TO GROUND
LIFTGATE CLUTCH DRIVER WIRE OPEN
LIFTGATE CLUTCH GROUND OPEN
PWR LIFTGATE DRIVE UNIT
PWR LIFTGATE DRIVE UNIT - CLUTCH SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the Power Liftgate several times from stop to stop if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE POWER OPEN - EXCESSIVE OPTICAL COUNTS? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper alignment, worn or binding hinges, weak liftgate prop assembly, loose/ hard weatherstrip, and track assembly for wear or anything that would cause an obstruction to proper operation. If necessary manually operate the power liftgate on a known good vehicle and notice the effort needed to open and close for comparison. Especially notice the effort needed to unlatch and close the liftgate. Were there any mechanical problems found? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER OPEN - EXCESSIVE OPTICAL COUNTS — Continued

TEST	ACTION	APPLICABILITY
3	Operate the liftgate from the full closed position and put an obstacle in it's path to make it reverse. Did the liftgate reverse back to the closed position? Yes → Go To 4 No → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Power Liftgate Module C2 connector. Measure the resistance between Ground and the Liftgate Drive Clutch Driver circuit. Is the resistance below 6.5 ohms? Yes → Go To 5 No → Go To 6	All
5	Disconnect the Power Liftgate Module C2 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between Ground and the Liftgate Clutch Driver circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Clutch Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Drive Unit. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Power Liftgate Drive Unit connector Measure the resistance of the Ground circuit between the Drive Unit connector (cavity 9) and ground. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the Liftgate Clutch Ground for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	Disconnect the Power Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Liftgate Clutch Driver circuit between the Power Liftgate Drive Unit connector and the Power Liftgate Module C2 connector. Is the resistance below 5.0 ohms? Yes → Replace the Power Liftgate Drive Unit. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Liftgate Clutch Driver wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER OPEN - INVALID PAWL TRANSITION

When Monitored and Set Condition:

INCOMPLETE POWER OPEN - INVALID PAWL TRANSITION

When Monitored: During the Liftgate open cycle.

Set Condition: The module monitors liftgate position using the optical sensor inputs. If the module senses the pawl circuit open for over Ms. to early in the open cycle (indicating wrong gate position), this code will set.

POSSIBLE CAUSES
DTC PRESENT
GROUND CIRCUIT OPEN
LIFTGATE PAWL SWITCH SENSE WIRE OPEN
POWER LIFTGATE MODULE
PLG CINCH RELEASE MOTOR (LATCH)

TEST	ACTION	APPLICABILITY
1	**NOTE: When this code is set, the module will abort the power open cycle and begin "Clutch Pulsing". This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving (based on Optical Sensor inputs).** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate over 10 times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER CLOSE - INVALID PAWL TRANSITION? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Especially check the C307 connector and the Liftgate Ajar circuit. Perform BODY VERIFICATION TEST - VER 1.	All
2	Open the liftgate Disconnect the Power Liftgate Module C2 connector. Measure the resistance between the Liftgate Pawl Switch Sense circuit and the Ground (cavity 20) circuit. While monitoring the ohmmeter, open and close the latch several times using a screwdriver and the Liftgate Service Release procedure. Wiggle the harness and connectors to verify there is not an intermittent failure. **NOTE: The ohmmeter should indicate a CLOSED circuit when the latch is OPENED and an OPEN circuit when the latch is CLOSED.** Does the ohmmeter indicate the switch is operating correctly? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER OPEN - INVALID PAWL TRANSITION — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Ensure the Power Liftgate Module is connected before proceeding with this step.** Disconnect the Liftgate Cinch/Release Motor connector. Using a 12-volt test light connected to 12-volts, check the GROUND (cavity 1) circuit. The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. With the test light connected, move the liftgate and wiggle the harness to see if the light flickers. Does the test light illuminate brightly throughout the test? Yes → Go To 4 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Liftgate Cinch/Release Motor connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Liftgate Pawl Switch Sense wire between the Module connector and the Motor connector. While monitoring the ohmmeter, wiggle the harness and connectors to check for an intermittent condition. Is the resistance below 1.0 ohms? Yes → Replace the Power Liftgate Cinch Release Motor Assembly-(Latch). Perform BODY VERIFICATION TEST - VER 1. No → Repair the Liftgate Pawl Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE POWER OPEN - LIFTGATE DRIVER CIRCUIT SHORT TO GROUND

When Monitored and Set Condition:

INCOMPLETE POWER OPEN - LIFTGATE DRIVER CIRCUIT SHORT TO GROUND

When Monitored: During chime operation on opening cycle.

Set Condition: When the module receives an opening command, it momentarily sends 12 volts to the Liftgate Open Driver circuit and then the Liftgate Close Driver circuit. If the module senses more than a half volt drop, it will stop operations and set this code.

POSSIBLE CAUSES
DTC PRESENT
LIFTGATE OPEN DRIVER WIRE SHORT TO GROUND
LIFTGATE CLOSE DRIVER WIRE SHORT TO GROUND
LIFTGATE OPEN DRIVER CIRCUIT SHORT TO LIFTGATE CLOSE DRIVER CIRCUIT
LIFTGATE MODULE
POWER LIFTGATE MOTOR
POWER LIFTGATE MOTOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER OPEN - LIFTGATE DRIVER CIRCUIT SHORT TO GROUND? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Liftgate Module C1 connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Is the resistance below 10000.0 ohms? Yes → Go To 3 No → Go To 5	All

INCOMPLETE POWER OPEN - LIFTGATE DRIVER CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Power Liftgate Module C1 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Liftgate Open Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Power Liftgate Module C1 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between ground and the Liftgate Close Driver circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Liftgate Close Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Motor assembly. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Power Liftgate Module C1 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between the Liftgate Close Driver circuit and the Liftgate Open Driver circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Liftgate open Driver circuit for a short to the Liftgate Close Driver circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Ensure all connections to the module and liftgate motor are connected at this time. Operate the Power Liftgate in both directions if possible. Does the motor start to lift the liftgate but is very slow and labors extensively? Yes → Replace the Power Liftgate Motor assembly. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Module Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER OPEN - OPTICAL SIGNAL MISSING

When Monitored and Set Condition:

INCOMPLETE POWER OPEN - OPTICAL SIGNAL MISSING

When Monitored: Whenever the power liftgate is performing a power open operation.

Set Condition: The PLG Module detects that the motor is rotating (monitors optical pulses) but no optical pulses are being detected. This code is set during the power open (after the chime period) operation.

POSSIBLE CAUSES
DTC PRESENT
CLUTCH CONDITION
BINDING LIFTGATE
OPTICAL SENSOR GROUND CIRCUIT OPEN
LIFTGATE OPEN DRIVER CIRCUIT SHORT TO LIFTGATE CLOSE DRIVER CIRCUIT
OPTICAL SENSOR SIGNAL 1 OR 2 WIRE SHORT TO GROUND
OPTICAL SENSOR SUPPLY WIRE OPEN
OPTICAL SENSOR SUPPLY WIRE SHORT TO GROUND
OPTICAL SENSOR SIGNAL 1 OR 2 WIRE OPEN
OPTICAL SENSOR
POWER LIFTGATE MODULE - OPTICAL SENSE
POWER LIFTGATE MODULE - OPTICAL SENSOR SUPPLY OPEN

TEST	ACTION	APPLICABILITY
1	**NOTE: NOTE: When this code is set, the module will abort the power open cycle and begin "Clutch Pulsing". This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving (based on Optical Sensor inputs).** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times from stop to stop if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE POWER OPEN - OPTICAL SIGNAL MISSING? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER OPEN - OPTICAL SIGNAL MISSING — Continued

TEST	ACTION	APPLICABILITY
2	Examine the liftgate for proper alignment, worn or binding hinges, weak liftgate prop assembly, loose/ hard weatherstrip, and track assembly for wear or anything that would cause an obstruction to proper operation. If necessary manually operate the power liftgate on a known good vehicle and notice the effort needed to open and close for comparison. Especially notice the effort needed to unlatch and close the liftgate. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Open the liftgate manually to the middle position. With the DRBIII®, actuate the CLUTCH ENGAGEMENT. Try to move the liftgate by hand to the full open and close positions. **NOTE: When the clutch is engaged by the DRBIII®, you should not be able to move the liftgate.** Were you able to move the liftgate at all? Yes → Replace the Power Liftgate Drive Unit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Power Liftgate Module C1 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between the Liftgate Close Driver circuit and the Liftgate Open Driver circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Liftgate Open Driver circuit for a short to the Liftgate Close Driver circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	**NOTE: Ensure all the Liftgate connectors are connected before proceeding.** With the DRBIII® in Sensors, read the OPTICAL SENS 1 and then OPTICAL SENS 2 counts. Manually open and close the liftgate while observing the DRBIII®. Did the sensor counts change smoothly for both sensors as the liftgate was moved to the full stops? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Disconnect the Power Liftgate Drive Unit connector. Using a 12-volt test light connected to 12-volts, check the Optical Sensor Ground circuit (cavity 3) in the harness connector. Does the test light illuminate brightly? Yes → Go To 7 No → Repair the Optical Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER OPEN - OPTICAL SIGNAL MISSING — Continued

TEST	ACTION	APPLICABILITY
7	Disconnect the Power Liftgate Drive Unit connector. Turn the ignition on. Measure the voltage between ground and the Optical Sensor Supply circuit in the harness connector. Is the voltage above 4.7 volts? Yes → Go To 8 No → Go To 10	All
8	Disconnect the Power Liftgate Module C2 connector. Measure the resistance between ground and the Optical Sensor Signal 1 then Optical Sensor Signal 2 circuits in the Power Liftgate C2 connector. Is the resistance below 20000.0 ohms in either circuits? Yes → Repair the Optical Sensor Signal 1 or 2 wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Turn the ignition off. Disconnect the Power Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Optical Sensor Signal 1 then Optical Sensor Signal 2 circuit between the Power Liftgate Drive Unit connector and the Power Liftgate Module C2 connector. Is the resistance below 2.0 ohms on both circuits? Yes → Replace the Power Liftgate Optical Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Optical Sensor Signal 1 or 2 wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Disconnect the Power Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance between ground and the Liftgate Optical Sensor Supply circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Optical Sensor Supply wire for a short to Ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	Disconnect the Power Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Liftgate Optical Supply circuit between the Drive Unit connector and the Module connector. Is the resistance below 5.0 ohms? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Optical Sensor Supply wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER OPEN - OVER CURRENT

When Monitored and Set Condition:

INCOMPLETE POWER OPEN - OVER CURRENT

When Monitored: Anytime the Power Liftgate is in a power open operation.

Set Condition: The drive motor stall current of over 24 amps has been detected for over 500 ms. or during the initial clutch engagement the drive transistor is shorted, during a power opening operation.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
GROUND CIRCUIT OPEN
LIFTGATE LATCH CINCH DRIVER CIRCUIT SHORT TO GROUND
LIFTGATE LATCH CINCH DRIVER CIRCUIT SHORT TO HARNESS GROUND
LIFTGATE OPEN DRIVER CIRCUIT SHORT TO GROUND
LIFTGATE CLUTCH DRIVER CIRCUIT SHORT TO GROUND
LIFTGATE CLUTCH DRIVER CIRCUIT SHORT TO HARNESS GROUND
LIFTGATE MODULE
POWER LIFTGATE MOTOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER OPEN - OVERCURRENT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All

INCOMPLETE POWER OPEN - OVER CURRENT — Continued

TEST	ACTION	APPLICABILITY
2	Examine the liftgate for proper alignment, worn or binding hinges, weak liftgate prop assembly, loose/ hard weatherstrip, and track assembly for wear or anything that would cause an obstruction to proper operation. If necessary manually operate the liftgate of a known good vehicle and notice the effort needed. Compare the effort needed on the disabled vehicle. Were there any mechanical problems found? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Power Liftgate Control Module C1 connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit. Wiggle the harness and check for an intermittent open condition. Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Measure the resistance between ground and the Liftgate Latch Cinch Driver circuit. Wiggle the harness and check for an intermittent shorted condition. Is the resistance below 100.0 ohms? Yes → Repair the Liftgate Latch Cinch Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Measure the resistance between the Ground circuit and the Liftgate Latch Cinch Driver circuit. Wiggle the harness and check for an intermittent shorted condition. Is the resistance below 100.0 ohms? Yes → Repair the Liftgate Latch Cinch Driver circuit for a short to the Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Power Liftgate Module C1 connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Wiggle the harness and check for an intermittent short circuit condition. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Open Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All

INCOMPLETE POWER OPEN - OVER CURRENT — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between ground and the Liftgate Clutch Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Clutch Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Turn the ignition off. Disconnect the Power Liftgate Module C2 connector. Disconnect the Power Liftgate Drive Unit connector. Measure the resistance between the Ground circuit (cavity 20) and the Liftgate Clutch Driver circuit. Wiggle the harness and check for an intermittent short condition. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Clutch Driver circuit for a short to the Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Ensure all connections to the module and liftgate motor are connected at this time. Operate the Power Liftgate in both directions if possible. Does the motor start to lift the liftgate but is very slow and labors extensively? Yes → Replace the Power Liftgate Motor assembly. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Module Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER OPEN - TRANSISTOR SHORTED

When Monitored and Set Condition:

INCOMPLETE POWER OPEN - TRANSISTOR SHORTED

When Monitored: Whenever the power liftgate is performing a power open operation.

Set Condition: The Power Liftgate Module senses current through the transistor even though the device is turned off. This is checked at the start of every power open cycle during the chime period, before the liftgate starts to move.

POSSIBLE CAUSES
DTC PRESENT
POWER LIFTGATE MODULE SHORT TO GROUND
LIFTGATE OPEN DRIVER WIRE SHORT TO GROUND
LIFTGATE CLOSE DRIVER WIRE SHORT TO GROUND
POWER LIFTGATE MOTOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display INCOMPLETE POWER OPEN - TRANSISTOR SHORTED? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Power Liftgate Module C1 harness connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Is the resistance below 1000.0 ohms? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER OPEN - TRANSISTOR SHORTED — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Liftgate Module C1 harness connector. Disconnect the Power Liftgate Motor connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Open Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Power Liftgate Module C1 harness connector. Disconnect the Power Liftgate Motor connector. Measure the resistance between ground and the Liftgate Close Driver circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Close Driver wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Motor. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER OPEN - UNDER CURRENT/OVERHEAT

When Monitored and Set Condition:

INCOMPLETE POWER OPEN - UNDER CURRENT/OVERHEAT

When Monitored: During the Liftgate opening cycle.

Set Condition: When the module senses less than 1 amp on the Liftgate Close Driver circuit. When this code is set, the module will abort the power close cycle and begin ″Clutch Pulsing″. This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving) based on Optical Sensor inputs).

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
WEAK CIRCUIT BREAKER
RESISTED OPEN DRIVER CIRCUIT
RESISTED CLOSE DRIVER CKT
PLG MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: When this code is set, the module will abort the power close cycle and begin ″Clutch Pulsing″. This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving (based on Optical Sensor inputs).** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate over 10 times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER OPEN - UNDERCURRENT/ OVERHEAT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	This test will determine if the Drive Unit circuit breaker is weak. When gate was operated in the previous step, did it operate properly and then quit suddenly? Yes → Replace the Drive Unit Motor (weak circuit breaker).. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER OPEN - UNDER CURRENT/OVERHEAT — Continued

TEST	ACTION	APPLICABILITY
3	Examine the liftgate for proper fit and alignment, or anything that would cause an obstruction to proper operation. Check the prop rods to ensure liftgate will self rise from approximately 1/4 open position. Manually operate the liftgate several times. If necessary, manually operate the liftgate of a known good vehicle and notice the effort needed to open it. Does it take more effort to operate the liftgate of the disabled vehicle than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	**NOTE: Check all connectors for corrosion and proper fit and repair as necessary before proceeding** Disconnect the Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C1 connector. Measure the resistance of the Liftgate Open Driver circuit between the Liftgate Drive Unit connector and the Power Liftgate Module connector. Is the resistance below 1.0 ohms? Yes → Go To 5 No → Locate and repair the liftgate open driver circuit for high resistance. Perform BODY VERIFICATION TEST - VER 1.	All
5	**NOTE: Check all connectors for corrosion and proper fit and repair as necessary before proceeding** Disconnect the Liftgate Drive Unit connector. Disconnect the Power Liftgate Module C1 connector. Measure the resistance of the Liftgate Close Driver circuit between the Liftgate Drive Unit connector and the Power Liftgate Module connector. Is the resistance below 1.0 ohms? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Locate and repair the liftgate close driver circuit for high resistance. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

INCOMPLETE POWER OPEN - VOLTAGE BELOW MINIMUM LEVEL

When Monitored and Set Condition:

INCOMPLETE POWER OPEN - VOLTAGE BELOW MINIMUM LEVEL

When Monitored: Whenever the power liftgate is performing a power open operation.

Set Condition: The PLG Module detects that the voltage is below 9.5 volts during the power open operation.

POSSIBLE CAUSES
DTC PRESENT
MODULE VOLTAGE LOW
BINDING LIFTGATE
DRB OPERATING VOLTAGE LOW
PLG MODULE - HIGH RESISTANCE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER OPEN - VOLTAGE BELOW MINIMUM LEVEL? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the door several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, or anything that would cause an obstruction to proper operation. Check the prop rods to ensure liftgate will self rise from approximately 1/4 open position. Does it take more effort to operate the liftgate than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER OPEN - VOLTAGE BELOW MINIMUM LEVEL — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Test the battery to ensure it is fully charged and in good condition before proceeding.** Turn the ignition off. Turn all lights and accessories off. With the DRBIII® in ″Power Liftgate″ ″Monitor Display″ ″PCI Bus Info″ read the ″Battery Voltage″ and compare it to the ″PLG Bat Volts Input″. **NOTE: If the difference is greater than 0.5 volts, backprobe the Fused B(+) at the module to verify.** Does the voltage vary more than 0.5 volts? Yes → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Locate and repair the reason for the voltage drop. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Turn all lights and accessories off. With the DRBIII® in ″Power Liftgate″″ ″Monitor Display″ ″PCI Bus Info″ read the BATTERY VOLTAGE and compare it to the MODULE VOLTAGE. Operate the power liftgate and observe the voltage difference. **NOTE: If the difference is greater than 1.6 volts, backprobe the Fused B(+) at the module to verify.** Does the voltage vary more than 1.6 volts when the liftgate is operating?? Yes → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Locate and repair the reason for the voltage drop. Perform BODY VERIFICATION TEST - VER 1. No → Check the wiring and connections from the module to the motor for high resistance. If the wiring is okay, replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
INCOMPLETE POWER OPEN -TIME OUT

When Monitored and Set Condition:

INCOMPLETE POWER OPEN -TIME OUT

When Monitored: Anytime the Power Liftgate is in a power open operation.

Set Condition: If the unit takes longer than 20 seconds to complete the open cycle, this code will set.

POSSIBLE CAUSES
DTC PRESENT
BINDING LIFTGATE
DRB OPERATING VOLTAGE LOW
LIFTGATE DRIVER CIRCUIT PARTIAL SHORT TO GROUND
MODULE VOLTAGE LOW
PLG MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: When this code is set, the module will abort the power close cycle and begin "Clutch Pulsing". This is where the module will cycle the Liftgate Clutch Driver until the gate stops moving (based on Optical Sensor inputs).** With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times if possible. With the DRBIII®, read DTCs. Does the DRBIII® display INCOMPLETE POWER OPEN - TIME OUT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the liftgate several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All
2	Examine the liftgate for proper fit and alignment, or anything that would cause an obstruction to proper operation. Check the prop rods to ensure liftgate will self rise from approximately 1/4 open position. Manually operate the liftgate several times. If necessary, manually operate the liftgate of a known good vehicle and notice the effort needed to open it. Does it take more effort to operate the liftgate of the disabled vehicle than it should? Yes → Refer to Service information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

INCOMPLETE POWER OPEN -TIME OUT — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Liftgate Drive Unit C1 connector. Measure the resistance between ground and the Liftgate Open Driver circuit. Is the resistance below 1000.0 ohms? Yes → Locate and repair the liftgate driver circuit for a partial short to ground. It could be in either the Open or the Close circuit. If the drive circuits are okay, replace the drive motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	**NOTE: Test the battery to ensure it is fully charged and in good condition before proceeding.** Turn the ignition off. Turn all lights and accessories off. **NOTE: Ensure all the connectors are connected before proceeding with this step.** With the DRBIII® in ″Power Liftgate″ ″Monitor Display″ ″PCI Bus Info″ read the ″Battery Voltage″ and compare it to the ″PLG Bat Volts Input″. **NOTE: If the difference is greater than 0.5 volts, backprobe the Fused B(+) at the module to verify.** Does the voltage vary more than 0.5 volts? Yes → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Locate and repair the reason for the voltage drop. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Turn all lights and accessories off. With the DRBIII® in ″Power Liftgate″″ ″Monitor Display″ ″PCI Bus Info″ read the BATTERY VOLTAGE and compare it to the MODULE VOLTAGE. Operate the power liftgate and observe the voltage difference. **NOTE: If the difference is greater than 1.6 volts, backprobe the Fused B(+) at the module to verify.** Does the voltage vary more than 1.6 volts when the liftgate is operating?? Yes → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Locate and repair the reason for the voltage drop. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

LIFTGATE WAKE UP OUTPUT SHORT TO VOLTAGE - BCM

When Monitored and Set Condition:

LIFTGATE WAKE UP OUTPUT SHORT TO VOLTAGE - BCM

When Monitored: Anytime the Body Control Module is awake.

Set Condition: If the BCM sense an over current signal on the Liftgate Module Wake Up Signal circuit, this code will set.

POSSIBLE CAUSES
DTC PRESENT
BODY CONTROL MODULE - LIFTGATE WAKE UP OUTPUT SHORT TO VOLTAGE
LIFTGATE MODULE WAKE UP SIGNAL WIRE SHORT TO VOLTAGE
POWER LIFTGATE MODULE - LIFTGATE WAKE UP SIGNAL SHORT TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 1 minute then turn the ignition on. Wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display LIFTGATE WAKE UP OUTPUT SHORT TO VOLTAGE? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the BCM C3 connector. Using a 12-volt test light connected to ground, check the Liftgate Module Wake Up Signal circuit in the BCM C3 harness connector. Did the test light illuminate? Yes → Go To 3 No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Body Control Module C3 connector. Disconnect the Power Liftgate Module C2 connector. Measure the voltage between the Liftgate Module Wake Up Signal circuit and ground. Is there any voltage present? Yes → Repair the Liftgate Module Wake Up Signal wire for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

LOOPBACK TEST FAILURE

When Monitored and Set Condition:

LOOPBACK TEST FAILURE

When Monitored: Anytime the Power Liftgate Module is awake.

Set Condition: The Power Liftgate Module did not receive its own transmitted message on the PCI bus back (loopback) for longer than 1 second.

POSSIBLE CAUSES
DTC PRESENT
POWER LIFTGATE MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the power liftgate several times from stop to stop if possible. With the DRBIII®, read ACTIVE DTCs. Does the DRBIII® display LOOPBACK TEST FAILURE? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Operate the door several times and check for any binding conditions. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

LOSS OF BCM MESSAGES

When Monitored and Set Condition:

LOSS OF BCM MESSAGES

When Monitored: Whenever the ignition is on.

Set Condition: If the PLG Module losses communication with the BCM for over 5 seconds, this code will set.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BODY CONTROL MODULE
POWER LIFTGATE MODULE - LOSS OF BCM MESSAGES

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, enter ″Body″ then ″Body Computer″. Was the DRBIII® able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s).	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LOSS OF PCM MESSAGES

When Monitored and Set Condition:

LOSS OF PCM MESSAGES

When Monitored: Whenever the ignition is in the RUN position.

Set Condition: If the PLG Module does not receive a speed message from the Powertrain Control Module for over 5 seconds, this code will set.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE POWERTRAIN CONTROL MODULE
POWER LIFTGATE MODULE - LOSS OF PCM MESSAGES

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, select Engine. Was the DRBIII® able to I/D or communicate with the Powertrain Control Module? Yes → Go To 2 No → Refer to the Communication category for the related symptom(S).	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

LOSS OF TCM MESSAGES

When Monitored and Set Condition:

LOSS OF TCM MESSAGES

When Monitored: Whenever the ignition is in the UNLOCK or RUN position.

Set Condition: If the PLG Module does not receive a PRNDL message for over 5 seconds, this code will set.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE TRANSMISSION CONTROL MODULE
POWER LIFTGATE MODULE - LOSS OF TCM MESSAGES

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® select Transmission. Was the DRBIII® able to I/D or communicate with the Transmission? Yes → Go To 2 No → Refer to the Communication category for the related symptom(S).	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

OUTSIDE LIFTGATE HANDLE INPUT SHORT - BCM

When Monitored and Set Condition:

OUTSIDE LIFTGATE HANDLE INPUT SHORT - BCM

When Monitored: Whenever the Body Control Module is awake.

Set Condition: When the BCM senses a voltage of less than 1.0 volts on the Liftgate Handle Switch Sense circuit for longer than 10 seconds this code will set.

POSSIBLE CAUSES
LIFTGATE HANDLE SWITCH SHORTED
LIFTGATE HANDLE SWITCH SENSE CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE - LIFTGATE HANDLE SWITCH SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	Disconnect the License Lamp connector (light bar). With the DRBIII®, read DTC's. Does the DRBIII® display OUTSIDE LIFTGATE HANDLE SWITCH SHORT?? Yes → Go To 2 No → Replace the Liftgate Handle Switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the License Lamp connector. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Liftgate Handle Switch Sense circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Liftgate Handle Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

OUTSIDE LIFTGATE HANDLE INPUT STUCK - BCM

When Monitored and Set Condition:

OUTSIDE LIFTGATE HANDLE INPUT STUCK - BCM

When Monitored: Whenever the Body Control Module is awake.

Set Condition: When the BCM senses a liftgate handle input on the Liftgate Handle Switch Sense circuit for longer than 10 seconds this code will set.

POSSIBLE CAUSES
LIFTGATE HANDLE SWITCH STUCK
LIFTGATE HANDLE SWITCH SENSE CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE - LIFTGATE HANDLE SWITCH SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	Disconnect the License Lamp connector (light bar). With the DRBIII®, erase DTCs. Turn the ignition off, wait 10 seconds, then turn the ignition on. Wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display Outside Liftgate Handle Input Stuck? Yes → Go To 2 No → Replace the Liftgate Handle Switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the License Lamp connector. Disconnect the Body Control Module C2 connector. Measure the resistance between ground and the Liftgate Handle Switch Sense circuit. Is the resistance below 10000.0 ohms? Yes → Repair the Liftgate Handle Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
OVERHEAD LIFTGATE SWITCH INPUT SHORT - BCM

When Monitored and Set Condition:

OVERHEAD LIFTGATE SWITCH INPUT SHORT - BCM

When Monitored: Whenever the BCM is awake.

Set Condition: When the BCM senses a overhead liftgate switch input that drops below 0.24 volts for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
OVERHEAD LIFTGATE SWITCH
OVERHEAD LIFTGATE SWITCH SENSE WIRE SHORT TO GROUND
BODY CONTROL MODULE - OVERHEAD LIFTGATE SWITCH SENSE SHORTED

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the Liftgate from the Overhead Console Switch. With the DRBIII®, read DTCs. Does the DRBIII® display OVERHEAD LIFTGATE SWITCH INPUT SHORT? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTCs. Disconnect the Overhead Console Switch connector. Turn the ignition off, wait 10 seconds, then turn the ignition on. Wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display OVERHEAD LIFTGATE SWITCH INPUT SHORT? No → Replace the Overhead Liftgate Switch. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 3	All
3	Disconnect the Body Control Module C3 connector. Disconnect the Overhead Console Switch connector. Measure the resistance of the Overhead Liftgate Switch Sense circuit to ground. Is the resistance below 500.0 ohms? Yes → Repair the Overhead Liftgate Switch Sense wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
OVERHEAD LIFTGATE SWITCH INPUT STUCK - BCM

When Monitored and Set Condition:

OVERHEAD LIFTGATE SWITCH INPUT STUCK - BCM

When Monitored: Whenever the BCM is awake.

Set Condition: When the BCM senses a overhead liftgate switch input for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
OVERHEAD LIFTGATE SWITCH
OVERHEAD LIFTGATE SWITCH SENSE WIRE SHORT TO GROUND
BODY CONTROL MODULE - OVERHEAD LIFTGATE SWITCH SENSE SHORTED

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the Liftgate from the Overhead Console Switch. With the DRBIII®, read DTCs. Does the DRBIII® display OVERHEAD LIFTGATE SWITCH INPUT STUCK? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTCs. Disconnect the Overhead Console Switch connector. Turn the ignition off, wait 10 seconds, then turn the ignition on. Wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display OVERHEAD LIFTGATE SWITCH INPUT STUCK? No → Replace the Overhead Liftgate Switch. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 3	All
3	Disconnect the Body Control Module C3 connector. Disconnect the Overhead Console Switch connector. Measure the resistance of the Overhead Liftgate Switch Sense circuit to ground. Is the resistance below 4000.0 ohms? Yes → Repair the Overhead Liftgate Switch Sense wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PINCH SENSOR CIRCUIT OPEN

When Monitored and Set Condition:

PINCH SENSOR CIRCUIT OPEN

When Monitored: Whenever the Power Liftgate is operating.

Set Condition: The power liftgate module has detected the pinch sensor circuit voltage is above 4.6 volts.

POSSIBLE CAUSES
DTC PRESENT
POWER LIFTGATE MODULE - PINCH SENSOR OPEN
RIGHT PINCH SENSOR SIGNAL WIRE OPEN
PINCH SENSOR GROUND OPEN
RIGHT PINCH SENSOR OPEN
LEFT PINCH SENSOR OPEN
RIGHT PINCH SENSOR SIGNAL WIRE OPEN

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the liftgate several times. With the DRBIII®, read DTCs. Does the DRBIII® display PINCH SENSOR CIRCUIT OPEN? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Pinch Sensor Signal circuit between the Pinch Sensor Signal and the Ground circuit (cavity 20) in the PLGM C2 harness connector. Is the resistance below 22000.0 ohms? No → Go To 3 Yes → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All

PINCH SENSOR CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Liftgate trim panel. Disconnect the Liftgate Right Pinch Sensor connector. Disconnect the Liftgate Left Pinch Sensor connector. Measure the resistance of the Right Pinch Sensor Signal circuit between the Liftgate Left Pinch Sensor connector and the Liftgate Right Pinch Sensor connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Right Pinch Sensor Signal wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the left rear trim panel. Remove the Liftgate trim panel. Disconnect the Liftgate Right Pinch Sensor connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Ground circuit between the Liftgate Right Pinch Sensor connector and the PLGM C2 harness connector. Is the resistance below 20.0 ohms? Yes → Go To 5 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Remove the left rear trim panel. Remove the Liftgate trim panel. Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Right Pinch Sensor connector. Connect a jumper wire between the Right Pinch Sensor Signal circuit and the Ground circuit in the Liftgate Right Pinch Sensor connector. Measure the resistance of the Pinch Sensor Signal circuit between the Pinch Sensor Signal and the Ground circuit (cav 20) in the C2 connector. Is the resistance below 11000.0 ohms? Yes → Replace the Right Pinch Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Remove the left rear trim panel. Remove the liftgate trim panel. Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Left Pinch Sensor connector. Connect a jumper wire between the Pinch Sensor Signal circuit and the Right Pinch Sensor Signal circuit in the Liftgate Left Pinch Sensor connector. Measure the resistance of the Pinch Sensor Signal circuit between the Pinch Sensor Signal and the Ground circuit (cav 20) in the C2 connector. Is the resistance below 11000.0 ohms? Yes → Replace the Left Pinch Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All

PINCH SENSOR CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
7	Remove the left rear trim panel. Remove the liftgate trim panel. Disconnect the Power Liftgate Module C2 connector. Disconnect the Liftgate Left Pinch Sensor connector. Measure the resistance of the Pinch Sensor Signal circuit between the PLG C2 connector and the Liftgate Left Pinch Sensor connector. Is the resistance below 5.0 ohms? Yes → Test Complete. No → Repair the Pinch Sensor Signal wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PINCH SENSOR SIGNAL CIRCUIT SHORT TO GROUND

When Monitored and Set Condition:

PINCH SENSOR SIGNAL CIRCUIT SHORT TO GROUND

When Monitored: Whenever the Power Liftgate is operating.

Set Condition: The power liftgate module has detected the pinch sensor circuit voltage is shorted to ground.

POSSIBLE CAUSES
DTC PRESENT
PINCH SENSOR SIGNAL CIRCUIT SHORT TO GROUND CIRCUIT
POWER LIFTGATE MODULE - SHORT TO GROUND
RIGHT PINCH SENSOR - SHORT TO GROUND
RIGHT PINCH SENSOR SIGNAL WIRE - SHORT TO GROUND
LEFT PINCH SENSOR - SHORT TO GROUND
RIGHT PINCH SENSOR SIGNAL WIRE SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Turn the ignition off, wait 10 seconds, then turn the ignition on. Operate the liftgate several times. With the DRBIII®, read DTCs. Does the DRBIII® display PINCH SENSOR CIRCUIT SHORT TO GROUND? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the left rear trim panel to gain access to the Power Liftgate module and drive unit. Disconnect the Power Liftgate Module C1 and C2 connectors. Measure the resistance of the Pinch Sensor Signal circuit between the Pinch Sensor Signal and the Ground circuits in the C2 connector. Is the resistance below 20.0 ohms? Yes → Repair the Pinch Sensor Signal circuit for a short to the Ground circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

PINCH SENSOR SIGNAL CIRCUIT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Power Liftgate Module C2 connector. Ensure the PLGM C1 connector is connected at this time. Measure the resistance between ground and the Pinch Sensor Signal circuit. Is the resistance below 100.0 ohms? Yes → Go To 4 No → Replace the Power Liftgate Module. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the Liftgate trim panel. Disconnect the Power Liftgate Module C2 connector. Disconnect the Right Pinch Sensor connector Measure the resistance between ground and the Pinch Sensor Signal circuit. Is the resistance below 100.0 ohms? Yes → Go To 5 No → Replace the Right Pinch Sensor. Perform BODY VERIFICATION TEST - VER 1.	All
5	Remove the Liftgate trim panel. Disconnect the Right Pinch Sensor connector. Disconnect the Left Pinch Sensor connector. Measure the resistance between ground and the Right Pinch Sensor Signal circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Right Pinch Sensor Signal wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Remove the left rear trim panel. Remove the liftgate trim panel. Disconnect the Power Liftgate Module C2 connector. Disconnect the Left Pinch Sensor connector Measure the resistance between ground and the Pinch Sensor Signal circuit. Is the resistance below 100.0 ohms? Yes → Repair the Pinch Sensor Signal wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Left Pinch Sensor. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*LIFTGATE CHIME INOPERATIVE

POSSIBLE CAUSES
DTC PRESENT
LIFTGATE CHIME GROUND #2 OPEN
LIFTGATE CHIME STATUS ERROR
LIFTGATE CHIME GROUND #4 OPEN
LIFTGATE CHIME OPEN
LIFTGATE CHIME DRIVER OPEN
LIFTGATE MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read the active DTCs. Does the DRBIII® display any TEMPERATURE SENSOR OPEN or SHORTED DTC's? Yes → Refer to symptom list for problems related to POWER LIFTGATE. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII® in Inputs/Outputs, read the CHIME state. Does the DRBIII® display CHIME DISABLED? Yes → Replace the Power Liftgate Module - Chime Disabled. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Remove the liftgate trim panel. Disconnect the License Lamp connector. Using a 12-volt test light connect one lead to the License Lamp Driver circuit and the other lead to the Ground (cavity 2) circuit. Turn the park lamps on. The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*LIFTGATE CHIME INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Remove the liftgate trim panel. Disconnect the License Lamp connector. Using a 12-volt test light connect one lead to the License Lamp Driver circuit and the other lead to the Ground (cavity 4) circuit. Turn the park lamps on. The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery. Does the test light illuminate brightly? Yes → Go To 5 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Remove the liftgate trim panel. Disconnect the License Lamp connector. Disconnect the Power Liftgate Module C2 connector. Measure the resistance of the Liftgate Chime Driver circuit between the License Lamp connector and the Module connector. Is the resistance below 1.0 ohms? Yes → Go To 6 No → Repair the Liftgate Chime Driver circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Remove the liftgate trim panel. Disconnect the License Lamp connector. Using a Voltmeter, connect one lead to the Liftgate Chime Driver circuit and the other lead to the Ground (cavity 4) circuit. With the DRBIII®, actuate the Liftgate Chime. Does the Voltmeter pulsate during Chime actuation? Yes → Replace the License Lamp Assembly. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Power Liftgate Module Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***POWER LIFTGATE INOPERATIVE**

POSSIBLE CAUSES
DTC'S PRESENT
MODULE RESPONSE
INTERMITTENT PROBLEM
SYSTEM TESTS

TEST	ACTION	APPLICABILITY
1	With the DRBIII® check for response from the Body Computer and the Power Liftgate Modules Is there response from both modules? Yes → Go To 2 No → Refer to symptom list for problems related to COMMUNICATION.	All
2	With the DRBIII®, read DTCs in POWER LIFTGATE and BODY COMPUTER. Are any Power Liftgate related codes present? Yes → Refer to symptom list for problems related to POWER LIFTGATE. No → Go To 3	All
3	This test will determine what inhibited the Power Liftgate from operating properly. With the DRBIII®, select POWER LIFTGATE, MISCELLANEOUS, LAST INHIBIT MONITOR. Does the DRBIII® display any INHIBIT REASONS? Yes → Check for any binding conditions or other restrictions that may prevent proper operation. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. No → Go To 4	All
4	Ensure Liftgate is fully closed before proceeding. With the DRBIII® select SYSTEM TEST. Perform the Open, Close, Latch Cinch, Latch Release and Relay tests. Did any test fail? Yes → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. No → Test Complete.	All

Symptom:

DRIVER MIRROR COMMON OUTPUT SHORT TO BATTERY - DDM

When Monitored and Set Condition:

DRIVER MIRROR COMMON OUTPUT SHORT TO BATTERY - DDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to battery.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
DRIVER MIRROR COMMON DRIVER SHORTED TO VOLTAGE
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Using the DRBIII®, erase DTC's. Turn the ignition on. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER MIRROR COMMON OUTPUT SHORT TO BATTERY - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Mirror Common Driver circuit. Is the voltage above 1.0 volts? Yes → Repair the Driver Mirror Common Driver circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER MIRROR COMMON OUTPUT SHORT TO GROUND - DDM

When Monitored and Set Condition:

DRIVER MIRROR COMMON OUTPUT SHORT TO GROUND - DDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to ground.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
DRIVER MIRROR COMMON DRIVER SHORTED TO GROUND
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Turn the ignition on. Using the DRBIII®, erase DTC's. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER MIRROR COMMON OUTPUT SHORT TO GROUND - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the Driver Mirror Common Driver circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Driver Mirror Common Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER MIRROR HORIZONTAL OUTPUT SHORT TO BATTERY - DDM

When Monitored and Set Condition:

DRIVER MIRROR HORIZONTAL OUTPUT SHORT TO BATTERY - DDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to battery.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
DRIVER MIRROR HORIZONTAL DRIVER SHORTED TO VOLTAGE
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Using the DRBIII®, erase DTC's. Turn the ignition on. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER MIRROR HORIZONTAL OUTPUT SHORT TO BATTERY - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Mirror Horizontal Driver circuit. Is the voltage above 1.0 volts? Yes → Repair the Driver Mirror Horizontal Driver circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER MIRROR HORIZONTAL OUTPUT SHORT TO GROUND - DDM

When Monitored and Set Condition:

DRIVER MIRROR HORIZONTAL OUTPUT SHORT TO GROUND - DDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to ground.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
DRIVER MIRROR HORIZONTAL DRIVER SHORTED TO GROUND
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Turn the ignition on. Using the DRBIII®, erase DTC's. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER MIRROR HORIZONTAL OUTPUT SHORT TO GROUND - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the Driver Mirror Horizontal Driver circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Driver Mirror Horizontal Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT OPEN - DDM

When Monitored and Set Condition:

DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT OPEN - DDM

When Monitored: Continuously.

Set Condition: If the voltage on the Driver Mirror Horizontal Position Signal circuit is above 4.1 volts for over 10 seconds, this code will set.

POSSIBLE CAUSES
DRIVER MIRROR HORIZONTAL POSITION WIRE SHORTED TO VOLTAGE
DRIVER MIRROR SENSOR GROUND WIRE OPEN
STORED DIAGNOSTIC TROUBLE CODE
DRIVER MIRROR HORIZONTAL POSITION SIGNAL OPEN
DRIVER POWER MIRROR
DRIVER DOOR MODULE - HORIZONTAL POSITION SIGNAL
DRIVER DOOR MODULE SENSOR GROUND

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Driver Door Module. Operate the power mirror and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to return in the DDM. Did the same DTC return? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Driver Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Mirror Horizontal Position Signal circuit in the Driver Power Mirror harness connector. Is the voltage between 4.5 and 5.5 volts? Yes → Go To 3 No → Go To 6	All

DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT OPEN - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Mirror connector. Measure the resistance of the Driver Mirror Sensor Ground circuit in the harness connector to ground. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Go To 5	All
4	If there are no possible causes remaining, view repair. Repair Replace the Driver Power Mirror. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Driver Power Mirror connector. Disconnect the Driver Door Module C3 connector. Measure the resistance of Driver Mirror Sensor Ground circuit between the Driver Door Module connector and the Driver Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Sensor Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Driver Power Mirror connector. Disconnect the Driver Door Module C3 connector. Turn the ignition on. Measure the voltage of Driver Mirror Horizontal Position Signal circuit. Is there any voltage present? Yes → Repair the Driver Mirror Horizontal Position Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the Driver Door Module C3 connector. Disconnect the Driver Power Mirror connector. Measure the resistance of the Driver Mirror Horizontal Position Signal circuit from the Driver Power Mirror connector to the Driver Door Module connector. Is the resistance below 5.0 ohms? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Driver Mirror Horizontal Position Signal wire. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT SHORT - DDM

When Monitored and Set Condition:

DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT SHORT - DDM

When Monitored: Continuously.

Set Condition: If the voltage on the Driver Horizontal Position Signal circuit is below 0.1 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DRIVER DOOR MODULE - HORIZONTAL POSITION LOW
STORED DIAGNOSTIC TROUBLE CODE
DRIVER MIRROR HORIZONTAL POSITION SIGNAL WIRE SHORT TO GROUND
DRIVER POWER MIRROR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from the Driver Door Module. Operate the driver's power mirror and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to return in the DDM. Did the same DTC return? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Driver Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Mirror Horizontal Position Signal circuit in the Driver Power Mirror harness connector. Is the voltage between 4.5 and 5.5 volts? Yes → Replace the Driver Power Mirror. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT SHORT - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Door Module C3 connector. Disconnect the Driver Power Mirror connector. Measure the resistance of the Driver Mirror Horizontal Position Signal circuit to ground at the Driver Power Mirror harness side connector. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Mirror Horizontal Position Signal wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT STUCK - DDM
DRIVER MIRROR VERTICAL SENSOR CIRCUIT STUCK - DDM
PASSENGER MIRROR HORIZONTAL SENSOR CIRCUIT STUCK - PDM
PASSENGER MIRROR VERTICAL SENSOR CIRCUIT STUCK - PDM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT STUCK - DDM.

When Monitored and Set Condition:

DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT STUCK - DDM

When Monitored: During memory system recall.

Set Condition: If the mirror does not reach it's memory set target in 10 seconds, this code will set.

DRIVER MIRROR VERTICAL SENSOR CIRCUIT STUCK - DDM

When Monitored: During memory system recall.

Set Condition: If the mirror does not reach it's memory set target in 10 seconds, this code will set.

PASSENGER MIRROR HORIZONTAL SENSOR CIRCUIT STUCK - PDM

When Monitored: During memory system recall.

Set Condition: If the mirror does not reach it's memory set target in 10 seconds, this code will set.

PASSENGER MIRROR VERTICAL SENSOR CIRCUIT STUCK - PDM

When Monitored: During memory system recall.

Set Condition: If the mirror does not reach it's memory set target in 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR

DRIVER MIRROR HORIZONTAL SENSOR CIRCUIT STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the mirror with the memory system several times. With the DRBIII®, read DTCs. Does the DRBIII® display the same DTC? Yes → Check for an obstruction in the mirror rotation path, if OK replace the Power Mirror. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

DRIVER MIRROR VERTICAL OUTPUT SHORT TO BATTERY - DDM
DRIVER MIRROR VERTICAL OUTPUT SHORT TO BATTERY - DDM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be DRIVER MIRROR VERTICAL OUTPUT SHORT TO BATTERY - DDM.

When Monitored and Set Condition:

DRIVER MIRROR VERTICAL OUTPUT SHORT TO BATTERY - DDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to battery.

DRIVER MIRROR VERTICAL OUTPUT SHORT TO BATTERY - DDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to battery.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
DRIVER MIRROR VERTICAL DRIVER SHORTED TO VOLTAGE
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER MIRROR VERTICAL OUTPUT SHORT TO BATTERY - DDM — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition off. Disconnect the power mirror connector. Using the DRBIII®, erase DTC's. Turn the ignition on. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Mirror Vertical Driver circuit. Is the voltage above 1.0 volts? Yes → Repair the Driver Mirror Vertical Driver circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER MIRROR VERTICAL OUTPUT SHORT TO GROUND - DDM

When Monitored and Set Condition:

DRIVER MIRROR VERTICAL OUTPUT SHORT TO GROUND - DDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to ground.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
DRIVER MIRROR VERTICAL DRIVER SHORTED TO GROUND
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Turn the ignition on. Using the DRBIII®, erase DTC's. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER MIRROR VERTICAL OUTPUT SHORT TO GROUND - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the Driver Mirror Vertical Driver circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Driver Mirror Vertical Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER MIRROR VERTICAL SENSOR CIRCUIT OPEN - DDM

When Monitored and Set Condition:

DRIVER MIRROR VERTICAL SENSOR CIRCUIT OPEN - DDM

When Monitored: Continuously.

Set Condition: If the voltage on the Driver Mirror Vertical Position Signal circuit is above 4.1 volts for over 10 seconds, this code will set.

POSSIBLE CAUSES
DRIVER MIRROR SENSOR GROUND WIRE OPEN
DRIVER MIRROR VERTICAL POSITION WIRE SHORTED TO VOLTAGE
STORED DIAGNOSTIC TROUBLE CODE
DRIVER MIRROR VERTICAL POSITION SIGNAL OPEN
DRIVER POWER MIRROR
DRIVER DOOR MODULE - SENSOR GROUND
DRIVER DOOR MODULE - VERTICAL POSITION SIGNAL

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Driver Door Module. Operate the driver's power mirror and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to return in the DDM. Did the same DTC return? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Driver Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Mirror Vertical Position Signal circuit in the Driver Power Mirror harness connector. Is the voltage between 4.5 and 5.5 volts? Yes → Go To 3 No → Go To 6	All

DRIVER MIRROR VERTICAL SENSOR CIRCUIT OPEN - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Mirror connector. Measure the resistance of the Driver Mirror Sensor Ground circuit in the harness connector to ground. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Go To 5	All
4	If there are no possible causes remaining, view repair. Repair Replace the Driver Power Mirror. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Driver Power Mirror connector. Disconnect the Driver Door Module C3 connector. Measure the resistance of Driver Mirror Sensor Ground circuit between the Driver Door Module connector and the Driver Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Sensor Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Driver Power Mirror connector. Disconnect the Driver Door Module C3 connector. Turn the ignition on. Measure the voltage of Driver Mirror Vertical Position Signal circuit. Is there any voltage present? Yes → Repair the Driver Mirror Vertical Position Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the Driver Door Module C3 connector. Disconnect the Driver Power Mirror connector. Measure the resistance of the Driver Mirror Vertical Position Signal circuit from the driver power mirror connector to the Driver Door Module connector. Is the resistance below 5.0 ohms? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Driver Mirror Vertical Position Signal wire. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER MIRROR VERTICAL SENSOR CIRCUIT SHORT - DDM

When Monitored and Set Condition:

DRIVER MIRROR VERTICAL SENSOR CIRCUIT SHORT - DDM

When Monitored: Continuously.

Set Condition: If the voltage on the Driver Vertical Position Signal circuit is below 0.1 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DDM - VERTICAL POSITION LOW
STORED DIAGNOSTIC TROUBLE CODE
DRIVER MIRROR VERTICAL POSITION SIGNAL WIRE SHORT TO GROUND
DRIVER POWER MIRROR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Driver Door Module. Operate the driver's power mirror and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to return in the DDM. Did the same DTC return? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Driver Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Mirror Vertical Position Signal circuit in the Driver Power Mirror harness connector. Is the voltage between 4.5 and 5.5 volts? Yes → Replace the Driver Power Mirror. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

DRIVER MIRROR VERTICAL SENSOR CIRCUIT SHORT - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Door Module C3 connector. Disconnect the Driver Power Mirror connector. Measure the resistance of the Driver Mirror Vertical Position Signal circuit to ground at the Driver Power Mirror harness side connector. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Mirror Vertical Position Signal wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

MIRROR ADJUSTING SWITCH STUCK - DDM

When Monitored and Set Condition:

MIRROR ADJUSTING SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held down for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the Mirror Adjusting Switch several times. With the DRBIII®, read DTCs. Does the DRBIII® display MIRROR ADJUSTING SWITCH STUCK? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR COMMON OUTPUT SHORT TO BATTERY - PDM

When Monitored and Set Condition:

PASSENGER MIRROR COMMON OUTPUT SHORT TO BATTERY - PDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to battery.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
PASSENGER MIRROR COMMON DRIVER SHORTED TO VOLTAGE
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Using the DRBIII®, erase DTC's. Turn the ignition on. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER MIRROR COMMON OUTPUT SHORT TO BATTERY - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the voltage of the Passenger Mirror Common Driver circuit. Is the voltage above 1.0 volts? Yes → Repair the Passenger Mirror Common Driver circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR COMMON OUTPUT SHORT TO GROUND - PDM

When Monitored and Set Condition:

PASSENGER MIRROR COMMON OUTPUT SHORT TO GROUND - PDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to ground.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
PASSENGER MIRROR COMMON DRIVER SHORTED TO GROUND
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Turn the ignition on. Using the DRBIII®, erase DTC's. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER MIRROR COMMON OUTPUT SHORT TO GROUND - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the Passenger Mirror Common Driver circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Passenger Mirror Common Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR HORIZONTAL OUTPUT SHORT TO BATTERY - PDM

When Monitored and Set Condition:

PASSENGER MIRROR HORIZONTAL OUTPUT SHORT TO BATTERY - PDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to battery.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
PASSENGER MIRROR HORIZONTAL DRIVER SHORTED TO VOLTAGE
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Using the DRBIII®, erase DTC's. Turn the ignition on. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER MIRROR HORIZONTAL OUTPUT SHORT TO BATTERY - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the voltage of the Passenger Mirror Horizontal Driver circuit. Is the voltage above 1.0 volts? Yes → Repair the Passenger Mirror Horizontal Driver circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR HORIZONTAL OUTPUT SHORT TO GROUND - PDM

When Monitored and Set Condition:

PASSENGER MIRROR HORIZONTAL OUTPUT SHORT TO GROUND - PDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to ground.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
DRIVER MIRROR HORIZONTAL DRIVER SHORTED TO GROUND
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Turn the ignition on. Using the DRBIII®, erase DTC's. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER MIRROR HORIZONTAL OUTPUT SHORT TO GROUND - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the Passenger Mirror Horizontal Driver circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Driver Mirror Horizontal Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR HORIZONTAL SENSOR CIRCUIT OPEN - PDM

When Monitored and Set Condition:

PASSENGER MIRROR HORIZONTAL SENSOR CIRCUIT OPEN - PDM

When Monitored: Continuously.

Set Condition: If the voltage on the Passenger Mirror Horizontal Position Signal circuit is above 4.1 volts for over 10 seconds, this code will set.

POSSIBLE CAUSES
PASSENGER MIRROR HORIZONTAL POSITION WIRE SHORTED TO VOLTAGE
PASSENGER MIRROR SENSOR GROUND WIRE OPEN
STORED DIAGNOSTIC TROUBLE CODE
PASSENGER MIRROR HORIZONTAL POSITION SIGNAL OPEN
PASSENGER POWER MIRROR
PASSENGER DOOR MODULE - HORIZONTAL POSITION SIGNAL
PASSENGER DOOR MODULE SENSOR GROUND

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from the Passenger Door Module. Operate the passenger power mirror and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to return in the PDM. Did the same DTC return? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Turn the ignition on. Measure the voltage of the Passenger Mirror Horizontal Position Signal circuit in the Passenger Power Mirror harness connector. Is the voltage between 4.5 and 5.5 volts? Yes → Go To 3 No → Go To 6	All

PASSENGER MIRROR HORIZONTAL SENSOR CIRCUIT OPEN - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Passenger Mirror Sensor Ground circuit in the harness connector to ground. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Go To 5	All
4	If there are no possible causes remaining, view repair. Repair Replace the Passenger Power Mirror. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Disconnect the Passenger Door Module C3 connector. Measure the resistance of Passenger Mirror Sensor Ground circuit between the Passenger Door Module connector and the Passenger Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Sensor Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Disconnect the Passenger Door Module C3 connector. Turn the ignition on. Measure the voltage of Passenger Mirror Horizontal Position Signal circuit. Is there any voltage present? Yes → Repair the Passenger Mirror Horizontal Position Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the Passenger Door Module C3 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Passenger Mirror Horizontal Position Signal circuit from the Passenger Power Mirror connector to the Passenger Door Module connector. Is the resistance below 5.0 ohms? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Passenger Mirror Horizontal Position Signal wire. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR HORIZONTAL SENSOR CIRCUIT SHORT - PDM

When Monitored and Set Condition:

PASSENGER MIRROR HORIZONTAL SENSOR CIRCUIT SHORT - PDM

When Monitored: Continuously.

Set Condition: If the voltage on the Passenger Horizontal Position Signal circuit is below 0.1 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
PASSENGER DOOR MODULE - HORIZONTAL POSITION LOW
STORED DIAGNOSTIC TROUBLE CODE
PASSENGER MIRROR HORIZONTAL POSITION SIGNAL WIRE SHORT TO GROUND
PASSENGER POWER MIRROR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from the Passenger Door Module. Operate the Passenger's power mirror and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to return in the PDM. Did the same DTC return? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Mirror Horizontal Position Signal circuit in the Passenger Power Mirror harness connector. Is the voltage between 4.5 and 5.5 volts? Yes → Replace the Passenger Power Mirror. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

PASSENGER MIRROR HORIZONTAL SENSOR CIRCUIT SHORT - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Door Module C3 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Passenger Mirror Horizontal Position Signal circuit to ground at the Passenger Power Mirror harness side connector. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Mirror Horizontal Position Signal wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR VERTICAL OUTPUT SHORT TO BATTERY - PDM

When Monitored and Set Condition:

PASSENGER MIRROR VERTICAL OUTPUT SHORT TO BATTERY - PDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to battery.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
PASSENGER MIRROR VERTICAL DRIVER SHORTED TO VOLTAGE
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Using the DRBIII®, erase DTC's. Turn the ignition on. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER MIRROR VERTICAL OUTPUT SHORT TO BATTERY - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the voltage of the Passenger Mirror Vertical Driver circuit. Is the voltage above 1.0 volts? Yes → Repair the Passenger Mirror Vertical Driver circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR VERTICAL OUTPUT SHORT TO GROUND - PDM

When Monitored and Set Condition:

PASSENGER MIRROR VERTICAL OUTPUT SHORT TO GROUND - PDM

When Monitored: Whenever mirror is idle.

Set Condition: Driver circuit is shorted to ground.

POSSIBLE CAUSES
DTC PRESENT
POWER MIRROR
PASSENGER MIRROR VERTICAL DRIVER SHORTED TO GROUND
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition switch Off then back On. With the DRBIII®, read DTCs. Did the same DTC return? Yes → Go To 2 No → The conditions required to set the code are currently not present. Using the wiring diagram/schematic as a guide, inspect the wiring and connectors. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the power mirror connector. Turn the ignition on. Using the DRBIII®, erase DTC's. Cycle the ignition switch Off then back On. With the DRBIII®, read DTC's. Did the same DTC return? Yes → Go To 3 No → Inspect the power mirror harness for a short, if OK replace the mirror. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER MIRROR VERTICAL OUTPUT SHORT TO GROUND - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Mirror connector. Turn the ignition on. Measure the Passenger Mirror Vertical Driver circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Passenger Mirror Vertical Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR VERTICAL SENSOR CIRCUIT OPEN - PDM

When Monitored and Set Condition:

PASSENGER MIRROR VERTICAL SENSOR CIRCUIT OPEN - PDM

When Monitored: Continuously.

Set Condition: If the voltage on the Passenger Mirror Vertical Position Signal circuit is above 4.1 volts for over 10 seconds, this code will set.

POSSIBLE CAUSES
PASSENGER MIRROR SENSOR GROUND WIRE OPEN
PASSENGER MIRROR VERTICAL POSITION WIRE SHORTED TO VOLTAGE
STORED DIAGNOSTIC TROUBLE CODE
PASSENGER MIRROR VERTICAL POSITION SIGNAL OPEN
PASSENGER POWER MIRROR
PASSENGER DOOR MODULE - SENSOR GROUND
PASSENGER DOOR MODULE - VERTICAL POSITION SIGNAL

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from the Passenger Door Module. Operate the passenger's power mirror and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to return in the PDM. Did the same DTC return? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Turn the ignition on. Measure the voltage of the Driver Mirror Vertical Position Signal circuit in the Passenger Power Mirror harness connector. Is the voltage between 4.5 and 5.5 volts? Yes → Go To 3 No → Go To 6	All

PASSENGER MIRROR VERTICAL SENSOR CIRCUIT OPEN - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Passenger Mirror Sensor Ground circuit in the harness connector to ground. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Go To 5	All
4	If there are no possible causes remaining, view repair. Repair Replace the Passenger Power Mirror. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Disconnect the Passenger Door Module C3 connector. Measure the resistance of Driver Mirror Sensor Ground circuit between the Driver Door Module connector and the Driver Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Sensor Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Disconnect the Passenger Door Module C3 connector. Turn the ignition on. Measure the voltage of Passenger Mirror Vertical Position Signal circuit. Is there any voltage present? Yes → Repair the Passenger Mirror Vertical Position Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the Passenger Door Module C3 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Passenger Mirror Vertical Position Signal circuit from the passenger power mirror connector to the Passenger Door Module connector. Is the resistance below 5.0 ohms? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Passenger Mirror Vertical Position Signal wire. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER MIRROR VERTICAL SENSOR CIRCUIT SHORT - PDM

When Monitored and Set Condition:

PASSENGER MIRROR VERTICAL SENSOR CIRCUIT SHORT - PDM

When Monitored: Continuously.

Set Condition: If the voltage on the Passenger Vertical Position Signal circuit is below 0.1 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
PDM - VERTICAL POSITION LOW
STORED DIAGNOSTIC TROUBLE CODE
PASSENGER MIRROR VERTICAL POSITION SIGNAL WIRE SHORT TO GROUND
PASSENGER POWER MIRROR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Passenger Door Module. Operate the passenger's power mirror and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to return in the PDM. Did the same DTC return? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Turn the ignition on. Measure the voltage of the Passenger Mirror Vertical Position Signal circuit in the Passenger Power Mirror harness connector. Is the voltage between 4.5 and 5.5 volts? Yes → Replace the Passenger Power Mirror. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

PASSENGER MIRROR VERTICAL SENSOR CIRCUIT SHORT - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Door Module C3 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Passenger Mirror Vertical Position Signal circuit to ground at the Passenger Power Mirror harness side connector. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Mirror Vertical Position Signal wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***DRIVER SIDE VIEW MIRROR MOVEMENT INOPERATIVE FROM ADJUSTING SWITCH**

POSSIBLE CAUSES
DTC PRESENT
MIRROR ADJUSTING SWITCH
POWER MIRROR
MIRROR DRIVER WIRE OPEN
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, check for DTC's in the Driver Door Module. Does the DRBIII® display any power mirror related DTC's? Yes → Refer to the symptom list for related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII® in I/O's ensure the Side Mirror Select Switch displays side selected. With the DRBIII® in I/O's observe the Mirror Adjust Switch while depressing the switch in the inoperative direction. Does the DRBIII® switch displays match the switch positions? Yes → Go To 3 No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the power mirror connector. Turn the ignition on. Measure the voltage between the Mirror Common Driver circuit and the inoperative Vertical or Horizontal Driver circuit while depressing the mirror adjusting switch. Is the voltage above 10.0 volts? Yes → Replace the power mirror. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*DRIVER SIDE VIEW MIRROR MOVEMENT INOPERATIVE FROM ADJUSTING SWITCH — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Power Mirror connector. Disconnect the Driver Door Module C3 connector. Measure the following driver circuits from the power mirror connector to the Driver Door Module connector: Driver Mirror Common Driver. Driver Mirror Horizontal Driver. Driver Mirror Vertical Driver. Is the resistance below 1.0 ohm for each of the driver circuits? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the mirror driver wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***PASSENGER SIDE VIEW MIRROR MOVEMENT INOPERATIVE FROM ADJUSTING SWITCH**

POSSIBLE CAUSES
DTC PRESENT
MIRROR ADJUSTING SWITCH
POWER MIRROR
MIRROR DRIVER WIRE OPEN
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, check for DTC's in the Driver Door Module and the Passenger Door Module. Does the DRBIII® display any power mirror related DTC's? Yes → Refer to the symptom list for related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII® in I/O's ensure the Side Mirror Select Switch displays side selected. With the DRBIII® in I/O's observe the Mirror Adjust Switch while depressing the switch in the inoperative direction. Does the DRBIII® switch displays match the switch positions? Yes → Go To 3 No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the power mirror connector. Turn the ignition on. Measure the voltage between the Mirror Common Driver circuit and the inoperative Vertical or Horizontal Driver circuit while depressing the mirror adjusting switch. Is the voltage above 10.0 volts? Yes → Replace the power mirror. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*PASSENGER SIDE VIEW MIRROR MOVEMENT INOPERATIVE FROM ADJUSTING SWITCH — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Passenger Power Mirror connector. Disconnect the Passenger Door Module C3 connector. Measure the following driver circuits from the power mirror connector to the Passenger Door Module connector: Passenger Mirror Common Driver. Passenger Mirror Horizontal Driver. Passenger Mirror Vertical Driver. Is the resistance below 1.0 ohm for each of the driver circuits? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the mirror driver wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

BCM MESSAGES NOT RECEIVED - MHSAPM

When Monitored and Set Condition:

BCM MESSAGES NOT RECEIVED - MHSAPM

When Monitored: With the ignition in run or run/start and vehicle not in shipping mode.

Set Condition: The module does not receive any messages from the BCM. Time to mature for the MHSAPM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Body Control Module. Was the DRBIII® able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

DDM MESSAGES NOT RECEIVED - MHSAPM

When Monitored and Set Condition:

DDM MESSAGES NOT RECEIVED - MHSAPM

When Monitored: Immediately.

Set Condition: The module does not receive any messages from the DDM. Time to mature for the MHSAPM 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE DRIVER DOOR MODULE
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Driver Door Module. Was the DRBIII® able to I/D or communicate with the DDM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on, operate the door locks from the driver's door and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

DRIVER FRONT RISER AND PEDAL FORWARD SWITCH OPEN - DDM
DRIVER HORIZONTAL AND LUMBAR IN SWITCH OPEN - DDM
DRIVER REAR RISER AND PEDAL BACK SWITCH OPEN - DDM
DRIVER RECLINER AND LUMBAR OUT SWITCH OPEN - DDM
MEMORY SWITCH OPEN - DDM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be DRIVER FRONT RISER AND PEDAL FORWARD SWITCH OPEN - DDM.

When Monitored and Set Condition:

DRIVER FRONT RISER AND PEDAL FORWARD SWITCH OPEN - DDM

When Monitored: Continuously.

Set Condition: If the switch MUX circuit is over 4.9 volts for over 10 second, this code will set.

DRIVER HORIZONTAL AND LUMBAR IN SWITCH OPEN - DDM

When Monitored: Continuously.

Set Condition: If the switch MUX circuit is over 4.9 volts for over 10 second, this code will set.

DRIVER REAR RISER AND PEDAL BACK SWITCH OPEN - DDM

When Monitored: Continuously.

Set Condition: If the switch MUX circuit is over 4.9 volts for over 10 second, this code will set.

DRIVER RECLINER AND LUMBAR OUT SWITCH OPEN - DDM

When Monitored: Continuously.

Set Condition: If the switch MUX circuit is over 4.9 volts for over 10 second, this code will set.

MEMORY SWITCH OPEN - DDM

When Monitored: Continuously.

Set Condition: If the switch MUX circuit is over 4.9 volts for over 10 second, this code will set.

POSSIBLE CAUSES
DTC PRESENT

DRIVER FRONT RISER AND PEDAL FORWARD SWITCH OPEN - DDM — Continued

POSSIBLE CAUSES
DRIVER SEAT SWITCH
SWITCH MUX WIRE OPEN
SWITCH MUX WIRE SHORT TO VOLTAGE
DRIVER DOOR MODULE
SEAT SWITCH MUX RETURN OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the switch indicated by the DRBlll® in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display the same DTC? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Review wiring schematics and inspect related wiring for an intermittent condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII® in Sensors, read the Seat Switch voltage of the switch that had the DTC. Select the voltage displayed. 4.4 to 5.1 volts. Go To 3 Over 5.2 volts Go To 5	All
3	Disconnect the Driver Seat Switch connector. Turn the ignition on. Measure the voltage of the Switch MUX circuit indicated by the DRBlll® and ground. Is the voltage between 4.4 and 5.1 volts? Yes → Go To 4 No → Repair the Switch MUX wire for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Driver Seat Switch connector. Measure the resistance of the Seat Switch MUX Return circuit in the switch connector to ground. Is the resistance below 5.0 ohms? Yes → Replace the Driver Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Repair the Seat Switch MUX Return for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER FRONT RISER AND PEDAL FORWARD SWITCH OPEN - DDM — Continued

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Disconnect the Driver Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Seat Switch MUX circuit that had the DTC for a possible short to voltage. Were there any problems found? Yes → Repair the MUX circuit for a short to voltage. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER FRONT RISER AND PEDAL FORWARD SWITCH SHORT - DDM

When Monitored and Set Condition:

DRIVER FRONT RISER AND PEDAL FORWARD SWITCH SHORT - DDM

When Monitored: Continuously.

Set Condition: If the MUX circuit is under 0.10 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
DRIVER SEAT FRONT RISER/PEDAL FORWARD SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Seat Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER FRONT RISER AND PEDAL FORWARD SWITCH SHORT? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER FRONT RISER AND PEDAL FORWARD SWITCH SHORT? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER FRONT RISER AND PEDAL FORWARD SWITCH SHORT - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Front Riser/Pedal Forward Switch MUX circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Seat Front Riser/Pedal Forward Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

DRIVER FRONT RISER DOWN SWITCH MESSAGE STUCK - MHSAPM
DRIVER FRONT RISER UP SWITCH MESSAGE STUCK - MHSAPM
DRIVER HORIZONTAL FORWARD SWITCH MESSAGE STUCK - MHSAPM
DRIVER HORIZONTAL REARWARD SWITCH MESSAGE STUCK - MHSAPM
DRIVER LUMBAR IN SWITCH MESSAGE STUCK - MHSAPM
DRIVER LUMBAR OUT SWITCH MESSAGE STUCK - MHSAPM
DRIVER REAR RISER DOWN SWITCH MESSAGE STUCK - MHSAPM
DRIVER REAR RISER UP SWITCH MESSAGE STUCK - MHSAPM
DRIVER RECLINER DOWN SWITCH MESSAGE STUCK - MHSAPM
DRIVER RECLINER UP SWITCH MESSAGE STUCK - MHSAPM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be DRIVER FRONT RISER DOWN SWITCH MESSAGE STUCK - MHSAPM.

When Monitored and Set Condition:

DRIVER FRONT RISER DOWN SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

DRIVER FRONT RISER UP SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

DRIVER HORIZONTAL FORWARD SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

DRIVER HORIZONTAL REARWARD SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

DRIVER FRONT RISER DOWN SWITCH MESSAGE STUCK - MHSAPM — Continued

DRIVER LUMBAR IN SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

DRIVER LUMBAR OUT SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

DRIVER REAR RISER DOWN SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

DRIVER REAR RISER UP SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

DRIVER RECLINER DOWN SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

DRIVER RECLINER UP SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

POSSIBLE CAUSES
DRIVER SEAT SWITCH STUCK

TEST	ACTION	APPLICABILITY
1	View repair. Repair This DTC is for reference only. Check for DTC's in the Driver Door Module and refer to the symptom list. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER FRONT RISER SENSOR OUT OF RANGE HIGH - MHSAPM

When Monitored and Set Condition:

DRIVER FRONT RISER SENSOR OUT OF RANGE HIGH - MHSAPM

When Monitored: Continuously.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value higher than the Memory/Heated Seat Adjustable Pedal Module has stored in EEPROM. Code will remain for 50 ignition cycles.

POSSIBLE CAUSES
DRIVER SEAT POSITION SENSOR GROUND WIRE OPEN
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE SENSOR GROUND OPEN
DRIVER SEAT SENSOR 5 VOLT SUPPLY SHORTED HIGH
CHECK VOLTAGE ON DRIVER SEAT FRONT RISER POSITION SIGNAL CIRCUIT
FRONT RISER SENSOR HIGH
DRIVER FRONT RISER SEAT POSITION SENSOR SHORT TO MOTOR
MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE FRONT RISER HIGH
STORED DIAGNOSTIC TROUBLE CODE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRB check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the Driver Front Riser Seat Position Sensor connector. Measure the resistance of the Driver Seat Position Sensor Ground circuit at the Driver Front Riser Seat Position Sensor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Go To 8	All

DRIVER FRONT RISER SENSOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Front Riser Seat Position Sensor connector. Turn ignition on. Measure the voltage between Driver Seat Sensor 5 volt supply circuit and ground. Is the voltage above 5.5 volts? Yes → Repair the Driver Seat Sensor 5 Volt Supply circuit for a short to battery. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn ignition off. Disconnect the Driver Front Riser Seat Position Sensor Connector. Disconnect the MHSAPM C2 Connector. Turn ignition on. Measure the voltage between Driver Seat Front Riser Position Signal circuit and ground. Is the voltage above 0.2 volts? Yes → Repair the Driver Seat Front Riser Position Signal circuit for a short to voltage. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Disconnect the Driver Front Riser Seat Position Sensor Connector. Ensure the MHSAPM is fully connected before proceeding. Turn ignition on. With the DRBIII® in MHSAPM Sensors, Read the Driver Seat Front Riser Sensor voltage. Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Seat Track Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
6	Ensure all seat and sensor connectors are connected and front riser motor is operational. With the DRBIII® in MHSAPM Sensors monitor the Front Riser Position Sensor while operating the front riser motor to both limits. Did the voltage ever go above 7.0 volts only when the motor was in operation? Yes → Replace the Seat Track Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Memory Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER FRONT RISER SENSOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
8	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Front Riser Seat Position Sensor connector. Measure the resistance of the Driver Seat Position Sensor Ground wire between the Driver Front Riser Seat Position Sensor connector and the MHSAPM C2 connector. Is the resistance below 5.0 ohms? Yes → Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Repair the open Driver Seat Position Sensor Ground wire. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER FRONT RISER SENSOR OUT OF RANGE LOW - MHSAPM

When Monitored and Set Condition:

DRIVER FRONT RISER SENSOR OUT OF RANGE LOW - MHSAPM

When Monitored: Continuously.

Set Condition: This code is immediately set when the seat motor potentiometer feeds a value lower than the Memory/Heated Seat Adjustable Pedal Module has stored in EEPROM. Code will remain for 50 ignition cycles.

POSSIBLE CAUSES
DRIVER SEAT SENSOR 5 VOLT SUPPLY WIRE OPEN
DRIVER SEAT SENSOR 5 VOLT SUPPLY WIRE SHORT TO GROUND
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE
DRIVER SEAT FRONT RISER POSITION SIGNAL CIRCUIT OPEN
DRIVER SEAT FRONT RISER POSITION SIGNAL CIRCUIT SHORT TO GROUND
DRIVER FRONT RISER SEAT SENSOR LOW
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE
STORED DIAGNOSTIC TROUBLE CODE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Ensure the MHSAPM is fully connected before proceeding. Disconnect the Driver Front Riser Seat Position Sensor connector. Turn ignition on. Measure the voltage of the Driver Seat Sensor 5 Volt Supply circuit at front riser connector. Is the voltage above 4.5 volts? Yes → Go To 3 No → Go To 7	All

DRIVER FRONT RISER SENSOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Driver Front Riser Seat Position Sensor Connector. Disconnect the Memory/Heated Seat Adjustable Pedal Module C2 Connector. Measure the resistance of the Driver Seat Front Riser Position Signal circuit between the front riser sensor and the MHSAPM connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Driver Seat Front Riser Position Signal circuit for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Front Riser Seat Position Sensor connector. Measure the resistance of the Driver Seat Front Riser Position Signal circuit to ground. Is the resistance below 1000 ohms? Yes → Repair the Driver Seat Front Riser Position Signal circuit for a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Ensure the MHSAPM is fully connected before proceeding. Disconnect the Driver Front Riser Seat Position Sensor Connector. Connect a jumper wire between Driver Seat Sensor 5 volt Supply and Driver Seat Front Riser Position Signal circuits. Turn ignition on. With the DRBIII® select MHSAPM Sensors. Read the Driver Seat Front Riser Sensor voltage. Is the voltage above 4.5 volts? Yes → Replace the Seat Track Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
7	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Front Riser Seat Position Sensor connector. Measure the resistance of the Driver Seat Sensor 5 Volt Supply wire between the Front Riser Sensor connector and the C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the Driver Seat Sensor 5 Volt Supply circuit for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER FRONT RISER SENSOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
8	Turn ignition off. Disconnect the MHSAPM C2 connector. Measure the resistance of the Driver Seat Sensor 5 volt supply circuit to body ground. Is the resistance below 100.0 ohms? Yes → Repair the Driver Seat Sensor 5 Volt Supply circuit for a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 9	All
9	If there are no possible cause remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER FRONT RISER SWITCH STUCK - DDM

When Monitored and Set Condition:

DRIVER FRONT RISER SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 30 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
DRIVER SEAT FRONT RISER/PEDAL FORWARD SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the seat switches mechanical operation and also check for a possible obstruction. Correct if necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Seat Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER FRONT RISER SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 30 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER FRONT RISER SWITCH STUCK? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER FRONT RISER SWITCH STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Seat Front Riser/Pedal Forward Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Seat Front Riser/Pedal Forward Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER HORIZONTAL AND LUMBAR IN SWITCH SHORTED - DDM

When Monitored and Set Condition:

DRIVER HORIZONTAL AND LUMBAR IN SWITCH SHORTED - DDM

When Monitored: Continuously.

Set Condition: If the MUX circuit is under 0.10 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
DRIVER SEAT HORIZONTAL/LUMBAR IN SWITCH MUX SHORT TO GROUND
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the suspect switch in both positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER HORIZONTAL AND LUMBAR IN SWITCH SHORTED? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER HORIZONTAL AND LUMBAR IN SWITCH SHORTED? Yes → Go To 3 No → Replace the Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER HORIZONTAL AND LUMBAR IN SWITCH SHORTED - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Seat Horizontal/Lumbar In Switch MUX circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Seat Horizontal/Lumbar In Switch MUX circuit for a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER HORIZONTAL SENSOR OUT OF RANGE HIGH - MHSAPM

When Monitored and Set Condition:

DRIVER HORIZONTAL SENSOR OUT OF RANGE HIGH - MHSAPM

When Monitored: Continuously.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value higher than the Memory/Heated Seat Adjustable Pedal Module has stored in EEPROM. Code will remain for 50 ignition cycles.

POSSIBLE CAUSES
DRIVER SEAT POSITION SENSOR GROUND WIRE OPEN
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE SENSOR GROUND OPEN
DRIVER SEAT SENSOR 5 VOLT SUPPLY SHORTED HIGH
DRIVER SEAT HORIZONTAL POSITION SIGNAL CIRCUIT SHORT TO VOLTAGE
DRIVER HORIZONTAL SEAT POSITION SENSOR HIGH
CHECK HORIZONTAL SENSOR SHORT TO MOTOR
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE HORIZONTAL SENSOR HIGH
STORED DIAGNOSTIC TROUBLE CODE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Operate the driver's power seat and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the Driver Horizontal Seat Position Sensor connector. Measure the resistance of the Driver Seat Position Sensor Ground circuit at the Driver Horizontal Seat Position Sensor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Go To 7	All

DRIVER HORIZONTAL SENSOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Horizontal Seat Position Sensor connector. Measure the voltage between Driver Seat Sensor 5 volt supply circuit and ground. Turn ignition on. Is the voltage above 5.5 volts? Yes → Repair the Driver Seat Sensor 5 Volt Supply circuit for a short to battery. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn ignition off. Disconnect the Driver Horizontal Seat Position Sensor Connector. Disconnect the MHSAPM C2 Connector. Turn ignition on. Measure the voltage between Driver Seat Horizontal Position Signal circuit and ground. Is the voltage above 0.2 volts? Yes → Repair the Driver Seat Horizontal Position Signal circuit for a short to voltage. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Disconnect the Driver Horizontal Seat Position Sensor Connector. Ensure the Memory/Heated Seat Adjustable Pedal Module is fully connected before proceeding. Turn ignition on. With the DRBIII® in MHSAPM Sensors, Read the Driver Seat Horizontal Sensor voltage. Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Seat Track Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
6	Ensure all seat and sensor connectors are connected and Horizontal motor is operational. With the DRBIII® in MHSAPM Sensors monitor the Driver Seat Horizontal Sensor while operating the seat Horizontal motor to both limits. Did the voltage ever go above 7.0 volts only when the motor was in operation? Yes → Replace the Seat Track Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER HORIZONTAL SENSOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
7	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Horizontal Seat Position Sensor connector. Measure the resistance of the Driver Seat Position Sensor Ground wire between the Horizontal Sensor connector and the C2 connector. Is the resistance below 5.0 ohms? Yes → Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Repair the open Driver Seat Position Sensor Ground wire. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER HORIZONTAL SENSOR OUT OF RANGE LOW - MHSAPM

When Monitored and Set Condition:

DRIVER HORIZONTAL SENSOR OUT OF RANGE LOW - MHSAPM

When Monitored: Continuously.

Set Condition: This code is immediately set when the seat motor potentiometer feeds a value lower than the Memory/Heated Seat Adjustable Pedal Module has stored in EEPROM. Code will remain for 50 ignition cycles.

POSSIBLE CAUSES
DRIVER SEAT SENSOR 5 VOLT SUPPLY WIRE OPEN
DRIVER SEAT SENSOR 5 VOLT SUPPLY WIRE SHORT TO GROUND
DRIVER SEAT HORIZONTAL POSITION SIGNAL CIRCUIT OPEN
DRIVER SEAT HORIZONTAL POSITION SIGNAL CIRCUIT SHORT TO GROUND
MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE 5 VOLT SUPPLY
DRIVER HORIZONTAL SENSOR LOW
MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE HORIZONTAL LOW
STORED DIAGNOSTIC TROUBLE CODE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBIII check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Ensure the MHSAPM is fully connected before proceeding. Disconnect the Driver Horizontal Seat Position Sensor connector. Turn ignition on. Measure the voltage of the Driver Seat Sensor 5 Volt Supply circuit at Driver Horizontal Seat Position Sensor connector. Is the voltage above 4.5 volts? Yes → Go To 3 No → Go To 7	All

DRIVER HORIZONTAL SENSOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Driver Horizontal Seat Position Sensor Connector. Disconnect the MHSAPM C2 Connector. Measure the resistance of the Driver Seat Horizontal Position Signal circuit between the Horizontal sensor and the MHSAPM connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Driver Seat Horizontal Position Signal circuit for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Horizontal Seat Position Sensor connector. Measure the resistance of the Driver Seat Horizontal Position Signal circuit to ground. Is the resistance below 1000 ohms? Yes → Repair the Driver Seat Horizontal Position Signal circuit a for short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Ensure the MHSAPM is fully connected before proceeding. Disconnect the Driver Horizontal Seat Position Sensor Connector. Connect a jumper wire between Driver Seat Sensor 5 volt Supply and Driver Seat Horizontal Position Signal circuits. Turn ignition on. With the DRBIII® select MHSAPM Sensors. Read the Driver Seat Horizontal Sensor voltage. Is the voltage above 4.5 volts? Yes → Replace the Seat Track Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
7	Turn ignition off. Disconnect the MHSAPM C2 connector. Measure the resistance of the Driver Seat Sensor 5 volt supply circuit to body ground. Is the resistance below 100.0 ohms? Yes → Repair the Driver Seat Sensor 5 Volt Supply circuit for a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 8	All

DRIVER HORIZONTAL SENSOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
8	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Horizontal Seat Position Sensor connector. Measure the resistance of the Driver Seat Sensor 5 Volt Supply wire between the Horizontal Sensor connector and the C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the Driver Seat Sensor 5 Volt Supply circuit for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
9	If there are no possible cause remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER HORIZONTAL SWITCH STUCK - DDM

When Monitored and Set Condition:

DRIVER HORIZONTAL SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 30 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
DRIVER SEAT HORIZONTAL/LUMBAR IN SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the seat switches mechanical operation and also check for a possible obstruction. Correct if necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Seat Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER HORIZONTAL SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 30 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER HORIZONTAL SWITCH STUCK? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER HORIZONTAL SWITCH STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Seat Horizontal/Lumbar In Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Seat Horizontal/Lumbar In Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER REAR RISER AND PEDAL BACK SWITCH SHORTED - DDM

When Monitored and Set Condition:

DRIVER REAR RISER AND PEDAL BACK SWITCH SHORTED - DDM

When Monitored: Continuously.

Set Condition: If the MUX circuit is under 0.10 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
DRIVER SEAT REAR RISER/PEDAL BACK SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Seat Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR RISER AND PEDAL BACK SWITCH SHORTED? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR RISER AND PEDAL BACK SWITCH SHORTED? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER REAR RISER AND PEDAL BACK SWITCH SHORTED - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Seat Rear Riser/Pedal Back Switch MUX circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Seat Rear Riser/Pedal Back Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER REAR RISER SENSOR OUT OF RANGE HIGH - MHSAPM

When Monitored and Set Condition:

DRIVER REAR RISER SENSOR OUT OF RANGE HIGH - MHSAPM

When Monitored: Contiguously with the PCI bus active.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value higher than the Memory/Heated Seat Adjustable Pedal Module has stored in EEPROM. Code will remain for 50 ignition cycles.

POSSIBLE CAUSES
DRIVER SEAT POSITION SENSOR GROUND WIRE OPEN
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE
DRIVER SEAT SENSOR 5 VOLT SUPPLY SHORTED HIGH
DRIVER SEAT REAR RISER POSITION SIGNAL CIRCUIT SHORT TO VOLTAGE
DRIVER REAR RISER SEAT SENSOR HIGH
DRIVER REAR RISER SEAT SENSOR SHORT TO MOTOR
MEMORY/HEATED SEAT ADJUSTABLE MODULE
STORED DIAGNOSTIC TROUBLE CODE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the Driver Rear Riser Seat Position Sensor connector. Measure the resistance of the Driver Seat Position Sensor Ground circuit at the driver rear riser seat position sensor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Go To 8	All

DRIVER REAR RISER SENSOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Rear Riser Seat Position Sensor connector. Measure the voltage between Driver Seat Sensor 5 volt supply circuit and ground. Turn ignition on. Is the voltage above 5.5 volts? Yes → Repair the Driver Seat Sensor 5 Volt Supply circuit for a short to battery. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn ignition off. Disconnect the Driver Rear Riser Seat Position Sensor Connector. Disconnect the MHSAPM C2 Connector. Turn ignition on. Measure the voltage between Driver Seat Rear Riser Seat Position Signal circuit and ground. Is the voltage above 0.2 volts? Yes → Repair the Driver Seat Rear Riser Position Signal circuit for a short to voltage. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Disconnect the Driver Rear Riser Seat Position Sensor Connector. Ensure the MHSAPM is fully connected before proceeding. Turn ignition on. With the DRBIII® in Body MHSAPM Sensors Read the Driver Seat Rear Riser Sensor voltage. Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Seat Track Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
6	Ensure all seat and sensor connectors are connected and rear riser motor is operational. With the DRBIII® in MHSAPM Sensors monitor the Driver Seat Rear Riser sensor while operating the seat rear riser to both limits. Did the voltage ever go above 7.0 volts only when the motor was in operation? Yes → Replace the Seat Track Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER REAR RISER SENSOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
8	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Rear Riser Seat Position Sensor connector. Measure the resistance of the Driver Seat Position Sensor Ground wire between the Driver Rear Riser Seat Position Sensor connector and the C2 connector. Is the resistance below 5.0 ohms? Yes → Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Repair the Driver Seat Position Sensor Ground wire for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER REAR RISER SENSOR OUT OF RANGE LOW - MHSAPM

When Monitored and Set Condition:

DRIVER REAR RISER SENSOR OUT OF RANGE LOW - MHSAPM

When Monitored: Continuously.

Set Condition: This code is immediately set when the seat motor potentiometer feeds a value lower than the Memory/Heated Seat Adjustable Pedal Module has stored in EEPROM. Code will remain for 50 ignition cycles.

POSSIBLE CAUSES
DRIVER SEAT SENSOR 5 VOLT SUPPLY WIRE OPEN
DRIVER SEAT SENSOR 5 VOLT SUPPLY WIRE SHORT TO GROUND
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE 5 VOLT SUPPLY
DRIVER SEAT REAR RISER POSITION SIGNAL CIRCUIT OPEN
DRIVER SEAT REAR RISER POSITION SIGNAL CIRCUIT SHORT TO GROUND
DRIVER REAR RISER SEAT POSITION SENSOR LOW
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE REAR RISER LOW
STORED DIAGNOSTIC TROUBLE CODE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from the Memory/Heated Seat Adjustable Pedal Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Ensure the MHSAPM is fully connected before proceeding. Disconnect the Driver Rear Riser Seat Position Sensor connector. Turn ignition on. Measure the voltage of the Driver Seat Sensor 5 Volt Supply circuit at rear riser connector. Is the voltage above 4.5 volts? Yes → Go To 3 No → Go To 7	All

DRIVER REAR RISER SENSOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Driver Rear Riser Seat Position Sensor Connector. Disconnect the MHSAPM C2 Connector. Measure the resistance of the Driver Seat Rear Riser Position Signal circuit between the rear riser sensor and the MHSAPM C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Driver Seat Rear Riser Position Signal circuit for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Rear Riser Seat Position Sensor connector. Measure the resistance of the Driver Seat Rear Riser Position Signal circuit to ground. Is the resistance below 1000 ohms? Yes → Repair the Driver Seat Rear Riser Position Signal circuit a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Ensure the MHSAPM is fully connected before proceeding. Disconnect the Driver Rear Riser Seat Position Sensor Connector. Connect a jumper wire between Driver Seat Sensor 5 volt Supply and Driver Seat Rear Riser Position Signal circuits. Turn ignition on. With the DRBIII® select MHSAPM Sensors. Read the Driver Seat Rear Riser Sensor voltage. Is the voltage above 4.5 volts? Yes → Replace the Seat Track Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
7	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Rear Riser Seat Position Sensor connector. Measure the resistance of the Driver Seat Sensor 5 Volt Supply wire between the Rear Riser Sensor connector and the C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the Driver Seat Sensor 5 Volt Supply circuit for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER REAR RISER SENSOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
8	Turn ignition off. Disconnect the MHSAPM C2 connector. Measure the resistance of the Driver Seat Sensor 5 volt supply circuit to body ground. Is the resistance below 100.0 ohms? Yes → Repair the Driver Seat Sensor 5 Volt Supply circuit for a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 9	All
9	If there are no possible cause remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER REAR RISER SWITCH STUCK - DDM

When Monitored and Set Condition:

DRIVER REAR RISER SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 30 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
DRIVER SEAT FRONT RISER/PEDAL FORWARD SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the seat switches mechanical operation and also check for a possible obstruction. Correct if necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Seat Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR RISER SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 30 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR RISER SWITCH STUCK? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER REAR RISER SWITCH STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Seat Front Riser/Pedal Forward Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Seat Front Riser/Pedal Forward Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER RECLINE SWITCH STUCK - DDM

When Monitored and Set Condition:

DRIVER RECLINE SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 30 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
DRIVER SEAT RECLINER/LUMBAR OUT SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the seat switches mechanical operation and also check for a possible obstruction. Correct if necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Seat Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER RECLINE SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 30 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER RECLINE SWITCH STUCK? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER RECLINE SWITCH STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Seat Recliner/Lumbar Out Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. yes Repair the Driver Seat Recliner/Lumbar Out Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER RECLINER AND LUMBAR OUT SWITCH SHORT - DDM

When Monitored and Set Condition:

DRIVER RECLINER AND LUMBAR OUT SWITCH SHORT - DDM

When Monitored: Continuously.

Set Condition: If the MUX circuit is under 0.10 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
DRIVER SEAT RECLINER/LUMBAR OUT SWITCH MUX SHORT TO GROUND
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the suspect switch in both positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER RECLINER AND LUMBAR OUT SWITCH SHORT? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 30 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER RECLINER AND LUMBAR SWITCH SHORT? Yes → Go To 3 No → Replace the Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER RECLINER AND LUMBAR OUT SWITCH SHORT - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Seat Recliner/Lumbar Out Switch MUX circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Seat Recliner/Lumbar Out Switch MUX circuit for a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER RECLINER SENSOR OUT OF RANGE HIGH - MHSAPM

When Monitored and Set Condition:

DRIVER RECLINER SENSOR OUT OF RANGE HIGH - MHSAPM

When Monitored: Continuously.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value higher than the Memory/Heated Seat Adjustable Pedal Module has stored in EEPROM. Code will remain for 50 ignition cycles.

POSSIBLE CAUSES
DRIVER SEAT POSITION SENSOR GROUND WIRE OPEN
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE SENSOR GROUND OPEN
DRIVER SEAT SENSOR 5 VOLT SUPPLY SHORTED HIGH
DRIVER SEAT RECLINER POSITION SIGNAL CIRCUIT SHORT TO VOLTAGE
RECLINER SENSOR HIGH
CHECK RECLINER SENSOR SHORT TO MOTOR
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE RECLINER SENSOR HIGH
STORED DIAGNOSTIC TROUBLE CODE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedals Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the Driver Recliner Seat Position Sensor connector. Measure the resistance of the Driver Seat Position Sensor Ground circuit at the Driver Recliner Seat Position Sensor connector to ground. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Go To 8	All

DRIVER RECLINER SENSOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Recliner Seat Position Sensor connector. Measure the voltage between Driver Seat Sensor 5 volt supply circuit and ground. Turn ignition on. Is the voltage above 5.5 volts? Yes → Repair the Driver Seat Sensor 5 Volt Supply circuit for a short to battery. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn ignition off. Disconnect the Driver Recliner Seat Position Sensor Connector. Disconnect the MHSAPM C2 Connector. Turn ignition on. Measure the voltage between Driver Seat Recliner Position Signal circuit and ground. Is the voltage above 0.2 volts? Yes → Repair the Driver Seat Recliner Position Signal circuit for a short to voltage. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Disconnect the Driver Recliner Seat Position Sensor Connector. Ensure the MHSAPM is fully connected before proceeding. Turn ignition on. With the DRBIII® in MHSAPM Sensors Read the Driver Recliner Seat Position Sensor voltage. Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Seat Back Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
6	Ensure all seat and sensor connectors are connected and Recliner motor is operational. With the DRBIII® in MHSAPM Sensors monitor the Driver Seat Recliner Sensor while operating the seat Recliner motor to both limits. Did the voltage ever go above 7.0 volts only when the motor was in operation? Yes → Replace the Seat Back Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

DRIVER RECLINER SENSOR OUT OF RANGE HIGH - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
8	Turn ignition off. Disconnect the Memory/Heated Seat Adjustable Pedal Module C2 connector. Disconnect the Driver Recliner Seat Position Sensor connector. Measure the resistance of the Driver Seat Position Sensor Ground wire between the Recliner Sensor connector and the C2 connector. Is the resistance below 5.0 ohms? Yes → Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Repair the open Driver Seat Position Sensor Ground wire. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER RECLINER SENSOR OUT OF RANGE LOW - MHSAPM

When Monitored and Set Condition:

DRIVER RECLINER SENSOR OUT OF RANGE LOW - MHSAPM

When Monitored: Continuously.

Set Condition: This code is immediately set when the seat motor potentiometer feeds a value lower than the Memory/Heated Seat Adjustable Pedal Module has stored in EEPROM. Code will remain for 50 ignition cycles.

POSSIBLE CAUSES
DRIVER SEAT SENSOR 5 VOLT SUPPLY WIRE OPEN
DRIVER SEAT SENSOR 5 VOLT SUPPLY WIRE SHORT TO GROUND
DRIVER SEAT RECLINER POSITION SIGNAL CIRCUIT OPEN
DRIVER SEAT RECLINER POSITION SIGNAL CIRCUIT SHORT TO GROUND
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE 5 VOLT SUPPLY
DRIVER SEAT RECLINER POSITION SENSOR LOW
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE RECLINER LOW
STORED DIAGNOSTIC TROUBLE CODE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedals Module (MHSAPM). Operate the driver's power seat and memory system. Turn the ignition switch to the Off position then start the engine and let run for one minute. With the DRBlll® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Go To 2 No → Using the wiring diagram/schematic as a guide, inspect the wiring and connectors for an intermittent condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Ensure the MHSAPM is fully connected before proceeding. Disconnect the Driver Recliner Seat Position Sensor connector. Turn ignition on. Measure the voltage of the Driver Seat Sensor 5 Volt Supply circuit at Recliner Seat Position Sensor connector. Is the voltage above 4.5 volts? Yes → Go To 3 No → Go To 7	All

DRIVER RECLINER SENSOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Driver Recliner Seat Position Sensor Connector. Disconnect the MHSAPM C2 Connector. Measure the resistance of the Driver Seat Recliner Position Signal circuit between the Recliner Position Sensor and the MHSAPM connectors. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Driver Seat Recliner Position Signal circuit for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Recliner Seat Position Sensor connector. Measure the resistance of the Driver Sear Recliner Position Signal circuit to ground. Is the resistance below 1000 ohms? Yes → Repair the Driver Seat Recliner Position Signal circuit a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn ignition off. Ensure the MHSAPM is fully connected before proceeding. Disconnect the Driver Recliner Seat Position Sensor Connector. Connect a jumper wire between Driver Seat Sensor 5 volt Supply and Driver Seat Recliner Position Signal circuits. Turn ignition on. With the DRBIII® select MHSAPM Sensors. Read the Driver Seat Recliner Sensor voltage. Is the voltage above 4.5 volts? Yes → Replace the Seat Back Assembly. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
7	Turn ignition off. Disconnect the MHSAPM C2 connector. Measure the resistance of the Driver Seat Sensor 5 volt supply circuit to body ground. Is the resistance below 100.0 ohms? Yes → Repair the Driver Seat Sensor 5 Volt Supply circuit for a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 8	All

DRIVER RECLINER SENSOR OUT OF RANGE LOW - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
8	Turn ignition off. Disconnect the MHSAPM C2 connector. Disconnect the Driver Recliner Seat Position Sensor connector. Measure the resistance of the Driver Seat Sensor 5 Volt Supply wire between the Recliner Sensor connector and the C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the Driver Seat Sensor 5 Volt Supply circuit for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
9	If there are no possible cause remaining, view repair. Repair Replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom List:

EEPROM CHECKSUM FAILURE - MHSAPM
LOOPBACK FAILURE - MHSAPM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be EEPROM CHECKSUM FAILURE - MHSAPM.

When Monitored and Set Condition:

EEPROM CHECKSUM FAILURE - MHSAPM

When Monitored: With the ignition in the on position.

Set Condition: The Memory/Heated Seat Adjustable Pedal Module has a internal EEPROM failure.

LOOPBACK FAILURE - MHSAPM

When Monitored: With the ignition in the on position.

Set Condition: The Memory/Heated Seat Adjustable Pedal Module failed the internal loopback self test.

POSSIBLE CAUSES
EEPROM CHECKSUM FAILURE

TEST	ACTION	APPLICABILITY
1	If there are no possible causes remaining, view repair. Repair Replace the Memory/Heated/Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

IPM MESSAGES NOT RECEIVED - MHSAPM

When Monitored and Set Condition:

IPM MESSAGES NOT RECEIVED - MHSAPM

When Monitored:

Set Condition: The module does not receive any messages from the IPM. Time to mature for the MHSAPM is 10 seconds. Time to mature for the IPM is 10 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE INTERGRATED POWER MODULE
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the IPM. Was the DRB able to I/D or communicate with the IPM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRB, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LUMBAR SWITCH STUCK - DDM

When Monitored and Set Condition:

LUMBAR SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 30 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
DRIVER SEAT HORIZONTAL/LUMBAR IN SWITCH MUX
DRIVER SEAT RECLINER/LUMBAR OUT SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the seat switches mechanical operation and also check for a possible obstruction. Correct if necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Seat Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display LUMBAR SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 15 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display LUMBAR SWITCH STUCK? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

LUMBAR SWITCH STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Seat Horizontal/Lumbar In Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Seat Horizontal/Lumbar In Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Driver Seat Recliner/Lumbar Out Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Driver Seat Recliner/Lumbar Out Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MEMORY SWITCH SHORT - DDM

When Monitored and Set Condition:

MEMORY SWITCH SHORT - DDM

When Monitored: Continuously.

Set Condition: If the MUX circuit is under 0.10 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
MEMORY SELECT SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Seat Switch several times. With the DRBIII®, read DTCs. Does the DRBIII® display MEMORY SWITCH SHORT? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display MEMORY SWITCH SHORT? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

MEMORY SWITCH SHORT - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Memory Select Switch MUX circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Memory Select Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

MEMORY SWITCH STUCK - DDM

When Monitored and Set Condition:

MEMORY SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER POWER SEAT SWITCH
MEMORY SELECT SWITCH MUX
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the switches mechanical operation and also check for a possible obstruction. Correct if necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Switch several times. With the DRBIII®, read DTCs. Does the DRBIII® display MEMORY SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display MEMORY SWITCH STUCK? Yes → Go To 3 No → Replace the Driver Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

MEMORY SWITCH STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Power Seat Switch connector. Disconnect the Driver Door Module C2 connector. Inspect the Memory Select Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Memory Select Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

MODULE TYPE MISMATCH - MHSAPM

When Monitored and Set Condition:

MODULE TYPE MISMATCH - MHSAPM

When Monitored: Continuously.

Set Condition: If a Memory Seat Adjustable Pedal Module receives a request for heated seat activation over the PCI bus from either of the door modules.

POSSIBLE CAUSES
STORED DTC
INCORRECT MODULE ON VEHICLE
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE

TEST	ACTION	APPLICABILITY
1	**Note: Refer to any technical service bulletins that may apply.** With the DRBlll® under module display, verify that the Memory/Heated Seat Adjustable Pedal Module (MHSAPM) or Memory Seat Adjustable Pedal Module (MSAPM) installed on the vehicle matches the vehicle's equipment. Is the correct module installed on the vehicle? No → Replace with the correct Memory/Heated Seat Adjustable Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. Yes → Go To 2	All
2	With the DRBIII®, erase the DTC from Memory/Heated Seat Adjustable Pedal Module. Turn the ignition switch to the Off position then start the engine and let run for one minute. Attempt to operate the Heated Seats if equipped. With the DRBIII® check for the same DTC to reset in the MHSAPM. Did the same DTC reset? Yes → Replace the Memory/Heated Seat Adjustable Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Test complete. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom List:

PASSENGER HORIZONTAL SEAT SWITCH OPEN - PDM
PASSENGER RECLINER SWITCH OPEN - PDM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be PASSENGER HORIZONTAL SEAT SWITCH OPEN - PDM.

When Monitored and Set Condition:

PASSENGER HORIZONTAL SEAT SWITCH OPEN - PDM

When Monitored: Continuously.

Set Condition: If the switch MUX circuit is over 4.9 volts for over 10 second, this code will set.

PASSENGER RECLINER SWITCH OPEN - PDM

When Monitored: Continuously.

Set Condition: If the switch MUX circuit is over 4.9 volts for over 10 second, this code will set.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER SEAT SWITCH MUX WIRE OPEN
PASSENGER SEAT SWITCH MUX WIRE SHORT TO VOLTAGE
SEAT SWITCH MUX RETURN
PASSENGER DOOR MODULE
PASSENGER SEAT SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the switch that had the DTC in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display the same DTC? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Review wiring schematics and inspect related wiring for intermittent open condition. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

PASSENGER HORIZONTAL SEAT SWITCH OPEN - PDM — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition on. With the DRBIII® in Sensors, read the Seat Switch voltage of the switch that had the DTC. Select the voltage displayed. 4.4 to 5.1 volts. Go To 3 Over 5.2 volts Go To 5	All
3	Turn the ignition on. Disconnect the Passenger Seat Switch connector. Measure the voltage of the Switch MUX circuit indicated by the DRBlll® and ground. Is the voltage between 4.4 and 5.1 volts? Yes → Go To 4 No → Repair the Passenger Seat Switch MUX wire for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Passenger Seat Switch connector. Measure the resistance of the Seat Switch MUX Return circuit in the switch connector. Is the resistance below 5.0 ohms? Yes → Replace the Passenger Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Repair the Seat Switch MUX Return for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Passenger Seat Switch connector. Disconnect the Passenger Door Module C2 connector. Inspect the Seat Switch MUX circuit that had the DTC for a possible short to voltage. Were there any problems found? Yes → Repair the Passenger Seat Switch MUX circuit for a short to voltage. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER HORIZONTAL SEAT SWITCH SHORT - PDM

When Monitored and Set Condition:

PASSENGER HORIZONTAL SEAT SWITCH SHORT - PDM

When Monitored: Continuously.

Set Condition: If the MUX circuit is under 0.10 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
PASSENGER SEAT HORIZONTAL SWITCH MUX SHORT TO GROUND
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the suspect switch in both positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER HORIZONTAL SWITCH SHORT? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Passenger Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER HORIZONTAL SEAT SWITCH SHORT? Yes → Go To 3 No → Replace the Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

PASSENGER HORIZONTAL SEAT SWITCH SHORT - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Power Seat Switch connector. Disconnect the Passenger Door Module C2 connector. Inspect the Passenger Seat Horizontal Switch MUX circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Passenger Seat Horizontal Switch MUX circuit for a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

PASSENGER HORIZONTAL SEAT SWITCH STUCK - PDM
PASSENGER RECLINER SWITCH STUCK - PDM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be PASSENGER HORIZONTAL SEAT SWITCH STUCK - PDM.

When Monitored and Set Condition:

PASSENGER HORIZONTAL SEAT SWITCH STUCK - PDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 30 seconds, this code will set.

PASSENGER RECLINER SWITCH STUCK - PDM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 30 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER POWER SEAT SWITCH
PASSENGER SEAT RECLINER SWITCH MUX
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Check the seat switches mechanical operation and also check for a possible obstruction. Correct if necessary. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the Seat Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER RECLINER SWITCH STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

PASSENGER HORIZONTAL SEAT SWITCH STUCK - PDM — Continued

TEST	ACTION	APPLICABILITY
2	Disconnect the Passenger Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 30 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER RECLINER SWITCH STUCK? Yes → Go To 3 No → Replace the Passenger Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Passenger Power Seat Switch connector. Disconnect the Passenger Door Module C2 connector. Inspect the Passenger Seat Recliner Switch MUX circuit for a partial short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Passenger Seat Recliner Switch MUX circuit as necessary. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER RECLINER SWITCH SHORT - PDM

When Monitored and Set Condition:

PASSENGER RECLINER SWITCH SHORT - PDM

When Monitored: Continuously.

Set Condition: If the MUX circuit is under 0.10 volt for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
POWER SEAT SWITCH
PASSENGER SEAT RECLINER SWITCH MUX SHORT TO GROUND
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Operate the suspect switch in both positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER RECLINER SWITCH SHORT? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	Disconnect the Passenger Power Seat Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run and wait 10 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER RECLINER SWITCH SHORT? Yes → Go To 3 No → Replace the Power Seat Switch. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

PASSENGER RECLINER SWITCH SHORT - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Power Seat Switch connector. Disconnect the Passenger Door Module C2 connector. Inspect the Passenger Seat Recliner Switch MUX circuit for a short to ground or to another circuit in the seat switch harness. Were there any problems found? Yes → Repair the Passenger Seat Recliner Switch MUX circuit for a short to ground. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

PASSENGER SEAT HORIZONTAL FORWARD SWITCH MESSAGE STUCK - MHSAPM
PASSENGER SEAT HORIZONTAL REARWARD SWITCH MESSAGE STUCK - MHSAPM
PASSENGER SEAT RECLINER FORWARD SWITCH MESSAGE STUCK - MHSAPM
PASSENGER SEAT RECLINER REARWARD SWITCH MESSAGE STUCK - MHSAPM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be PASSENGER SEAT HORIZONTAL FORWARD SWITCH MESSAGE STUCK - MHSAPM.

When Monitored and Set Condition:

PASSENGER SEAT HORIZONTAL FORWARD SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

PASSENGER SEAT HORIZONTAL REARWARD SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

PASSENGER SEAT RECLINER FORWARD SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

PASSENGER SEAT RECLINER REARWARD SWITCH MESSAGE STUCK - MHSAPM

When Monitored: Continuously.

Set Condition: If the switch is held in the on position for over 35 seconds, this code will set.

POSSIBLE CAUSES
PASSENGER SEAT SWITCH STUCK

PASSENGER SEAT HORIZONTAL FORWARD SWITCH MESSAGE STUCK - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
1	If there are no possible causes remaining, view repair. Repair This DTC is for reference only. Check for DTC's in the Passenger Door Module and refer to the symptom list. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

PCM MESSAGES NOT RECEIVED - MHSAPM

When Monitored and Set Condition:

PCM MESSAGES NOT RECEIVED - MHSAPM

When Monitored: With the ignition in run.

Set Condition: The module does not receive any messages from the PCM. Time to mature for the MHSAPM is 2 seconds. Time to mature for the IPM is 2 seconds.

POSSIBLE CAUSES
MEMORY/HEATED SEAT ADJUSTABLE PEDAL MODULE
ATTEMPT TO COMMUNICATE WITH THE PCM
PCI BUS CIRCUIT OPEN
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, enter Instrument Cluster, System Tests then PCM Monitor. Does the DRBIII® display: PCM is active on BUS? Yes → Erase the DTC, if DTC resets, replace the Memory/Heated Seat Adjustable Pedal Module. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to communicate with the PCM? Yes → Go To 3 No → Refer to the communication category and perform the appropriate symptom. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

PCM MESSAGES NOT RECEIVED - MHSAPM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the PCM harness connector. **CAUTION: DO NOT PROBE THE PCM HARNESS CONNECTORS. PROBING THE PCM HARNESS CONNECTORS WILL DAMAGE THE PCM TERMINALS RESULTING IN POOR TERMINAL TO PIN CONNECTION. INSTALL MILLER SPECIAL TOOL #8815 TO PERFORM DIAGNOSIS.** Measure the resistance of the PCI Bus circuit between the DLC and the PCM connector. Is the resistance below 5.0 ohms? Yes → Replace and program the Powertrain Control Module in accordance with the Service Information. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All

Symptom:

PDM MESSAGES NOT RECEIVED - MHSAPM

When Monitored and Set Condition:

PDM MESSAGES NOT RECEIVED - MHSAPM

When Monitored: With the ignition in run or ACC and vehicle not in shipping mode.

Set Condition: The module does not receive any messages from the PDM. Time to mature for the MHSAPM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PASSENGER DOOR MODULE
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Passenger Door Module. Was the DRBIII® able to I/D or communicate with the PDM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on, operate the door locks from the passenger's door and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
TCM MESSAGES NOT RECEIVED - MHSAPM

When Monitored and Set Condition:

TCM MESSAGES NOT RECEIVED - MHSAPM

When Monitored: With the ignition in unlock.

Set Condition: The module does not receive any messages from the TCM. Time to mature for the MHSAPM is 5 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE TCM
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the Transmission Control Module. Was the DRBIII® able to I/D or communicate with the TCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform POWER SEAT SYSTEM VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the module which set the DTC in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

DRIVER FRONT WINDOW EXPRESS DOWN SWITCH STUCK - DDM

When Monitored and Set Condition:

DRIVER FRONT WINDOW EXPRESS DOWN SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Express Down position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the Driver Front Window Express Down Switch several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER FRONT WINDOW EXPRESS DOWN SWITCH STUCK? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER FRONT WINDOW SWITCH STUCK DOWN - DDM

When Monitored and Set Condition:

DRIVER FRONT WINDOW SWITCH STUCK DOWN - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Down position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER FRONT WINDOW SWITCH STUCK DOWN? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER FRONT WINDOW SWITCH STUCK UP - DDM

When Monitored and Set Condition:

DRIVER FRONT WINDOW SWITCH STUCK UP - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Up position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER FRONT WINDOW SWITCH STUCK UP? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER REAR WINDOW EXPRESS DOWN SWITCH STUCK - DDM

When Monitored and Set Condition:

DRIVER REAR WINDOW EXPRESS DOWN SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Express Down position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions or sticky material within the switch and correct as necessary. Operate the DDM Driver Rear Window Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR WINDOW EXPRESS DOWN SWITCH STUCK? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER REAR WINDOW SWITCH MUX INPUT OPEN/SHORT VOLTAGE - DDM

When Monitored and Set Condition:

DRIVER REAR WINDOW SWITCH MUX INPUT OPEN/SHORT VOLTAGE - DDM

When Monitored: Continuously.

Set Condition: If the Driver Rear Window Switch Mux circuit is over 4.9 volts for over 1 second, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER REAR WINDOW SWITCH GROUND OPEN
DRIVER REAR WINDOW SWITCH MUX WIRE OPEN
DRIVER REAR WINDOW SWITCH MUX WIRE SHORT TO VOLTAGE
DRIVER DOOR MODULE
REAR SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the rear switch and correct if necessary. Operate the Rear Window Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR WINDOW SWITCH MUX INPUT OPEN/SHORT TO VOLTAGE? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the rear switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII® in Sensors, read the REAR WINDOW SWITCH voltage. Select the voltage displayed. 4.4 to 5.1 volts. Go To 3 Over 5.2 volts Go To 5	All

DRIVER REAR WINDOW SWITCH MUX INPUT OPEN/SHORT VOLTAGE - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition on. Disconnect the Driver Rear Window Switch connector. Measure the voltage between the Driver Rear Window Switch Mux circuit and ground. Is the voltage between 4.4 and 5.1 volts? Yes → Go To 4 No → Repair the Driver Rear Window Switch Mux wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Driver Rear Window Switch connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit in the switch connector. Does the test light illuminate brightly? Yes → Replace the Rear Window Switch. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Driver Rear Window Switch Ground for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Driver Rear Window Switch connector. Disconnect the Driver Door Module C3 connector. Measure the voltage between Driver Rear Window Switch Mux circuit and ground. Is there any voltage present? Yes → Repair the Driver Rear Window Switch Mux circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER REAR WINDOW SWITCH MUX INPUT SHORT TO GROUND - DDM

When Monitored and Set Condition:

DRIVER REAR WINDOW SWITCH MUX INPUT SHORT TO GROUND - DDM

When Monitored: Continuously.

Set Condition: If the Driver Rear Window Switch Mux circuit is under 0.10 volt for over 1 second, this code will set.

POSSIBLE CAUSES
DTC PRESENT
REAR SWITCH
DRIVER REAR WINDOW SWITCH MUX CIRCUIT SHORT TO GROUND.
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the rear switch and correct if necessary. Operate the Rear Window Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR WINDOW SWITCH MUX CIRCUIT SHORT TO GROUND? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the rear switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Rear Window Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR WINDOW SWITCH MUX CIRCUIT SHORT TO GROUND? Yes → Go To 3 No → Replace the Rear Window Switch. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER REAR WINDOW SWITCH MUX INPUT SHORT TO GROUND - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Rear Window Switch connector. Disconnect the Driver Door Module C3 connector. Measure the resistance between Ground and the Driver Rear Window Switch Mux circuit. Is the resistance below 100.0 ohms? Yes → Repair the Driver Rear Window Switch Mux circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER REAR WINDOW SWITCH MUX INPUT STUCK - DDM

When Monitored and Set Condition:

DRIVER REAR WINDOW SWITCH MUX INPUT STUCK - DDM

When Monitored: Continuously.

Set Condition: If the voltage on the Driver Rear Window Switch Mux circuit is between 0.6 and 4.4 volts for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
REAR SWITCH
DRIVER REAR WINDOW SWITCH MUX CIRCUIT PARTIAL SHORT TO GROUND.
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the rear switch and correct if necessary. Operate the Rear Window Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR WINDOW SWITCH MUX CIRCUIT STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the rear switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Rear Window Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR WINDOW SWITCH MUX CIRCUIT STUCK? Yes → Go To 3 No → Replace the Rear Window Switch. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER REAR WINDOW SWITCH MUX INPUT STUCK - DDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Rear Window Switch connector. Disconnect the Driver Door Module C3 connector. Measure the resistance between Ground and the Driver Rear Window Switch Mux circuit. Is the resistance below 30,000 (30k) ohms? Yes → Repair the Driver Rear Window Switch Mux circuit for a partial short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER REAR WINDOW SWITCH STUCK DOWN - DDM

When Monitored and Set Condition:

DRIVER REAR WINDOW SWITCH STUCK DOWN - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Down position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR WINDOW SWITCH STUCK DOWN? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DRIVER REAR WINDOW SWITCH STUCK UP - DDM

When Monitored and Set Condition:

DRIVER REAR WINDOW SWITCH STUCK UP - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Up position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR WINDOW SWITCH STUCK UP? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER FRONT WINDOW EXPRESS DOWN SWITCH STUCK - DDM

When Monitored and Set Condition:

PASSENGER FRONT WINDOW EXPRESS DOWN SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Express Down position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the DDM Passenger Front Window Express Down Switch several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER FRONT WINDOW EXPRESS DOWN SWITCH STUCK? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER FRONT WINDOW SWITCH MUX INPUT SHORTED - PDM

When Monitored and Set Condition:

PASSENGER FRONT WINDOW SWITCH MUX INPUT SHORTED - PDM

When Monitored: Continuously.

Set Condition: If the voltage on the Window Switch Mux circuit within the PDM is below 0.1 volt for over 1 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER FRONT WINDOW SWITCH MUX INPUT SHORTED? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER FRONT WINDOW SWITCH MUX INPUT STUCK - PDM

When Monitored and Set Condition:

PASSENGER FRONT WINDOW SWITCH MUX INPUT STUCK - PDM

When Monitored: Continuously.

Set Condition: If the voltage on the Window Switch Mux circuit within the PDM is between 0.6 and 4.4 volts for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER FRONT WINDOW SWITCH MUX INPUT STUCK? Yes → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER FRONT WINDOW SWITCH STUCK DOWN - DDM

When Monitored and Set Condition:

PASSENGER FRONT WINDOW SWITCH STUCK DOWN - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Down position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER FRONT WINDOW SWITCH STUCK DOWN? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER FRONT WINDOW SWITCH STUCK UP - DDM

When Monitored and Set Condition:

PASSENGER FRONT WINDOW SWITCH STUCK UP - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Up position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER FRONT WINDOW SWITCH STUCK UP? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER REAR WINDOW EXPRESS DOWN SWITCH STUCK - DDM

When Monitored and Set Condition:

PASSENGER REAR WINDOW EXPRESS DOWN SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held in the Express Down position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the DDM Passenger Rear Window Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER REAR WINDOW EXPRESS DOWN SWITCH STUCK? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER REAR WINDOW SWITCH MUX INPUT OPEN/SHORT TO VOLTAGE - PDM

When Monitored and Set Condition:

PASSENGER REAR WINDOW SWITCH MUX INPUT OPEN/SHORT TO VOLTAGE - PDM

When Monitored: Continuously.

Set Condition: If the voltage on the Passenger Rear Window Switch Mux circuit is above 4.9 volts for over 1 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER REAR WINDOW SWITCH GROUND OPEN
PASSENGER REAR WINDOW SWITCH MUX WIRE OPEN
PASSENGER REAR WINDOW SWITCH MUX WIRE SHORT TO VOLTAGE
PASSENGER DOOR MODULE
REAR SWITCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the rear switch and correct if necessary. Operate the Rear Window Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER REAR WINDOW SWITCH MUX INPUT OPEN/SHORT TO VOLTAGE? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the rear switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII® in Sensors, read the REAR WINDOW SWITCH voltage. Select the voltage displayed. 4.4 to 5.1 volts. Go To 3 Over 5.2 volts Go To 5	All

PASSENGER REAR WINDOW SWITCH MUX INPUT OPEN/SHORT TO VOLTAGE - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition on. Disconnect the Passenger Rear Window Switch connector. Measure the voltage between the Passenger Rear Window Switch Mux circuit and ground. Is the voltage between 4.4 and 5.1 volts? Yes → Go To 4 No → Repair the Passenger Rear Window Switch Mux wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Passenger Rear Window Switch connector. Using a 12-volt test light connected to 12-volts, check the Ground circuit in the switch connector. Does the test light illuminate brightly? Yes → Replace the Rear Window Switch. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Passenger Rear Window Switch Ground for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Passenger Rear Window Switch connector. Disconnect the Passenger Door Module C3 connector. Measure the voltage between Passenger Rear Window Switch Mux circuit and ground. Is there any voltage present? Yes → Repair the Passenger Rear Window Switch Mux circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER REAR WINDOW SWITCH MUX INPUT SHORT TO GROUND - PDM

When Monitored and Set Condition:

PASSENGER REAR WINDOW SWITCH MUX INPUT SHORT TO GROUND - PDM

When Monitored: Continuously.

Set Condition: If the voltage on the Passenger Rear Window Switch Mux circuit is below 0.1 volt for over 1 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
REAR SWITCH
PASSENGER REAR WINDOW SWITCH MUX CIRCUIT SHORT TO GROUND.
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the rear switch and correct if necessary. Operate the Rear Window Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER REAR WINDOW SWITCH MUX CIRCUIT SHORT TO GROUND? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the rear switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Passenger Rear Window Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER REAR WINDOW SWITCH MUX CIRCUIT SHORT TO GROUND? Yes → Go To 3 No → Replace the Rear Window Switch. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER REAR WINDOW SWITCH MUX INPUT SHORT TO GROUND - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Rear Window Switch connector. Disconnect the Passenger Door Module C3 connector. Measure the resistance between Ground and the Passenger Rear Window Switch Mux circuit. Is the resistance below 100.0 ohms? Yes → Repair the Passenger Rear Window Switch Mux circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER REAR WINDOW SWITCH MUX INPUT STUCK - PDM

When Monitored and Set Condition:

PASSENGER REAR WINDOW SWITCH MUX INPUT STUCK - PDM

When Monitored: Continuously.

Set Condition: If the voltage on the Passenger Rear Window Switch Mux circuit is between 0.6 and 4.4 volts for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
REAR SWITCH
PASSENGER REAR WINDOW SWITCH MUX CIRCUIT PARTIAL SHORT TO GROUND.
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the rear switch and correct if necessary. Operate the Rear Window Switch in all positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER REAR WINDOW SWITCH MUX CIRCUIT STUCK? Yes → Go To 2 No → The condition that caused this code to set is not present at this time. Operate the rear switch several times to ensure it does not stick. If the switch ever sticks, replace it. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Driver Rear Window Switch connector. Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. With the DRBIII®, read DTCs. Does the DRBIII® display DRIVER REAR WINDOW SWITCH MUX CIRCUIT STUCK? Yes → Go To 3 No → Replace the Rear Window Switch. Perform BODY VERIFICATION TEST - VER 1.	All

PASSENGER REAR WINDOW SWITCH MUX INPUT STUCK - PDM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Passenger Rear Window Switch connector. Disconnect the Passenger Door Module C3 connector. Measure the resistance between Ground and the Passenger Rear Window Switch Mux circuit. Is the resistance below 30,000 (30k) ohms? Yes → Repair the Passenger Rear Window Switch Mux circuit for a partial short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER REAR WINDOW SWITCH STUCK DOWN - DDM

When Monitored and Set Condition:

PASSENGER REAR WINDOW SWITCH STUCK DOWN - DDM

When Monitored: Continuously.

Set Condition: If the DDM Passenger Rear Window Switch is held in the Down position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER REAR WINDOW SWITCH STUCK DOWN? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PASSENGER REAR WINDOW SWITCH STUCK UP - DDM

When Monitored and Set Condition:

PASSENGER REAR WINDOW SWITCH STUCK UP - DDM

When Monitored: Continuously.

Set Condition: If the DDM Passenger Rear Window Switch is held in the Up position for over 15 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the switch in both the Up and Down positions several times. With the DRBIII®, read DTCs. Does the DRBIII® display PASSENGER REAR WINDOW SWITCH STUCK UP? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

WINDOW LOCKOUT SWITCH STUCK - DDM

When Monitored and Set Condition:

WINDOW LOCKOUT SWITCH STUCK - DDM

When Monitored: Continuously.

Set Condition: If the switch is held down for over 10 seconds, this code will set.

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition switch from Off to Run. Check for any possible obstructions with the switch and correct if necessary. Operate the DDM Window Lockout Switch several times. With the DRBIII®, read DTCs. Does the DRBIII® display WINDOW LOCKOUT SWITCH STUCK? Yes → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this code to set is not present at this time. Operate the switch several times to ensure it does not stick. If the switch ever sticks, replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ANY PASSENGER WINDOW INOPERATIVE FROM DDM

POSSIBLE CAUSES
DTC PRESENT
DRIVER DOOR MODULE - PASSENGER WINDOW INOPERATIVE FROM DDM

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure there is communication with the DDM and the PDM before proceeding. If there is not, refer to symptom list for problems related to COMMUNICATION.** Turn the ignition on. With the DRBIII®, erase DTCs. Try to operate the inoperative power window several times from the DDM but do not hold the switch longer than 5 seconds. With the DRBIII®, read DTCs. Are there any POWER WINDOW related trouble codes present? Yes → Refer to POWER WINDOWS for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	This test assumes that the passenger window IS operational from the related door window switch. If it is not, Refer to symptom list for problems related to One Window Motor Inoperative. If there are no possible causes remaining, view Repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ONE WINDOW MOTOR INOPERATIVE FROM ANY SWITCH

POSSIBLE CAUSES
DTC PRESENT
WINDOW MOTOR
WINDOW DRIVER DOWN WIRE OPEN
WINDOW DRIVER UP WIRE OPEN
DOOR MODULE OPEN
DOOR MODULE OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Try to operate the inoperative power window several times but do not hold the switch longer than 5 seconds. With the DRBIII®, read DTCs. Are there any POWER WINDOW related trouble codes present? Yes → Refer to POWER WINDOWS for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the appropriate door panel and gain access to the motor connector. Disconnect the power window motor connector. Using a 12-volt test light, connect one lead to the WINDOW DRIVER UP circuit and the other lead to the WINDOW DRIVER DOWN circuit in the connector. Turn the ignition on. Press the Power Window Switch UP and then DOWN several times while observing the test light. Does the test light illuminate brightly when the switch is pressed in both directions? Yes → Check and repair any binding conditions. If okay, replace the inoperative power window motor (regulator). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Remove the appropriate door panel and gain access to the motor connector. Disconnect the power window motor connector. Using a 12-volt test light connected to Ground, check the WINDOW DRIVER DOWN circuit. Turn the ignition on. Press the Power Window Switch DOWN and observe the test light. Does the test light illuminate brightly when the switch is pressed in the DOWN position? Yes → Go To 4 No → Go To 6	All

*ONE WINDOW MOTOR INOPERATIVE FROM ANY SWITCH — Continued

TEST	ACTION	APPLICABILITY
4	Remove the appropriate door panel and gain access to the motor connector. Disconnect the power window motor connector. Using a 12-volt test light connected to Ground, check the WINDOW DRIVER UP circuit. Turn the ignition on. Press the Power Window Switch UP and observe the test light. Does the test light illuminate brightly when the switch is pressed in the UP position? Yes → Replace the appropriate Door Module (motor ground open). Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the power window motor connector. Disconnect the appropriate Door Module C1 connector. Measure the resistance of the appropriate Window Driver Up circuit between the Door Module connector and the Motor connector. Is the resistance below 5.0 ohms? Yes → Replace the appropriate Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Window Driver Up circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the power window motor connector. Disconnect the appropriate Door Module C1 connector. Measure the resistance of the appropriate window Driver Down circuit between the Door Module connector and the Motor connector. Is the resistance below 5.0 ohms? Yes → Replace the appropriate Door Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Window Driver Down circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
AMP MESSAGE NOT RECEIVED

When Monitored and Set Condition:

AMP MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive a message from the amplifier.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE AMPLIFIER
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, attempt to communicate with the Amplifier. Was the DRBIII® able to I/D or communicate with the Amplifier? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
AUDIO HARDWARE MESSAGE NOT RECEIVED

When Monitored and Set Condition:

AUDIO HARDWARE MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive the bus message from the radio indicating what kind of radio the vehicle is equipped with.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE RADIO
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Turn the Radio on. With the DRBIII®, attempt to communicate with the Radio. Was the DRBIII® able to I/D or communicate with the Radio? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

BLUETOOTH ERROR
FLASH CHECKSUM ERROR
FLASH WRITE ERROR
PCI BUS INTERNAL ERROR
RAM WRITE ERROR
ROM CHECKSUM ERROR

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be BLUETOOTH ERROR.

When Monitored and Set Condition:

BLUETOOTH ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

FLASH CHECKSUM ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

FLASH WRITE ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

PCI BUS INTERNAL ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

RAM WRITE ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

ROM CHECKSUM ERROR

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a fault during an internal diagnostic check.

BLUETOOTH ERROR — Continued

POSSIBLE CAUSES
HFM INTERNAL DTC FAILURE

TEST	ACTION	APPLICABILITY
1	**NOTE: This trouble code indicates an internal Hands Free Module fault.** With the DRBIII®, read and record the HFM DTCs and then erase the DTCs. Perform 5 ignition key cycles, leaving the ignition key on for a minimum of 90 seconds per cycle. With the DRBIII®, read the DTCs. Did the same DTC return? Yes → Replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

BODY STYLE MESSAGE NOT RECEIVED
INVALID BODY STYLE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be BODY STYLE MESSAGE NOT RECEIVED.

When Monitored and Set Condition:

BODY STYLE MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive the body style message from the PCM.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PCM
CHECK PCM IS ACTIVE ON BUS
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to I/D or communicate with the PCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, select System Monitors then J1850 Module Scan. Is the PCM one of the modules present on the bus? Yes → Go To 3 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

GENERAL MICROPHONE FAULT
MICROPHONE 1 CIRCUIT OPEN/SHORT TO GROUND
MICROPHONE 1 CIRCUIT SHORT TO VOLTAGE
MICROPHONE 2 CIRCUIT OPEN/SHORT TO GROUND
MICROPHONE 2 CIRCUIT SHORT TO VOLTAGE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be GENERAL MICROPHONE FAULT.

When Monitored and Set Condition:

MICROPHONE 1 CIRCUIT OPEN/SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects low voltage on the microphone 1 circuit.

MICROPHONE 1 CIRCUIT SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects high voltage on the microphone 1 circuit.

MICROPHONE 2 CIRCUIT OPEN/SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects low voltage on the microphone 2 circuit.

MICROPHONE 2 CIRCUIT SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects high voltage on the microphone 2 circuit.

POSSIBLE CAUSES
HANDS FREE MODULE
MICROPHONE CIRCUITS OPEN
MICROPHONE CIRCUITS SHORT TO GROUND
MICROPHONE CIRCUITS SHORT TO VOLTAGE
MICROPHONE CIRCUITS SHORTED TOGETHER
REAR VIEW MIRROR
INTERMITTENT CONDITION

GENERAL MICROPHONE FAULT — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Attempt to make a phone call using the system. With the DRBIII®, read DTCs. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 7	All
2	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance of each Microphone circuit between the HFM connector and the rear view mirror connector. Is the resistance below 10.0 ohms for each measurement? Yes → Go To 3 No → Repair the Microphone circuits for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between ground and each Microphone circuit. Is the resistance above 1000.0 ohms for each measurement? Yes → Go To 4 No → Repair the Microphone circuits for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of each Microphone circuit. Is the voltage below 1.0 volt for each measurement? Yes → Go To 5 No → Repair the Microphone circuits for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between each Microphone circuit in the rear view mirror harness connector. Is the resistance above 1000 ohms for each measurement? Yes → Go To 6 No → Refer the Microphone circuits for a short together. Perform BODY VERIFICATION TEST - VER 1.	All

GENERAL MICROPHONE FAULT — Continued

TEST	ACTION	APPLICABILITY
6	Replace the Rear View Mirror in accordance with the Service Information. Turn the ignition on. With the DRBIII®, erase DTC's. Attempt to make a phone call using the system. With the DRBIII®, read DTCs. Does the DRBIII® display this DTC? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
7	**NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
IGNITION POWER MESSAGE NOT RECEIVED

When Monitored and Set Condition:

IGNITION POWER MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive an Ignition Power Status message from the BCM.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
MODULE

TEST	ACTION	APPLICABILITY
1	Start and idle the engine. With the DRBIII®, attempt to I/D and communicate with the BCM. Was the DRBIII® able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

LEFT AUDIO OUTPUT 1 OPEN
LEFT AUDIO OUTPUT 1 SHORT TO GROUND
LEFT AUDIO OUTPUT 1 SHORT TO VOLTAGE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be LEFT AUDIO OUTPUT 1 OPEN.

When Monitored and Set Condition:

LEFT AUDIO OUTPUT 1 OPEN

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects an open on the Left Audio Output circuit.

LEFT AUDIO OUTPUT 1 SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to Ground on the Left Audio Output circuit.

LEFT AUDIO OUTPUT 1 SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to voltage on the Left Audio Output circuit.

POSSIBLE CAUSES
HANDS FREE MODULE
LEFT AUDIO OUTPUT AND RIGHT AUDIO OUTPUT CIRCUITS SHORTED TOGETHER
LEFT AUDIO OUTPUT CIRCUIT OPEN
LEFT AUDIO OUTPUT CIRCUIT SHORT TO GROUND
LEFT AUDIO OUTPUT CIRCUIT SHORT TO VOLTAGE
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase HFM DTCs. Attempt to make a phone call using the system. With the DRBIII®, read HFM DTCs. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 6	All

LEFT AUDIO OUTPUT 1 OPEN — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance of the Left Audio Output circuit. Is the resistance below 10.0 ohms? Yes → Go To 3 No → Repair the Left Audio Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between ground and the Left Audio Output circuit. Is the resistance above 1000.0 ohms? Yes → Go To 4 No → Repair the Left Audio Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of the Left Audio Output circuit. Is the voltage below 1.0 volt? Yes → Go To 5 No → Repair the Left Audio Output circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between the Left Audio Output circuit and the Right Audio Output circuit. Is the resistance above 1000 ohms? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Left Audio Output circuit for a short to the Right Audio Output circuit. Perform BODY VERIFICATION TEST - VER 1.	All

LEFT AUDIO OUTPUT 1 OPEN — Continued

TEST	ACTION	APPLICABILITY
6	**NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
LOSS OF IGNITION VOLTAGE

When Monitored and Set Condition:

LOSS OF IGNITION VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects low voltage on the Fused Accessory Relay Output circuit and the PCI ignition status indicates that the ignition is on.

POSSIBLE CAUSES
FUSED ACCESSORY RELAY OUTPUT CIRCUIT OPEN
HANDS FREE MODULE
VERIFY ACTIVE DTC

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase HFM DTCs. Attempt to make a phone call using the system. With the DRBIII®, read HFM DTCs. Does the DRBIII® display this DTC? Yes → Go To 2 No → There is no problem at this time. This DTC may be caused by an intermittent wiring or connector problem. Ensure the Hands Free Module is properly connected and all associated wiring and connectors are properly routed and connected. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Hands Free Module harness connectors. Using a 12-volt test light connected to ground, back probe the Fused Accessory Relay Output circuit. Cycle the ignition key on and off several times while observing the test light. **NOTE: The test light should illuminate when the key is turned to the Run position then turn off when the key is turned off.** Did the test light illuminate properly while cycling the ignition key? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Fused Accessory Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

MIRROR POWER CIRCUIT OPEN
MIRROR POWER CIRCUIT SHORT TO GROUND
MIRROR POWER CIRCUIT SHORT TO VOLTAGE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be MIRROR POWER CIRCUIT OPEN.

POSSIBLE CAUSES
FUSED ACCESSORY RELAY OUTPUT CIRCUIT SHORT TO OTHER CIRCUITS
FUSED ACCESSORY RELAY OUTPUT CIRCUIT SHORT TO VOLTAGE
FUSED ACCESSORY RELAY OUTPUT OPEN
FUSED ACCESSORY RELAY OUTPUT SHORT TO GROUND
HANDS FREE MODULE
REAR VIEW MIRROR
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Attempt to make a phone call using the system. With the DRBIII®, read DTCs. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 7	All
2	Turn the ignition off. Disconnect the Rear View Mirror harness connectors (automatic day/night mirror). Disconnect the Hands Free Module harness connectors. Measure the resistance of the Fused Accessory Relay Output circuit. Is the resistance below 10.0 ohms? Yes → Go To 3 No → Repair the Fused Accessory Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Rear View Mirror harness connectors (automatic day/night mirror). Disconnect the Hands Free Module harness connectors. Measure the resistance between ground and the Fused Accessory Relay Output circuit. Is the resistance above 1000.0 ohms? Yes → Go To 4 No → Repair the Fused Accessory Relay Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

MIRROR POWER CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Rear View Mirror harness connectors (automatic day/night mirror). Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of the Fused Accessory Relay Output circuit. Is the voltage below 1.0 volt? Yes → Go To 5 No → Repair the Fused Accessory Relay Output circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Rear View Mirror harness connectors (automatic day/night mirror). Disconnect the Hands Free Module harness connectors. Measure the resistance between the Fused Accessory Relay Output circuit and each of the other circuits in the rear view mirror connectors. Is the resistance above 1000 ohms for each measurement? Yes → Go To 6 No → Repair the Fused Accessory Relay Output circuit for a short to other circuits. Perform BODY VERIFICATION TEST - VER 1.	All
6	Replace the Rear View Mirror in accordance with the Service Information. Turn the ignition on. With the DRBIII®, erase the DTC's Attempt to make a phone call using the system. With the DRBIII®, read DTCs. Does the DRBIII® display this DTC? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
7	**NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

PCI BUS BUSY
PCI BUS CIRCUIT OPEN
PCI BUS CIRCUIT SHORT TO GROUND
PCI BUS CIRCUIT SHORT TO VOLTAGE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be PCI BUS BUSY.

When Monitored and Set Condition:

PCI BUS BUSY

When Monitored: With the ignition on.

Set Condition: The HFM has detected a fault on the PCI Bus circuit.

PCI BUS CIRCUIT OPEN

When Monitored: With the ignition on.

Set Condition: The HFM has detected a fault on the PCI Bus circuit.

PCI BUS CIRCUIT SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The HFM has detected a fault on the PCI Bus circuit.

PCI BUS CIRCUIT SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The HFM has detected a fault on the PCI Bus circuit.

POSSIBLE CAUSES
INTERMITTENT CONDITION

PCI BUS BUSY — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: For this code to be active, the DRBIII® will not be able to communicate with any modules on the vehicle (except the PCM).** **NOTE: Clear the code. If this code continues to set and the DRBIII® can still communicate with the module, it will be necessary to replace the module.** **NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the complete bus failure condition. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

PHONE SWITCH STUCK
VOICE RECOGNITION SWITCH STUCK
VOICE RECOGNITION/PHONE SWITCH CIRCUIT RATIONALITY
VOICE RECOGNITION/PHONE SWITCH CIRCUIT SHORT TO GROUND
VOICE RECOGNITION/PHONE SWITCH CIRCUIT SHORT TO VOLTAGE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be PHONE SWITCH STUCK.

When Monitored and Set Condition:

PHONE SWITCH STUCK

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects voltage between 2.8 volts and 3.3 volts on the VR/Phone Switch Signal circuit for more than 30 seconds.

VOICE RECOGNITION SWITCH STUCK

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects voltage between 3.5 volts and 4.0 volts on the VR/Phone Switch Signal circuit for more than 30 seconds.

VOICE RECOGNITION/PHONE SWITCH CIRCUIT RATIONALITY

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects an invalid voltage signal on the VR/Phone Switch Signal circuit.

VOICE RECOGNITION/PHONE SWITCH CIRCUIT SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects voltage below 0.6 volt on the VR/Phone Switch Signal circuit.

VOICE RECOGNITION/PHONE SWITCH CIRCUIT SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects voltage above 4.7 volts on the VR/Phone Switch Signal circuit.

POSSIBLE CAUSES
HANDS FREE MODULE

PHONE SWITCH STUCK — Continued

POSSIBLE CAUSES
HANDS FREE MODULE
HANDS FREE MODULE
REAR VIEW MIRROR
SENSOR GROUND CIRCUIT OPEN
VR/PHONE SWITCH SIGNAL CIRCUIT OPEN
VR/PHONE SWITCH SIGNAL CIRCUIT SHORTED TO GROUND
VR/PHONE SWITCH SIGNAL CIRCUIT SHORTED TO SENSOR GROUND
VR/PHONE SWITCH SIGNAL CIRCUIT SHORTED TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Turn the ignition on. Measure the voltage of the VR/Phone Switch Signal circuit in the Rear View Mirror harness connector. Chose which of the following describes the voltage measured. Voltage is above 5.3 volts Go To 2 Voltage is between 4.7 and 5.3 volts Go To 3 Voltage is below 4.7 volt Go To 4	All
2	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of the VR/Phone Switch Signal circuit. Is the voltage below 1.0 volt? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the VR/Phone Switch Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All

PHONE SWITCH STUCK — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Rear View Mirror harness connector. With the DRBIII®, read the VR/Phone Switch Signal voltage. Connect one end of a jumper wire to the VR/Phone Switch Signal circuit at the Rear View Mirror harness connector. While observing the DRBIII®, momentarily connect and disconnect the other end of the jumper wire to Sensor Ground at the Rear View Mirror harness connector. **NOTE: The DRBIII® sensor voltage should switch from above 4.7 volts when jumper is not connected to below 0.6 volts when jumper is connected.** Does sensor voltage switch from above 4.7 volts to below 0.6 volt as described? Yes → Replace the Rear View Mirror in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance of the VR/Phone Switch Signal circuit. Is the resistance below 10.0 ohms? Yes → Go To 5 No → Repair the VR/Phone Switch Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance of the Sensor Ground circuit. Is the resistance below 10.0 ohms? Yes → Go To 6 No → Repair the Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Disconnect the Hands Free Module harness connector. Measure the resistance between ground and the VR/Phone Switch Signal circuit. Is the resistance above 1000.0 ohms? Yes → Go To 7 No → Repair the VR/Phone Switch Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

PHONE SWITCH STUCK — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Rear View Mirror harness connector. Disconnect the Hands Free Module harness connector. Measure the resistance between Sensor Ground and the VR/Phone Switch Signal circuit at the Rear View Mirror harness connector. Is the resistance above 1000.0 ohms? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the VR/Phone Switch Signal circuit for a short to Sensor Ground. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PRNDL MESSAGE NOT RECEIVED

When Monitored and Set Condition:

PRNDL MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive a gear selector message from the PCM/TCM.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PCM (TCM)
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM (TCM). Was the DRBIII® able to I/D or communicate with the PCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

RIGHT AUDIO OUTPUT 1 OPEN
RIGHT AUDIO OUTPUT 1 SHORT TO GROUND
RIGHT AUDIO OUTPUT 1 SHORT TO VOLTAGE

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be RIGHT AUDIO OUTPUT 1 OPEN.

When Monitored and Set Condition:

RIGHT AUDIO OUTPUT 1 OPEN

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects an open on the Right Audio Output circuit.

RIGHT AUDIO OUTPUT 1 SHORT TO GROUND

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to ground on the Right Audio Output circuit.

RIGHT AUDIO OUTPUT 1 SHORT TO VOLTAGE

When Monitored: With the ignition on.

Set Condition: The Hands Free Module detects a short to voltage on the Right Audio Output circuit.

POSSIBLE CAUSES
HANDS FREE MODULE
LEFT AUDIO OUTPUT AND RIGHT AUDIO OUTPUT CIRCUITS SHORTED TOGETHER
RIGHT AUDIO OUTPUT CIRCUIT OPEN
RIGHT AUDIO OUTPUT CIRCUIT SHORT TO GROUND
RIGHT AUDIO OUTPUT CIRCUIT SHORT TO VOLTAGE
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase HFM DTCs. Attempt to make a phone call using the system. With the DRBIII®, read HFM DTCs. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 6	All

RIGHT AUDIO OUTPUT 1 OPEN — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance of the Right Audio Output circuit. Is the resistance below 10.0 ohms? Yes → Go To 3 No → Repair the Right Audio Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between ground and the Right Audio Output circuit. Is the resistance above 1000.0 ohms? Yes → Go To 4 No → Repair the Right Audio Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Hands Free Module harness connectors. Turn the ignition on. Measure the voltage of the Right Audio Output circuit. Is the voltage below 1.0 volt? Yes → Go To 5 No → Repair the Right Audio Output circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Amplifier C2 harness connector. Disconnect the Hands Free Module harness connectors. Measure the resistance between the Left Audio Output circuit and the Right Audio Output circuit. Is the resistance above 1000 ohms? Yes → Inspect the wiring and connectors for damage or shorted circuits. Repair as necessary. If ok, replace and program the Hands Free Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Left Audio Output circuit for a short to the Right Audio Output circuit. Perform BODY VERIFICATION TEST - VER 1.	All

RIGHT AUDIO OUTPUT 1 OPEN — Continued

TEST	ACTION	APPLICABILITY
6	**NOTE: The conditions that set the DTC are not present at this time. The following list may help in identifying the intermittent condition.** With the engine running at normal operating temperature, wiggle the wiring harnesses. This is to try and duplicate the failure. Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness. Look for any chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
RPM MESSAGE NOT RECEIVED

When Monitored and Set Condition:

RPM MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not detect a Bus message indicating current engine rpm.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PCM
MODULE

TEST	ACTION	APPLICABILITY
1	Start and idle the engine. With the DRBIII®, select Engine and read the Engine RPM. Was the DRBIII® able to I/D or communicate with the PCM and read RPM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
VIN MESSAGE NOT RECEIVED

When Monitored and Set Condition:

VIN MESSAGE NOT RECEIVED

When Monitored: With the ignition on.

Set Condition: The Hands Free Module does not receive the VIN message from the PCM.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE PCM
CHECK PCM IS ACTIVE ON BUS
MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the PCM. Was the DRBIII® able to I/D or communicate with the PCM? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, select System Monitors then J1850 Module Scan. Is the PCM one of the modules present on the bus? Yes → Go To 3 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRBIII®, erase DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
VIN MISMATCH

When Monitored and Set Condition:

VIN MISMATCH

When Monitored: With the ignition on.

Set Condition: The Hands Free Module will receive and monitor the VIN message from the PCM and record the VIN if different from the last VIN.

POSSIBLE CAUSES
PCM DTC'S
MODULE-VIN MISMATCH

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read PCM DTCs. Are there any PCM DTC's? Yes → Refer to the Driveability category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII®, erase the HFM DTC's. Cycle the ignition switch from off to on and wait approximately 1 minute. With the DRBIII®, read DTC's. Did this DTC reset? Yes → Replace the Hands Free Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom List:

INITIALIZATION FAULT - SKREEM
TIRE SENSOR 1 HIGH PRESSURE ALERT - SKREEM
TIRE SENSOR 1 LOW PRESSURE ALERT - SKREEM
TIRE SENSOR 1 TRANSMIT FAILURE - SKREEM
TIRE SENSOR 2 HIGH PRESSURE ALERT - SKREEM
TIRE SENSOR 2 LOW PRESSURE ALERT - SKREEM
TIRE SENSOR 2 TRANSMIT FAILURE - SKREEM
TIRE SENSOR 3 HIGH PRESSURE ALERT - SKREEM
TIRE SENSOR 3 LOW PRESSURE ALERT - SKREEM
TIRE SENSOR 3 TRANSMIT FAILURE - SKREEM
TIRE SENSOR 4 HIGH PRESSURE ALERT - SKREEM
TIRE SENSOR 4 LOW PRESSURE ALERT - SKREEM
TIRE SENSOR 4 TRANSMIT FAILURE - SKREEM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be INITIALIZATION FAULT - SKREEM.

When Monitored and Set Condition:

INITIALIZATION FAULT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the automatic Sensor/Transmitter relearn program is not successful, this DTC is set.

TIRE SENSOR 1 HIGH PRESSURE ALERT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a high tire pressure condition from the number 1 Sensor/Transmitter.

TIRE SENSOR 1 LOW PRESSURE ALERT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a low tire pressure condition from the number 1 Sensor/Transmitter.

TIRE SENSOR 1 TRANSMIT FAILURE - SKREEM

When Monitored: Ignition ON

Set Condition: When the SKREEM cannot detect the RF frequency from the number 1 Sensor/Transmitter. Could be caused by Sensor/Transmitter, SKREEM, or the system environment.

INITIALIZATION FAULT - SKREEM — Continued

TIRE SENSOR 2 HIGH PRESSURE ALERT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a high tire pressure condition from the number 2 Sensor/Transmitter.

TIRE SENSOR 2 LOW PRESSURE ALERT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a low tire pressure condition from the number 2 Sensor/Transmitter.

TIRE SENSOR 2 TRANSMIT FAILURE - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM cannot detect the RF frequency from the number 2 Sensor/Transmitter. Could be caused by Sensor/Transmitter, SKREEM, or the system environment.

TIRE SENSOR 3 HIGH PRESSURE ALERT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a high tire pressure condition from the number 3 Sensor/Transmitter.

TIRE SENSOR 3 LOW PRESSURE ALERT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a low tire pressure condition from the number 3 Sensor/Transmitter.

TIRE SENSOR 3 TRANSMIT FAILURE - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM cannot detect the RF frequency from the number 3 Sensor/Transmitter. Could be caused by Sensor/Transmitter, SKREEM, or the system environment.

TIRE SENSOR 4 HIGH PRESSURE ALERT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a high tire pressure condition from the number 4 Sensor/Transmitter.

TIRE SENSOR 4 LOW PRESSURE ALERT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a low tire pressure condition from the number 4 Sensor/Transmitter.

INITIALIZATION FAULT - SKREEM — Continued

TIRE SENSOR 4 TRANSMIT FAILURE - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM cannot detect the RF frequency from the number 4 Sensor/Transmitter. Could be caused by Sensor/Transmitter, SKREEM, or the system environment.

POSSIBLE CAUSES
TIRE SENSOR LOW/HIGH PRESSURE ALERTS
SENSOR/TRANSMITTER INTERNAL FAULT

TEST	ACTION	APPLICABILITY
1	**NOTE: The below test is to locate the Tire Pressure Sensor/Transmitter.** **NOTE: If the tires have been rotated, the Tire Pressure Sensor/Transmitters are no longer in sequence from the factory. Faults are linked to Sensor/Transmitter ID's.** **NOTE: You must determine which Tire Pressure Sensor/Transmitter has set the fault or alert before diagnosing the system correctly.** **NOTE: Set ALL tire pressures to recommended specifications and recheck for faults/alerts.** The fault will set within two minutes when at 25 PSI. Starting with the left front wheel, deflate the tire down to 25 PSI. If the TPMS fault was detected and associated to this Sensor/Transmitter, it would correspond to the left front Sensor/Transmitter. If the TPMS fault was detected and not associated to this Sensor/Transmitter, repeat the process until the faulty Sensor/Transmitter has been identified. **NOTE: Once a fault/alert has set, it will establish the location of the Tire Pressure Sensors/Transmitter. Repeat steps until the applicable Tire Pressure Sensor/Transmitter has been located.** Perform this procedure prior to Symptom diagnosis. Continue Go To 2	All
2	**NOTE: The DTC can be cause by many different factors and might not be a Sensor/Transmitter or SKREEM fault.** **NOTE: Interference from other elements will over power the Sensor/Transmitter RF frequency making erratic operation to the TPMS.** Cycle the ignition switch from OFF to ON. With the DRBIII®, read DTC's. Does the DRBIII® display any TIRE SENSOR TRANSMIT FAILURE or INITIALIZATION FAULT DTC's? Yes → Go To 4 No → Go To 3	All

INITIALIZATION FAULT - SKREEM — Continued

TEST	ACTION	APPLICABILITY
3	Cycle the ignition switch from OFF to ON. Clear DTC's. **NOTE: Correct all tire pressure to recommended specifications.** Drive the vehicle for 10 minutes at 20 mph (32km/h). The Sensors/transmitters will be in drive mode operation. With the DRBIII®, read DTC's. Does the DRBIII® display TIRE SENSOR LOW PRESSURE ALERT or TIRE SENSOR HIGH PRESSURE ALERT DTC's? Yes → Check and adjust ALL tire pressures. If ok, replace and program the Tire Pressure Sensor/Transmitter in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST - VER 2 - SKREEM. No → Go To 4	All
4	**NOTE: Some environment factors can disrupt the RF frequency signal. Check for RF frequency concerns and aftermarket accessories that would compromise the RF frequency signal before diagnosing Sensor/Transmitter or SKREEM being the fault.** **NOTE: Review with the customer their environmental driving conditions.** Are there environmental factors causing the RF frequency issue? Yes → Test Complete. No → Go To 5	All
5	Turn the ignition off. Replace the appropriate Tire Pressure Sensor/Transmitter in accordance with the service information. Drive the vehicle for 10 minutes at 20 mph (32km/h). The Sensors/transmitters will be in drive mode operation. With the DRBIII®, read DTC's. Does the DTC reset? Yes → Replace and program the SKREEM in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST - VER 2 - SKREEM. No → Test Complete.	All

Symptom List:

LF TIRE PRESSURE SENSOR BATTERY LOW - CMTC
LF TIRE PRESSURE SENSOR FAILURE - CMTC
LR TIRE PRESSURE SENSOR BATTERY LOW - CMTC
LR TIRE PRESSURE SENSOR FAILURE - CMTC
RF TIRE PRESSURE SENSOR BATTERY LOW - CMTC
RF TIRE PRESSURE SENSOR FAILURE - CMTC
RR TIRE PRESSURE SENSOR BATTERY LOW - CMTC
RR TIRE PRESSURE SENSOR FAILURE - CMTC

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be LF TIRE PRESSURE SENSOR BATTERY LOW - CMTC.

When Monitored and Set Condition:

LF TIRE PRESSURE SENSOR BATTERY LOW - CMTC

When Monitored: Key ON.

Set Condition: When the CMTC detects a low battery condition from the Left Front Sensor/Transmitter.

LF TIRE PRESSURE SENSOR FAILURE - CMTC

When Monitored: Key ON.

Set Condition: When the CMTC detects a no-transmit condition from the Left Front Sensor/Transmitter.

LR TIRE PRESSURE SENSOR BATTERY LOW - CMTC

When Monitored: Key ON.

Set Condition: When the CMTC detects a low battery condition from the Left Rear Sensor/Transmitter.

LR TIRE PRESSURE SENSOR FAILURE - CMTC

When Monitored: Key ON.

Set Condition: When the CMTC detects a no transmit condition from the Left Rear Sensor/Transmitter.

RF TIRE PRESSURE SENSOR BATTERY LOW - CMTC

When Monitored: Key ON.

Set Condition: When the CMTC detects a low battery condition from the Right Front Sensor/Transmitter.

LF TIRE PRESSURE SENSOR BATTERY LOW - CMTC — Continued

RF TIRE PRESSURE SENSOR FAILURE - CMTC

When Monitored: Key ON.

Set Condition: When the CMTC detects a no transmit condition from the Right Front Sensor/Transmitter.

RR TIRE PRESSURE SENSOR BATTERY LOW - CMTC

When Monitored: Key ON.

Set Condition: When the CMTC detects a low battery condition from the Right Rear Sensor/Transmitter.

RR TIRE PRESSURE SENSOR FAILURE - CMTC

When Monitored: Key ON.

Set Condition: When the CMTC detects a no transmit condition from the Right Rear Sensor/Transmitter.

POSSIBLE CAUSES
CMTC INTERNAL FAULT
SENSOR/TRANSMITTER INTERNAL FAULT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, record and erase DTC's. Drive the vehicle for 10 minutes at 32 km/h (20 mph). With the DRBIII®, read DTCs. Does the DRBIII® display a Sensor Failure or Sensor Low Battery message? Yes → Replace the indicated Tire Pressure Sensor/Transmitter. Perform TIRE PRESSURE VERIFICATION TEST VER 1 - CMTC. No → Go To 2	All
2	Observe the EVIC display. Does the EVIC display SERVICE TIRE PRESS. SYSTEM? Yes → Replace the CMTC in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST VER 1 - CMTC. No → Test Complete.	All

Symptom List:

PRNDL MESSAGE MISSING - SKREEM
VEHICLE SPEED MESSAGE MISSING - SKREEM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be PRNDL MESSAGE MISSING - SKREEM.

When Monitored and Set Condition:

PRNDL MESSAGE MISSING - SKREEM

When Monitored: Ignition ON.

Set Condition: When the PRNDL message is not received for 5 seconds, this DTC is set.

VEHICLE SPEED MESSAGE MISSING - SKREEM

When Monitored: Ignition ON.

Set Condition: When the vehicle speed message is not received for 5 seconds, this DTC is set.

POSSIBLE CAUSES
TCM DTC'S
INSTRUMENT CLUSTER DTC'S
BUS COMMUNICATION
SKREEM FAULT

PRNDL MESSAGE MISSING - SKREEM — Continued

TEST	ACTION	APPLICABILITY
1	**NOTE: The below test is to locate the Tire Pressure Sensor/Transmitter.** **NOTE: If the tires have been rotated, the Tire Pressure Sensor/Transmitters are no longer in sequence from the factory. Faults are linked to Sensor/Transmitter ID's.** **NOTE: You must determine which Tire Pressure Sensor/Transmitter has set the fault or alert before diagnosing the system correctly.** **NOTE: Set ALL tire pressures to recommended specifications and recheck for faults/alerts.** The fault will set within two minutes when at 25 PSI. Starting with the left front wheel, deflate the tire down to 25 PSI. If the TPMS fault was detected and associated to this Sensor/Transmitter, it would correspond to the left front Sensor/Transmitter. If the TPMS fault was detected and not associated to this Sensor/Transmitter, repeat the process until the faulty Sensor/Transmitter has been identified. **NOTE: Once a fault/alert has set, it will establish the location of the Tire Pressure Sensors/Transmitter. Repeat steps until the applicable Tire Pressure Sensor/Transmitter has been located.** Perform this procedure prior to Symptom diagnosis. Continue Go To 2	All
2	Cycle the ignition switch from OFF to ON. With the DRBIII®, record and erase DTC's. Drive the vehicle. With the DRBIII®, read the Transmission DTC's. Does the DRBIII® display any TCM DTC's? Yes → Refer to Transmission information for the related symptom(s). Perform TIRE PRESSURE VERIFICATION TEST - VER 2 - SKREEM. No → Go To 3	All
3	Cycle the ignition switch from OFF to ON. With the DRBIII®, monitor the Instrument Cluster's Vehicle Speed or PRNDL data. Does the DRBIII® display Vehicle Speed or PRNDL data? Yes → Replace and program the SKREEM in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST - VER 2 - SKREEM. No → Refer to BODY COMMUNICATION for the related symptom(s). Perform TIRE PRESSURE VERIFICATION TEST - VER 2 - SKREEM.	All

Symptom List:

SENSOR 1 FAULT - SKREEM
SENSOR 2 FAULT - SKREEM
SENSOR 3 FAULT - SKREEM
SENSOR 4 FAULT - SKREEM
TIRE SENSOR 1 LOW BATTERY - SKREEM
TIRE SENSOR 2 LOW BATTERY - SKREEM
TIRE SENSOR 3 LOW BATTERY - SKREEM
TIRE SENSOR 4 LOW BATTERY - SKREEM

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be SENSOR 1 FAULT - SKREEM.

When Monitored and Set Condition:

SENSOR 1 FAULT - SKREEM

When Monitored: Ignition On.

Set Condition: When the SKREEM detects an internal fault condition from the number 1 Sensor/Transmitter.

SENSOR 2 FAULT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects an internal fault condition from the number 2 Sensor/Transmitter.

SENSOR 3 FAULT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects an internal fault condition from the number 3 Sensor/Transmitter.

SENSOR 4 FAULT - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects an internal fault condition from the number 4 Sensor/Transmitter.

TIRE SENSOR 1 LOW BATTERY - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a low battery fault condition from the number 1 Sensor/Transmitter.

SENSOR 1 FAULT - SKREEM — Continued

TIRE SENSOR 2 LOW BATTERY - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a low battery fault condition from the number 2 Sensor/Transmitter.

TIRE SENSOR 3 LOW BATTERY - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a low battery fault condition from the number 3 Sensor/Transmitter.

TIRE SENSOR 4 LOW BATTERY - SKREEM

When Monitored: Ignition ON.

Set Condition: When the SKREEM detects a low battery fault condition from the number 4 Sensor/Transmitter.

POSSIBLE CAUSES
SENSOR/TRANSMITTER INTERNAL FAULT
SKREEM INTERNAL FAILURE

TEST	ACTION	APPLICABILITY
1	**NOTE: The below test is to locate the Tire Pressure Sensor/Transmitter.** **NOTE: If the tires have been rotated, the Tire Pressure Sensor/Transmitters are no longer in sequence from the factory. Faults are linked to Sensor/Transmitter ID's.** **NOTE: You must determine which Tire Pressure Sensor/Transmitter has set the fault or alert before diagnosing the system correctly.** **NOTE: Set ALL tire pressures to recommended specifications and recheck for faults/alerts.** The fault will set within two minutes when at 25 PSI. Starting with the left front wheel, deflate the tire down to 25 PSI. If the TPMS fault was detected and associated to this Sensor/Transmitter, it would correspond to the left front Sensor/Transmitter. If the TPMS fault was detected and not associated to this Sensor/Transmitter, repeat the process until the faulty Sensor/Transmitter has been identified. **NOTE: Once a fault/alert has set, it will establish the location of the Tire Pressure Sensors/Transmitter. Repeat steps until the applicable Tire Pressure Sensor/Transmitter has been located.** Perform this procedure prior to Symptom diagnosis. Continue Go To 2	All

SENSOR 1 FAULT - SKREEM — Continued

TEST	ACTION	APPLICABILITY
2	Cycle the ignition switch from OFF to ON. Record and erase DTC's. **NOTE: Adjust tire pressure to recommended specification.** Drive the vehicle for 10 minutes at 20 mph (32km/h). With the DRBIII®, read DTC's. Does the DRBIII® display a Sensor Fault or Tire Sensor Low Battery DTC? Yes → Replace and program the Tire Pressure Sensor/Transmitter in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST - VER 2 - SKREEM. No → Go To 3	All
3	Drive the vehicle for 10 minutes at 20 mph (32km/h). Observe the TPMS indicator in the Instrument Cluster. Is the TPMS indicator illuminated? Yes → Replace and program the SKREEM in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST - VER 2 - SKREEM. No → Test Complete.	All

Symptom:
*ALARM TRIPS ON ITS OWN

POSSIBLE CAUSES
LAST VTSS CAUSE
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the VTA Tripped By state. Were there any causes displayed? Yes → Check for a possible intermittent condition with the circuit indicated by the DRBIII®. Perform VTSS VERIFICATION TEST - 1A. No → Go To 2	All
2	**NOTE: The condition that caused the alarm is not present at this time. The following list may help to indentify the cause of the intermittent condition.** Refer to any Technical Service Bulletins (TSB) that may apply. Visually inspect related wiring harnesses. Look for chafed, pierced, pinched, or partially broken wires. Visually inspect the related wiring harness connectors. Look for loose connections, broken, bent, pushed out, or corroded terminals. Were any of the above conditions present? Yes → Repair as necessary Perform VTSS VERIFICATION TEST - 1A. No → Test Complete.	All

Symptom:

***VTSS DOES NOT TRIP FROM DRIVERS DOOR**

POSSIBLE CAUSES
BCM - NO VTSS TRIP FROM DRIVER DOOR
CHECK DRBIII® FOR DRIVER DOOR AJAR RESPONSE

TEST	ACTION	APPLICABILITY
1	**NOTE: For the results of this test to be valid, the security system must arm and flash the VTSS indicator properly.** With the DRBIII® under Driver Door Module, read the DOOR STATUS. Open the driver door. Does the DRBIII® display Ajar? Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Refer to symptom DRIVER DOOR AJAR CKT OPEN in the DOOR AJAR category. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***VTSS DOES NOT TRIP FROM LEFT REAR DOOR**

POSSIBLE CAUSES
CHECK DRBIII® FOR LEFT REAR DOOR AJAR RESPONSE
BCM-NO VTSS TRIP FROM LEFT REAR DOOR

TEST	ACTION	APPLICABILITY
1	**NOTE: For the results of this test to be valid, the security system must arm and flash the VTSS indicator properly.** With the DRBIII®, read the Left Rear Door Ajar SW status. Open the left rear door. Does the DRBIII® display CLOSED? Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Refer to symptom LEFT REAR DOOR AJAR CKT OPEN in the DOOR AJAR category. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***VTSS DOES NOT TRIP FROM PASSENGER FRONT DOOR**

POSSIBLE CAUSES
CHECK DRBIII® FOR PASSENGER DOOR AJAR RESPONSE
BCM - NO VTSS TRIP FROM PASSENGER DOOR

TEST	ACTION	APPLICABILITY
1	**NOTE: For the results of this test to be valid, the security system must arm and flash the VTSS indicator properly.** With the DRBIII® under Passenger Door Module, read the Door Status. Open the passenger door. Does the DRBIII® display Ajar? Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Refer to symptom PASSENGER DOOR AJAR CKT OPEN in the DOOR AJAR category. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***VTSS DOES NOT TRIP FROM RIGHT REAR DOOR**

POSSIBLE CAUSES
CHECK DRBIII® FOR RIGHT REAR DOOR AJAR RESPONSE
BCM - NO VTSS TRIP FROM RIGHT REAR DOOR

TEST	ACTION	APPLICABILITY
1	**NOTE: For the results of this test to be valid, the security system must arm and flash the VTSS indicator properly.** With the DRBIII® under BCM, read the Right Rear Door Ajar SW status. Open the right rear door. Does the DRBIII® display CLOSED? Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Refer to symptom RIGHT REAR DOOR AJAR CKT OPEN in the DOOR AJAR category. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***VTSS INDICATOR INOPERATIVE**

POSSIBLE CAUSES
OPEN FUSED B(+)
OPEN VTSS LED
VTSS INDICATOR DRIVER CIRCUIT OPEN
BODY CONTROL MODULE - OPEN INTERNAL VTSS DRIVER

TEST	ACTION	APPLICABILITY
1	Disconnect the Instrument Panel Switch Pod connector. Measure the voltage of the Fused B+ circuit. Is the voltage above 10.0 volts? Yes → Go To 2 No → Repair the Fused B+ circuit for an open. Perform VTSS VERIFICATION TEST - 1A.	All
2	Disconnect the Instrument Panel Switch Pod connector. Connect a voltmeter positive probe to a 12.0 volt supply and connect the ground probe to the VTSS Indicator Driver circuit at the I/P Switch Pod connector. Turn the ignition on. With the DRBIII® under BCM, actuate the VTSS Indicator lamp. Is the voltage above 10.0 volts when the VTSS Indicator lamp is actuated? Yes → Replace the Instrument Panel Switch Pod assembly. Perform VTSS VERIFICATION TEST - 1A. No → Go To 3	All
3	Disconnect the Instrument Panel Switch Pod connector. Disconnect the BCM C4 harness connector. Measure the resistance of the VTSS Indicator Driver circuit between the I/P Pod connector and the BCM C4 connector. Is the resistance below 5.0 ohms? Yes → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Repair the VTSS Indicator Driver circuit for an open. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***VTSS WILL NOT ARM**

POSSIBLE CAUSES
CHECK THE VTSS STATUS
AJAR SWITCH
CHECK FOR DTCS
BODY CONTROL MODULE - NO ALARM OUTPUT

TEST	ACTION	APPLICABILITY
1	With the DRBIII® under BCM Miscellaneous, check that the Theft Alarm is enabled. Was the Theft Alarm enabled? Yes → Go To 2 No → With the DRBIII®, enable the Vehicle Theft Security System (VTSS). Perform VTSS VERIFICATION TEST - 1A.	All
2	With the DRBIII®, verify the Ajar Switch operation in the BCM and in both Driver and Passenger Door Modules. Did the ajar switches operate properly? Yes → Go To 3 No → Refer to the Symptom List and diagnose the appropriate symptom. Perform VTSS VERIFICATION TEST - 1A.	All
3	With the DRBIII®, read the active DTC's in the IPM, BCM and both door modules. Are any VTSS related DTC's present? Yes → Refer to the Symptom List and diagnose the appropriate symptom. Perform VTSS VERIFICATION TEST - 1A. No → Replace and program the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:
FRONT WASHER OUTPUT OPEN-IPM

POSSIBLE CAUSES
FUSED ACCESSORY RELAY OUTPUT CIRCUIT
FRONT WASHER MOTOR CONTROL CIRCUIT OPEN
FRONT WASHER MOTOR CONTROL CIRCUIT SHORT TO VOLTAGE
FRONT WASHER PUMP MOTOR
INTEGRATED POWER MODULE
INTERMITTENT WIRING AND CONNECTORS

TEST	ACTION	APPLICABILITY
1	Ignition on, engine off. Press the Front Washer Switch. Does the Front Washer Motor Function? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition on. With the DRBIII®, erase all IPM DTCs. Turn the ignition off. The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
3	Turn the ignition off to the lock position. Disconnect the Front Washer Pump Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Ignition on, engine off. Using a 12-volt test light connected to ground, check the Fused Accessory Relay Output circuit in the Front Washer Pump Motor harness connector. Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Fused Accessory Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

FRONT WASHER OUTPUT OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off to the lock position. Disconnect the Front Washer Pump Motor harness connector. Ignition on, engine off. Using a 12-volt test light connected to 12 Volts, check the Front Washer Pump Motor Control circuit in the Front Washer Pump Motor harness connector while pressing the Front Washer Switch. Does the test light illuminate brightly? Yes → Replace the Front Washer Pump Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off to the lock position. Disconnect the IPM C5 harness connector. Disconnect the Front Washer Pump Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance of the Front Washer Pump Motor Control Circuit from the IPM C5 connector to the Front Washer Pump Motor harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Front Washer Pump Motor Control Circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off to the lock position. Disconnect the IPM C5 harness connector. Disconnect the Front Washer Pump Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Turn the ignition on. Using a 12-volt test light connected to ground, check the Front Washer Pump Motor Control circuit. Does the test light illuminate brightly? Yes → Repair the Front Washer Pump Motor Control Circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
FRONT WASHER OUTPUT SHORT TO GROUND-IPM

POSSIBLE CAUSES
FRONT WASHER MOTOR CONTROL CIRCUIT SHORT TO GROUND
FRONT WASHER PUMP MOTOR FUNCTION
INTEGRATED POWER MODULE
INTERMITTENT WIRING AND CONNECTORS

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Turn on the Front Washer. Does the Front Washer Function properly? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition on. With the DRBIII®, erase all IPM DTCs. Turn the ignition off. The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
3	Turn the ignition off to the lock position. Disconnect the IPM C5 harness connector. Disconnect the Front Washer Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance between ground and the Front Washer Motor Control circuit. Is the resistance less than 5.0 ohms? Yes → Repair the Front Washer Motor Control Circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off to the lock position. Disconnect the IPM C5 harness connector. Connect a 20A Fused jumper wire between B+ and the Front Washer Motor Signal circuit in the IPM connector harness. **NOTE: An internal short in the Washer Motor may cause the fuse to open.** Does the Washer Motor function? Yes → Test Complete. No → Replace the Front Washer Pump Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

FRONT WASHER SWITCH INPUT STUCK-BCM

POSSIBLE CAUSES
FRONT WIPER SWITCH MUX CIRCUIT SHORTED TO GROUND
WIPER/WASHER SWITCH
WIRING HARNESS INSPECTION
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, select Body, Body Control Module and read the Front Washer Switch state. Does the DRB display switch state as Closed? Yes → Go To 2 No → Go To 4	All
2	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Turn the ignition on. With the DRB, select Body, Front Control Module and read the Front Washer Switch state. Does the DRB display switch state as Open? Yes → Replace the Wiper/Washer Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Disconnect the BCM C5 harness connector. Measure the resistance between ground and the Front Wiper Switch MUX circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Front Wiper Switch MUX circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition on. With the DRBIII®, erase all BCM DTCs. Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
FRONT WIPER HI/LO RELAY OPEN-IPM

POSSIBLE CAUSES
FUSED B(+) CIRCUIT
WIPER ON/OFF RELAY
COMMON CIRCUIT OPEN
WIPER HI/LOW RELAY
WIPER HI/LOW RELAY CONTROL CIRCUIT OPEN
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove the Wiper On/Off Relay from the IPM. Using a 12-volt test light connected to ground, probe both Fused B(+) circuits in the IPM. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly at each terminal? Yes → Go To 2 No → Repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Install a substitute relay in place of the Wiper On/Off Relay. Turn the ignition on. Turn the wipers on. Does the system operate correctly? Yes → Replace the Wiper On/Off Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove the wiper High/Low Relay from the IPM. Remove the wiper On/Off Relay from the IPM. Measure the resistance of the Common Relay circuit between the High/Low Relay and the On/Off relay in the IPM. Is the resistance below 10.0 ohms? Yes → Go To 4 No → Repair the Common Relay circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Install a substitute relay in place of the Wiper Hi/Low Relay. Turn the ignition on. Turn the wipers on. Does the system operate correctly? Yes → Replace the Wiper Hi/Low Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All

FRONT WIPER HI/LO RELAY OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Remove the Wiper Hi/Low Relay from the IPM. Disconnect the IPM C8 harness connector. Connect a jumper wire between the Wiper Hi/Low Relay Control circuit at the IPM connector to ground. Measure the resistance between ground and the Wiper Hi/Low Relay Control circuit. Is the resistance below 5.0 ohms? Yes → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Wiper Hi/Low Relay Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

FRONT WIPER HI/LO RELAY SHORT TO BATTERY-IPM

POSSIBLE CAUSES
WIPER HI/LOW RELAY CONTROL CIRCUIT SHORTED TO BATTERY
WIPER HI/LOW RELAY
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove the Wiper Hi/Low Relay from the IPM. Disconnect the IPM C8 harness connector. Turn the ignition on. Measure the voltage of the Wiper Hi/Low Relay Control circuit at the IPM connector. Is the voltage above 1.0 volt? Yes → Repair the Wiper Hi/Low Relay Control circuit for a short to battery. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Install a substitute relay in place of the Wiper Hi/Low Relay. Turn the ignition on. Turn the wipers on. Does the system operate correctly? Yes → Replace the Wiper Hi/Low Relay. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
FRONT WIPER ON/OFF RELAY OPEN-IPM

POSSIBLE CAUSES
FUSED B(+) CIRCUIT
WIPER ON/OFF RELAY
WIPER ON/OFF RELAY CONTROL CIRCUIT OPEN
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove the Wiper On/Off Relay from the IPM. Using a 12-volt test light connected to ground, probe both Fused B(+) circuits in the IPM. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly at each terminal? Yes → Go To 2 No → Repair the Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
2	Install a substitute relay in place of the Wiper On/Off Relay. Turn the ignition on. Turn the wipers on. Does the system operate correctly? Yes → Replace the Wiper On/Off Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove the Wiper On/Off Relay from the IPM. Disconnect the IPM C8 harness connector. Connect a jumper wire between the Wiper On/Off Relay Control circuit at the IPM connector to ground. Measure the resistance between ground and the Wiper On/Off Relay Control circuit in the IPM. Is the resistance below 5.0 ohms? Yes → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Wiper On/Off Relay Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
FRONT WIPER ON/OFF RELAY SHORT TO BATTERY-IPM

POSSIBLE CAUSES
WIPER ON/OFF RELAY CONTROL CIRCUIT SHORTED TO BATTERY
WIPER ON/OFF RELAY
INTEGRATED POWER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove the Wiper On/Off Relay from the IPM. Disconnect the IPM C8 harness connector. Turn the ignition on. Measure the voltage of the Wiper On/Off Relay Control circuit at the IPM connector. Is the voltage above 1.0 volt? Yes → Repair the Wiper On/Off Relay Control circuit for a short to battery. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Install a substitute relay in place of the Wiper On/Off Relay. Turn the ignition on. Turn the wipers on. Does the system operate correctly? Yes → Replace the Wiper On/Off Relay. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

FRONT WIPER PARK SWITCH OPEN-IPM

POSSIBLE CAUSES
FRONT WIPER ON/OFF RELAY
FRONT WIPER PARK SWITCH
FRONT WIPER PARK SWITCH SENSE CIRCUIT OPEN
FRONT WIPER FUSED B(+) CIRCUIT OPEN
FRONT WIPER PARK SWITCH GROUND CIRCUIT OPEN
INTEGRATED POWER MODULE
INTERMITTENT WIRING AND CONNECTORS

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase DTCs. Operate the Wiper system in all modes. With the DRBIII®, read DTCs. Does the DTC reset? Yes → Go To 2 No → Go To 8	All
2	Turn the ignition on.. With the DRBIII®, erase DTCs. Install a substitute relay in place of the Front Wiper On/Off Relay. Operate the Wiper system in all modes. With the DRBIII®, read DTCs. Does the DTC reset? Yes → Go To 3 No → Replace the Front Wiper On/Off Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off. **NOTE: Place the Wipers in the ″parked″ position.** Disconnect the Front Wiper Motor harness connector Measure the resistance of the Park Switch between the Front Wiper Motor Ground circuit and the Front Wiper Park Switch Sense circuit in the Front Wiper Motor connector. Is the resistance above 5.0 ohms? Yes → Replace the Front Wiper Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

FRONT WIPER PARK SWITCH OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Front Wiper Motor. Disconnect the IPM C7 harness connector. Measure the resistance of the Front Wiper Park Switch Sense circuit between the IPM harness connector and the Front Wiper Motor harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Front Wiper Park Switch Sense Circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Front Wiper On/Off Relay. Disconnect the IPM C7 harness connector. Measure the resistance of the Front Wiper Park Switch Sense circuit between the IPM harness connector and the Front Wiper On/Off Relay connector. Is the resistance above 5.0 ohms? Yes → Repair the Front Wiper Fused B(+) circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the Front Wiper Motor. Measure the resistance between the Front Wiper Park Switch Ground circuit at the Front Wiper Motor harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Front Wiper Park Switch Ground Circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the Front Wiper Motor. Disconnect the IPM C7 harness connector. Turn the ignition on. Measure the resistance of the Front Wiper Park Switch Sense circuit between the Front Wiper Motor and the IPM harness connector. Is the resistance below 5.0 ohms? Yes → Test Complete. No → Replace the Integrated Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
8	The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

FRONT WIPER PARK SWITCH SHORT TO GROUND-IPM

POSSIBLE CAUSES
FRONT WIPER ON/OFF RELAY
FRONT WIPER PARK SWITCH
FRONT WIPER PARK SWITCH SENSE CIRCUIT SHORT TO GROUND
INTEGRATED POWER MODULE
INTERMITTENT WIRING AND CONNECTORS

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all IPM DTCs. Operate the Wiper system in all modes. With the DRBIII®, read DTCs. Does the DTC reset? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition on.. With the DRBIII®, erase DTCs. Turn the ignition off. Install a substitute relay in place of the On/Off Wiper Relay. Turn the ignition on. Operate the Front Wiper system in all modes. With the DRBIII®, read DTCs. Does the DTC reset? Yes → Go To 3 No → Replace the Front Wiper On/Off Relay in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition on. With the DRBIII®, erase DTCs. Turn the ignition off. **NOTE: Place the Wipers in the "Parked" position.** Disconnect the Front Wiper Motor harness connector. Measure the resistance of the Park Switch between the Front Wiper Motor ground circuit and the Rear Wiper Park Switch Sense circuit in the Front Wiper Motor connector. Is the resistance below 5.0 ohms? Yes → Replace the Front Wiper Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

FRONT WIPER PARK SWITCH SHORT TO GROUND-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Front Wiper Motor. Disconnect the IPM C7 harness connector. Turn the ignition on. Measure the resistance between ground and the Front Wiper Park Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Front Wiper Park Switch Sense Circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Integrated Power Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
5	The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

FRONT WIPER SWITCH INPUT OPEN-BCM

POSSIBLE CAUSES
FRONT WIPER SWITCH MUX CIRCUIT OPEN
MULTIFUNCTION SWITCH MUX RETURN CIRCUIT OPEN
FRONT WIPER MUX CIRCUIT SHORTED TO VOLTAGE
BODY CONTROL MODULE
WIPER/WASHER SWITCH
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, select Body, Body Controller and read the Front Wiper Switch volts. Is the voltage above 4.8 volts? Yes → Go To 2 No → Go To 6	All
2	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Disconnect the BCM C5 harness connector. Measure the resistance of the Front Wiper Switch MUX circuit between the BCM C5 harness connector and the Wiper/Washer Switch harness connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Front Wiper Switch MUX circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Disconnect the BCM C4 harness connector. Measure the resistance of the Multi-Function Switch MUX Return circuit between the BCM C4 harness connector and the Multi-Function Switch harness connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Multi-Function Switch MUX Return circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

FRONT WIPER SWITCH INPUT OPEN-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Disconnect the BCM C5 harness connector. Turn the ignition on. Measure the voltage of the Front Wiper MUX Switch Signal circuit. Is the voltage above 1.0 volt? Yes → Repair the Front Wiper Switch MUX circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Turn the ignition on. Connect a jumper wire between the Front Wiper Switch MUX circuit and the Mulit-Function Switch MUX Return circuit. With the DRBIII®, read the Front Wiper Switch volts? Is the voltage below 0.5 volt? Yes → Replace the Wiper/Washer Switch. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition on. With the DRBIII®, erase all BCM DTCs. Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

FRONT WIPER SWITCH INPUT SHORT-BCM

POSSIBLE CAUSES
FRONT WIPER SWITCH MUX CIRCUIT SHORTED TO GROUND
FRONT WIPER SWITCH MUX CIRCUIT SHORTED TO M/F MUX RETURN CIRCUIT
BODY CONTROL MODULE
WIPER/WASHER SWITCH
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, select Body, Body Controller and read the Front Wiper Switch volts? Is the voltage above 0.3 volt? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition on. With the DRBIII®, erase all BCM DTCs. Turn the ignition off. **NOTE: Visually inspect the related wiring harness and circuits. Look for any chafed, pierced, pinched, or partially broken wires.** **NOTE: Visually inspect the related wiring harness connectors. Look for broken, bent, pushed out, or corroded terminals.** **NOTE: Refer to any Technical Service Bulletins (TSB) that may apply.** Were any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
3	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Disconnect the BCM C5 harness connector. Measure the resistance of the Front Wiper Switch MUX circuit between the BCM C5 harness connector and ground. Is the resistance below 1000.0 ohms? Yes → Repair the Front Wiper Switch MUX circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

FRONT WIPER SWITCH INPUT SHORT-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Disconnect the BCM C5 harness connector. Measure the resistance between the Front Wiper Switch MUX circuit and the Multi-Function Switch MUX Return circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Front Wiper Switch MUX circuit for a short to the Multi-Function Switch MUX Return circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Turn the ignition on. With the DRBIII®, read the Front Wiper Switch volts? Is the voltage above 4.5 volts? Yes → Replace the Wiper/Washer Switch. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
HIGH VOLTAGE DISABLE FRONT & REAR WASHER

When Monitored and Set Condition:

HIGH VOLTAGE DISABLE FRONT & REAR WASHER

When Monitored: Engine running.

Set Condition: The IPM detects battery voltage is over 16.1 volts.

POSSIBLE CAUSES
INTERMITTENT CONDITION
CHARGING SYSTEM OPERATION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display High Voltage Disable Front and Rear Washer? Yes → Repair the vehicle's charging system for a high voltage condition. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Verify proper operation of the vehicle's charging system. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REAR WASHER OUTPUT OPEN-IPM

POSSIBLE CAUSES
FUSED ACCESSORY RELAY OUTPUT CIRCUIT
REAR WASHER PUMP MOTOR
INTERMITTENT WIRING AND CONNECTORS

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Press the Rear Washer Switch. Does the Rear Washer Motor Function properly? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition on. With the DRBIII®, erase all IPM DTCs. Turn the ignition off. The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
3	Turn the ignition off to the lock position. Disconnect the Rear Washer Pump Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Ignition on, engine not running. Using a 12-volt test light connected to ground, check the Fused Accessory Relay Output circuit in the Rear Washer Pump Motor harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Fused Accessory Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

REAR WASHER OUTPUT OPEN-IPM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off to the lock position. Disconnect the Rear Washer Pump Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Ignition on, engine not running. Using a 12-volt test light connected to 12 Volts, check the Rear Washer Pump Motor Control circuit in the Rear Washer Pump Motor harness connector while pressing the Rear Washer Switch. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Replace the Rear Washer Pump Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
REAR WASHER OUTPUT SHORT TO GROUND-IPM

POSSIBLE CAUSES
REAR WASHER MOTOR CONTROL CIRCUIT SHORT TO GROUND
REAR WASHER PUMP MOTOR FUNCTION
INTEGRATED POWER MODULE
INTERMITTENT WIRING AND CONNECTORS

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Turn on the Rear Washer. Does the Rear Washer Function properly? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition on. With the DRBIII®, erase all IPM DTCs. Turn the ignition off. The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
3	Turn the ignition off to the lock position. Disconnect the IPM C5 harness connector. Disconnect the Rear Washer Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance between ground and the Rear Washer Motor Control circuit. Is the resistance less than 5.0 ohms? Yes → Repair the Rear Washer Motor Control Circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off to the lock position. Disconnect the IPM C5 harness connector. Connect a 20A Fused jumper wire between B+ and the Rear Washer Motor Signal circuit in the IPM connector harness. **NOTE: An internal short in the Washer Motor may cause the fuse to open.** Does the Washer Motor function? Yes → Test Complete. No → Replace the Rear Washer Pump Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REAR WASHER SWITCH STUCK-BCM

POSSIBLE CAUSES
REAR WASHER SWITCH STUCK
INTERMITTENT WIRING AND CONNECTORS

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, select Body, Body Control Module and read the Washer Switch state. Does the DRBIII® display switch state as Closed? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Turn the ignition on. With the DRB, select Body, Body Control Module and read the Rear Washer Switch state. Does the DRB display switch state as Open? Yes → Replace the Rear Washer Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. With the DRBIII®, erase all BCM DTCs. Turn the ignition off. The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

REAR WIPER OUTPUT OPEN/SHORT TO GROUND -BCM

POSSIBLE CAUSES
REAR WIPER MOTOR CONTROL CIRCUIT OPEN
REAR WIPER MOTOR CONTROL CIRCUIT SHORT TO VOLTAGE
REAR WIPER MOTOR GROUND OPEN
INTERMITTENT WIRING AND CONNECTORS
REAR WIPER MOTOR
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Turn on the Rear Wiper. Does the Rear Wiper Function? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition on. With the DRBIII®, erase all BCM DTCs. Turn the ignition off. The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
3	Turn the ignition off to the lock position. Disconnect the Rear Wiper Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Turn the ignition and Rear Wiper Switch on. Using a 12-volt test light connected to ground, check the Rear Wiper Motor Control circuit in the Rear Wiper Motor harness connector. Does the test light illuminate brightly? Yes → Go To 4 No → Go To 5	All

REAR WIPER OUTPUT OPEN/SHORT TO GROUND -BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off to the lock position. Disconnect the Rear Wiper Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Ignition on, engine not running. Using a 12-volt test light connected to 12 Volts, check the Rear Wiper Motor ground circuit in the Rear Wiper Motor harness connector. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Does the test light illuminate brightly? Yes → Replace the Rear Wiper Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Rear Wiper Motor ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off to the lock position. Disconnect the Body Control Module C2 harness connector. Disconnect the Rear Wiper Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance of the Rear Wiper Motor Control Circuit from the Body Control Module harness connector to the Rear Wiper Motor harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Rear Wiper Motor Control Circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off to the lock position. Disconnect the Body Control Module C2 harness connector. Disconnect the Rear Wiper Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Turn the ignition on. Using a 12-volt test light connected to ground, check the Rear Wiper Motor Control circuit. Does the test light illuminate brightly? Yes → Repair the Rear Wiper Motor Control Circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REAR WIPER OUTPUT SHORT TO GROUND-BCM

POSSIBLE CAUSES
REAR WIPER MOTOR FUNCTION
INTERMITTENT WIRING AND CONNECTORS
REAR WIPER MOTOR CONTROL CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. Turn on the Rear Wiper. Does the Rear Wiper Function? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition on. With the DRBIII®, erase all BCM DTCs. Turn the ignition off. The conditions necessary to set this DTC are not present at this time. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit. Wiggle the wiring while checking for shorts and open circuits. Were there any problems found? Yes → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All
3	Turn the ignition off to the lock position. Disconnect the Body Control Module C2 harness connector. Disconnect the Rear Wiper Motor harness connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance between ground and the Rear Wiper Motor Control circuit. Is the resistance less than 5.0 ohms? Yes → Repair the Rear Wiper Motor Control Circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

REAR WIPER OUTPUT SHORT TO GROUND-BCM — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off to the lock position. Disconnect the Body Control Module C2 harness connector. Connect a 20A Fused jumper wire between B+ and the Rear Wiper Motor Signal circuit in the Body Control Module connector harness. **NOTE: An internal short in the Wiper Motor may cause the fuse to open.** Does the Wiper Motor function? Yes → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rear Wiper Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

REAR WIPER PARK INPUT OPEN-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
WIPER/WASHER SWITCH
REAR WIPER PARK SWITCH SENSE CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Rear Wipers ON. With the DRBIII®, read the DTC information. Does the DRBIII® read: Rear Wiper Park Switch Input Open? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Ensure that the Wiper/Washer Switch is in the Off position. Measure the internal resistance of the Wiper/Washer Switch between cavity 5 and cavity 7. Does the Wiper/Washer Switch measure more than 5.0 ohms? Yes → Replace the Wiper/Washer Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Disconnect the BCM C3 harness connector. Measure the resistance of the Rear Wiper Park Switch Sense circuit. Is the resistance above 5.0 ohms? Yes → Repair the Rear Wiper Park Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

REAR WIPER PARK INPUT SHORT-BCM

POSSIBLE CAUSES
INTERMITTENT CONDITION
WIPER/WASHER SWITCH
REAR WIPER PARK SWITCH SENSE CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the Rear Wipers ON. With the DRBIII®, read the DTC information. Does the DRBIII® read: Rear Wiper Park Input Short? Yes → Go To 2 No → The condition that caused the symptom is currently not present. Inspect the related wiring for a possible intermittent condition. Look for any chafed, pierced, pinched, or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Turn the ignition on. With the DRBIII®, read DTCs. Does the DRBIII® display: Rear Wiper Park Input Short? Yes → Replace the Wiper/Washer Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Wiper/Washer Switch harness connector. Disconnect the BCM C3 harness connector. Measure the resistance between ground and the Rear Wiper Park Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Rear Wiper Park Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Verification Tests

40/41TE (NGC) TRANSMISSION VERIFICATION TEST - VER 1	APPLICABILITY
1. NOTE: After completion of the Transmission Verification Test, the Powertrain Verification Test must be performed. Refer to the Powertrain Category. 2. Connect the DRBIII® to the Data Link Connector (DLC). 3. Reconnect any disconnected components. 4. With the DRBIII®, erase all Transmission DTC's, also erase the PCM DTC's. 5. Perform *PRNDL FAULT CLEARING PROCEDURE after completion of repairs for P0706 CHECK SHIFTER SIGNAL. 6. With the DRBIII®, display Transmission Temperature. Start and run the engine until the Transmission Temperature is HOT, above 43° C or 110° F. 7. Check the transmission fluid and adjust if necessary. Refer to the Service Information for the Fluid Fill procedure. **8. NOTE: If the Transmission Control Module or Torque Converter has been replaced, or if the Transmission has been repaired or replaced, it is necessary to perform the DRBIII® Quick Learn Procedure and reset the "Pinion Factor".** 9. Road test the vehicle. With the DRBIII®, monitor the engine RPM. Make 15 to 20 1-2, 2-3, 3-4 upshifts. Perform these shifts from a standing start to 45 MPH with a constant throttle opening of 20 to 25 degrees. 10. Below 25 MPH, make 5 to 8 wide open throttle kickdowns to 1st gear. Allow at least 5 seconds each in 2nd and 3rd gear between each kickdown. 11. For a specific DTC, drive the vehicle to the Symptom's When Monitored/When Set conditions to verify the DTC is repaired. 12. If equipped with AutoStick®, upshift and downshift several times using the AutoStick® feature during the road test. **13. NOTE: Use the EATX OBDII task manager to run Good Trip time in each gear, this will confirm the repair and to ensure that the DTC has not re-matured.** 14. Check for Diagnostic Trouble Codes (DTC's) during the road test. If a DTC sets during the road test , return to the Symptom list and perform the appropriate symptom. **15. NOTE: Erase P0700 DTC in the PCM to turn the MIL light off after making transmission repairs.** Were there any Diagnostic Trouble Codes set during the road test? Yes → Repair is not complete, refer to the appropriate symptom. No → Repair is complete.	All

Verification Tests — Continued

ABS VERIFICATION TEST - VER 1	APPLICABILITY
1. Turn the ignition off. 2. Connect all previously disconnected components and connectors. 3. Ensure all accessories are turned off and the battery is fully charged. 4. Ensure that the Ignition is on, and with the DRBIII, erase all Diagnostic Trouble Codes from ALL modules. Start the engine and allow it to run for 2 minutes and fully operate the system that was malfunctioning. 5. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII, read DTC's from ALL modules. 6. If any Diagnostic Trouble Codes are present, return to Symptom list and troubleshoot new or recurring symptom. **7. NOTE: For Sensor Signal and Pump Motor faults, the CAB must sense all 4 wheels at 25 km/h (15 mph) before it will extinguish the ABS Indicator.** 8. If there are no DTC's present after turning ignition on, road test the vehicle for at least 5 minutes. Perform several antilock braking stops. **9. Caution: Ensure braking capability is available before road testing.** 10. Again, with the DRBIII® read DTC's. If any DTC's are present, return to Symptom list. 11. If there are no Diagnostic Trouble Codes (DTC's) present, and the customer's concern can no longer be duplicated, the repair is complete. Are any DTC's present or is the original concern still present? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

ADJUSTABLE PEDALS VERIFICATION TEST - VER 1	APPLICABILITY
1. If the Adjustable Pedals Module was replaced, program the Adjustable Pedal's hard stop. **2. NOTE: Start with the pedal's going forward.** 3. Activate the Adjustable Pedals through the full range of movement. 4. When the pedal reaches full travel, continue to apply pedal switch for 10 seconds to learn hard stop. 5. Repeat this step in both travel directions. 6. Verify that the Adjustable Pedals system is disabled with the vehicle in Reverse. 7. Verify that the Adjustable Pedals system is disabled with Speed Control activated. 8. With the DRBIII®, erase DTCs. 9. With the DRBIII®, read DTCs. Are any DTC's present or is the original complaint still present? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

Verification Tests — Continued

BODY VERIFICATION TEST - VER 1	APPLICABILITY
1. Disconnect all jumper wires and reconnect all previously disconnected components and connectors. **2. NOTE: If the SKREEM or PCM was replaced, refer to the service information for proper programming procedures. If the IPM was replaced, ensure the IOD fuse is in the Normal Run position.** 3. If the Body Control Module (BCM) was replaced, turn the ignition on for 15 seconds (to allow the new BCM to learn VIN) or engine may not start (if VTSS equipped). If the vehicle is equipped with VTSS, use the DRBIII® and enable VTSS. 4. If the Driver or Passenger Door Module was replaced, program the new module by turning the ignition On for 15 seconds and then operate the following switches if equipped: Adjustable Pedals, Heated Seat, Power Seat/Lumbar and Memory Set/Recall. 5. Program options as necessary. 6. If any repairs were made to the power liftgate, use the DRBIII® and perform the open and close system tests. Observe the instructions on the DRBIII® screen. 7. Ensure that all accessories are turned off and the battery is fully charged. 8. With the DRBIII®, record and erase all DTCs from ALL modules. Start and run the engine for 2 minutes. Operate all functions of the system that caused the original concern. 9. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII®, read DTCs from ALL modules. Are any DTC's present or is the original condition still present? Yes → Repair is not complete, refer to the appropriate symptom. No → Repair is complete.	All

POWER SEAT SYSTEM VERIFICATION TEST - VER 1	APPLICABILITY
1. Reconnect all previously disconnected components and connectors. 2. Turn the ignition on, and with the DRBIII, erase all Diagnostic Trouble Codes from ALL modules. 3. If the Memory/Heated Seat Adjustable Pedals Module was replaced, program the Adjustable Pedal's hard stop with the following steps, otherwise skip to step 6. 4. Hold the pedal switch forward until the pedals reach full travel and continue to hold pedal switch for 10 seconds to learn hard stop. 5. Repeat this for pedal back movement. 6. With the Memory Switch on the Driver's Door, program the Driver's Seat #1 Button to a desired position and Driver #2 Button to a different position. 7. Operate both seats in all positions. 8. Start the engine and allow it to run for 2 minutes and fully operate the system that was malfunctioning. 9. Remove the Ignition Key and close all Doors to allow the Body Control Module to time out, about 30 seconds. 10. Verify that both Memory positions can be recalled from the RKE transmitter and the Memory Switch on the Driver's Door. 11. Turn the ignition off and wait 5 seconds. Turn the ignition on and using the DRBIII, read DTC's from ALL modules. Are any DTC's present or is the original complaint still present? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

Verification Tests — Continued

POWERTRAIN VERIFICATION TEST VER - 1	APPLICABILITY
1. NOTE: After completing the Powertrain Verification Test the Transmission Verification Test must be performed. **2. NOTE: If the PCM has been replaced and the correct VIN and mileage have not been programmed, a DTC will be set in the ABS Module, Airbag Module and the SKIM.** **3. NOTE: If the vehicle is equipped with a Sentry Key Immobilizer System, Secret Key data must be updated. Refer to the Service Information for the PCM, SKIM and the Transponder (ignition key) for programming information.** 4. Inspect the vehicle to ensure that all components related to the repair are connected properly. 5. Inspect the engine oil for fuel contamination. Replace the oil and filter as necessary. 6. Attempt to start the engine. 7. If the No Start condition is still present, refer to the symptom list and perform the diagnostic testing as necessary. refer to and Technical Service Bulletins that may apply. 8. Run the engine for one warm-up cycle to verify operation. 9. With the DRBIII®, confirm that no DTCs or Secondary Indicators are present and that all components are functioning properly. 10. If a DTC is present, refer to the appropriate category and select the corresponding symptom. Are any DTCs present? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

SKREEM VERIFICATION TEST - VER 1A	APPLICABILITY
1. Reconnect all previously disconnected components and connectors. 2. Obtain the vehicle's unique Personal Identification Number (PIN) assigned to it's original SKIM. This number can be obtained from the vehicle's invoice or Chrysler's Customer Center (1-800-992-1997). **3. NOTE: When entering the PIN, care should be taken because the SKREEM will only allow 3 consecutive attempts to enter the correct PIN. If 3 consecutive incorrect PIN's are entered the SKREEM will Lock Out the DRB III for 1 hour.** 4. To exit Lock Out mode, the ignition key must remain in the Run position continually for 1 hour. Turn off all accessories and connect a battery charger if necessary. 5. With the DRB III, select Theft Alarm, SKIM and Miscellaneous. Then select desired procedure and follow the steps that will be displayed. 6. If the SKREEM has been replaced, ensure all of the vehicle ignition keys are programmed to the new SKREEM. **7. NOTE: Prior to returning vehicle to the costumer, perform a module scan to be sure that all DTC's are erased. Erase any DTC's that are found.** 8. With the DRB III erase all DTC's. Perform 5 ignition key cycles leaving the key on for at least 90 seconds per cycle. 9. With the DRB III, read the SKREEM DTC's. Are there any SKREEM DTC's? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

TIRE PRESSURE VERIFICATION TEST - VER 2 - SKREEM	APPLICABILITY
1. Adjust ALL tire pressure to recommended specifications. 2. Perform the SKREEM training as instructed in the System Description. **3. NOTE: Refer to SKREEM information for theft and RKE programming procedures.** Can the SKREEM auto learn the Sensor/Transmitter(s) and the TPMS indicator is OFF? Yes → Repair is complete. No → Refer to Diagnosing System Faults for this system.	All

Verification Tests — Continued

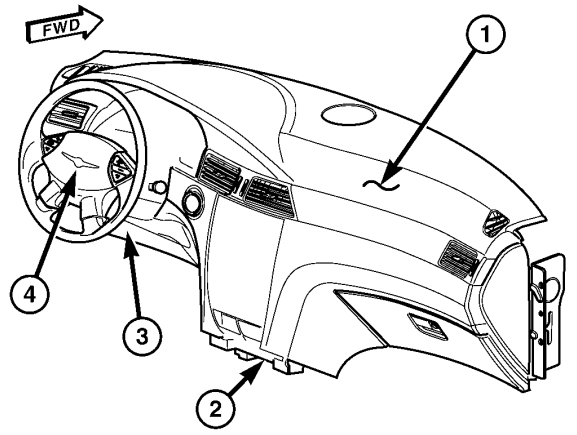
TIRE PRESSURE VERIFICATION TEST VER 1 - CMTC	APPLICABILITY
1. Perform the CMTC training as instructed in the System Description. 2. Using the DRBIII® or RESET and STEP buttons, set the EVIC to Diagnostics mode. **3. NOTE: The RESET and STEP buttons must be applied and held simultaneously.** 4. Set the EVIC to display BUCKET COUNTERS. 5. Drive the vehicle at 32 km/h (20 mph) for at least 2 minutes. 6. Observe that the counters increment at least 3 sensor/transmitter receptions for each wheel. Can the CMTC be trained and do the counters show Sensor/Transmitter receptions? Yes → Repair is complete. No → Refer to Diagnosing System Faults for this system.	All

VTSS VERIFICATION TEST - 1A	APPLICABILITY
1. Ensure all doors and the liftgate are closed. 2. Open the driver door. 3. Remove the ignition key (but keep in hand). 4. Lock the doors with RKE transmitter. 5. Close the driver door. 6. - If the VTSS Indicator Lamp flashes rapidly and after approximately 15 seconds changes to a slower flash, the system is operational. 7. - If the Indicator fails to flash as described, there is a problem with the system. Select the Identifying VTSS symptom from the Symptom List to troubleshoot. Are any DTC's present or is the original complaint still present? Yes → Repair is not complete, refer to the appropriate symptom. Perform VTSS VERIFICATION TEST - 1A. No → Repair is complete.	All

__AIRBAG VERIFICATION TEST - VER 1	APPLICABILITY
1. Remove any special tools or jumper wires and reconnect all previously disconnected components - except the Battery. **2. WARNING: TO AVOID PERSONAL INJURY OR DEATH, TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** 3. Connect the DRBIII® to the Data Link Connector - use the most current software available. 4. Use the DRBIII® and erase the stored codes in all airbag system modules. 5. Turn the ignition off, and wait 15 seconds, then turn the ignition on. 6. Wait one minute, and read active codes and if there are none present read the stored codes. 7. Note: If equipped with Airbag On - Off switch, read the DTC's in all switch positions. 8. Note: Read the DTC's in all airbag system related modules. 9. If the DRBIII® shows any active or stored codes, return to the Symptom list and follow path specified for that trouble code. If no active or stored codes are present, the repair is complete. Are any DTC's present or is the original condition still present? YES Repair is not complete, refer to appropriate symptom list. NO Repair is not complete, refer to appropriate symptom.	All

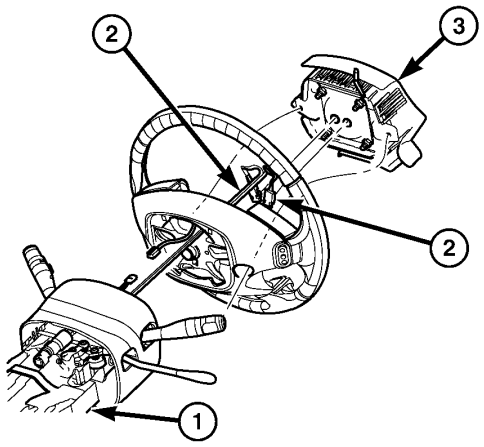
8.0 COMPONENT LOCATIONS

8.1 AIRBAG SYSTEM



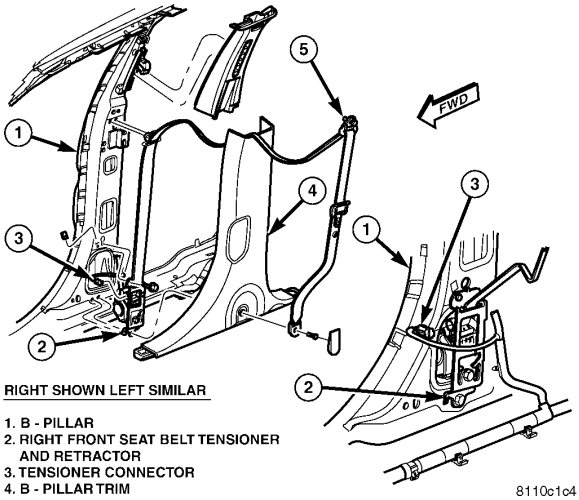
1 - PASSENGER AIRBAG
2 - OCCUPANT RESTRAINT CONTROLLER (ORC)
3 - KNEE BLOCKER AIRBAG
4 - DRIVER AIRBAG

8110be1b



1. CLOCKSPRING C1 & C2
2. DRIVER AIRBAG SQUIB 1 AND SQUIB 2
3. DRIVER AIRBAG

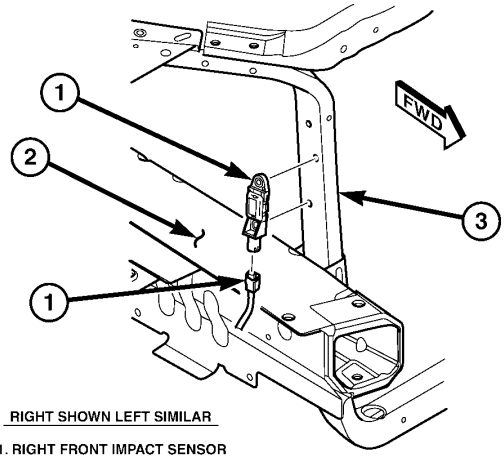
8110bf96



RIGHT SHOWN LEFT SIMILAR

1. B - PILLAR
2. RIGHT FRONT SEAT BELT TENSIONER AND RETRACTOR
3. TENSIONER CONNECTOR
4. B - PILLAR TRIM

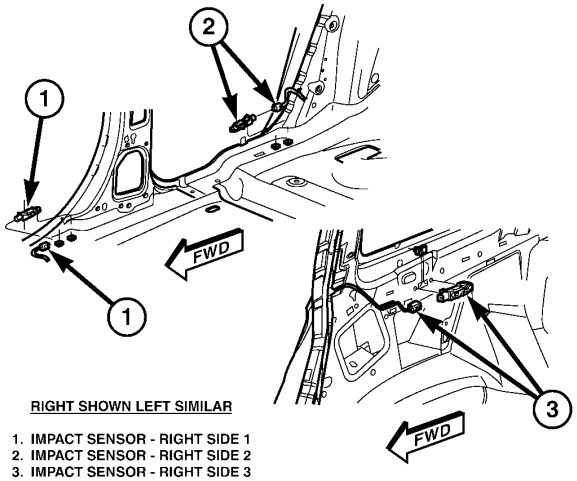
8110c1c4



RIGHT SHOWN LEFT SIMILAR

1. RIGHT FRONT IMPACT SENSOR
2. FRAME RAIL RIGHT SIDE FRONT
3. CROSSMEMBER LOWER RADIATOR SUPPORT

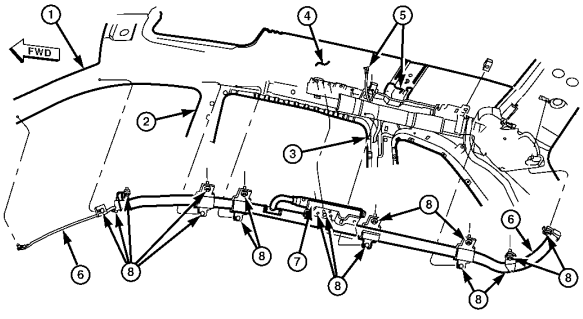
8110c258



RIGHT SHOWN LEFT SIMILAR

1. IMPACT SENSOR - RIGHT SIDE 1
2. IMPACT SENSOR - RIGHT SIDE 2
3. IMPACT SENSOR - RIGHT SIDE 3

8110c267



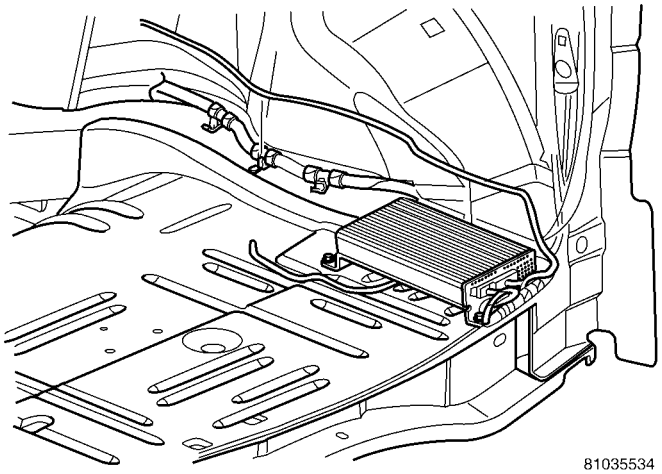
RIGHT SHOWN LEFT SIMILAR

1. A - PILLAR
2. B - PILLAR
3. C - PILLAR
4. ROOF ASSEMBLY
5. RIGHT CURTAIN SQUIB CONNECTOR
6. RIGHT CURTAIN AIRBAG
7. INFLATOR ASSEMBLY
8. RETAINERS

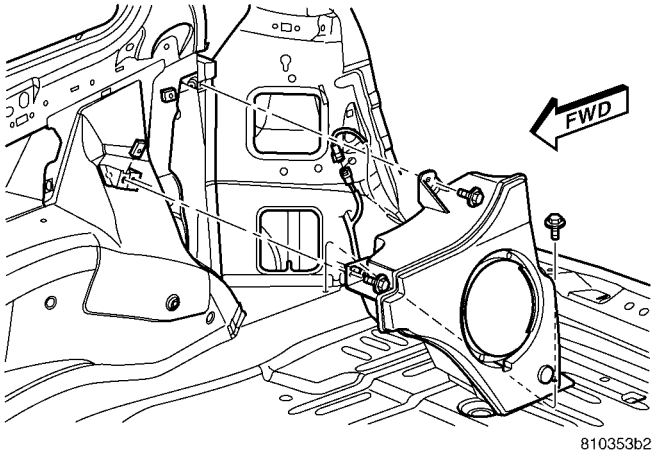
8110bf1b

8.2 AUDIO

8.2.1 AMPLIFIER

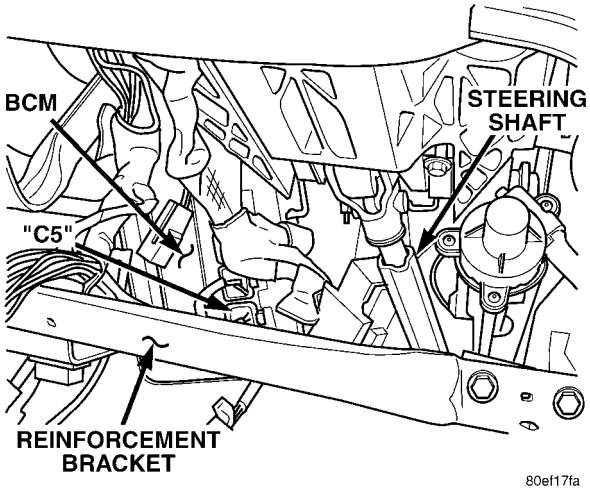


8.2.2 SUBWOOFER

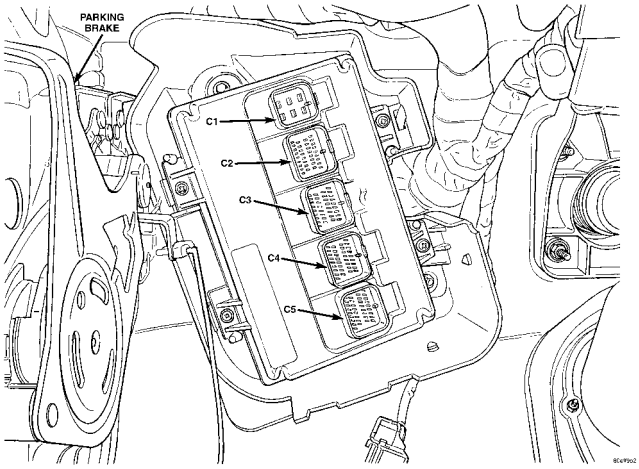


8.3 BODY CONTROL MODULE

8.3.1 GENERAL LOCATION

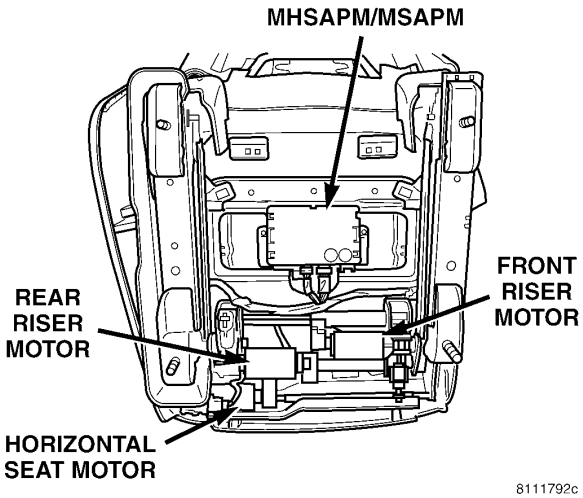


8.3.2 CONNECTOR LOCATIONS

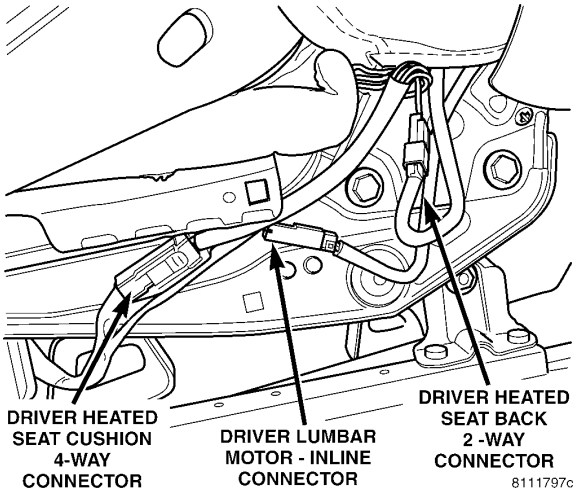


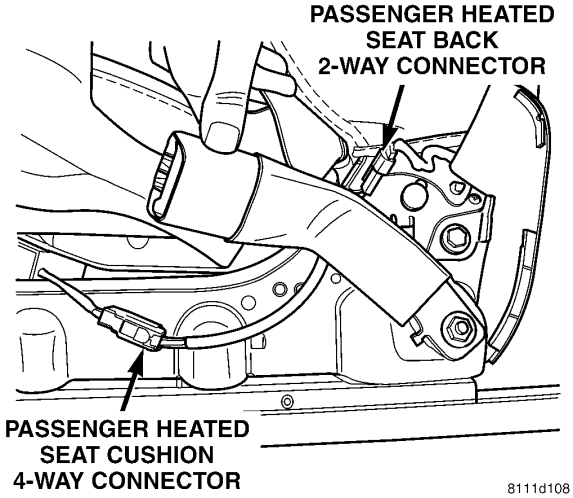
8.4 ELECTRICALLY HEATED SYSTEMS

8.4.1 MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE



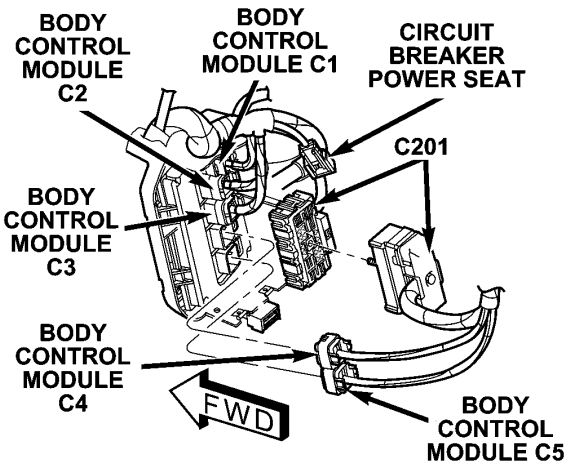
8.4.2 HEATED SEAT CONNECTORS





8.4 ELECTRICALLY HEATED SYSTEMS (Continued)

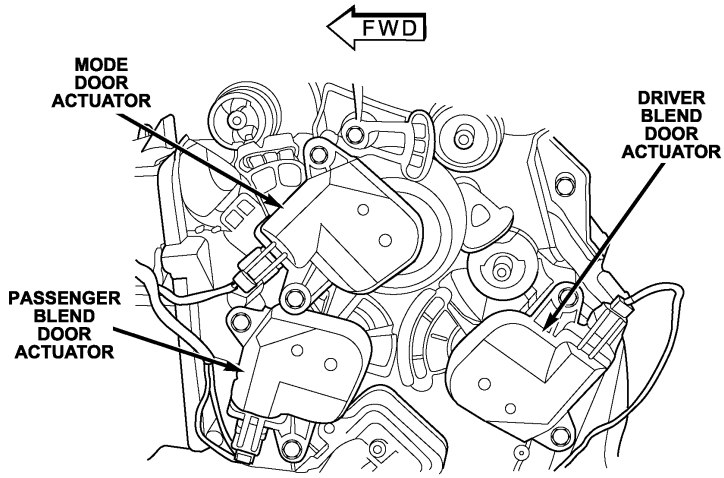
8.4.3 POWER SEAT CIRCUIT BREAKER



8111753a

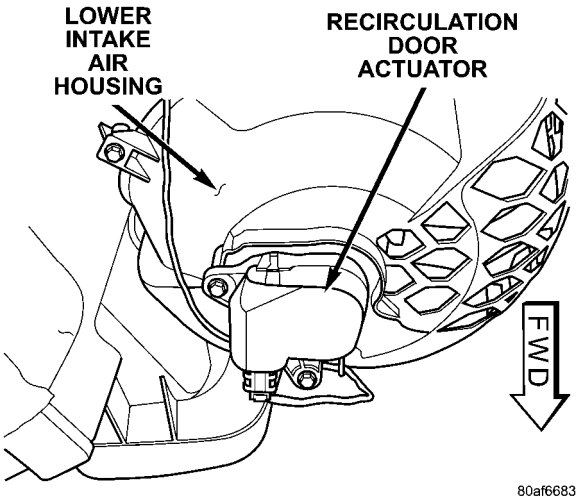
8.5 HEATING & A/C

8.5.1 BLEND & FRONT MODE ACTUATORS



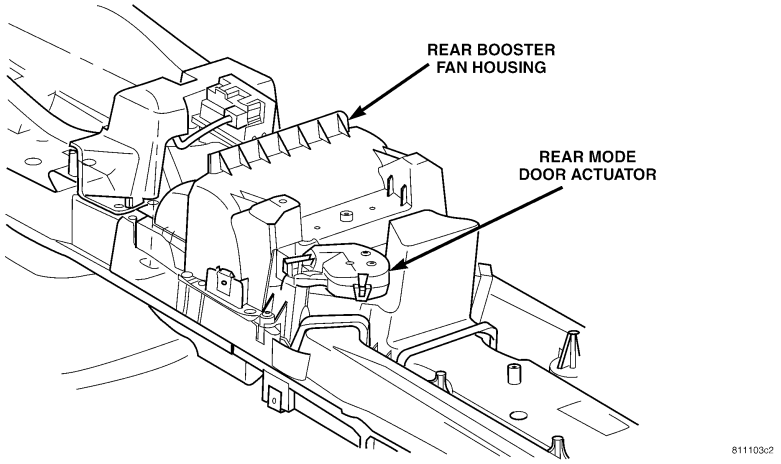
810f1cb7

8.5.2 RECIRCULATION ACTUATOR

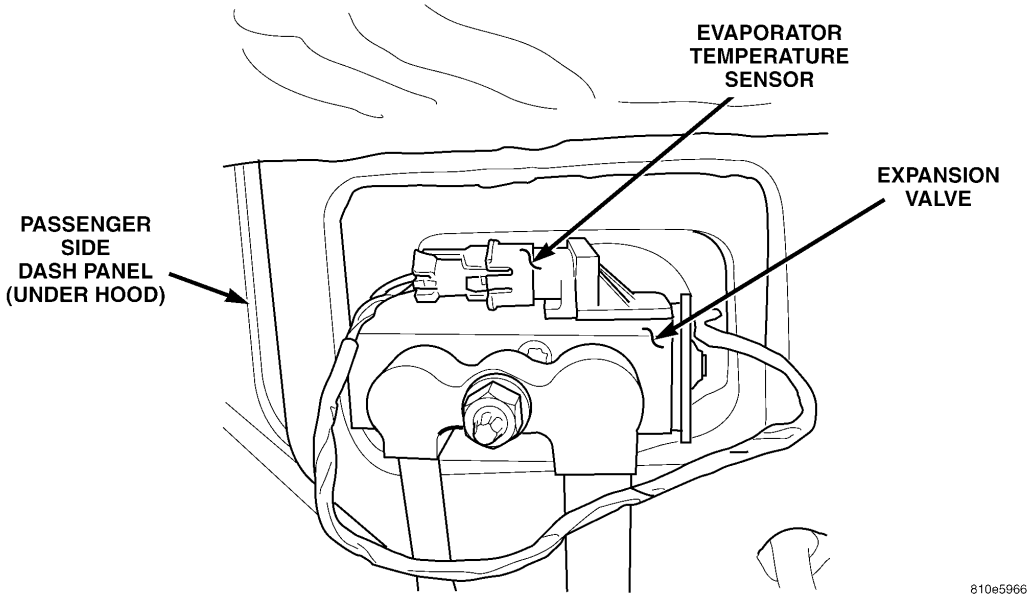


80af6683

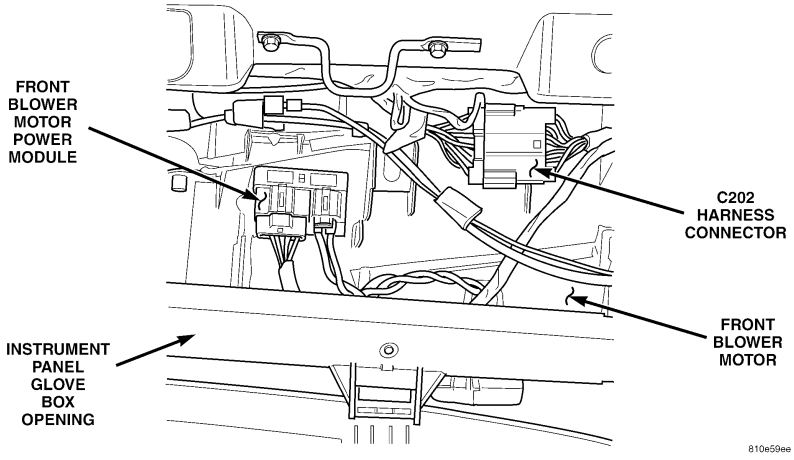
8.5.3 REAR MODE ACTUATOR



8.5.4 EVAPORATOR TEMPERATURE SENSOR

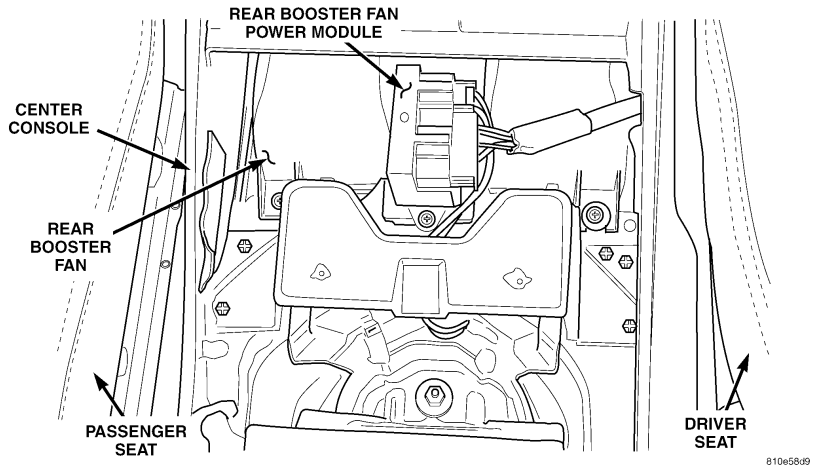


8.5.5 FRONT BLOWER MOTOR & C202 CONNECTOR



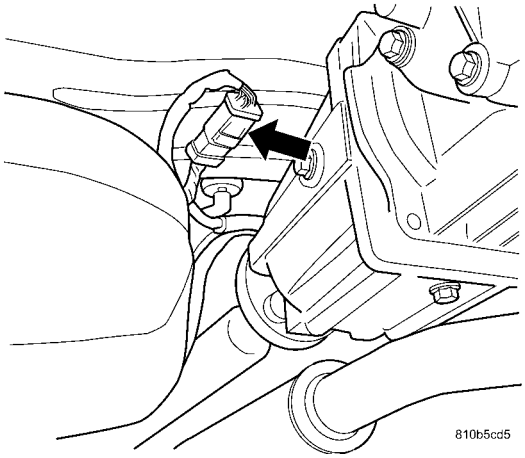
8.5 HEATING & A/C (Continued)

8.5.6 REAR BOOSTER FAN



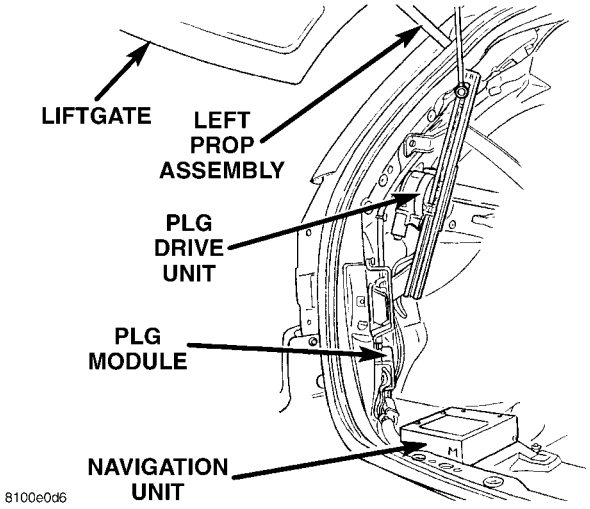
8.6 INSTRUMENT CLUSTER

8.6.1 FUEL PUMP MODULE HARNESS CONNECTOR

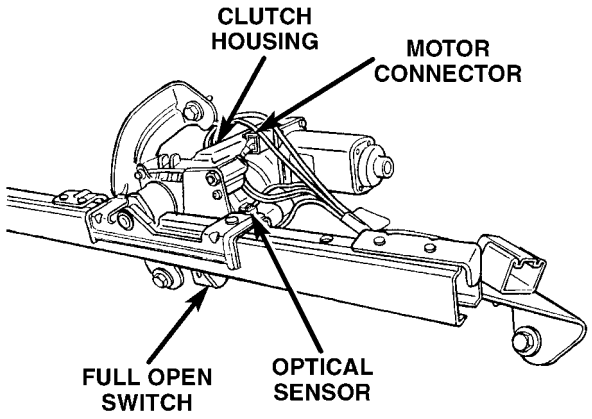


8.7 POWER LIFTGATE

8.7.1 DRIVE UNIT

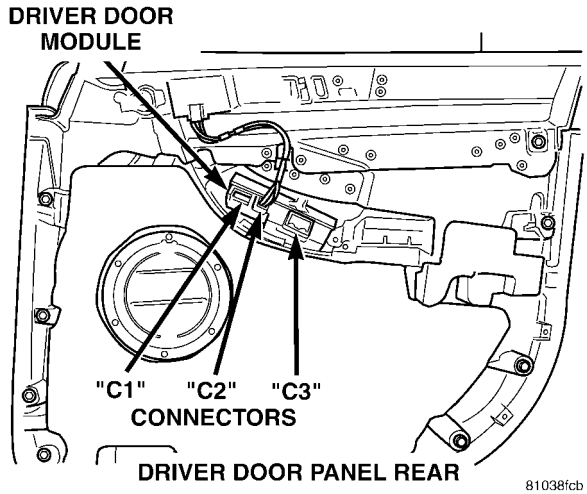


8.7.2 DRIVE UNIT COMPONENTS

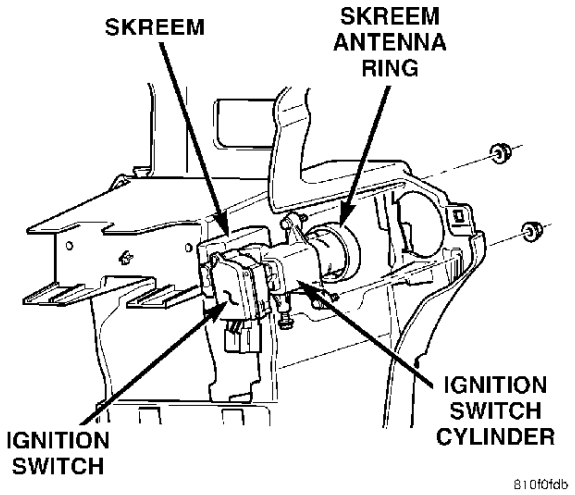


8.8 POWER DOOR LOCKS/RKE

8.8.1 DRIVER DOOR MODULE

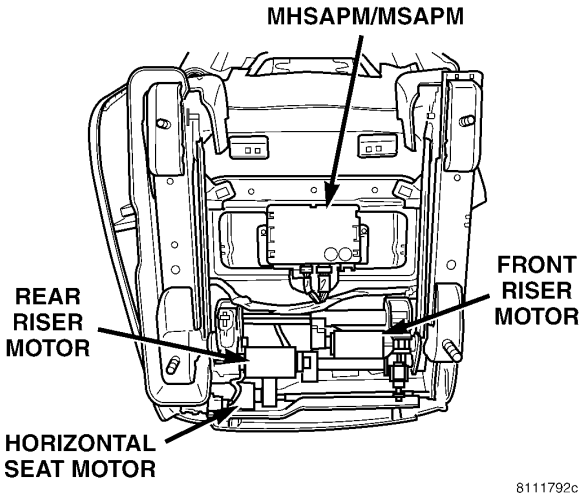


8.8.2 SENTRY KEY REMOTE ENTRY MODULE (SKREEM)

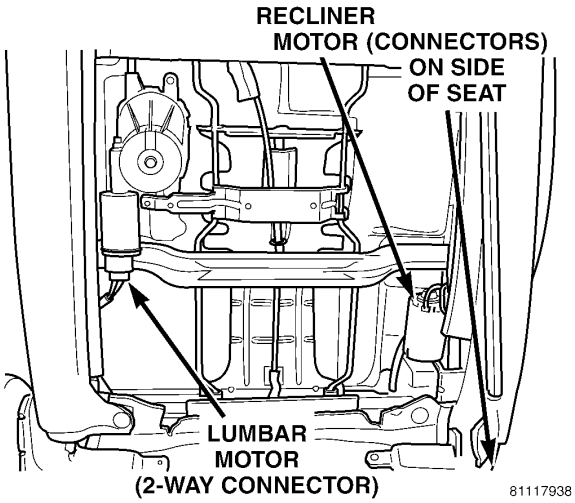


8.9 POWER SEATS

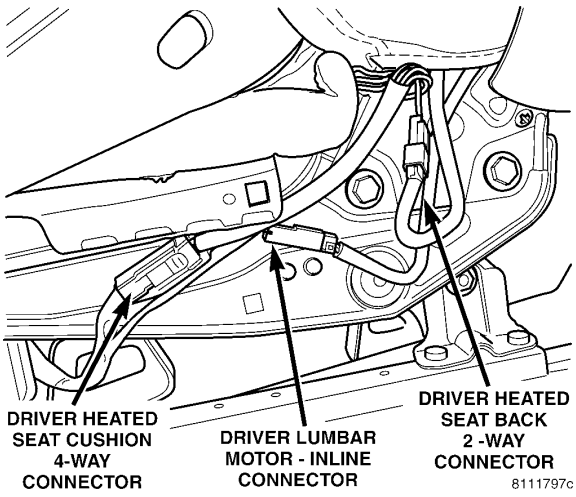
8.9.1 MEMORY HEATED SEAT ADJUSTABLE PEDAL MODULE AND SEAT BASE MOTORS



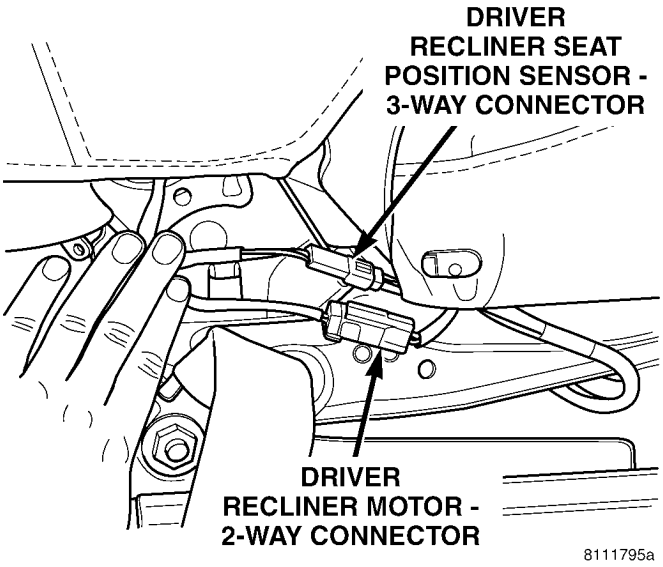
8.9.2 SEAT BACK MOTORS



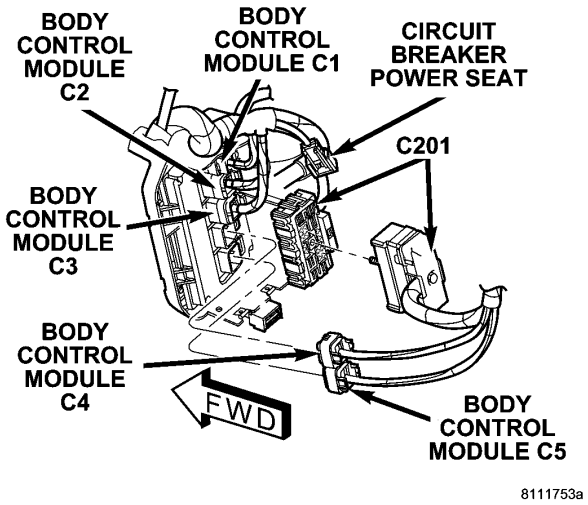
8.9.3 LUMBAR MOTOR-INLINE CONNECTOR



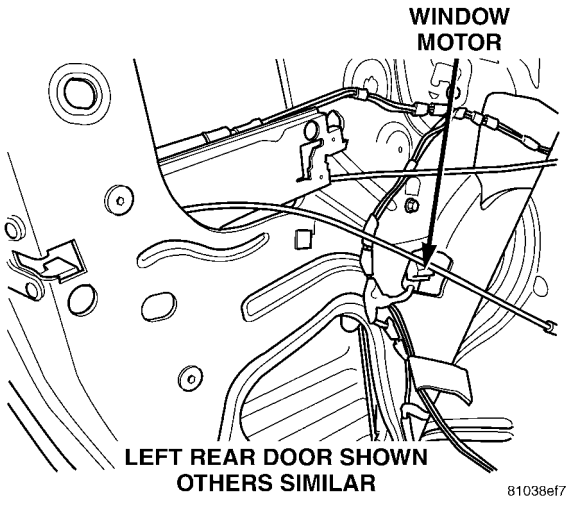
8.9.4 RECLINER MOTOR/SENSOR CONNECTOR



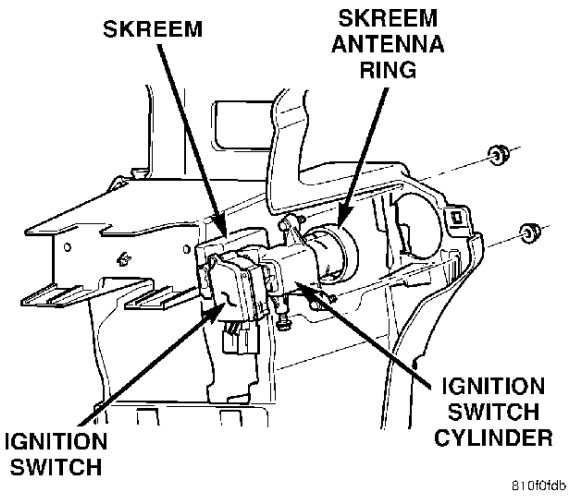
8.9.5 POWER SEAT CIRCUIT BREAKER



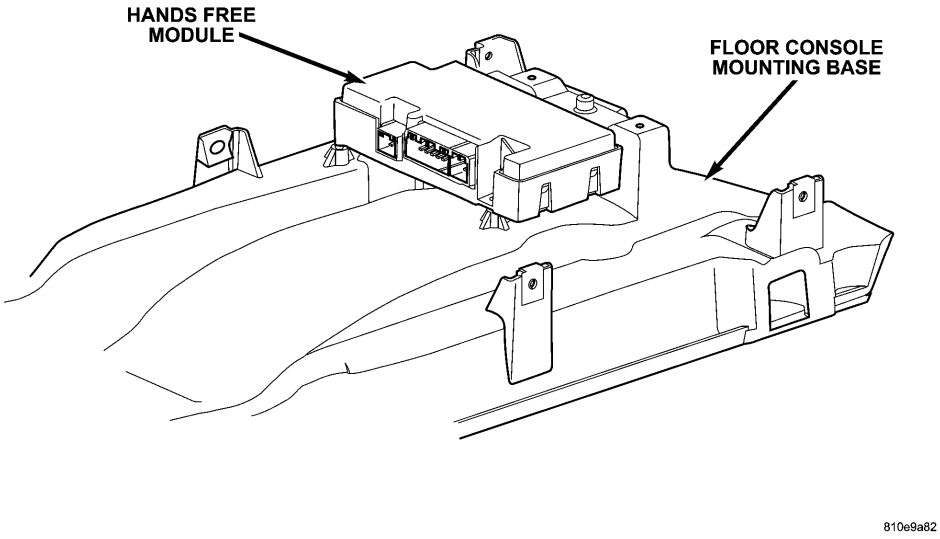
8.10 POWER WINDOWS



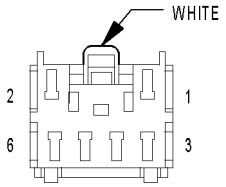
8.11 SENTRY KEY REMOTE ENTRY MODULE



8.12 TELECOMMUNICATIONS — HANDS FREE SYSTEM



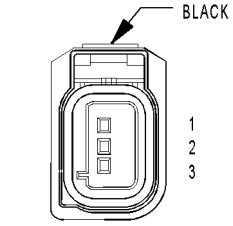
9.0 CONNECTOR PINOUTS



ADJUSTABLE PEDALS MOTOR

ADJUSTABLE PEDALS MOTOR - WHITE 6 WAY

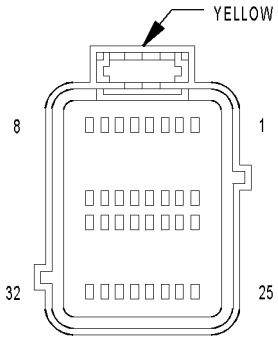
CAV	CIRCUIT	FUNCTION
1	P205 14LG/DB	ADJUSTABLE PEDALS MOTOR FORWARD
2	P206 14LG/TN	ADJUSTABLE PEDALS MOTOR REVERSE
3	-	-
4	G13 20VT/LB	ADJUSTABLE PEDALS MOTOR HALL SENSE
5	G914 22VT/GY	ADJUSTABLE PEDALS MOTOR HALL SENSE RETURN
6	G14 20VT/DB	ADJUSTABLE PEDALS MOTOR HALL SIGNAL



ADJUSTABLE PEDALS SENSOR

ADJUSTABLE PEDALS SENSOR - BLACK 3 WAY

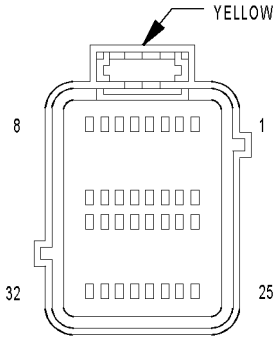
CAV	CIRCUIT	FUNCTION
1	G11 20VT/TN	ADJUSTABLE PEDALS SENSOR FEED
2	G12 22VT/BR	ADJUSTABLE PEDALS SENSOR SIGNAL
3	G912 20VT/WT	ADJUSTABLE PEDALS SENSOR RETURN



AIRBAG CONTROL MODULE C1 (ORC)

AIRBAG CONTROL MODULE C1 (ORC) - YELLOW 32 WAY

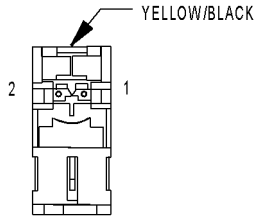
CAV	CIRCUIT	FUNCTION
1	R53 20LG/YL	DRIVER SEAT BELT TENSIONER LINE 2
2	R55 20LG/DG	DRIVER SEAT BELT TENSIONER LINE 1
3	R56 20LB/DG	PASSENGER SEAT BELT TENSIONER LINE 1
4	R54 20LB/YL	PASSENGER SEAT BELT TENSIONER LINE 2
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	R13 20LG/VT	LEFT SIDE IMPACT SENSOR 1 SIGNAL
16	R16 20BR/LG	RIGHT SIDE IMPACT SENSOR 1 GROUND
17	-	-
18	-	-
19	R15 20LG/BR	LEFT SIDE IMPACT SENSOR 1 GROUND
20	R19 20LG/WT	LEFT SIDE IMPACT SENSOR 2 GROUND
21	R20 20WT/LG	RIGHT SIDE IMPACT SENSOR 2 GROUND
22	R17 20LG	LEFT SIDE IMPACT SENSOR 2 SIGNAL
23	R18 20LB	RIGHT SIDE IMPACT SENSOR 2 SIGNAL
24	R14 20TN/LG	RIGHT SIDE IMPACT SENSOR 1 SIGNAL
25	R1 20DG/YL (EARLY BUILD)	LEFT CURTAIN SQUIB LINE 1
25	R1 20LB/BR (LATE BUILD)	LEFT CURTAIN SQUIB LINE 1
26	R3 20VT (EARLY BUILD)	LEFT CURTAIN SQUIB LINE 2
26	R3 20LB/OR (LATE BUILD)	LEFT CURTAIN SQUIB LINE 2
27	R4 20OR (EARLY BUILD)	RIGHT CURTAIN SQUIB LINE 2
27	R4 20OR/LB (LATE BUILD)	RIGHT CURTAIN SQUIB LINE 2
28	R2 20DG (EARLY BUILD)	RIGHT CURTAIN SQUIB LINE 1
28	R2 20WT/LB (LATE BUILD)	RIGHT CURTAIN SQUIB LINE 1
29	-	-
30	-	-
31	-	-
32	-	-



AIRBAG CONTROL MODULE C2 (ORC)

AIRBAG CONTROL MODULE C2 (ORC) - YELLOW 32 WAY

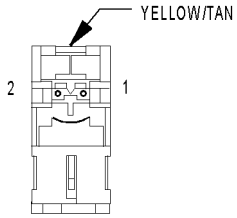
CAV	CIRCUIT	FUNCTION
1	R43 20LG/BR	DRIVER SQUIB 1 LINE 1
2	R45 20LG/OR	DRIVER SQUIB 1 LINE 2
3	R63 20LG/WT	DRIVER SQUIB 2 LINE 2
4	R61 20LG/VT	DRIVER SQUIB 2 LINE 1
5	R42 20LB/BR	PASSENGER SQUIB 1 LINE 1
6	R44 20LB/OR	PASSENGER SQUIB 1 LINE 2
7	R64 20LB/TN	PASSENGER SQUIB 2 LINE 1
8	R62 20LG/DB	PASSENGER SQUIB 2 LINE 2
9	-	-
10	R22 20LG/DG	RIGHT SIDE IMPACT SENSOR 3 SIGNAL
11	-	-
12	R82 20WT/LB	RIGHT FRONT IMPACT SENSOR GROUND
13	-	-
14	R23 20LG/TN	LEFT SIDE IMPACT SENSOR 3 GROUND
15	D25 20WT/VT	PCI BUS
16	F201 20PK/LB	ORC RUN-START DRIVER
17	-	-
18	-	-
19	R24 20YL/LB	RIGHT SIDE IMPACT SENSOR 3 GROUND
20	R81 20LB/WT	LEFT FRONT IMPACT SENSOR GROUND
21	-	-
22	Z12 18BK/OR	GROUND
23	-	-
24	F100 20PK/VT	ORC RUN DRIVER
25	R79 20LB/VT	LEFT FRONT IMPACT SENSOR SIGNAL
26	R80 20LB/TN	RIGHT FRONT IMPACT SENSOR SIGNAL
27	-	-
28	R21 20LB/DG	LEFT SIDE IMPACT SENSOR 3 SIGNAL
29	-	-
30	-	-
31	R11 20DB/LB	DRIVER KNEE BLOCKER SQUIB LINE 2
32	R9 20LB/YL	DRIVER KNEE BLOCKER SQUIB LINE 1



AIRBAG SQUIB-DRIVER 1

AIRBAG SQUIB-DRIVER 1 - YELLOW/BLACK 2 WAY

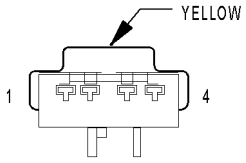
CAV	CIRCUIT	FUNCTION
1	R43 20LG/BR	DRIVER SQUIB 1 LINE 1
2	R45 20LG/OR	DRIVER SQUIB 1 LINE 2



AIRBAG
SQUIB-DRIVER 2

AIRBAG SQUIB-DRIVER 2 - YELLOW/TAN 2 WAY

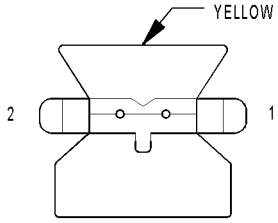
CAV	CIRCUIT	FUNCTION
1	R61 20LG/VT	DRIVER SQUIB 2 LINE 1
2	R63 20LG/WT	DRIVER SQUIB 2 LINE 2



AIRBAG
SQUIB-DRIVER
KNEE BLOCKER

AIRBAG SQUIB-DRIVER KNEE BLOCKER - YELLOW 4 WAY

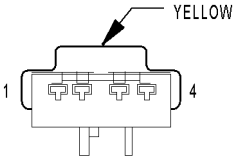
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	R9 20LB/YL	DRIVER KNEE BLOCKER SQUIB LINE 1
4	R11 20DB/LB	DRIVER KNEE BLOCKER SQUIB LINE 2



AIRBAG
SQUIB-LEFT
CURTAIN

AIRBAG SQUIB-LEFT CURTAIN - YELLOW 2 WAY

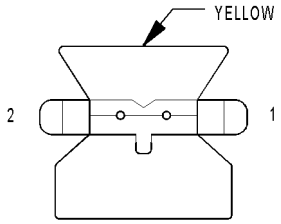
CAV	CIRCUIT	FUNCTION
1	R1 20DG/YL (EARLY BUILD)	LEFT CURTAIN SQUIB LINE 1
1	R1 20LB/BR (LATE BUILD)	LEFT CURTAIN SQUIB LINE 1
2	R3 20VT (EARLY BUILD)	LEFT CURTAIN SQUIB LINE 2
2	R3 20LB/OR (LATE BUILD)	LEFT CURTAIN SQUIB LINE 2



AIRBAG
SQUIB-PASSENGER

AIRBAG SQUIB-PASSENGER - YELLOW 4 WAY

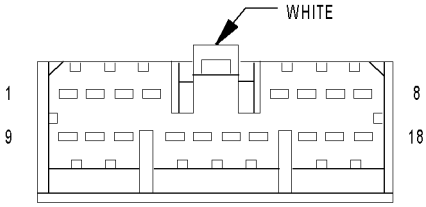
CAV	CIRCUIT	FUNCTION
1	R44 20LB/OR	PASSENGER SQUIB 1 LINE 2
2	R42 20LB/BR	PASSENGER SQUIB 1 LINE 1
3	R64 20LB/TN	PASSENGER SQUIB 2 LINE 1
4	R62 20LG/DB	PASSENGER SQUIB 2 LINE 2



AIRBAG
SQUIB-RIGHT
CURTAIN

AIRBAG SQUIB-RIGHT CURTAIN - YELLOW 2 WAY

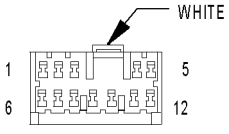
CAV	CIRCUIT	FUNCTION
1	R2 20DG (EARLY BUILD)	RIGHT CURTAIN SQUIB LINE 1
1	R2 20WT/LB (LATE BUILD)	RIGHT CURTAIN SQUIB LINE 1
2	R4 20OR (EARLY BUILD)	RIGHT CURTAIN SQUIB LINE 2
2	R4 20OR/LB (LATE BUILD)	RIGHT CURTAIN SQUIB LINE 2



AMPLIFIER
C1

AMPLIFIER C1 - WHITE 18 WAY

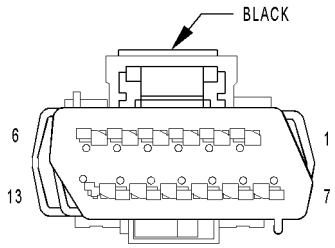
CAV	CIRCUIT	FUNCTION
1	A116 16YL/RD	FUSED B(+)
2	-	-
3	X300 18GY/BR	AMPLIFIED SUBWOOFER 1 (+)
4	X391 18DG/WT	AMPLIFIED SUBWOOFER 2 (-)
5	X205 18GY/LG	AMPLIFIED LEFT REAR DOOR SPEAKER (+)
6	X200 18GY/DB	AMPLIFIED CENTER INSTRUMENT PANEL SPEAKER (+)
7	X202 18DG/VT	AMPLIFIED RIGHT FRONT DOOR SPEAKER (+)
8	X291 18GY/YL	AMPLIFIED LEFT FRONT DOOR SPEAKER (-)
9	A116 16YL/RD	FUSED B(+)
10	-	-
11	X390 18DG/BR	AMPLIFIED SUBWOOFER 1 (-)
12	X301 18GY/WT	AMPLIFIED SUBWOOFER 2 (+)
13	X296 18DG/GY	AMPLIFIED RIGHT REAR DOOR SPEAKER (-)
14	X206 18DG/LG	AMPLIFIED RIGHT REAR DOOR SPEAKER (+)
15	X295 18GY/DG	AMPLIFIED LEFT REAR DOOR SPEAKER (-)
16	X290 18GY/OR	AMPLIFIED CENTER INSTRUMENT PANEL SPEAKER (-)
17	X292 18DG/YL	AMPLIFIED RIGHT FRONT DOOR SPEAKER (-)
18	X201 18GY/VT	AMPLIFIED LEFT FRONT DOOR SPEAKER (+)



AMPLIFIER
C2

AMPLIFIER C2 - WHITE 12 WAY

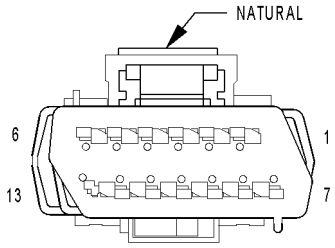
CAV	CIRCUIT	FUNCTION
1	X53 20DG	RADIO LEFT AUDIO (+)
2	X55 20DG/BR	RADIO LEFT AUDIO (-)
3	X704 20DG/YL (HANDS FREE)	RIGHT AUDIO OUTPUT
4	Z513 16BK	GROUND
5	F316 20PK/OR	FUSED ACCESSORY RELAY OUTPUT
6	X56 20GY/BR	RADIO RIGHT AUDIO (-)
7	X54 20GY	RADIO RIGHT AUDIO (+)
8	X703 20DG/OR (HANDS FREE)	LEFT AUDIO OUTPUT
9	X400 20GY/WT (NAVIGATION)	NAVIGATION AUDIO (+)
10	X940 20GY/LB (NAVIGATION)	NAVIGATION AUDIO (-)
11	Z516 16BK/GY	GROUND
12	D25 20WT/VT	PCI BUS



AUTO TEMP
CONTROL C1

AUTO TEMP CONTROL C1 - BLACK 13 WAY

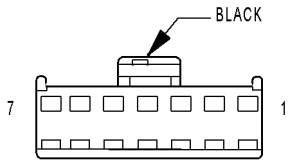
CAV	CIRCUIT	FUNCTION
1	C21 20LG/DB	EVAPORATOR TEMPERATURE SENSOR SIGNAL
2	C121 20DB/DG	SENSOR GROUND
3	E12 18OR/GY	PANEL LAMPS DRIVER
4	A118 20RD/OR	FUSED B(+)
5	F504 20GY/PK	FUSED RUN RELAY OUTPUT
6	D25 20WT/VT	PCI BUS
7	C56 20LB/DB	FRONT BLOWER MOTOR CONTROL
8	C57 22DB/LB	REAR BOOSTER FAN CONTROL
9	C31 22LB/YL	REAR FAN SENSE
10	C11 22LB/OR	REAR FAN SENSE SUPPLY
11	Z24 18BK/OR	GROUND
12	-	-
13	-	-



AUTO TEMP
CONTROL C2

AUTO TEMP CONTROL C2 - NATURAL 13 WAY

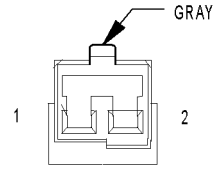
CAV	CIRCUIT	FUNCTION
1	C161 20LB/WT	DRIVER BLEND DOOR DRIVER (B)
2	C61 22DB/LG	DRIVER BLEND DOOR DRIVER (A)
3	C133 22DB/WT	PASSENGER BLEND DOOR DRIVER (B)
4	C33 22LB/BR	PASSENGER BLEND DOOR DRIVER (A)
5	C132 20DB/YL	RECIRCULATION DOOR DRIVER (B)
6	C32 20TN/DB	RECIRCULATION DOOR DRIVER (A)
7	C135 20DB/GY	FRONT MODE DOOR DRIVER (B)
8	C35 22LB/OR	FRONT MODE DOOR DRIVER (A)
9	C153 22DB/BR	REAR MODE DOOR DRIVER (A)
10	C53 22LB	REAR MODE DOOR DRIVER (B)
11	G21 22VT/WT	REAR FAN ON INDICATOR DRIVER
12	C931 22DB/TN	REAR FAN SENSE RETURN
13	-	-



AUTOMATIC
DAY/NIGHT
MIRROR

AUTOMATIC DAY/NIGHT MIRROR - BLACK 7 WAY

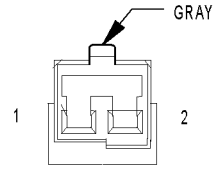
CAV	CIRCUIT	FUNCTION
1	F316 20PK/OR (EARLY BUILD)	FUSED ACCESSORY RELAY OUTPUT
1	F316 20BK/PK (LATE BUILD)	FUSED ACCESSORY RELAY OUTPUT
2	Z113 18BK/DB	GROUND
3	L11 20WT/OR (EARLY BUILD)	BACK-UP LAMP SIGNAL
3	L11 20BK/WT (LATE BUILD)	BACK-UP LAMP SIGNAL
4	P112 20TN/OR (EARLY BUILD)	AUTO DAY/NIGHT MIRROR (+)
4	P112 20BK/OR (LATE BUILD)	AUTO DAY/NIGHT MIRROR (+)
5	P114 20TN/WT (EARLY BUILD)	AUTO DAY/NIGHT MIRROR (-)
5	P114 20BK/LB (LATE BUILD)	AUTO DAY/NIGHT MIRROR (-)
6	-	-
7	L24 20WT/DB (EARLY BUILD)	AUTOMATIC HEADLAMP SIGNAL
7	L24 20BK/GY (LATE BUILD)	AUTOMATIC HEADLAMP SIGNAL



BLEND DOOR
ACTUATOR-DRIVER

BLEND DOOR ACTUATOR-DRIVER - GRAY 2 WAY

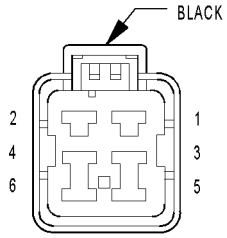
CAV	CIRCUIT	FUNCTION
1	C61 20DB/LG	DRIVER BLEND DOOR DRIVER (A)
2	C161 20LB/WT	DRIVER BLEND DOOR DRIVER (B)



BLEND DOOR
ACTUATOR-PASSENGER

BLEND DOOR ACTUATOR-PASSENGER - GRAY 2 WAY

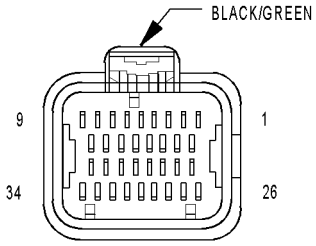
CAV	CIRCUIT	FUNCTION
1	C133 20DB/WT	PASSENGER BLEND DOOR DRIVER (B)
2	C33 20LB/BR	PASSENGER BLEND DOOR DRIVER (A)



BODY
CONTROL
MODULE C1

BODY CONTROL MODULE C1 - BLACK 6 WAY

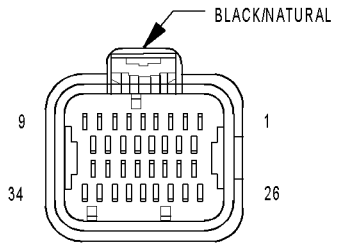
CAV	CIRCUIT	FUNCTION
1	A701 14BR/RD (EARLY BUILD)	FUSED B(+)
1	A701 18BR/RD (LATE BUILD)	FUSED B(+)
2	A101 12VT/RD	FUSED B(+)
3	Z100 16BK/VT	GROUND
4	-	-
5	A101 12VT/RD	FUSED B(+)
6	-	-



BODY
CONTROL
MODULE C2

BODY CONTROL MODULE C2 - BLACK/GREEN 34 WAY

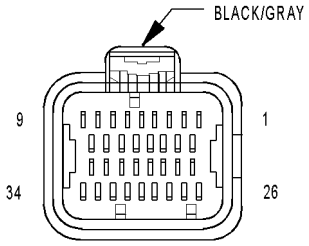
CAV	CIRCUIT	FUNCTION
1	L61 18LG/WT	LEFT FRONT TURN SIGNAL LAMP DRIVER
2	L63 18DG/WT	LEFT REAR TURN SIGNAL LAMP DRIVER
3	L60 18WT/TN	RIGHT FRONT TURN SIGNAL LAMP DRIVER
4	L62 18WT/DB	RIGHT REAR TURN SIGNAL LAMP DRIVER
5	F20 20PK/GY	IGNITION SWITCH OUTPUT (RUN-START)
6	-	-
7	-	-
8	G77 20VT/GY	LEFT REAR DOOR AJAR SWITCH SENSE
9	-	-
10	W13 18BR/WT	REAR WIPER MOTOR CONTROL
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	A114 20GY/RD	FUSED B(+)
19	Z10 18BK/TN	GROUND
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	M22 18YL/OR	COURTESY LAMPS DRIVER
27	-	-
28	-	-
29	-	-
30	P30 20TN/DG	LIFTGATE HANDLE SWITCH SENSE
31	-	-
32	L1 18WT/LG	BACK-UP LAMP DRIVER
33	-	-
34	-	-



BODY
CONTROL
MODULE C3

BODY CONTROL MODULE C3 - BLACK/NATURAL 34 WAY

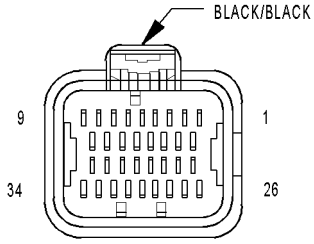
CAV	CIRCUIT	FUNCTION
1	N5 20DB/WT	FUEL LEVEL SENSOR SIGNAL NO. 2
2	D123 20WT/BR	FLASH PROGRAM ENABLE
3	G153 20VT/GY (POWER LIFTGATE)	LIFTGATE MODULE WAKE UP SIGNAL
4	-	-
5	G76 20VT/YL	RIGHT REAR DOOR AJAR SWITCH SENSE
6	-	-
7	G25 20VT/TN	LIFTGATE SWITCH MUX
8	M24 18YL/WT	FRONT READING/COURTESY LAMPS DRIVER
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	N4 20DB/YL	FUEL LEVEL SENSOR SIGNAL NO. 1
24	D25 20WT/VT	PCI BUS
25	M11 18YL/VT	LIFTGATE COURTESY LAMP DRIVER
26	-	-
27	W17 20BR/LG	REAR WIPER PARK SWITCH SENSE
28	P31 18TN/YL (BASE)	LIFTGATE RELEASE DRIVER
29	G78 20VT/OR	LIFTGATE AJAR SWITCH SENSE
30	G10 20VT/LG	DRIVER SEAT BELT SWITCH SENSE
31	-	-
32	-	-
33	-	-
34	M27 18YL/LB	RAIL LAMPS DRIVER



BODY
CONTROL
MODULE C4

BODY CONTROL MODULE C4 - BLACK/GRAY 34 WAY

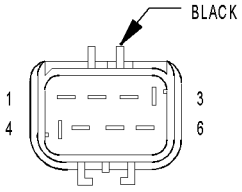
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	-	-
5	G150 22VT/BR	INSTRUMENT CLUSTER WAKE UP SIGNAL
6	G69 22VT/WT	VTSS INDICATOR DRIVER
7	-	-
8	-	-
9	L161 20WT/LG	LEFT TURN SIGNAL
10	-	-
11	-	-
12	-	-
13	X920 22GY/OR	RADIO CONTROL MUX RETURN
14	G900 22OR/VT	IGNITION SWITCH SENSE RETURN
15	-	-
16	-	-
17	L160 22WT/TN	RIGHT TURN SIGNAL
18	-	-
19	-	-
20	-	-
21	-	-
22	G902 20VT/OR	MULTI-FUNCTION SWITCH MUX RETURN
23	-	-
24	-	-
25	-	-
26	M28 18YL/TN	GLOVE BOX LAMP DRIVER
27	-	-
28	-	-
29	-	-
30	-	-
31	W35 22BR/LG	FRONT WIPER HIGH/LOW SWITCH SENSE
32	B27 20DG/WT	TRACTION CONTROL SWITCH SENSE
33	L306 20LB/WT	RIGHT TURN SWITCH SENSE
34	-	-



BODY CONTROL MODULE C5

BODY CONTROL MODULE C5 - BLACK/BLACK 34 WAY

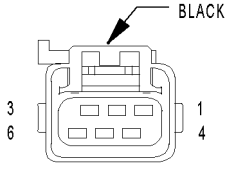
CAV	CIRCUIT	FUNCTION
1	L91 20WT/DB	HAZARD SWITCH SENSE
2	W33 22BR/DG	FRONT WASHER SIGNAL
3	W26 20BR/DB	REAR WIPER SWITCH MUX
4	L305 22WT/LB	LEFT TURN SWITCH SENSE
5	-	-
6	-	-
7	L87 20WT/OR	FRONT FOG SWITCH SENSE
8	L37 20WT/BR	HIGH BEAM SWITCH SENSE
9	L38 20DB/WT	OPTICAL HORN SIGNAL
10	G20 22VT/BR	IGNITION SWITCH SENSE
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	L900 22WT/YL	HEADLAMP SWITCH MUX RETURN
18	W52 22BR/YL	FRONT WIPER SWITCH MUX
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	E2 22OR/BR	PANEL LAMPS DIMMER SIGNAL
28	-	-
29	-	-
30	-	-
31	L307 22BR/WT	HEADLAMP SWITCH MUX SENSE
32	W27 22DB/BR	REAR WIPER SWITCH DELAY
33	X20 22GY/WT	RADIO CONTROL MUX
34	-	-



C100

C100 - BLACK (BODY SIDE)

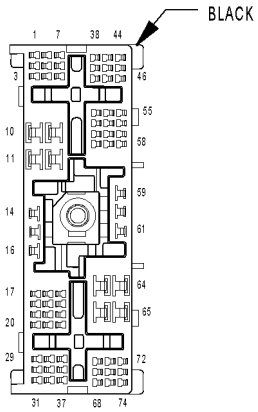
CAV	CIRCUIT
1	R80 20LB/TN
2	R82 20WT/LB
3	L60 18WT/TN
4	R81 20LB/WT
5	R79 20LB/VT
6	L61 18LG/WT



C100

C100 - BLACK (FRONT END LIGHTING SIDE)

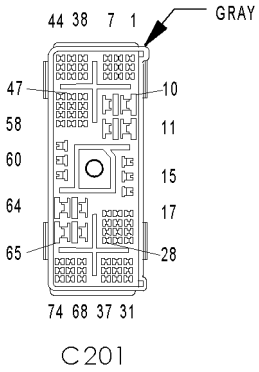
CAV	CIRCUIT
1	R80 20LB/TN
2	R82 20WT/LB
3	L60 18WT/TN
4	R81 20LB/WT
5	R79 20LB/VT
6	L61 18LG/WT



C201

C201 - BLACK (BODY SIDE)

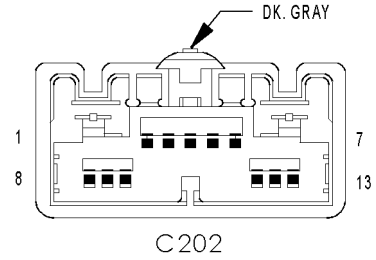
CAV	CIRCUIT
1	B25 20DG/WT
2	A106 20LB/RD
3	A108 18LG/RD
4	K900 20DB/DG
5	F316 20PK/OR
6	-
7	T751 20YL
8	-
9	-
10	-
11	C7 12DB
12	-
13	-
14	A105 18DB/RD
15	A118 20RD/OR
16	F306 16DB/PK
17	V37 20VT
18	X3 20DG/VT
19	F20 20PK/GY
20	R79 20LB/VT
21	R81 20LB/WT
22	R80 20LB/TN
23	R82 20WT/LB
24	R21 20LB/DG
25	R23 20LG/TN
26	-
27	D25 20WT/VT
28	-
29	-
30	F100 20PK/VT
31	F201 20PK/LB
32	F1 20PK/WT
33	T44 20YL/DG
34	T5 20DG/YL
35	D15 20BR/WT
36	-
37	-
38	F2 18PK/YL
39	-
40	E12 18OR/GY
41	C57 20DB/LB
42	C53 20LB
43	C153 20DB/BR
44	-
45	F504 20GY/PK
46	G21 22VT/WT
47	C31 20LB/YL
48	C11 22LB/OR
49	C931 22DB/TN
50	D20 20WT/LG
51	D21 20WT/GY
52	D24 20WT/YL
53	-
54	Z111 18BK/WT
55	D123 20WT/BR
56	-
57	-
58	-
59	-
60	-
61	-
62	-
63	-
64	-
65	-
66	G400 20VT/LB (NAVIGATION)
67	-
68	G410 20VT/LG (NAVIGATION)
69	-
70	G420 20VT/BR (NAVIGATION)
71	-
72	G430 20VT/GY (NAVIGATION)
73	-
74	G591 20 (NAVIGATION EARLY BUILD)
74	G591 22 (NAVIGATION LATE BUILD)



C201

C201 - GRAY (INSTRUMENT PANEL SIDE)

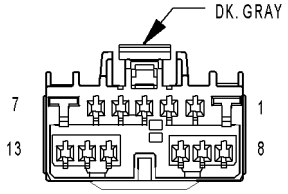
CAV	CIRCUIT
1	B25 20DG/WT
2	A106 20LB/RD
3	A108 18LG/RD
4	K900 20DB/DG
5	F316 20PK/OR
6	-
7	T751 20YL
8	-
9	-
10	-
11	C7 12DB
12	-
13	-
14	A105 18DB/RD
15	A118 20RD/OR
16	F306 16DB/PK
17	V37 20VT
18	X3 20DG/VT
19	F20 20PK/GY
20	R79 20LB/VT
21	R81 20LB/WT
22	R80 20LB/TN
23	R82 20WT/LB
24	R21 20LB/DG
25	R23 20LG/TN
26	-
27	D25 20WT/VT
28	-
29	-
30	F100 20PK/VT
31	F201 20PK/LB
32	F1 20PK/WT
33	T44 20YL/DG
34	T5 20DG/YL
35	D15 20BR/WT
36	-
37	-
38	F2 18PK/YL
39	-
40	E12 18OR/GY
41	C57 22DB/LB
42	C53 22LB
43	C153 22DB/BR
44	-
45	F504 20GY/PK
46	G21 22VT/WT
47	C31 22LB/YL
48	C11 22LB/OR
49	C931 22DB/TN
50	D20 20WT/LG
51	D21 20WT/GY
52	D24 20WT/YL
53	-
54	Z111 18BK/WT
55	D123 20WT/BR
56	-
57	-
58	-
59	-
60	-
61	-
62	-
63	-
64	-
65	-
66	G400 20VT/LB (NAVIGATION)
67	-
68	G410 20VT/LG (NAVIGATION)
69	-
70	G420 20VT/BR (NAVIGATION)
71	-
72	G430 20VT/GY (NAVIGATION)
73	-
74	G591 22 (NAVIGATION)



C202

C202 - DK. GRAY (HVAC SIDE)

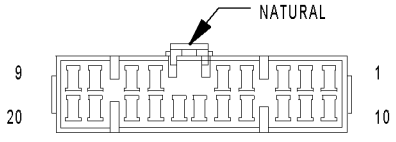
CAV	CIRCUIT
1	Z134 12BK/OR
2	C56 20DB/LB
3	C32 20DB/TN
4	C33 20LB/BR
5	C61 20DB/LG
6	C35 20LB/OR
7	C7 12DB
8	C132 20DB/YL
9	C133 20DB/WT
10	C161 20LB/WT
11	C135 20DB/GY
12	C21 20DB/LG
13	C121 20DB/DG



C202

C202 - DK. GRAY (INSTRUMENT PANEL SIDE)

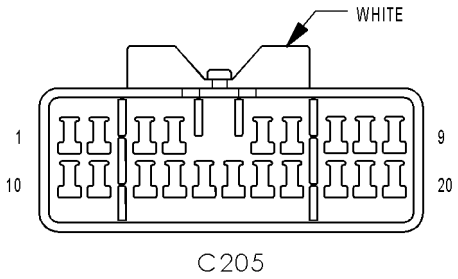
CAV	CIRCUIT
1	Z134 12BK/LG
2	C56 20LB/DB
3	C32 20TN/DB
4	C33 22LB/BR
5	C61 22DB/LG
6	C35 22LB/OR
7	C7 12DB
8	C132 20DB/YL
9	C133 22DB/WT
10	C161 20LB/WT
11	C135 20DB/GY
12	C21 20LG/DB
13	C121 20DB/DG



C205

C205 - NATURAL (INSTRUMENT PANEL SIDE)

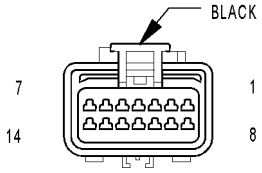
CAV	CIRCUIT
1	X53 20DG
2	X55 20DG/BR
3	X54 20GY
4	X56 20GY/BR
5	X200 18GY/DB
6	X290 18GY/OR
7	-
8	-
9	-
10	-
11	R22 20LG/DG
12	R24 20YL/LB
13	-
14	-
15	-
16	-
17	-
18	-
19	-
20	-



C205

C205 - WHITE (BODY SIDE)

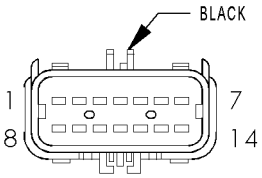
CAV	CIRCUIT
1	X53 20DG
2	X55 20DG/BR
3	X54 20GY
4	X56 20GY/BR
5	X200 18GY/DB
6	X290 18GY/OR
7	-
8	-
9	-
10	-
11	R22 20LG/DG
12	R24 20YL/LB
13	-
14	-
15	-
16	-
17	-
18	-
19	-
20	-



C301

C301 - BLACK (BODY SIDE)

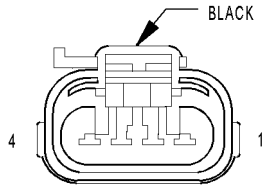
CAV	CIRCUIT
1	G983 20VT/OR
2	X201 18GY/VT
3	X291 18GY/YL
4	Q211 14TN/LB
5	A215 18RD/LG
6	P112 20TN/OR
7	P114 20TN/WT
8	Q1 20OR/WT
9	E25 20OR/GY
10	Q111 14TN/YL
11	-
12	-
13	-
14	-



C301

C301 - BLACK (LEFT FRONT DOOR SIDE)

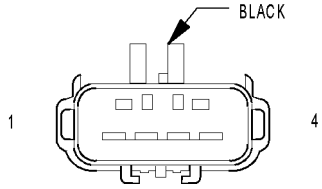
CAV	CIRCUIT
1	G983 20VT/OR
2	X201 18GY/VT
3	X291 18GY/YL
4	Q211 14TN/LB
5	A215 18RD/LG
6	P112 20TN/OR
7	P114 20TN/WT
8	Q1 20OR/WT
9	E25 20OR/GY
10	Q111 14TN/YL
11	-
12	-
13	-
14	-



C302

C302 - BLACK (BODY SIDE)

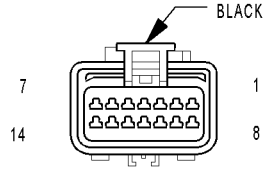
CAV	CIRCUIT
1	Z821 12BK/BR
2	F515 12PK/LB
3	D25 20WT/VT
4	D123 20WT/BR



C302

C302 - BLACK (LEFT FRONT DOOR SIDE)

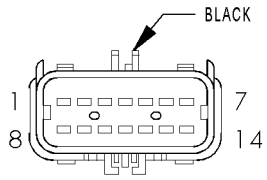
CAV	CIRCUIT
1	Z821 12BK/BR
2	F515 12PK/LB
3	D25 20WT/VT
4	D123 20WT/BR



C303

C303 - BLACK (BODY SIDE)

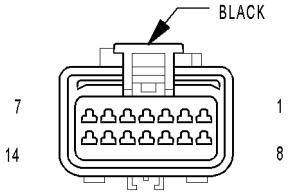
CAV	CIRCUIT
1	Q111 14TN/YL
2	Q211 14TN/LB
3	-
4	P222 18VT/DG
5	P292 18VT/LG
6	G77 20VT/GY
7	-
8	-
9	X205 18GY/LG
10	X295 18GY/DG
11	Q1 20OR/WT
12	E25 20OR/GY
13	G983 20VT/OR
14	-



C303

C303 - BLACK (LEFT REAR DOOR SIDE)

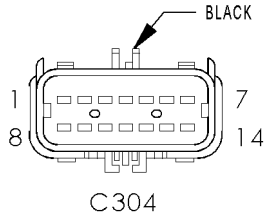
CAV	CIRCUIT
1	Q111 14TN/YL (EARLY BUILD)
1	Q111 14OR/BR (LATE BUILD)
2	Q211 14TN/LB (EARLY BUILD)
2	Q211 14OR/VT (LATE BUILD)
3	-
4	P222 18VT/DG
5	P292 18VT/LG
6	G77 20VT/GY (EARLY BUILD)
6	G77 20VT/YL (LATE BUILD)
7	-
8	-
9	X205 18GY/LG (EARLY BUILD)
9	X205 18DG/LG (LATE BUILD)
10	X295 18GY/DG (EARLY BUILD)
10	X295 18DG/GY (LATE BUILD)
11	Q1 20OR/WT (EARLY BUILD)
11	Q1 20WT/TN (LATE BUILD)
12	E25 20OR/GY
13	G983 20VT/OR (EARLY BUILD)
13	G983 20VT/TN (LATE BUILD)
14	-



C304

C304 - BLACK (BODY SIDE)

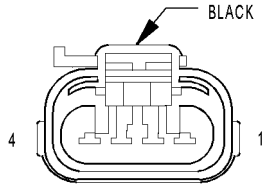
CAV	CIRCUIT
1	G982 20VT/TN
2	X202 18DG/VT
3	X292 18DG/YL
4	Q212 14OR/VT
5	A214 18RD/LB
6	-
7	-
8	Q2 20WT/TN
9	E26 20OR/GY
10	Q112 14OR/BR
11	P222 18VT/DG
12	P292 18VT/LG
13	-
14	-



C304

C304 - BLACK (RIGHT FRONT DOOR SIDE)

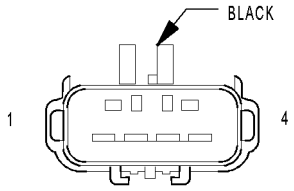
CAV	CIRCUIT
1	G982 20VT/TN
2	X202 18DG/VT
3	X292 18DG/YL
4	Q212 14OR/VT
5	A214 18RD/LB
6	-
7	-
8	Q2 20WT/TN
9	E26 20OR/GY
10	Q112 14OR/BR
11	P222 18VT/DG
12	P292 18VT/LG
13	-
14	-



C305

C305 - BLACK (BODY SIDE)

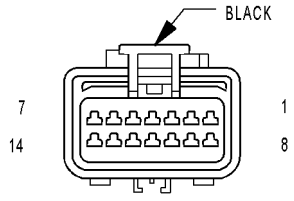
CAV	CIRCUIT
1	F516 12PK
2	Z822 12BK/BR
3	D25 20WT/VT
4	D123 20WT/BR



C305

C305 - BLACK (RIGHT FRONT DOOR SIDE)

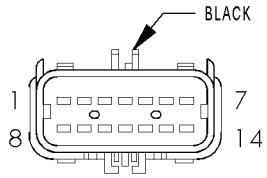
CAV	CIRCUIT
1	F516 12PK
2	Z822 12BK/BR
3	D25 20WT/VT
4	D123 20WT/BR



C306

C306 - BLACK (BODY SIDE)

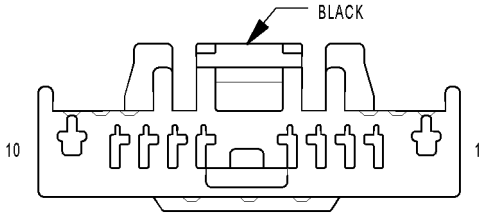
CAV	CIRCUIT
1	Q112 14OR/BR
2	Q212 14OR/VT
3	-
4	P222 18VT/DG
5	P292 18VT/LG
6	G76 20VT/YL
7	-
8	-
9	X206 18DG/LG
10	X296 18DG/GY
11	Q2 20WT/TN
12	E26 20OR/GY
13	G982 20VT/TN
14	-



C306

C306 - BLACK (RIGHT REAR DOOR SIDE)

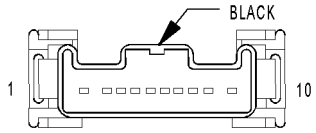
CAV	CIRCUIT
1	Q112 14OR/BR
2	Q212 14OR/VT
3	-
4	P222 18VT/DG
5	P292 18VT/LG
6	G76 20VT/YL
7	-
8	-
9	X206 18DG/LG
10	X296 18DG/GY
11	Q2 20WT/TN
12	E26 20OR/GY
13	G982 20VT/TN
14	-



C307

C307 - BLACK (BODY SIDE)

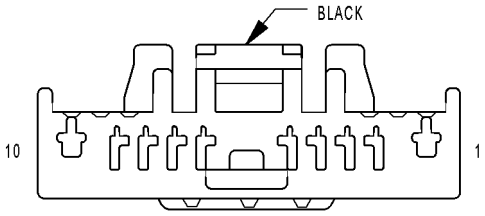
CAV	CIRCUIT
1	C15 12DB/WT
2	W17 20BR/LG
3	L3 18WT/VT
4	L51 18WT/DG
5	P31 18TN/YL
6	M11 18YL/VT
7	G78 20VT/OR
8	W13 18BR/WT
9	P30 20TN/DG
10	Z800 12BK



C307

C307 - BLACK (LIFTGATE SIDE)

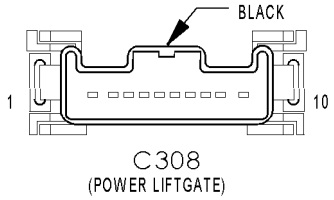
CAV	CIRCUIT
1	C15 12DB/WT
2	W17 20BR/LG
3	L3 18WT/VT
4	L51 18WT/DG
5	P31 18TN/YL (BASE)
6	M11 18YL/VT
7	G78 22VT/OR
8	W13 18BR/WT
9	P30 20TN/DG
10	Z800 12BK



C308
(POWER LIFTGATE)

C308 (POWER LIFTGATE) - BLACK (BODY SIDE)

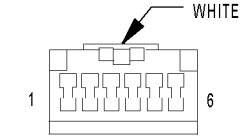
CAV	CIRCUIT
1	Q85 16TN/WT
2	Q75 20OR/LB
3	Q84 16TN/GY
4	Q901 20OR/VT
5	Q83 18OR/GY
6	Q60 22OR/YL
7	Q94 22TN/LG
8	-
9	-
10	G32 20VT/LB



C308
(POWER LIFTGATE)

C308 (POWER LIFTGATE) - BLACK (LIFTGATE SIDE)

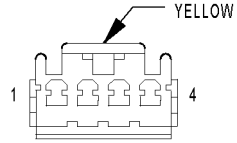
CAV	CIRCUIT
1	Q85 16TN/WT
2	Q75 20OR/LB
3	Q84 16TN/GY
4	Q901 20OR/VT
5	Q83 18OR/GY
6	Q60 22OR/YL
7	Q94 22TN/LG
8	-
9	-
10	G32 22VT/LB



CLOCKSPRING C1

CLOCKSPRING C1 - WHITE 6 WAY

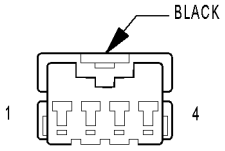
CAV	CIRCUIT	FUNCTION
1	X3 20DG/VT	HORN SWITCH SENSE
2	-	-
3	K900 20DB/DG	SENSOR GROUND
4	V37 20VT	S/C SWITCH SIGNAL
5	X20 22GY/WT	RADIO CONTROL MUX
6	X920 22GY/OR	RADIO CONTROL MUX RETURN



CLOCKSPRING C2

CLOCKSPRING C2 - YELLOW 4 WAY

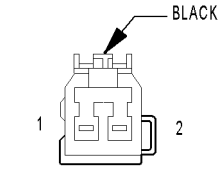
CAV	CIRCUIT	FUNCTION
1	R61 20LG/VT	DRIVER SQUIB 2 LINE 1
2	R63 20LG/WT	DRIVER SQUIB 2 LINE 2
3	R43 20LG/BR	DRIVER SQUIB 1 LINE 1
4	R45 20LG/OR	DRIVER SQUIB 1 LINE 2



CLOCKSPRING
C3

CLOCKSPRING C3 - BLACK 4 WAY

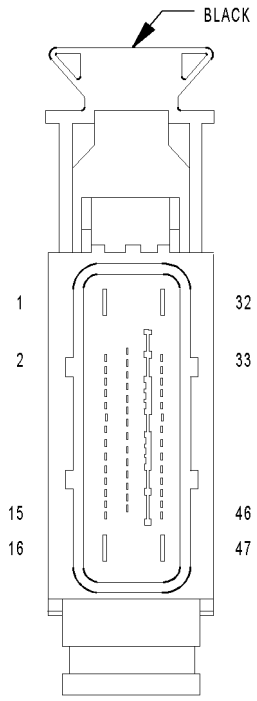
CAV	CIRCUIT	FUNCTION
1	X20 20GY/WT	RADIO CONTROL MUX
1	X20 20GY/WT	RADIO CONTROL MUX
2	X920 20GY/OR	RADIO CONTROL MUX RETURN
2	X920 20GY/OR	RADIO CONTROL MUX RETURN
3	V37 20VT	S/C SWITCH SIGNAL
3	V37 20VT	S/C SWITCH SIGNAL
4	Z23 20BK/VT	SPEED CONTROL SWITCH GROUND
4	Z23 20BK/VT	SPEED CONTROL SWITCH GROUND



CLOCKSPRING
C4

CLOCKSPRING C4 - BLACK 2 WAY

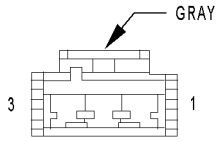
CAV	CIRCUIT	FUNCTION
1	X3 20DG/VT	HORN SWITCH SENSE
2	-	-



CONTROLLER
ANTILOCK
BRAKE

CONTROLLER ANTILOCK BRAKE - BLACK 47 WAY

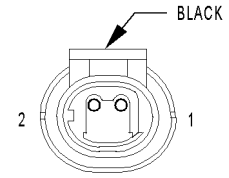
CAV	CIRCUIT	FUNCTION
1	A107 12TN/RD	FUSED B(+)
2	D24 20WT/YL	FLASH ABS
3	-	-
4	F500 18DG/PK	FUSED RUN RELAY OUTPUT
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	D25 20WT/VT	PCI BUS
13	-	-
14	-	-
15	-	-
16	Z127 12BK/DG	GROUND
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	A111 12DG/RD	FUSED B(+)
33	B6 18DG/WT	RIGHT FRONT WHEEL SPEED SENSOR SIGNAL
34	B7 18DG/VT	RIGHT FRONT WHEEL SPEED SENSOR 12 VOLT SUPPLY
35	-	-
36	B4 18DG/GY	LEFT REAR WHEEL SPEED SENSOR 12 VOLT SUPPLY
37	B3 18DG/YL	LEFT REAR WHEEL SPEED SENSOR SIGNAL
38	-	-
39	-	-
40	-	-
41	L51 18WT/DG	BRAKE LAMP SWITCH OUTPUT
42	B1 18DG/DB	RIGHT REAR WHEEL SPEED SENSOR SIGNAL
43	B2 18DG/LB	RIGHT REAR WHEEL SPEED SENSOR 12 VOLT SUPPLY
44	-	-
45	B9 18DG/LG	LEFT FRONT WHEEL SPEED SENSOR 12 VOLT SUPPLY
46	B8 18DG/TN	LEFT FRONT WHEEL SPEED SENSOR SIGNAL
47	Z107 12BK/LB	GROUND



COURTESY
LAMP-DRIVER

COURTESY LAMP-DRIVER - GRAY 3 WAY

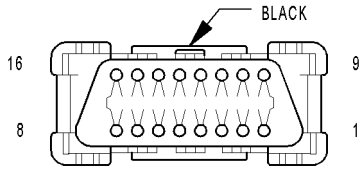
CAV	CIRCUIT	FUNCTION
1	Z321 20BK/BR	GROUND
2	-	-
3	M43 20OR/LB	LEFT DOOR COURTESY LAMP DRIVER



CYLINDER LOCK
SWITCH-DRIVER

CYLINDER LOCK SWITCH-DRIVER - BLACK 2 WAY

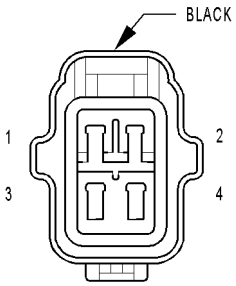
CAV	CIRCUIT	FUNCTION
1	Z75 20BK/VT	GROUND
2	G163 20VT/LB	DRIVER CYLINDER LOCK SWITCH MUX



DATA
LINK
CONNECTOR

DATA LINK CONNECTOR - BLACK 16 WAY

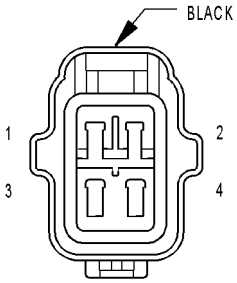
CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20WT/VT	PCI BUS
3	-	-
4	Z11 18BK/LG	GROUND
5	Z111 18BK/WT	GROUND
6	-	-
7	D21 20WT/GY	SCI TRANSMIT (PCM)
8	-	-
9	D123 20WT/BR	FLASH PROGRAM ENABLE
10	D24 20WT/YL	FLASH ABS
11	-	-
12	D20 20WT/LG	SCI RECEIVE (PCM)
13	-	-
14	-	-
15	D15 20BR/WT	SCI TRANSMIT (TCM)
16	A105 20DB/RD	FUSED B(+)



DOOR LOCK
MOTOR/AJAR
SWITCH-DRIVER

DOOR LOCK MOTOR/AJAR SWITCH-DRIVER - BLACK 4 WAY

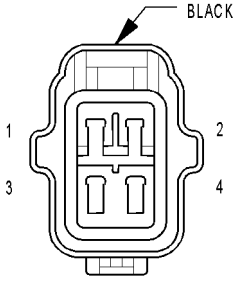
CAV	CIRCUIT	FUNCTION
1	G75 20VT	DRIVER DOOR AJAR SWITCH SENSE
2	Z75 20BK/VT	GROUND
3	P1 20TN/LG	DRIVER DOOR UNLOCK DRIVER
4	P3 20TN/WT	DRIVER DOOR LOCK DRIVER



DOOR LOCK
MOTOR/AJAR
SWITCH-DRIVER REAR

DOOR LOCK MOTOR/AJAR SWITCH-DRIVER REAR - BLACK 4 WAY

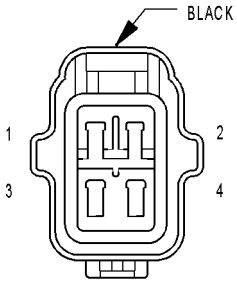
CAV	CIRCUIT	FUNCTION
1	G77 20VT/GY (EARLY BUILD)	LEFT REAR DOOR AJAR SWITCH SENSE
1	G77 20VT/YL (LATE BUILD)	LEFT REAR DOOR AJAR SWITCH SENSE
2	G983 20VT/OR (EARLY BUILD)	GROUND
2	G983 20VT/TN (LATE BUILD)	GROUND
3	P292 18VT/LG	DOOR UNLOCK DRIVER
4	P222 18VT/DG	DOOR LOCK DRIVER



DOOR LOCK
MOTOR/AJAR
SWITCH-PASSENGER

DOOR LOCK MOTOR/AJAR SWITCH-PASSENGER - BLACK 4 WAY

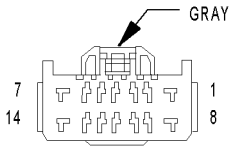
CAV	CIRCUIT	FUNCTION
1	G74 20VT/WT	PASSENGER DOOR AJAR SWITCH SENSE
2	Z74 20BK/WT	GROUND
3	P292 20VT/LG	DOOR UNLOCK DRIVER
4	P222 20VT/DG	DOOR LOCK DRIVER



DOOR LOCK
MOTOR/AJAR
SWITCH-PASSENGER REAR

DOOR LOCK MOTOR/AJAR SWITCH-PASSENGER REAR - BLACK 4 WAY

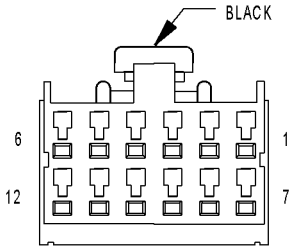
CAV	CIRCUIT	FUNCTION
1	G76 20VT/YL	RIGHT REAR DOOR AJAR SWITCH SENSE
2	G982 20VT/TN	GROUND
3	P292 18VT/LG	DOOR UNLOCK DRIVER
4	P222 18VT/DG	DOOR LOCK DRIVER



DOOR
MODULE-DRIVER
C1

DOOR MODULE-DRIVER C1 - GRAY 14 WAY

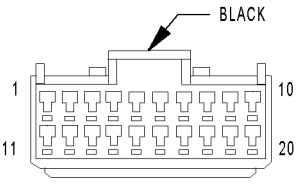
CAV	CIRCUIT	FUNCTION
1	F515 12PK/LB	FUSED DOOR NODE RELAY OUTPUT
2	A215 18RD/LG	FUSED B(+)
3	P3 20TN/WT	DRIVER DOOR LOCK DRIVER
4	P1 20TN/LG	DRIVER DOOR UNLOCK DRIVER
5	Q211 14TN/LB	DRIVER REAR WINDOW DRIVER (DOWN)
6	Q111 14TN/YL	DRIVER REAR WINDOW DRIVER (UP)
7	-	-
8	Z821 12BK/BR	GROUND
9	G983 20VT/OR	GROUND
10	D123 20WT/BR	FLASH PROGRAM ENABLE
11	-	-
12	Q21 14OR/WT	DRIVER WINDOW DRIVER (DOWN)
13	Q11 14OR/LG	DRIVER WINDOW DRIVER (UP)
14	-	-



DOOR
MODULE-DRIVER
C2

DOOR MODULE-DRIVER C2 - BLACK 12 WAY

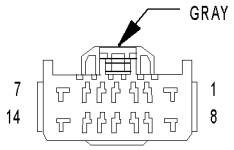
CAV	CIRCUIT	FUNCTION
1	P101 20LG/WT	MEMORY SET SWITCH INDICATOR DRIVER
2	P83 20TN/WT	DRIVER HEATED SEAT HIGH INDICATOR DRIVER
3	P81 20TN/LB	DRIVER HEATED SEAT LOW INDICATOR DRIVER
4	P989 20TN/LG	SEAT SWITCH MUX RETURN
5	Z301 20TN/BK	ILLUMINATION GROUND
6	P301 20LG/OR	DRIVER DOOR SWITCH ILLUMINATION DRIVER
7	P311 20LG/VT	DRIVER SEAT RECLINER/LUMBAR OUT SWITCH MUX
8	P309 20LG/VT	DRIVER SEAT HORIZONTAL/LUMBAR IN SWITCH MUX
9	P200 20LG/YL	DRIVER SEAT FRONT RISER/PEDAL FORWARD SWITCH MUX
10	P7 20LG/DG	DRIVER HEATED SEAT SWITCH MUX
11	G200 20VT/BR	MEMORY SELECT SWITCH MUX
12	P202 20LG/DB	DRIVER SEAT REAR RISER/PEDAL BACK SWITCH MUX



DOOR
MODULE-DRIVER
C3

DOOR MODULE-DRIVER C3 - BLACK 20 WAY

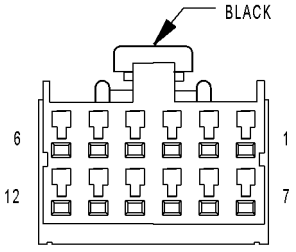
CAV	CIRCUIT	FUNCTION
1	Z75 20BK/VT	GROUND
2	P65 22VT/TN	DRIVER MIRROR HORIZONTAL POSITION SIGNAL
3	-	-
4	-	-
5	Q1 20OR/WT	DRIVER REAR WINDOW SWITCH MUX
6	P69 22WT/TN	DRIVER MIRROR SENSOR GROUND
7	M43 20OR/LB	LEFT DOOR COURTESY LAMP DRIVER
8	E25 20OR/GY	PANEL LAMPS DRIVER
9	P73 22TN/VT	DRIVER MIRROR COMMON DRIVER
10	P75 22TN/LG	DRIVER MIRROR HORIZONTAL DRIVER
11	G75 20VT	DRIVER DOOR AJAR SWITCH SENSE
12	P67 22OR/TN	DRIVER MIRROR VERTICAL POSITION SIGNAL
13	G163 20VT/LB	DRIVER CYLINDER LOCK SWITCH MUX
14	C17 20LB/WT	DRIVER HEATED MIRROR FEED
15	D25 20WT/VT	PCI BUS
16	-	-
17	Z321 20BK/BR	GROUND
18	P53 20LG/OR	DRIVER HEATED MIRROR DRIVER
19	-	-
20	P71 22TN/DG	DRIVER MIRROR VERTICAL DRIVER



DOOR
MODULE-PASSENGER
C1

DOOR MODULE-PASSENGER C1 - GRAY 14 WAY

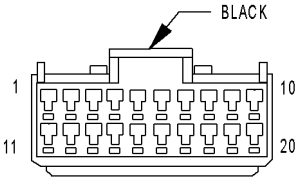
CAV	CIRCUIT	FUNCTION
1	-	-
2	A214 18RD/LB	FUSED B(+)
3	P222 18VT/DG	DOOR LOCK DRIVER
4	P292 18VT/LG	DOOR UNLOCK DRIVER
5	Q212 14OR/VT	PASSENGER REAR WINDOW DRIVER (DOWN)
6	Q112 14OR/BR	PASSENGER REAR WINDOW DRIVER (UP)
7	F516 12PK	FUSED DOOR NODE RELAY OUTPUT
8	-	-
9	G982 20VT/TN	GROUND
10	D123 20WT/BR	FLASH PROGRAM ENABLE
11	-	-
12	Q22 14VT/OR	PASSENGER WINDOW DRIVER (DOWN)
13	Q12 14BR/OR	PASSENGER WINDOW DRIVER (UP)
14	Z822 12BK/BR	GROUND



DOOR
MODULE-PASSENGER
C2

DOOR MODULE-PASSENGER C2 - BLACK 12 WAY

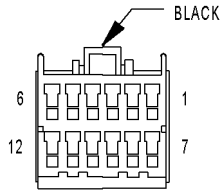
CAV	CIRCUIT	FUNCTION
1	-	-
2	P84 20TN/VT	PASSENGER HEATED SEAT HIGH INDICATOR DRIVER
3	P82 20TN/DG	PASSENGER HEATED SEAT LOW INDICATOR DRIVER
4	P988 20LG/TN	SEAT SWITCH MUX RETURN
5	Z302 20LG/BK	ILLUMINATION GROUND
6	P302 20TN/OR	PASSENGER DOOR SWITCH ILLUMINATION DRIVER
7	P308 20LG/VT	PASSENGER SEAT RECLINER SWITCH MUX
8	P310 20LG/OR	PASSENGER SEAT HORIZONTAL SWITCH MUX
9	-	-
10	P8 20LG/WT	PASSENGER HEATED SEAT SWITCH MUX
11	-	-
12	-	-



DOOR
MODULE-PASSENGER
C3

DOOR MODULE-PASSENGER C3 - BLACK 20 WAY

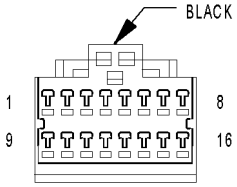
CAV	CIRCUIT	FUNCTION
1	Z74 20BK/WT	GROUND
2	P68 22TN/YL	PASSENGER MIRROR HORIZONTAL POSITION SIGNAL
3	-	-
4	-	-
5	Q2 20WT/TN	PASSENGER REAR WINDOW SWITCH MUX
6	P66 22TN/LG	PASSENGER MIRROR SENSOR GROUND
7	M44 20OR/DB	RIGHT DOOR COURTESY LAMP DRIVER
8	E26 20OR/GY	PANEL LAMPS DRIVER
9	P70 22TN/LB	PASSENGER MIRROR COMMON DRIVER
10	P74 22TN/OR	PASSENGER MIRROR HORIZONTAL DRIVER
11	G74 20VT/WT	PASSENGER DOOR AJAR SWITCH SENSE
12	P64 22TN	PASSENGER MIRROR VERTICAL POSITION SIGNAL
13	-	-
14	C16 20DB/GY	PASSENGER HEATED MIRROR FEED
15	D25 20WT/VT	PCI BUS
16	-	-
17	Z322 20BK/BR	GROUND
18	P54 20OR/LG	PASSENGER HEATED MIRROR DRIVER
19	-	-
20	P72 20TN/GY	PASSENGER MIRROR VERTICAL DRIVER



DVD
SCREEN

DVD SCREEN - BLACK 12 WAY

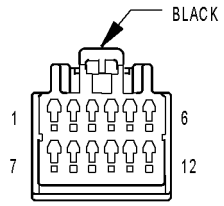
CAV	CIRCUIT	FUNCTION
1	X114 20GY/TN	FUSED B(+)
2	X211 20YL/GY	IGNITION RUN/ACC SIGNAL
3	-	-
4	-	-
5	X915 22GY/LB	VIDEO CONTROL
6	X515 22GY/OR	VIDEO SIGNAL
7	X530 20GY/DB	VIDEO RETURN
8	-	-
9	X555 22VT/OR	VIDEO PLAY SIGNAL
10	-	-
11	-	-
12	X955 22	SHIELD



DVD/CD
CHANGER C1

DVD/CD CHANGER C1 - BLACK 16 WAY

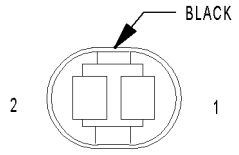
CAV	CIRCUIT	FUNCTION
1	A118 20RD/OR	FUSED B(+)
2	-	-
3	E14 20OR/TN	PANEL LAMPS DRIVER
4	-	-
5	-	-
6	-	-
7	-	-
8	X40 22GY/WT	AUDIO OUT RIGHT
9	Z530 20GY/BK	GROUND
10	-	-
11	X112 20DG/GY	IGNITION RUN/ACC SIGNAL
12	D25 20WT/VT	PCI BUS
13	-	-
14	-	-
15	X140 22GY/OR	COMMON AUDIO
16	X41 22DG/WT	AUDIO OUT LEFT



DVD/CD
CHANGER C2

DVD/CD CHANGER C2 - BLACK 12 WAY

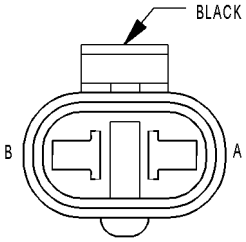
CAV	CIRCUIT	FUNCTION
1	X114 20GY/TN	FUSED B(+)
2	X211 20YL/GY	IGNITION RUN/ACC SIGNAL
3	-	-
4	-	-
5	X915 22GY/LB	VIDEO CONTROL
6	X515 22GY/OR	VIDEO SIGNAL
7	X530 20GY/DB	VIDEO RETURN
8	-	-
9	X555 22VT/OR	VIDEO PLAY SIGNAL
10	-	-
11	-	-
12	X955 22	SHIELD



EVAPORATOR TEMPERATURE SENSOR

EVAPORATOR TEMPERATURE SENSOR - BLACK 2 WAY

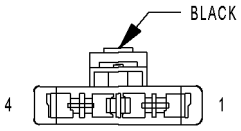
CAV	CIRCUIT	FUNCTION
1	C21 20DB/LG	EVAPORATOR TEMPERATURE SENSOR SIGNAL
2	C121 20DB/DG	SENSOR GROUND



FOG LAMP-LEFT

FOG LAMP-LEFT - BLACK 2 WAY

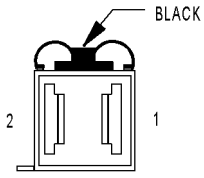
CAV	CIRCUIT	FUNCTION
A	L89 18WT/YL	LEFT FRONT FOG LAMP DRIVER
B	Z349 18BK/YL	GROUND



FRONT BLOWER POWER MODULE C1

FRONT BLOWER POWER MODULE C1 - BLACK 4 WAY

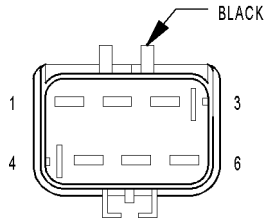
CAV	CIRCUIT	FUNCTION
1	-	-
2	Z134 12BK/OR	GROUND
3	C56 20DB/LB	FRONT BLOWER MOTOR CONTROL
4	C7 12DB	FUSED FRONT BLOWER MOTOR RELAY OUTPUT



FRONT BLOWER POWER MODULE C2

FRONT BLOWER POWER MODULE C2 - BLACK 2 WAY

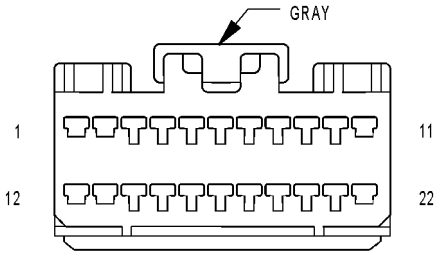
CAV	CIRCUIT	FUNCTION
1	C112 12DG	BLOWER MOTOR SUPPLY
2	C113 12BK	BLOWER MOTOR GROUND



FUEL
PUMP
MODULE

FUEL PUMP MODULE - BLACK 6 WAY

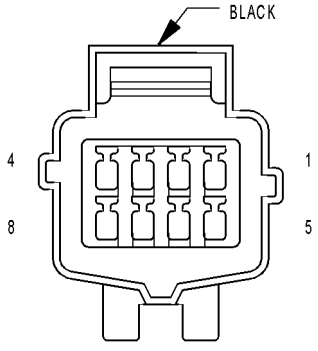
CAV	CIRCUIT	FUNCTION
1	N1 16DB/OR	FUEL PUMP RELAY OUTPUT
2	N4 20DB/YL	FUEL LEVEL SENSOR SIGNAL NO. 1
3	N5 20DB/WT	FUEL LEVEL SENSOR SIGNAL NO. 2
4	-	-
5	Z210 20BK/LB	GROUND
6	Z201 16BK	GROUND



HANDS FREE
MODULE

HANDS FREE MODULE - GRAY 22 WAY

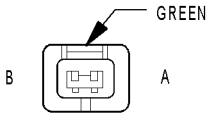
CAV	CIRCUIT	FUNCTION
1	A114 20GY/RD	FUSED B(+)
2	F316 20PK/OR	FUSED ACCESSORY RELAY OUTPUT
3	-	-
4	-	-
5	X722 20DG/WT	MICROPHONE 2 IN(+)
6	-	-
7	-	-
8	X704 20DG/YL	RIGHT AUDIO OUTPUT
9	X703 20DG/OR	LEFT AUDIO OUTPUT
10	-	-
11	-	-
12	-	-
13	-	-
14	D25 20WT/VT	PCI BUS
15	X730 20GY/YL	VOICE RECOGNITION/PHONE SWITCH SIGNAL
16	X712 20DG/LB	MICROPHONE 1 IN(+)
17	X792 20LB/DG	MICROPHONE IN(-)
18	-	-
19	-	-
20	-	-
21	X835 20OR/GY	SENSOR GROUND
22	Z409 18BK/WT	GROUND



HEADLAMP-LEFT

HEADLAMP-LEFT - BLACK 8 WAY

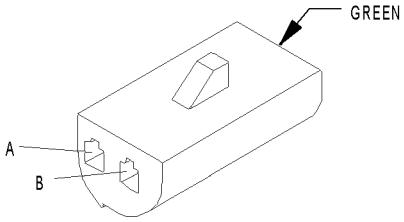
CAV	CIRCUIT	FUNCTION
1	L33 18WT/DG	LEFT HIGH BEAM LAMP DRIVER
2	Z345 18BK/LB	GROUND
3	L43 18WT/DB	LEFT LOW BEAM LAMP DRIVER
4	Z343 18BK/LG	GROUND
5	Z377 20BK/BR	GROUND
6	L77 20WT/BR	LEFT FRONT PARK LAMP DRIVER
7	L61 18LG/WT	LEFT FRONT TURN SIGNAL LAMP DRIVER
8	L777 20WT/VT	LEFT FRONT SIDE MARKER LAMP DRIVER



HEATED SEAT
BACK-DRIVER

HEATED SEAT BACK-DRIVER - GREEN 2 WAY

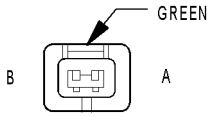
CAV	CIRCUIT	FUNCTION
A	P88 18BK	DRIVER HEATED SEAT DRIVER
B	P94 18BK	DRIVER SEAT HEATER GROUND



HEATED SEAT
BACK-DRIVER
(SEAT BACK SIDE)

HEATED SEAT BACK-DRIVER (SEAT BACK SIDE) - GREEN 2 WAY

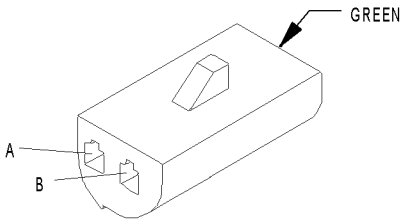
CAV	CIRCUIT	FUNCTION
A	BK	DRIVER HEATED SEAT DRIVER
B	BK	DRIVER SEAT HEATER GROUND



HEATED SEAT
BACK-PASSENGER

HEATED SEAT BACK-PASSENGER - GREEN 2 WAY

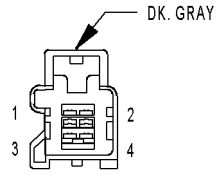
CAV	CIRCUIT	FUNCTION
A	P98 18BK	PASSENGER HEATED SEAT DRIVER
B	P97 18BK	PASSENGER SEAT HEATER GROUND



HEATED SEAT
BACK-PASSENGER
(SEAT BACK SIDE)

HEATED SEAT BACK-PASSENGER (SEAT BACK SIDE) - GREEN 2 WAY

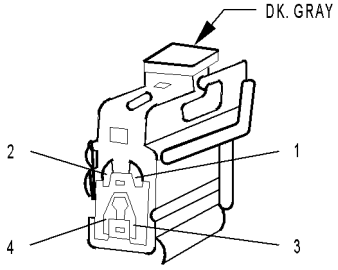
CAV	CIRCUIT	FUNCTION
A	BK	PASSENGER HEATED SEAT DRIVER
B	BK	PASSENGER SEAT HEATER GROUND



HEATED SEAT
CUSHION-DRIVER

HEATED SEAT CUSHION-DRIVER - DK. GRAY 4 WAY

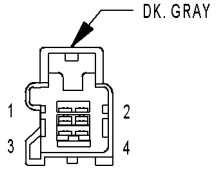
CAV	CIRCUIT	FUNCTION
1	P87 18LG/LB	DRIVER SEAT HEATER B(+) DRIVER
2	P85 20LG/DG	DRIVER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY
3	P89 20LG/OR	DRIVER SEAT TEMPERATURE SENSOR INPUT
4	P94 18LG/TN	DRIVER SEAT HEATER GROUND



HEATED SEAT
CUSHION-DRIVER
(SEAT CUSHION SIDE)

HEATED SEAT CUSHION-DRIVER (SEAT CUSHION SIDE) - DK. GRAY 4 WAY

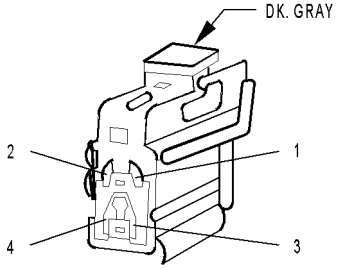
CAV	CIRCUIT	FUNCTION
1	RD	DRIVER SEAT HEATER B(+) DRIVER
2	GY	DRIVER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY
3	GY	DRIVER SEAT TEMPERATURE SENSOR INPUT
4	BK	DRIVER SEAT HEATER GROUND



HEATED SEAT
CUSHION-PASSENGER

HEATED SEAT CUSHION-PASSENGER - DK. GRAY 4 WAY

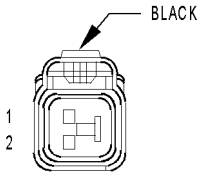
CAV	CIRCUIT	FUNCTION
1	P95 18LG/WT	PASSENGER SEAT HEATER B(+) DRIVER
2	P93 20LG/VT	PASSENGER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY
3	P99 20LG/LB	PASSENGER SEAT TEMPERATURE SENSOR INPUT
4	P97 18LG/YL	PASSENGER SEAT HEATER GROUND



HEATED SEAT
CUSHION-PASSENGER
(SEAT CUSHION SIDE)

HEATED SEAT CUSHION-PASSENGER (SEAT CUSHION SIDE) - DK. GRAY 4 WAY

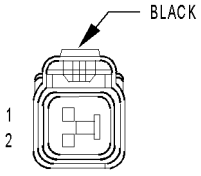
CAV	CIRCUIT	FUNCTION
1	RD	PASSENGER SEAT HEATER B(+) DRIVER
2	GY	PASSENGER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY
3	GY	PASSENGER SEAT TEMPERATURE SENSOR INPUT
4	BK	PASSENGER SEAT HEATER GROUND



HORN-HIGH NOTE

HORN-HIGH NOTE - BLACK 2 WAY

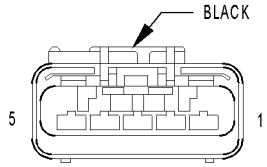
CAV	CIRCUIT	FUNCTION
1	Z299 16BK/OR	GROUND
2	X2 16DG/OR	HORN RELAY OUTPUT



HORN-LOW NOTE

HORN-LOW NOTE - BLACK 2 WAY

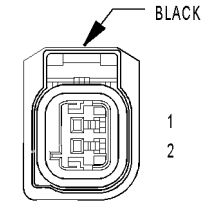
CAV	CIRCUIT	FUNCTION
1	Z298 16BK/DB	GROUND
2	X2 16DG/OR	HORN RELAY OUTPUT



IGNITION SWITCH

IGNITION SWITCH - BLACK 5 WAY

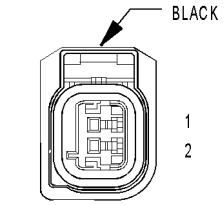
CAV	CIRCUIT	FUNCTION
1	G900 22OR/VT	IGNITION SWITCH SENSE RETURN
2	G20 22VT/BR	IGNITION SWITCH SENSE
3	F20 20PK/GY	IGNITION SWITCH OUTPUT (RUN-START)
4	T751 20YL	IGNITION SWITCH OUTPUT (START)
5	A106 20LB/RD	FUSED B(+)



IMPACT SENSOR-LEFT FRONT

IMPACT SENSOR-LEFT FRONT - BLACK 2 WAY

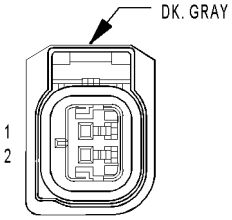
CAV	CIRCUIT	FUNCTION
1	R81 20LB/WT	LEFT FRONT IMPACT SENSOR GROUND
2	R79 20LB/VT	LEFT FRONT IMPACT SENSOR SIGNAL



IMPACT SENSOR-LEFT SIDE 1 (EARLY BUILD)

IMPACT SENSOR-LEFT SIDE 1 (EARLY BUILD) - BLACK 2 WAY

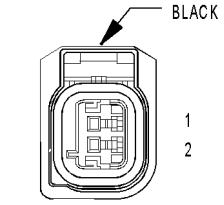
CAV	CIRCUIT	FUNCTION
1	R15 20LG/BR	LEFT SIDE IMPACT SENSOR 1 GROUND
2	R13 20LG/VT	LEFT SIDE IMPACT SENSOR 1 SIGNAL



IMPACT SENSOR-LEFT SIDE 1 (LATE BUILD)

IMPACT SENSOR-LEFT SIDE 1 (LATE BUILD) - DK. GRAY 2 WAY

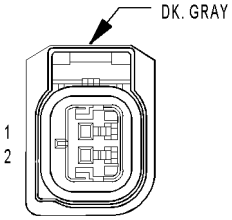
CAV	CIRCUIT	FUNCTION
1	R15 20LG/BR	LEFT SIDE IMPACT SENSOR 1 GROUND
2	R13 20LG/VT	LEFT SIDE IMPACT SENSOR 1 SIGNAL



IMPACT SENSOR-LEFT SIDE 2 (EARLY BUILD)

IMPACT SENSOR-LEFT SIDE 2 (EARLY BUILD) - BLACK 2 WAY

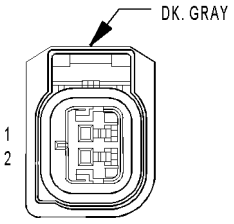
CAV	CIRCUIT	FUNCTION
1	R19 20LG/WT	LEFT SIDE IMPACT SENSOR 2 GROUND
2	R17 20LG	LEFT SIDE IMPACT SENSOR 2 SIGNAL



IMPACT SENSOR-LEFT SIDE 2 (LATE BUILD)

IMPACT SENSOR-LEFT SIDE 2 (LATE BUILD) - DK. GRAY 2 WAY

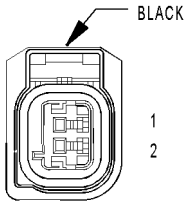
CAV	CIRCUIT	FUNCTION
1	R19 20LG/WT	LEFT SIDE IMPACT SENSOR 2 GROUND
2	R17 20LG	LEFT SIDE IMPACT SENSOR 2 SIGNAL



IMPACT SENSOR-LEFT SIDE 3

IMPACT SENSOR-LEFT SIDE 3 - DK. GRAY 2 WAY

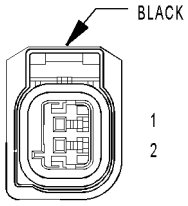
CAV	CIRCUIT	FUNCTION
1	R23 20LG/TN	LEFT SIDE IMPACT SENSOR 3 GROUND
2	R21 20LB/DG	LEFT SIDE IMPACT SENSOR 3 SIGNAL



IMPACT SENSOR-RIGHT FRONT

IMPACT SENSOR-RIGHT FRONT - BLACK 2 WAY

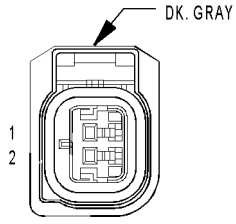
CAV	CIRCUIT	FUNCTION
1	R82 20WT/LB	RIGHT FRONT IMPACT SENSOR GROUND
2	R80 20LB/TN	RIGHT FRONT IMPACT SENSOR SIGNAL



IMPACT SENSOR-RIGHT SIDE 1 (EARLY BUILD)

IMPACT SENSOR-RIGHT SIDE 1 (EARLY BUILD) - BLACK 2 WAY

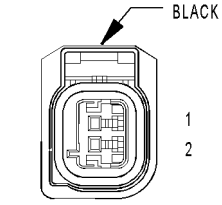
CAV	CIRCUIT	FUNCTION
1	R16 20BR/LG	RIGHT SIDE IMPACT SENSOR 1 GROUND
2	R14 20TN/LG	RIGHT SIDE IMPACT SENSOR 1 SIGNAL



IMPACT SENSOR-RIGHT SIDE 1 (LATE BUILD)

IMPACT SENSOR-RIGHT SIDE 1 (LATE BUILD) - DK. GRAY 2 WAY

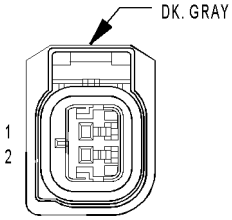
CAV	CIRCUIT	FUNCTION
1	R16 20BR/LG	RIGHT SIDE IMPACT SENSOR 1 GROUND
2	R14 20TN/LG	RIGHT SIDE IMPACT SENSOR 1 SIGNAL



IMPACT SENSOR-RIGHT SIDE 2 (EARLY BUILD)

IMPACT SENSOR-RIGHT SIDE 2 (EARLY BUILD) - BLACK 2 WAY

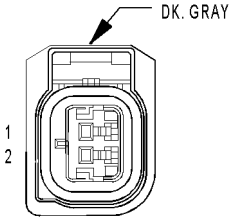
CAV	CIRCUIT	FUNCTION
1	R20 20WT/LG	RIGHT SIDE IMPACT SENSOR 2 GROUND
2	R18 20LB	RIGHT SIDE IMPACT SENSOR 2 SIGNAL



IMPACT SENSOR-RIGHT SIDE 2 (LATE BUILD)

IMPACT SENSOR-RIGHT SIDE 2 (LATE BUILD) - DK. GRAY 2 WAY

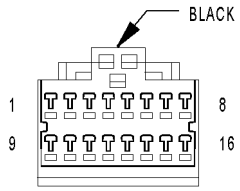
CAV	CIRCUIT	FUNCTION
1	R20 20WT/LG	RIGHT SIDE IMPACT SENSOR 2 GROUND
2	R18 20LB	RIGHT SIDE IMPACT SENSOR 2 SIGNAL



IMPACT SENSOR-RIGHT SIDE 3

IMPACT SENSOR-RIGHT SIDE 3 - DK. GRAY 2 WAY

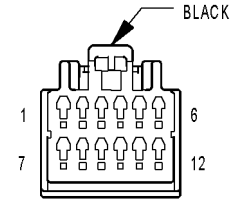
CAV	CIRCUIT	FUNCTION
1	R24 20YL/LB	RIGHT SIDE IMPACT SENSOR 3 GROUND
2	R22 20LG/DG	RIGHT SIDE IMPACT SENSOR 3 SIGNAL



INSTRUMENT CLUSTER C1

INSTRUMENT CLUSTER C1 - BLACK 16 WAY

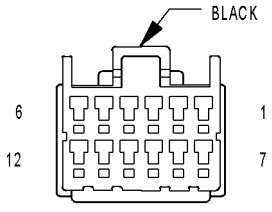
CAV	CIRCUIT	FUNCTION
1	A108 18LG/RD	FUSED B(+)
2	-	-
3	-	-
4	-	-
5	G150 22VT/BR	INSTRUMENT CLUSTER WAKE UP SIGNAL
6	D25 20WT/VT	PCI BUS
7	-	-
8	G106 20VT/OR	EVIC MUX SIGNAL
9	E12 20OR/GY	PANEL LAMPS DRIVER
10	L160 22WT/TN	RIGHT TURN SIGNAL
11	L161 20WT/LG	LEFT TURN SIGNAL
12	B25 20DG/WT	PARK BRAKE SWITCH SENSE
13	D123 20WT/BR	FLASH PROGRAM ENABLE
14	G907 20VT	EVIC/NAV MUX RETURN
15	-	-
16	Z18 18BK/LB	GROUND



INSTRUMENT CLUSTER C2 (NAVIGATION)

INSTRUMENT CLUSTER C2 (NAVIGATION) - BLACK 12 WAY

CAV	CIRCUIT	FUNCTION
1	G107 22VT/YL	NAV MUX SIGNAL
2	-	-
3	G430 20VT/GY	SCREEN SYNCHRONIZE
4	G410 20VT/LG	BLUE SIGNAL
5	G420 20VT/BR	GREEN SIGNAL
6	G400 20VT/LB	RED SIGNAL
7	-	-
8	G591 22	SHIELD
9	-	-
10	-	-
11	-	-
12	-	-

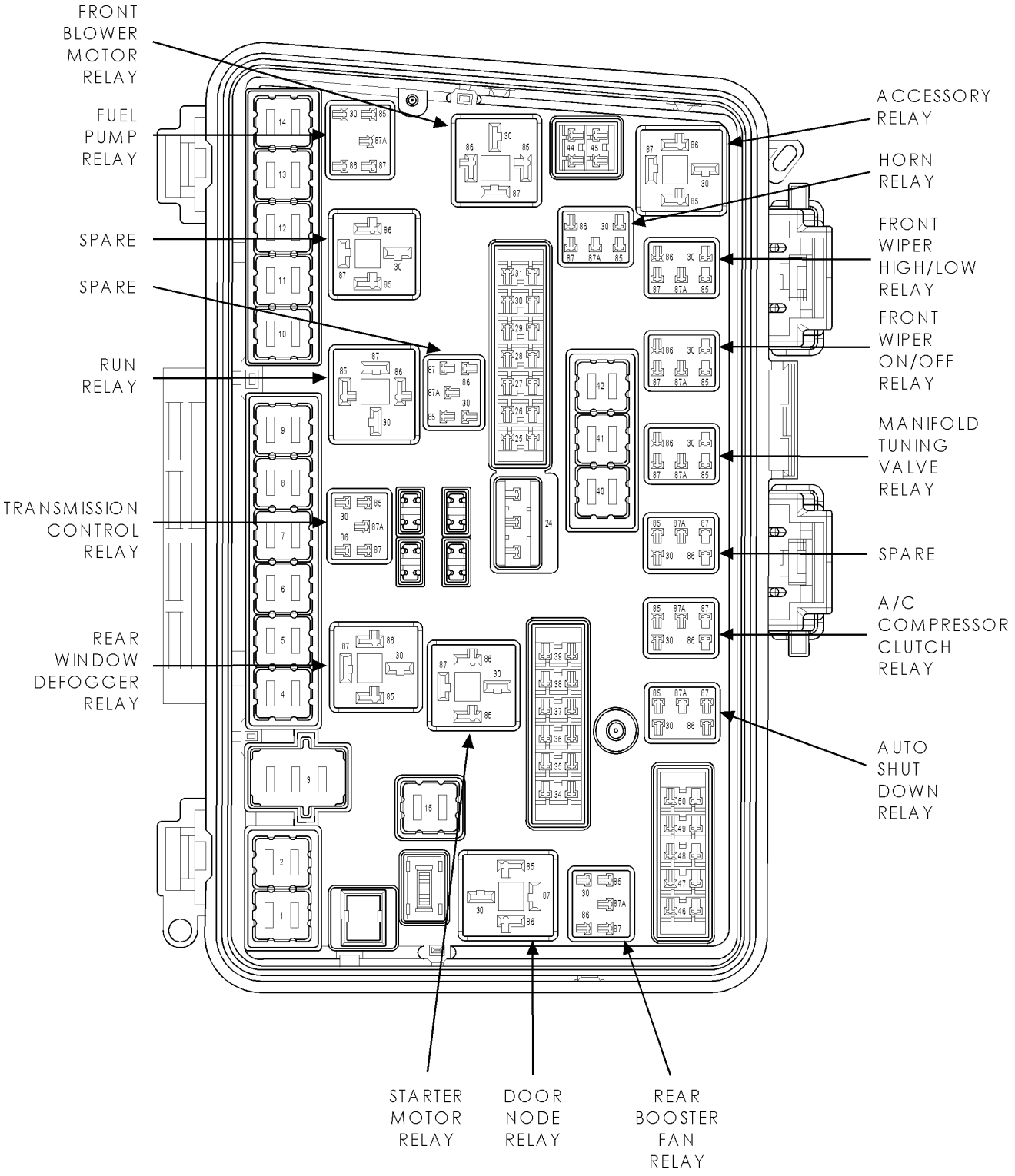


INSTRUMENT PANEL SWITCH POD

INSTRUMENT PANEL SWITCH POD - BLACK 12 WAY

CAV	CIRCUIT	FUNCTION
1	A118 20RD/OR	FUSED B(+)
2	G106 20VT/OR	EVIC MUX SIGNAL
3	G107 22VT/YL (NAVIGATION)	NAV MUX SIGNAL
4	G69 22VT/WT	VTSS INDICATOR DRIVER
5	-	-
6	L91 20WT/DB	HAZARD SWITCH SENSE
7	E12 20OR/GY	PANEL LAMPS DRIVER
8	-	-
9	-	-
10	-	-
11	G907 20VT	EVIC/NAV MUX RETURN
12	Z108 20BK/LG	GROUND

INTEGRATED POWER MODULE
(FRONT VIEW)



ACCESSORY RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	B(+)
85	INTERNAL	B(+)
86	INTERNAL	ACCESSORY RELAY CONTROL
87	INTERNAL	FUSED ACCESSORY RELAY OUTPUT
87A	-	-

DOOR NODE RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	B(+)
85	INTERNAL	B(+)
86	INTERNAL	DOOR NODE RELAY CONTROL
87	INTERNAL	FUSED DOOR NODE RELAY OUTPUT
87A	-	-

FRONT BLOWER MOTOR RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	B(+)
85	INTERNAL	B(+)
86	INTERNAL	FRONT BLOWER MOTOR RELAY CONTROL
87	C7 12DB	FUSED FRONT BLOWER MOTOR RELAY OUTPUT
87A	-	-

FRONT WIPER HIGH/LOW RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	FRONT WIPER HIGH/LOW RELAY CONTROL
87	W4 12BR/OR	FRONT WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT
87A	W3 12BR/WT	FRONT WIPER HIGH/LOW RELAY LOW SPEED OUTPUT

FRONT WIPER ON/OFF RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	FRONT WIPER ON/OFF RELAY CONTROL
87	INTERNAL	FUSED B(+)
87A	INTERNAL	GROUND

HORN RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	HORN RELAY CONTROL
87	X2 16DG/OR	HORN RELAY OUTPUT
87A	-	-

REAR BOOSTER FAN RELAY

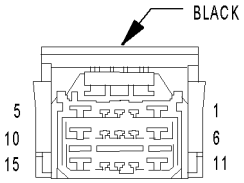
CAV	CIRCUIT	FUNCTION
30	INTERNAL	B(+)
85	INTERNAL	B(+)
86	INTERNAL	REAR BOOSTER FAN RELAY CONTROL
87	C51 18LB/BR	FUSED REAR BOOSTER FAN RELAY OUTPUT
87A	-	-

REAR WINDOW DEFOGGER RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	REAR WINDOW DEFOGGER RELAY CONTROL
87	C15 12DB/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
87A	-	-

RUN RELAY

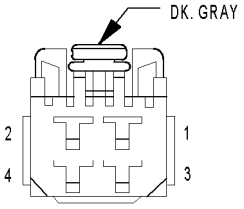
CAV	CIRCUIT	FUNCTION
30	INTERNAL	B(+)
85	INTERNAL	B(+)
86	INTERNAL	RUN RELAY CONTROL
87	INTERNAL	FUSED RUN RELAY OUTPUT
87A	-	-



INTEGRATED POWER MODULE C1

INTEGRATED POWER MODULE C1 - BLACK 15 WAY

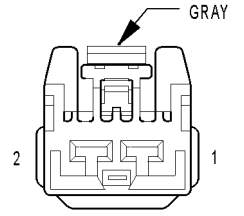
CAV	CIRCUIT	FUNCTION
1	A111 12DG/RD	FUSED B(+)
2	D25 20WT/VT	PCI BUS
3	A109 18OR/RD	FUSED B(+)
4	F500 18DG/PK	FUSED RUN RELAY OUTPUT
5	T750 12YL/GY	STARTER MOTOR RELAY OUTPUT
6	Z127 12BK/DG (ASSY. PLANT EVAC & FILL)	GROUND
7	-	-
8	-	-
9	-	-
10	A107 12TN/RD	FUSED B(+)
11	-	-
12	K342 16BR/WT	AUTOMATIC SHUT DOWN RELAY OUTPUT
13	K136 18BR	MANIFOLD TUNING VALVE RELAY OUTPUT
14	C3 18DB/YL	A/C COMPRESSOR CLUTCH RELAY OUTPUT
15	-	-



INTEGRATED POWER MODULE C2

INTEGRATED POWER MODULE C2 - DK. GRAY 4 WAY

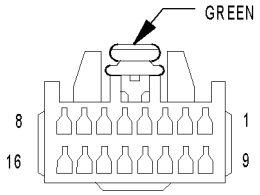
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	A101 12VT/RD	FUSED B(+)
4	F515 12PK/LB	FUSED DOOR NODE RELAY OUTPUT



INTEGRATED POWER MODULE C3

INTEGRATED POWER MODULE C3 - GRAY 2 WAY

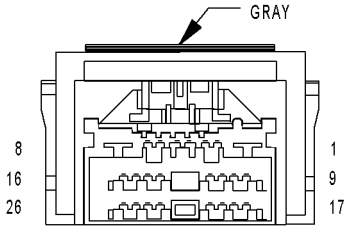
CAV	CIRCUIT	FUNCTION
1	-	-
2	A112 12OR/RD	FUSED B(+)



INTEGRATED POWER MODULE C4

INTEGRATED POWER MODULE C4 - GREEN 16 WAY

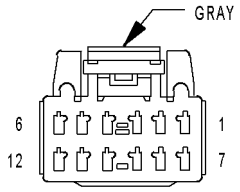
CAV	CIRCUIT	FUNCTION
1	F100 20PK/VT	ORC RUN DRIVER
2	X3 20DG/VT	HORN SWITCH SENSE
3	W7 20BR/GY	FRONT WIPER PARK SWITCH SENSE
4	T751 20YL	IGNITION SWITCH OUTPUT (START)
5	F306 16DB/PK	FUSED ACCESSORY RELAY OUTPUT
6	-	-
7	F307 16LB/PK	FUSED ACCESSORY RELAY OUTPUT
8	A214 18RD/LB	FUSED B(+)
9	-	-
10	-	-
11	D25 20WT/VT	PCI BUS
12	-	-
13	A118 20RD/OR	FUSED B(+)
14	A114 20GY/RD	FUSED B(+)
15	L72 20WT/OR	RIGHT TAIL LAMP DRIVER
16	A215 18RD/LG	FUSED B(+)



INTEGRATED POWER MODULE C5

INTEGRATED POWER MODULE C5 - GRAY 26 WAY

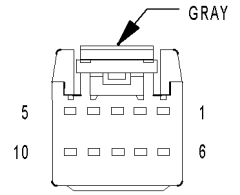
CAV	CIRCUIT	FUNCTION
1	-	-
2	L89 18WT/YL (FOG LAMPS)	LEFT FRONT FOG LAMP DRIVER
3	W1 18BR/TN	WASHER FLUID LEVEL SWITCH SENSE
4	-	-
5	W10 18BR	FRONT WASHER PUMP MOTOR CONTROL
6	L778 20WT/LB	RIGHT FRONT SIDE MARKER LAMP DRIVER
7	L777 20WT/VT	LEFT FRONT SIDE MARKER LAMP DRIVER
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	W20 18BR/YL	REAR WASHER PUMP MOTOR CONTROL
14	Z118 18BK/YL	GROUND
15	-	-
16	L44 16TN/WT	RIGHT LOW BEAM LAMP DRIVER
17	L90 18WT/OR (FOG LAMPS)	RIGHT FRONT FOG LAMP DRIVER
18	L33 18WT/DG	LEFT HIGH BEAM LAMP DRIVER
19	-	-
20	-	-
21	-	-
22	L34 16WT/GY	RIGHT HIGH BEAM LAMP DRIVER
23	X2 16DG/OR	HORN RELAY OUTPUT
24	L77 20WT/BR	LEFT FRONT PARK LAMP DRIVER
25	L43 18WT/DB	LEFT LOW BEAM LAMP DRIVER
26	L78 20OR/WT	RIGHT FRONT PARK LAMP DRIVER



INTEGRATED POWER MODULE C6

INTEGRATED POWER MODULE C6 - GRAY 12 WAY

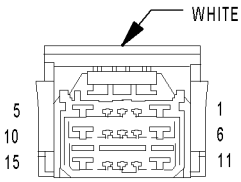
CAV	CIRCUIT	FUNCTION
1	-	-
2	F202 20PK/GY	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	D25 20WT/VT	PCI BUS
4	C13 20LB/OR	A/C CLUTCH RELAY CONTROL
5	-	-
6	K51 18BR/GY	AUTOMATIC SHUT DOWN RELAY CONTROL
7	-	-
8	-	-
9	F1 20PK/WT	IGNITION UNLOCK-RUN-START
10	K36 20DB/YL	MTV CONTROL
11	-	-
12	-	-



INTEGRATED POWER MODULE C7

INTEGRATED POWER MODULE C7 - GRAY 10 WAY

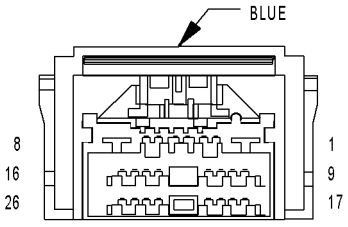
CAV	CIRCUIT	FUNCTION
1	T751 20YL	IGNITION SWITCH OUTPUT (START)
2	-	-
3	T752 20DG/OR	STARTER RELAY CONTROL
4	T15 20YL/BR	TRANSMISSION CONTROL RELAY CONTROL
5	-	-
6	-	-
7	-	-
8	Z115 18BK/OR	GROUND
9	T16 16YL/OR	TRANSMISSION CONTROL RELAY OUTPUT
10	K31 20BR	FUEL PUMP RELAY CONTROL



INTEGRATED POWER MODULE C8

INTEGRATED POWER MODULE C8 - WHITE 15 WAY

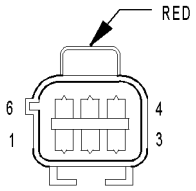
CAV	CIRCUIT	FUNCTION
1	F516 12PK	FUSED DOOR NODE RELAY OUTPUT
2	C51 18LB/BR	FUSED REAR BOOSTER FAN RELAY OUTPUT
3	W4 12BR/OR	FRONT WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT
4	F316 20PK/OR	FUSED ACCESSORY RELAY OUTPUT
5	A701 14BR/RD (EARLY BUILD)	FUSED B(+)
5	A100 16RD/VT (TRAILER TOW LATE BUILD)	FUSED B(+)
6	-	-
7	F504 20GY/PK	FUSED RUN RELAY OUTPUT
8	B20 20DG/OR	BRAKE FLUID LEVEL SWITCH SENSE
9	W3 12BR/WT	FRONT WIPER HIGH/LOW RELAY LOW SPEED OUTPUT
10	A130 12VT/RD (POWER SUNROOF)	FUSED B(+)
11	C15 12DB/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
12	-	-
13	A116 16YL/RD	FUSED B(+)
14	-	-
15	A110 12DG/RD	FUSED B(+)



INTEGRATED POWER MODULE C9

INTEGRATED POWER MODULE C9 - BLUE 26 WAY

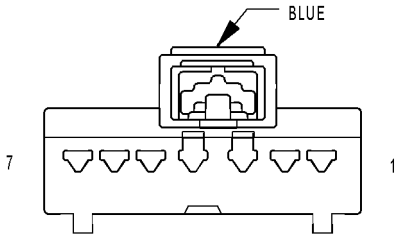
CAV	CIRCUIT	FUNCTION
1	A115 12YL/RD (POWER LIFTGATE)	FUSED B(+)
2	A106 20LB/RD	FUSED B(+)
3	A108 18LG/RD	FUSED B(+)
4	-	-
5	D123 20WT/BR	FLASH PROGRAM ENABLE
6	-	-
7	L71 20WT/GY	LEFT TAIL LAMP DRIVER
8	C7 12DB	FUSED FRONT BLOWER MOTOR RELAY OUTPUT
9	-	-
10	A701 18BR/RD (LATE BUILD)	FUSED B(+)
10	A100 18RD/VT (TRAILER TOW EARLY BUILD)	FUSED B(+)
11	-	-
12	-	-
13	F20 20PK/GY	IGNITION SWITCH OUTPUT (RUN-START)
14	-	-
15	L3 18WT/VT	LICENSE LAMP DRIVER
16	F201 20PK/LB	ORC RUN-START DRIVER
17	-	-
18	-	-
19	F2 18PK/YL	IGNITION SWITCH OUTPUT (RUN-START)
20	L51 18WT/DG	BRAKE LAMP SWITCH OUTPUT
21	-	-
22	-	-
23	-	-
24	N1 16DB/OR	FUEL PUMP RELAY OUTPUT
25	A105 18DB/RD	FUSED B(+)
26	F525 16TN/PK (MIDDLE ROW HEATED SEATS)	FUSED RUN RELAY OUTPUT



LICENSE LAMP

LICENSE LAMP - RED 6 WAY

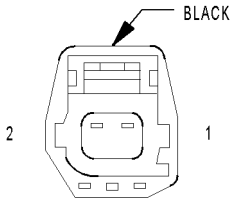
CAV	CIRCUIT	FUNCTION
1	L3 18WT/VT	LICENSE LAMP DRIVER
2	Z367 20BK/BR	GROUND
3	Q94 22TN/LG (POWER LIFTGATE)	LIFTGATE CHIME DRIVER
4	Z294 20BK/DG (POWER LIFTGATE)	GROUND
5	G32 22VT/LB (POWER LIFTGATE)	LIFTGATE TEMPERATURE SENSOR SIGNAL
6	Q901 20OR/VT (POWER LIFTGATE)	GROUND



LIFTGATE CINCH/RELEASE MOTOR (POWER LIFTGATE)

LIFTGATE CINCH/RELEASE MOTOR (POWER LIFTGATE) - BLUE 7 WAY

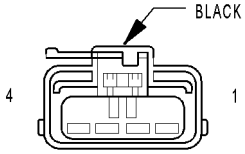
CAV	CIRCUIT	FUNCTION
1	Q901 20OR/VT	GROUND
2	G78 22VT/OR	LIFTGATE AJAR SWITCH SENSE
3	Q60 22OR/YL	LIFTGATE PAWL SWITCH SENSE
4	Z245 18BK/GY	GROUND
5	Q85 16TN/WT	LIFTGATE LATCH RELEASE DRIVER
6	Q84 16TN/GY	LIFTGATE LATCH CINCH DRIVER
7	Q83 18OR/GY	LIFTGATE LATCH CLUTCH DRIVER



LIFTGATE HANDLE SWITCH

LIFTGATE HANDLE SWITCH - BLACK 2 WAY

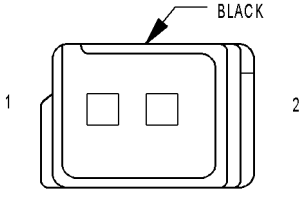
CAV	CIRCUIT	FUNCTION
1	P30 20TN/DG	LIFTGATE HANDLE SWITCH SENSE
2	Z87 20BK/LG (BASE)	GROUND
2	Q901 20OR/VT (POWER LIFTGATE)	GROUND



LIFTGATE LOCK MOTOR/AJAR SWITCH (BASE)

LIFTGATE LOCK MOTOR/AJAR SWITCH (BASE) - BLACK 4 WAY

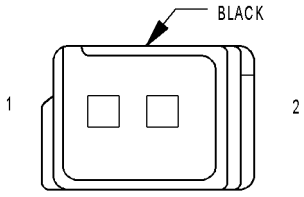
CAV	CIRCUIT	FUNCTION
1	Z78 20BK/OR	GROUND
2	G78 22VT/OR	LIFTGATE AJAR SWITCH SENSE
3	P31 18TN/YL	LIFTGATE RELEASE DRIVER
4	Z245 18BK/GY	GROUND



LIFTGATE PINCH SENSOR-LEFT (POWER LIFTGATE)

LIFTGATE PINCH SENSOR-LEFT (POWER LIFTGATE) - BLACK 2 WAY

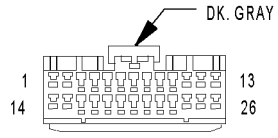
CAV	CIRCUIT	FUNCTION
1	Q77 20OR/DB	RIGHT PINCH SENSOR SIGNAL
2	Q75 20OR/LB	PINCH SENSOR SIGNAL



LIFTGATE PINCH SENSOR-RIGHT (POWER LIFTGATE)

LIFTGATE PINCH SENSOR-RIGHT (POWER LIFTGATE) - BLACK 2 WAY

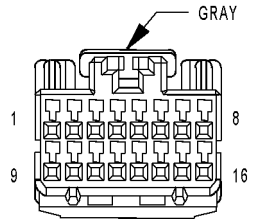
CAV	CIRCUIT	FUNCTION
1	Q77 20OR/DB	RIGHT PINCH SENSOR SIGNAL
2	Q901 20OR/VT	GROUND



MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE C1

MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE C1 - DK. GRAY 26 WAY

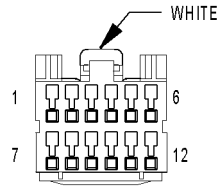
CAV	CIRCUIT	FUNCTION
1	P205 14LG/DB (ADJUSTABLE PEDALS)	ADJUSTABLE PEDALS MOTOR FORWARD
2	P44 14LG/DG	PASSENGER SEAT RECLINER UP DRIVER
3	-	-
4	-	-
5	-	-
6	P93 22LG/VT (FRONT ROW HEATED SEATS)	PASSENGER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY
7	P99 22LG/LB (FRONT ROW HEATED SEATS)	PASSENGER SEAT TEMPERATURE SENSOR INPUT
8	-	-
9	-	-
10	G13 20VT/LB (ADJUSTABLE PEDALS)	ADJUSTABLE PEDALS MOTOR HALL SENSE
11	D25 20WT/VT	PCI BUS
12	P42 14LG/GY	PASSENGER SEAT RECLINER DOWN DRIVER
13	P206 14LG/TN (ADJUSTABLE PEDALS)	ADJUSTABLE PEDALS MOTOR REVERSE
14	P14 14LG/OR	PASSENGER SEAT HORIZONTAL FORWARD DRIVER
15	P95 18LG/WT (FRONT ROW HEATED SEATS)	PASSENGER SEAT HEATER B(+) DRIVER
16	G11 20VT/TN (ADJUSTABLE PEDALS)	ADJUSTABLE PEDALS SENSOR FEED
17	-	-
18	-	-
19	G12 22VT/BR (ADJUSTABLE PEDALS)	ADJUSTABLE PEDALS SENSOR SIGNAL
20	G912 20VT/WT (ADJUSTABLE PEDALS)	ADJUSTABLE PEDALS SENSOR RETURN
21	G914 22VT/GY (ADJUSTABLE PEDALS)	ADJUSTABLE PEDALS MOTOR HALL SENSE RETURN
22	G14 20VT/DB (ADJUSTABLE PEDALS)	ADJUSTABLE PEDALS MOTOR HALL SIGNAL
23	-	-
24	P97 18LG/YL (FRONT ROW HEATED SEATS)	PASSENGER SEAT HEATER GROUND
25	-	-
26	P16 14LG/BR	PASSENGER SEAT HORIZONTAL REARWARD DRIVER



MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE C2

MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE C2 - GRAY 16 WAY

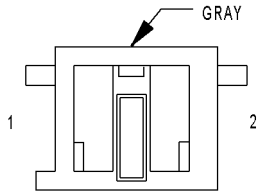
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	P25 20LG/VT	DRIVER SEAT HORIZONTAL POSITION SIGNAL
4	P47 20LG/LB	DRIVER SEAT RECLINER POSITION SIGNAL
5	P26 20LG	DRIVER SEAT FRONT RISER POSITION SIGNAL
6	P27 20LG/DB	DRIVER SEAT REAR RISER POSITION SIGNAL
7	-	-
8	-	-
9	-	-
10	-	-
11	P29 20LG/WT	DRIVER SEAT POSITION SENSOR 5 VOLT SUPPLY
12	P28 20LG/BR	DRIVER SEAT POSITION SENSOR GROUND
13	P85 20LG/DG (FRONT ROW HEATED SEATS)	DRIVER SEAT TEMPERATURE SENSOR 5 VOLT SUPPLY
14	-	-
15	-	-
16	P89 20LG/OR (FRONT ROW HEATED SEATS)	DRIVER SEAT TEMPERATURE SENSOR INPUT



MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE C3

MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE C3 - WHITE 12 WAY

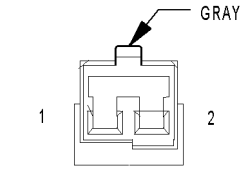
CAV	CIRCUIT	FUNCTION
1	P141 14LG/BR	DRIVER SEAT RECLINER DOWN DRIVER
2	P115 14LG/OR	DRIVER SEAT HORIZONTAL FORWARD DRIVER
3	P117 14LG/LB	DRIVER SEAT HORIZONTAL REARWARD DRIVER
4	P111 14LG/YL	DRIVER SEAT REAR UP DRIVER
5	P119 14LG/DG	DRIVER SEAT FRONT UP DRIVER
6	P94 18LG/TN (FRONT ROW HEATED SEATS)	DRIVER SEAT HEATER GROUND
7	P87 18LG/LB (FRONT ROW HEATED SEATS)	DRIVER SEAT HEATER B(+) DRIVER
8	P143 14LG/GY	DRIVER SEAT RECLINER UP DRIVER
9	P105 18LG (LUMBAR SEAT ADJUSTER)	DRIVER SEAT LUMBAR OUT DRIVER
10	P107 18LG/WT (LUMBAR SEAT ADJUSTER)	DRIVER SEAT LUMBAR IN DRIVER
11	P113 14LG/VT	DRIVER SEAT REAR DOWN DRIVER
12	P121 14LG/DB	DRIVER SEAT FRONT DOWN DRIVER



MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE C4

MEMORY/HEATED SEAT ADJUSTABLE PEDALS MODULE C4 - GRAY 2 WAY

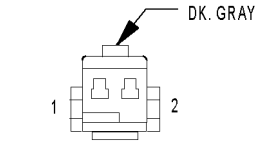
CAV	CIRCUIT	FUNCTION
1	A210 14OR/RD	FUSED B(+)
2	Z849 14BK/OR	GROUND



MODE DOOR
ACTUATOR-FRONT

MODE DOOR ACTUATOR-FRONT - GRAY 2 WAY

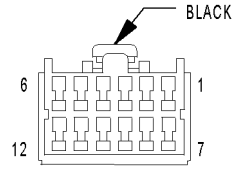
CAV	CIRCUIT	FUNCTION
1	C135 20DB/GY	FRONT MODE DOOR DRIVER (B)
2	C35 20LB/OR	FRONT MODE DOOR DRIVER (A)



MODE DOOR
ACTUATOR-REAR

MODE DOOR ACTUATOR-REAR - DK. GRAY 2 WAY

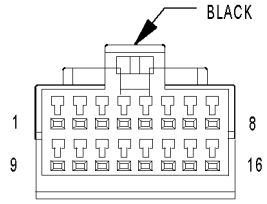
CAV	CIRCUIT	FUNCTION
1	C153 20DB/BR	REAR MODE DOOR DRIVER (A)
2	C53 20LB	REAR MODE DOOR DRIVER (B)



MULTI-FUNCTION
SWITCH

MULTI-FUNCTION SWITCH - BLACK 12 WAY

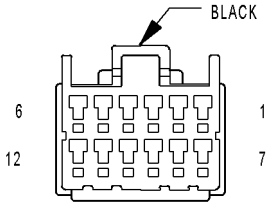
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	L306 20LB/WT	RIGHT TURN SWITCH SENSE
4	L305 22WT/LB	LEFT TURN SWITCH SENSE
5	E2 22OR/BR	PANEL LAMPS DIMMER SIGNAL
6	L307 22BR/WT	HEADLAMP SWITCH MUX SENSE
7	-	-
8	L87 20WT/OR	FRONT FOG SWITCH SENSE
9	Z102 20GY/BK	GROUND
10	L38 20DB/WT	OPTICAL HORN SIGNAL
11	L37 20WT/BR	HIGH BEAM SWITCH SENSE
12	L900 22WT/YL	HEADLAMP SWITCH MUX RETURN



NAVIGATION
MODULE

NAVIGATION MODULE - BLACK 16 WAY

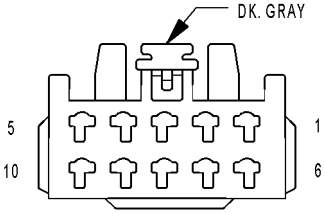
CAV	CIRCUIT	FUNCTION
1	A114 20GY/RD	FUSED B(+)
2	F316 20PK/OR	FUSED ACCESSORY RELAY OUTPUT
3	Z495 18BK/GY	GROUND
4	X400 20GY/WT	NAVIGATION AUDIO (+)
5	G591 20 (EARLY BUILD)	SHIELD
5	G591 22 (LATE BUILD)	SHIELD
6	G400 20VT/LB	RED SIGNAL
7	G420 20VT/BR	GREEN SIGNAL
8	-	-
9	-	-
10	-	-
11	-	-
12	X940 20GY/LB	NAVIGATION AUDIO (-)
13	-	-
14	G430 20VT/GY	SCREEN SYNCHRONIZE
15	G410 20VT/LG	BLUE SIGNAL
16	D25 20WT/VT	PCI BUS



OVERHEAD CONSOLE

OVERHEAD CONSOLE - BLACK 12 WAY

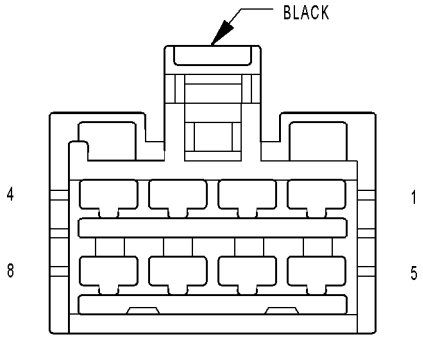
CAV	CIRCUIT	FUNCTION
1	Q4 20OR/WT (POWER SUNROOF)	SUNROOF VENT
2	G25 22VT/TN	LIFTGATE SWITCH MUX
3	D25 20WT/VT	PCI BUS
4	Z113 18BK/DB	GROUND
5	A114 20GY/RD	FUSED B(+)
6	F316 20PK/OR (EARLY BUILD)	FUSED ACCESSORY RELAY OUTPUT
6	F316 20BK/PK (LATE BUILD)	FUSED ACCESSORY RELAY OUTPUT
7	-	-
8	E3 20OR/YL	DOME LAMPS DIMMER SIGNAL
9	Q3 22OR/TN (POWER SUNROOF)	SUNROOF OPEN
10	Q5 22OR/LB (POWER SUNROOF)	SUNROOF CLOSE
11	L24 20WT/DB (EARLY BUILD)	AUTOMATIC HEADLAMP SIGNAL
11	L24 20BK/GY (LATE BUILD)	AUTOMATIC HEADLAMP SIGNAL
12	L11 20WT/OR (EARLY BUILD)	BACK-UP LAMP SIGNAL
12	L11 20BK/WT (LATE BUILD)	BACK-UP LAMP SIGNAL



POWER LIFTGATE DRIVE UNIT

POWER LIFTGATE DRIVE UNIT - DK. GRAY 10 WAY

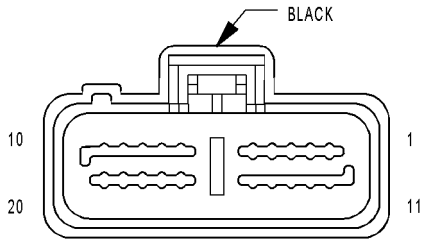
CAV	CIRCUIT	FUNCTION
1	Q88 14TN/BR	LIFTGATE OPEN DRIVER
2	Q203 20OR/TN	OPTICAL SENSOR SUPPLY
3	Q901 20OR/VT	GROUND
4	Q201 18OR/LG	LIFTGATE CLUTCH DRIVER
5	Q901 20OR/VT	GROUND
6	Q89 14TN/OR	LIFTGATE CLOSE DRIVER
7	Q204 20OR/DG	OPTICAL SENSOR SIGNAL 1
8	Q205 20OR/DB	OPTICAL SENSOR SIGNAL 2
9	Z805 18BK/OR	GROUND
10	Q51 20OR	LIFTGATE FULL OPEN SWITCH SENSE



POWER LIFTGATE MODULE C1

POWER LIFTGATE MODULE C1 - BLACK 8 WAY

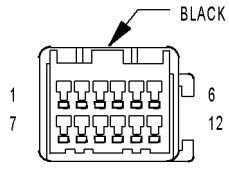
CAV	CIRCUIT	FUNCTION
1	Q83 18OR/GY	LIFTGATE LATCH CLUTCH DRIVER
2	Q88 14TN/BR	LIFTGATE OPEN DRIVER
3	Q89 14TN/OR	LIFTGATE CLOSE DRIVER
4	-	-
5	A115 12YL/RD	FUSED B(+)
6	-	-
7	-	-
8	Z125 14BK/OR (EXCEPT NAVIGATION LATE BUILD)	GROUND
8	Z125 12BK/OR (NAVIGATION LATE BUILD)	GROUND



POWER
LIFTGATE
MODULE
C2

POWER LIFTGATE MODULE C2 - BLACK 20 WAY

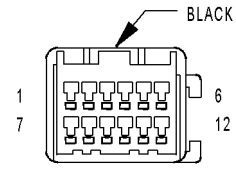
CAV	CIRCUIT	FUNCTION
1	Q203 20OR/TN	OPTICAL SENSOR SUPPLY
2	-	-
3	-	-
4	-	-
5	Q75 20OR/LB	PINCH SENSOR SIGNAL
6	-	-
7	Q201 18OR/LG	LIFTGATE CLUTCH DRIVER
8	Q84 16TN/GY	LIFTGATE LATCH CINCH DRIVER
9	Q85 16TN/WT	LIFTGATE LATCH RELEASE DRIVER
10	-	-
11	D25 20WT/VT	PCI BUS
12	G78 20VT/OR	LIFTGATE AJAR SWITCH SENSE
13	Q60 22OR/YL	LIFTGATE PAWL SWITCH SENSE
14	Q51 20OR	LIFTGATE FULL OPEN SWITCH SENSE
15	Q205 20OR/DB	OPTICAL SENSOR SIGNAL 2
16	G32 20VT/LB	LIFTGATE TEMPERATURE SENSOR SIGNAL
17	Q204 20OR/DG	OPTICAL SENSOR SIGNAL 1
18	Q94 22TN/LG	LIFTGATE CHIME DRIVER
19	G153 20VT/GY	LIFTGATE MODULE WAKE UP SIGNAL
20	Q901 20OR/VT	GROUND



POWER
MIRROR-DRIVER

POWER MIRROR-DRIVER - BLACK 12 WAY

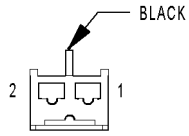
CAV	CIRCUIT	FUNCTION
1	P67 22OR/TN	DRIVER MIRROR VERTICAL POSITION SIGNAL
2	P69 22WT/TN	DRIVER MIRROR SENSOR GROUND
3	P65 22VT/TN	DRIVER MIRROR HORIZONTAL POSITION SIGNAL
4	P73 22TN/VT	DRIVER MIRROR COMMON DRIVER
5	P75 22TN/LG	DRIVER MIRROR HORIZONTAL DRIVER
6	P71 22TN/DG	DRIVER MIRROR VERTICAL DRIVER
7	-	-
8	-	-
9	P114 20TN/WT	AUTO DAY/NIGHT MIRROR (-)
10	P112 20TN/OR	AUTO DAY/NIGHT MIRROR (+)
11	P53 20LG/OR	DRIVER HEATED MIRROR DRIVER
12	C17 20LB/WT	DRIVER HEATED MIRROR FEED



POWER
MIRROR-PASSENGER

POWER MIRROR-PASSENGER - BLACK 12 WAY

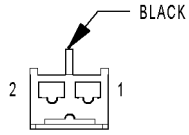
CAV	CIRCUIT	FUNCTION
1	P64 22TN	PASSENGER MIRROR VERTICAL POSITION SIGNAL
2	P66 22TN/LG	PASSENGER MIRROR SENSOR GROUND
3	P68 22TN/YL	PASSENGER MIRROR HORIZONTAL POSITION SIGNAL
4	P70 22TN/LB	PASSENGER MIRROR COMMON DRIVER
5	P74 22TN/OR	PASSENGER MIRROR HORIZONTAL DRIVER
6	P72 20TN/GY	PASSENGER MIRROR VERTICAL DRIVER
7	-	-
8	-	-
9	-	-
10	-	-
11	P54 20OR/LG	PASSENGER HEATED MIRROR DRIVER
12	C16 20DB/GY	PASSENGER HEATED MIRROR FEED



POWER SEAT
MOTOR-DRIVER
FRONT RISER

POWER SEAT MOTOR-DRIVER FRONT RISER - BLACK 2 WAY

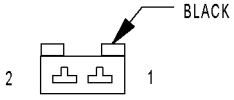
CAV	CIRCUIT	FUNCTION
1	P121 14LG/DB	DRIVER SEAT FRONT DOWN DRIVER
2	P119 14LG/DG	DRIVER SEAT FRONT UP DRIVER



POWER SEAT
MOTOR-DRIVER
HORIZONTAL

POWER SEAT MOTOR-DRIVER HORIZONTAL - BLACK 2 WAY

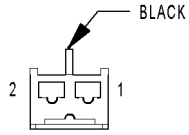
CAV	CIRCUIT	FUNCTION
1	P117 14LG/LB	DRIVER SEAT HORIZONTAL REARWARD DRIVER
2	P115 14LG/OR	DRIVER SEAT HORIZONTAL FORWARD DRIVER



POWER SEAT
MOTOR-DRIVER
LUMBAR

POWER SEAT MOTOR-DRIVER LUMBAR - BLACK 2 WAY

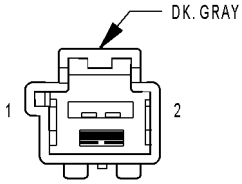
CAV	CIRCUIT	FUNCTION
1	P107 18DB	DRIVER SEAT LUMBAR IN DRIVER
2	P105 18PK	DRIVER SEAT LUMBAR OUT DRIVER



POWER SEAT
MOTOR-DRIVER
REAR RISER

POWER SEAT MOTOR-DRIVER REAR RISER - BLACK 2 WAY

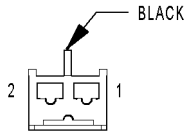
CAV	CIRCUIT	FUNCTION
1	P113 14LG/VT	DRIVER SEAT REAR DOWN DRIVER
2	P111 14LG/YL	DRIVER SEAT REAR UP DRIVER



POWER SEAT
MOTOR-DRIVER
RECLINER

POWER SEAT MOTOR-DRIVER RECLINER - DK. GRAY 2 WAY

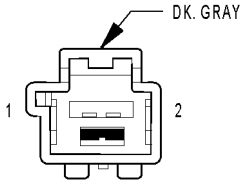
CAV	CIRCUIT	FUNCTION
1	P141 14LG/BR	DRIVER SEAT RECLINER DOWN DRIVER
2	P143 14LG/GY	DRIVER SEAT RECLINER UP DRIVER



POWER SEAT
MOTOR-PASSENGER
HORIZONTAL

POWER SEAT MOTOR-PASSENGER HORIZONTAL - BLACK 2 WAY

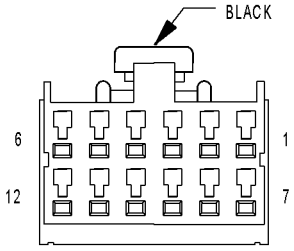
CAV	CIRCUIT	FUNCTION
1	P16 14LG/BR	PASSENGER SEAT HORIZONTAL REARWARD DRIVER
2	P14 14LG/OR	PASSENGER SEAT HORIZONTAL FORWARD DRIVER



POWER SEAT
MOTOR-PASSENGER
RECLINER

POWER SEAT MOTOR-PASSENGER RECLINER - DK. GRAY 2 WAY

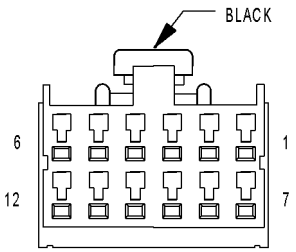
CAV	CIRCUIT	FUNCTION
1	P42 14LG/GY	PASSENGER SEAT RECLINER DOWN DRIVER
2	P44 14LG/DG	PASSENGER SEAT RECLINER UP DRIVER



POWER SEAT
SWITCH-DRIVER

POWER SEAT SWITCH-DRIVER - BLACK 12 WAY

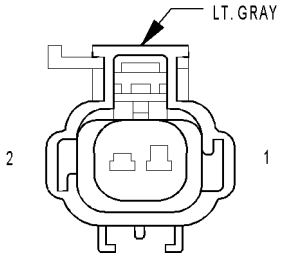
CAV	CIRCUIT	FUNCTION
1	P101 20LG/WT	MEMORY SET SWITCH INDICATOR DRIVER
2	P83 20TN/WT (FRONT ROW HEATED SEATS)	DRIVER HEATED SEAT HIGH INDICATOR DRIVER
3	P81 20TN/LB (FRONT ROW HEATED SEATS)	DRIVER HEATED SEAT LOW INDICATOR DRIVER
4	P989 20TN/LG	SEAT SWITCH MUX RETURN
5	Z301 20TN/BK	ILLUMINATION GROUND
6	P301 20LG/OR	DRIVER DOOR SWITCH ILLUMINATION DRIVER
7	P311 20LG/VT	DRIVER SEAT RECLINER/LUMBAR OUT SWITCH MUX
8	P309 20LG/VT	DRIVER SEAT HORIZONTAL/LUMBAR IN SWITCH MUX
9	P200 20LG/YL	DRIVER SEAT FRONT RISER/PEDAL FORWARD SWITCH MUX
10	P7 20LG/DG (FRONT ROW HEATED SEATS)	DRIVER HEATED SEAT SWITCH MUX
11	G200 20VT/BR	MEMORY SELECT SWITCH MUX
12	P202 20LG/DB	DRIVER SEAT REAR RISER/PEDAL BACK SWITCH MUX



POWER SEAT SWITCH-PASSENGER

POWER SEAT SWITCH-PASSENGER - BLACK 12 WAY

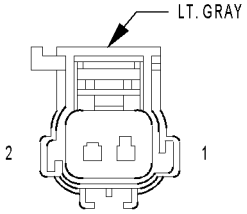
CAV	CIRCUIT	FUNCTION
1	-	-
2	P84 20TN/VT (FRONT ROW HEATED SEATS)	PASSENGER HEATED SEAT HIGH INDICATOR DRIVER
3	P82 20TN/DG (FRONT ROW HEATED SEATS)	PASSENGER HEATED SEAT LOW INDICATOR DRIVER
4	P988 20LG/TN	SEAT SWITCH MUX RETURN
5	Z302 20LG/BK	ILLUMINATION GROUND
6	P302 20TN/OR	PASSENGER DOOR SWITCH ILLUMINATION DRIVER
7	P308 20LG/VT	PASSENGER SEAT RECLINER SWITCH MUX
8	P310 20LG/OR	PASSENGER SEAT HORIZONTAL SWITCH MUX
9	-	-
10	P8 20LG/WT (FRONT ROW HEATED SEATS)	PASSENGER HEATED SEAT SWITCH MUX
11	-	-
12	-	-



POWER WINDOW MOTOR-DRIVER

POWER WINDOW MOTOR-DRIVER - LT. GRAY 2 WAY

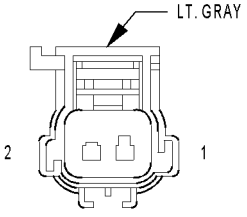
CAV	CIRCUIT	FUNCTION
1	Q21 14OR/WT	DRIVER WINDOW DRIVER (DOWN)
2	Q11 14OR/LG	DRIVER WINDOW DRIVER (UP)



POWER WINDOW MOTOR-DRIVER REAR

POWER WINDOW MOTOR-DRIVER REAR - LT. GRAY 2 WAY

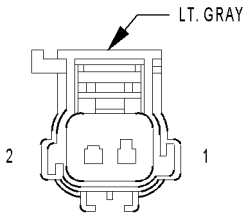
CAV	CIRCUIT	FUNCTION
1	Q211 14TN/LB (EARLY BUILD)	DRIVER REAR WINDOW DRIVER (DOWN)
1	Q211 14OR/VT (LATE BUILD)	DRIVER REAR WINDOW DRIVER (DOWN)
2	Q111 14TN/YL (EARLY BUILD)	DRIVER REAR WINDOW DRIVER (UP)
2	Q111 14OR/BR (LATE BUILD)	DRIVER REAR WINDOW DRIVER (UP)



POWER WINDOW MOTOR-PASSENGER

POWER WINDOW MOTOR-PASSENGER - LT. GRAY 2 WAY

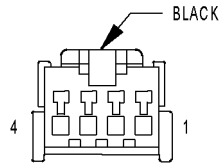
CAV	CIRCUIT	FUNCTION
1	Q22 14VT/OR	PASSENGER WINDOW DRIVER (DOWN)
2	Q12 14BR/OR	PASSENGER WINDOW DRIVER (UP)



POWER WINDOW MOTOR-PASSENGER REAR

POWER WINDOW MOTOR-PASSENGER REAR - LT. GRAY 2 WAY

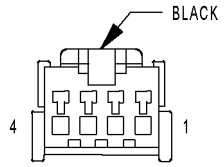
CAV	CIRCUIT	FUNCTION
1	Q212 14OR/VT	PASSENGER REAR WINDOW DRIVER (DOWN)
2	Q112 14OR/BR	PASSENGER REAR WINDOW DRIVER (UP)



POWER WINDOW SWITCH-DRIVER REAR

POWER WINDOW SWITCH-DRIVER REAR - BLACK 4 WAY

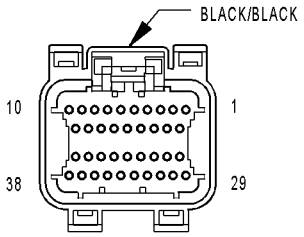
CAV	CIRCUIT	FUNCTION
1	-	-
2	Q1 20OR/WT (EARLY BUILD)	DRIVER REAR WINDOW SWITCH MUX
2	Q1 20WT/TN (LATE BUILD)	DRIVER REAR WINDOW SWITCH MUX
3	G983 20VT/OR (EARLY BUILD)	GROUND
3	G983 20VT/TN (LATE BUILD)	GROUND
4	E25 20OR/GY	PANEL LAMPS DRIVER



POWER WINDOW SWITCH-PASSENGER REAR

POWER WINDOW SWITCH-PASSENGER REAR - BLACK 4 WAY

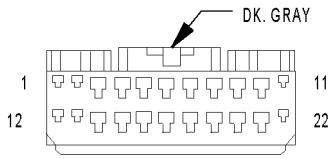
CAV	CIRCUIT	FUNCTION
1	-	-
2	Q2 20WT/TN	PASSENGER REAR WINDOW SWITCH MUX
3	G982 20VT/TN	GROUND
4	E26 20OR/GY	PANEL LAMPS DRIVER



POWERTRAIN CONTROL MODULE C1

POWERTRAIN CONTROL MODULE C1 - BLACK/BLACK 38 WAY

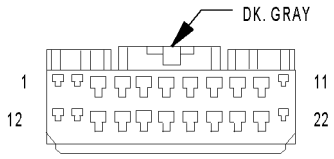
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	Z130 16BK/BR	GROUND
10	-	-
11	F202 20PK/GY	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	F1 20PK/WT	IGNITION UNLOCK-RUN-START
13	-	-
14	-	-
15	-	-
16	K236 16DB/LG	SRV SOL CONTROL
17	-	-
18	Z131 16BK/DG	GROUND
19	-	-
20	G6 16VT/GY	OIL PRESSURE SIGNAL
21	-	-
22	G31 20OR/VT	AAT SIGNAL
23	-	-
24	-	-
25	D20 20WT/LG	SCI RECEIVE (PCM)
26	D123 20WT/BR	FLASH PROGRAM ENABLE
27	-	-
28	-	-
29	A109 18OR/RD	FUSED B(+)
30	T751 20YL	IGNITION SWITCH OUTPUT (START)
31	K141 20DB/YL	O2 1/2 SIGNAL
32	K904 20DB/DG	O2 RETURN (DOWN)
33	-	-
34	-	-
35	-	-
36	D21 20WT/GY	SCI TRANSMIT (PCM)
37	D15 20BR/WT	SCI TRANSMIT (TCM)
38	D25 20WT/VT	PCI BUS



RADIO
(BASE)

RADIO (BASE) - DK. GRAY 22 WAY

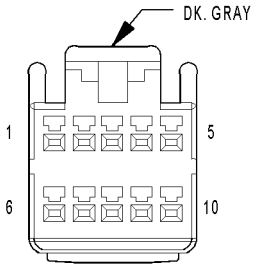
CAV	CIRCUIT	FUNCTION
1	A118 20RD/OR	FUSED B(+)
2	F316 20PK/OR	FUSED ACCESSORY RELAY OUTPUT
3	E12 18OR/GY	PANEL LAMPS DRIVER
4	-	-
5	-	-
6	-	-
7	X54 20GY	RADIO RIGHT AUDIO (+)
8	X56 20GY/BR	RADIO RIGHT AUDIO (-)
9	X55 20DG/BR	RADIO LEFT AUDIO (-)
10	X53 20DG	RADIO LEFT AUDIO (+)
11	Z514 18BK/LG	GROUND
12	-	-
13	X60 18GY/OR	ANTENNA SIGNAL
14	D25 20WT/VT	PCI BUS
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-



RADIO C1
(EXCEPT BASE)

RADIO C1 (EXCEPT BASE) - DK. GRAY 22 WAY

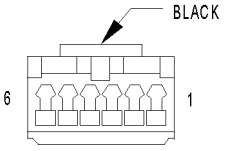
CAV	CIRCUIT	FUNCTION
1	A118 20RD/OR	FUSED B(+)
2	F316 20PK/OR	FUSED ACCESSORY RELAY OUTPUT
3	E12 18OR/GY	PANEL LAMPS DRIVER
4	-	-
5	-	-
6	-	-
7	X54 20GY	RADIO RIGHT AUDIO (+)
8	X56 20GY/BR	RADIO RIGHT AUDIO (-)
9	X55 20DG/BR	RADIO LEFT AUDIO (-)
10	X53 20DG	RADIO LEFT AUDIO (+)
11	Z514 18BK/LG	GROUND
12	-	-
13	X60 18GY/OR	ANTENNA SIGNAL
14	D25 20WT/VT	PCI BUS
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-



RADIO C2
(DVD/CD CHANGER)

RADIO C2 (DVD/CD CHANGER) - DK. GRAY 10 WAY

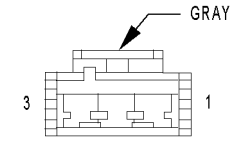
CAV	CIRCUIT	FUNCTION
1	X40 22GY/WT	AUDIO OUT RIGHT
2	X140 22GY/OR	COMMON AUDIO
3	X207 22	SHIELD
4	D25 20WT/VT	PCI BUS
5	X112 20DG/GY	IGNITION RUN/ACC SIGNAL
6	X41 22DG/WT	AUDIO OUT LEFT
7	-	-
8	-	-
9	E14 20OR/TN	PANEL LAMPS DRIVER
10	-	-



READING
LAMP-FRONT

READING LAMP-FRONT - BLACK 6 WAY

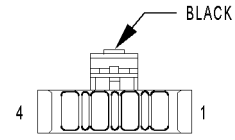
CAV	CIRCUIT	FUNCTION
1	-	-
2	Z137 20BK/YL	GROUND
3	-	-
4	M27 18YL/LB	RAIL LAMPS DRIVER
5	M24 18YL/WT	FRONT READING/COURTESY LAMPS DRIVER
6	E3 20OR/YL (OVERHEAD CONSOLE)	DOME LAMPS DIMMER SIGNAL



READING/COURTESY
LAMP-LEFT MIDDLE

READING/COURTESY LAMP-LEFT MIDDLE - GRAY 3 WAY

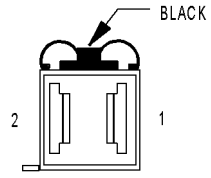
CAV	CIRCUIT	FUNCTION
1	M22 18YL/OR	COURTESY LAMPS DRIVER
2	Z327 18BK/WT	GROUND
3	M27 18YL/LB	RAIL LAMPS DRIVER



REAR BOOSTER
FAN POWER MODULE
C1

REAR BOOSTER FAN POWER MODULE C1 - BLACK 4 WAY

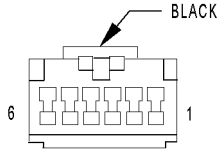
CAV	CIRCUIT	FUNCTION
1	-	-
2	Z135 18BK/LB	GROUND
3	C57 20DB/LB	REAR BOOSTER FAN CONTROL
4	C51 18LB/BR	FUSED REAR BOOSTER FAN RELAY OUTPUT



REAR
BOOSTER FAN
POWER
MODULE C2

REAR BOOSTER FAN POWER MODULE C2 - BLACK 2 WAY

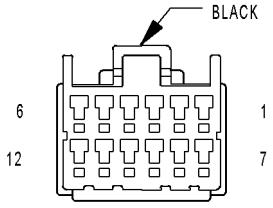
CAV	CIRCUIT	FUNCTION
1	LG	BOOSTER FAN SUPPLY
2	BK	BOOSTER FAN GROUND



REAR BOOSTER FAN
REAR CONTROL SWITCH

REAR BOOSTER FAN REAR CONTROL SWITCH - BLACK 6 WAY

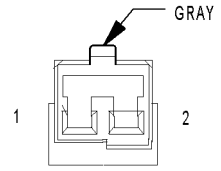
CAV	CIRCUIT	FUNCTION
1	E12 20OR/GY	PANEL LAMPS DRIVER
2	C31 20LB/YL	REAR FAN SENSE
3	C11 22LB/OR	REAR FAN SENSE SUPPLY
4	G21 22VT/WT	REAR FAN ON INDICATOR DRIVER
5	Z870 20BK/YL	GROUND
6	C931 20DB/TN	REAR FAN SENSE RETURN



REAR VIEW
MIRROR

REAR VIEW MIRROR - BLACK 12 WAY

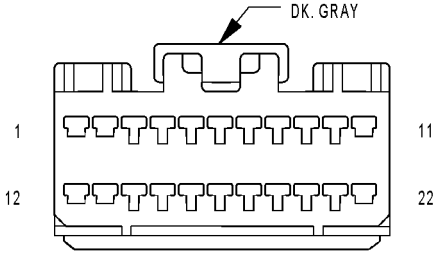
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	X722 20DG/WT (EARLY BUILD)	MICROPHONE 2 IN(+)
4	X722 20BR/WT (LATE BUILD)	MICROPHONE 2 IN(+)
5	-	-
6	X712 20DG/LB (EARLY BUILD)	MICROPHONE 1 IN(+)
6	X712 20BR (LATE BUILD)	MICROPHONE 1 IN(+)
7	-	-
8	-	-
9	X730 20GY/YL (EARLY BUILD)	VOICE RECOGNITION/PHONE SWITCH SIGNAL
9	X730 20BR/GY (LATE BUILD)	VOICE RECOGNITION/PHONE SWITCH SIGNAL
10	-	-
11	X835 20OR/GY (EARLY BUILD)	SENSOR GROUND
11	X835 20BR/OR (LATE BUILD)	SENSOR GROUND
12	X792 20LB/DG (EARLY BUILD)	MICROPHONE IN(-)
12	X792 20BR/BK (LATE BUILD)	MICROPHONE IN(-)



RECIRCULATION
DOOR ACTUATOR

RECIRCULATION DOOR ACTUATOR - GRAY 2 WAY

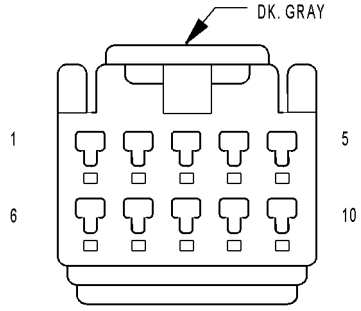
CAV	CIRCUIT	FUNCTION
1	C132 20DB/YL	RECIRCULATION DOOR DRIVER (B)
2	C32 20DB/TN	RECIRCULATION DOOR DRIVER (A)



SATELLITE
RADIO MULTIPLEXER
C1

SATELLITE RADIO MULTIPLEXER C1 - DK. GRAY 22 WAY

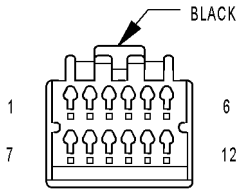
CAV	CIRCUIT	FUNCTION
1	X417 22DG/WT	AUDIO MUX LEFT
2	X416 22GY/WT	AUDIO MUX RIGHT
3	X916 22GY/OR	AUDIO RETURN
4	-	-
5	D25 20WT/VT	PCI BUS
6	X112 20DG/GY	IGNITION RUN/ACC SIGNAL
7	X112 20DG/GY	IGNITION RUN/ACC SIGNAL
8	X16 22DG/YL	AUDIO SIGNAL RIGHT (+)
9	X607 20	SHIELD
10	X917 22DG	AUDIO SIGNAL COMMON
11	X17 22DG/OR	AUDIO SIGNAL LEFT (+)
12	-	-
13	X480 20DG/LB	AUDIO MUX ENABLE
14	-	-
15	Z141 20BK/TN	GROUND
16	E14 20OR/TN	PANEL LAMPS DRIVER
17	X160 20GY/YL	FUSED B(+)
18	D25 20WT/VT	PCI BUS
19	Z141 20BK/TN	GROUND
20	-	-
21	X160 20GY/YL	FUSED B(+)
22	-	-



SATELLITE
RADIO MULTIPLEXER
C2

SATELLITE RADIO MULTIPLEXER C2 - DK. GRAY 10 WAY

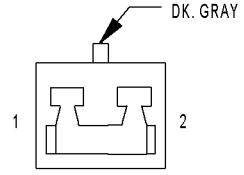
CAV	CIRCUIT	FUNCTION
1	X40 22GY/WT	AUDIO OUT RIGHT
2	X140 22GY/OR	COMMON AUDIO
3	X207 22	SHIELD
4	D25 20WT/VT	PCI BUS
5	X112 20DG/GY	IGNITION RUN/ACC SIGNAL
6	X41 22DG/WT	AUDIO OUT LEFT
7	-	-
8	-	-
9	E14 20OR/TN	PANEL LAMPS DRIVER
10	-	-



SATELLITE
RADIO RECEIVER

SATELLITE RADIO RECEIVER - BLACK 12 WAY

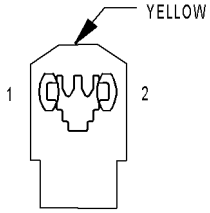
CAV	CIRCUIT	FUNCTION
1	X160 20GY/YL	FUSED B(+)
2	X112 20DG/GY	IGNITION RUN/ACC SIGNAL
3	Z141 20BK/TN	GROUND
4	X480 20DG/LB	AUDIO MUX ENABLE
5	-	-
6	X17 22DG/OR	AUDIO SIGNAL LEFT (+)
7	D25 20WT/VT	PCI BUS
8	-	-
9	-	-
10	-	-
11	X917 22DG	AUDIO SIGNAL COMMON
12	X16 22DG/YL	AUDIO SIGNAL RIGHT (+)



SEAT BELT
SWITCH-DRIVER

SEAT BELT SWITCH-DRIVER - DK. GRAY 2 WAY

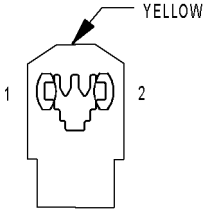
CAV	CIRCUIT	FUNCTION
1	G10 20VT/LG	DRIVER SEAT BELT SWITCH SENSE
2	Z237 20BK/YL	GROUND



SEAT BELT
TENSIONER-DRIVER

SEAT BELT TENSIONER-DRIVER - YELLOW 2 WAY

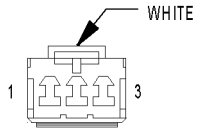
CAV	CIRCUIT	FUNCTION
1	R53 20LG/YL	DRIVER SEAT BELT TENSIONER LINE 2
2	R55 20LG/DG	DRIVER SEAT BELT TENSIONER LINE 1



SEAT BELT
TENSIONER-PASSENGER

SEAT BELT TENSIONER-PASSENGER - YELLOW 2 WAY

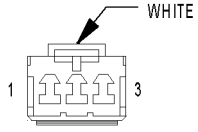
CAV	CIRCUIT	FUNCTION
1	R54 20LB/YL	PASSENGER SEAT BELT TENSIONER LINE 2
2	R56 20LB/DG	PASSENGER SEAT BELT TENSIONER LINE 1



SEAT POSITION SENSOR-DRIVER FRONT RISER

SEAT POSITION SENSOR-DRIVER FRONT RISER - WHITE 3 WAY

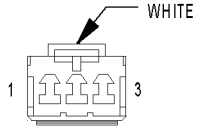
CAV	CIRCUIT	FUNCTION
1	P29 20LG/WT	DRIVER SEAT POSITION SENSOR 5 VOLT SUPPLY
2	P26 20LG	DRIVER SEAT FRONT RISER POSITION SIGNAL
3	P28 20LG/BR	DRIVER SEAT POSITION SENSOR GROUND



SEAT POSITION SENSOR-DRIVER HORIZONTAL

SEAT POSITION SENSOR-DRIVER HORIZONTAL - WHITE 3 WAY

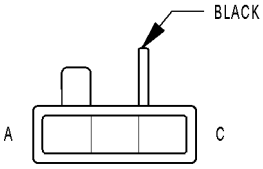
CAV	CIRCUIT	FUNCTION
1	P29 20LG/WT	DRIVER SEAT POSITION SENSOR 5 VOLT SUPPLY
2	P25 20LG/VT	DRIVER SEAT HORIZONTAL POSITION SIGNAL
3	P28 20LG/BR	DRIVER SEAT POSITION SENSOR GROUND



SEAT POSITION SENSOR-DRIVER REAR RISER

SEAT POSITION SENSOR-DRIVER REAR RISER - WHITE 3 WAY

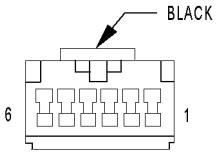
CAV	CIRCUIT	FUNCTION
1	P29 20LG/WT	DRIVER SEAT POSITION SENSOR 5 VOLT SUPPLY
2	P27 20LG/DB	DRIVER SEAT REAR RISER POSITION SIGNAL
3	P28 20LG/BR	DRIVER SEAT POSITION SENSOR GROUND



SEAT POSITION SENSOR-DRIVER RECLINER

SEAT POSITION SENSOR-DRIVER RECLINER - BLACK 3 WAY

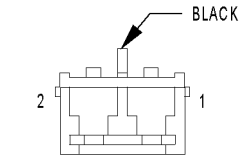
CAV	CIRCUIT	FUNCTION
A	P28 20LG/BR	DRIVER SEAT POSITION SENSOR GROUND
B	P47 20LG/LB	DRIVER SEAT RECLINER POSITION SIGNAL
C	P29 20LG/WT	DRIVER SEAT POSITION SENSOR 5 VOLT SUPPLY



SKREEM MODULE

SKREEM MODULE - BLACK 6 WAY

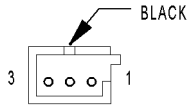
CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20WT/VT	PCI BUS
3	-	-
4	F20 20PK/GY	IGNITION SWITCH OUTPUT (RUN-START)
5	Z120 20BK/WT	GROUND
6	A118 20RD/OR	FUSED B(+)



SPEAKER-CENTER INSTRUMENT PANEL

SPEAKER-CENTER INSTRUMENT PANEL - BLACK 2 WAY

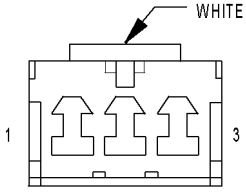
CAV	CIRCUIT	FUNCTION
1	X290 18GY/OR	AMPLIFIED CENTER INSTRUMENT PANEL SPEAKER (-)
2	X200 18GY/DB	AMPLIFIED CENTER INSTRUMENT PANEL SPEAKER (+)



SPEAKER-LEFT FRONT DOOR TWEETER

SPEAKER-LEFT FRONT DOOR TWEETER - BLACK 3 WAY

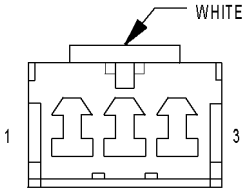
CAV	CIRCUIT	FUNCTION
1	X201 20GY/VT	AMPLIFIED LEFT FRONT DOOR SPEAKER (+)
2	-	-
3	X291 20GY/YL	AMPLIFIED LEFT FRONT DOOR SPEAKER (-)



SPEAKER-LEFT FRONT DOOR WOOFER

SPEAKER-LEFT FRONT DOOR WOOFER - WHITE 3 WAY

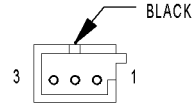
CAV	CIRCUIT	FUNCTION
1	X201 18GY/VT	AMPLIFIED LEFT FRONT DOOR SPEAKER (+)
2	-	-
3	X291 18GY/YL	AMPLIFIED LEFT FRONT DOOR SPEAKER (-)



SPEAKER-LEFT REAR DOOR

SPEAKER-LEFT REAR DOOR - WHITE 3 WAY

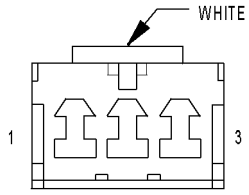
CAV	CIRCUIT	FUNCTION
1	X205 18GY/LG (EARLY BUILD)	AMPLIFIED LEFT REAR DOOR SPEAKER (+)
1	X205 18DG/LG (LATE BUILD)	AMPLIFIED LEFT REAR DOOR SPEAKER (+)
2	-	-
3	X295 18GY/DG (EARLY BUILD)	AMPLIFIED LEFT REAR DOOR SPEAKER (-)
3	X295 18DG/GY (LATE BUILD)	AMPLIFIED LEFT REAR DOOR SPEAKER (-)



SPEAKER-RIGHT FRONT DOOR TWEETER

SPEAKER-RIGHT FRONT DOOR TWEETER - BLACK 3 WAY

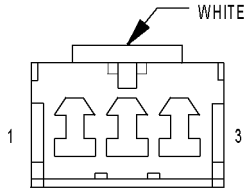
CAV	CIRCUIT	FUNCTION
1	X202 20DG/VT	AMPLIFIED RIGHT FRONT DOOR SPEAKER (+)
2	-	-
3	X292 20DG/YL	AMPLIFIED RIGHT FRONT DOOR SPEAKER (-)



SPEAKER-RIGHT FRONT DOOR WOOFER

SPEAKER-RIGHT FRONT DOOR WOOFER - WHITE 3 WAY

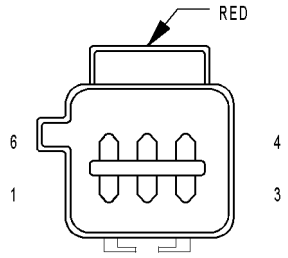
CAV	CIRCUIT	FUNCTION
1	X202 18DG/VT	AMPLIFIED RIGHT FRONT DOOR SPEAKER (+)
2	-	-
3	X292 18DG/YL	AMPLIFIED RIGHT FRONT DOOR SPEAKER (-)



SPEAKER-RIGHT REAR DOOR

SPEAKER-RIGHT REAR DOOR - WHITE 3 WAY

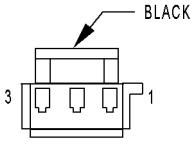
CAV	CIRCUIT	FUNCTION
1	X206 18DG/LG	AMPLIFIED RIGHT REAR DOOR SPEAKER (+)
2	-	-
3	X296 18DG/GY	AMPLIFIED RIGHT REAR DOOR SPEAKER (-)



SPEAKER-SUBWOOFER

SPEAKER-SUBWOOFER - RED 6 WAY

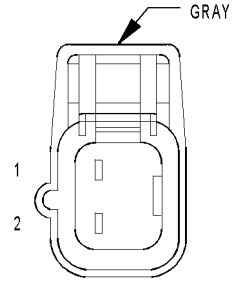
CAV	CIRCUIT	FUNCTION
1	X301 18GY/WT	AMPLIFIED SUBWOOFER 2 (+)
2	-	-
3	X300 18GY/BR	AMPLIFIED SUBWOOFER 1 (+)
4	X390 18DG/BR	AMPLIFIED SUBWOOFER 1 (-)
5	-	-
6	X391 18DG/WT	AMPLIFIED SUBWOOFER 2 (-)



TRACTION CONTROL SWITCH

TRACTION CONTROL SWITCH - BLACK 3 WAY

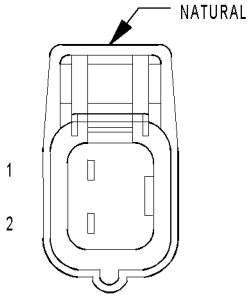
CAV	CIRCUIT	FUNCTION
1	Z427 20BK/WT	GROUND
2	E12 18OR/GY	PANEL LAMPS DRIVER
3	B27 20DG/WT	TRACTION CONTROL SWITCH SENSE



WASHER
FLUID LEVEL
SWITCH

WASHER FLUID LEVEL SWITCH - GRAY 2 WAY

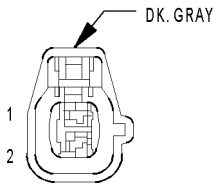
CAV	CIRCUIT	FUNCTION
1	Z401 18BK/TN	GROUND
2	W1 18BR/TN	WASHER FLUID LEVEL SWITCH SENSE



WASHER
PUMP
MOTOR-FRONT

WASHER PUMP MOTOR-FRONT - NATURAL 2 WAY

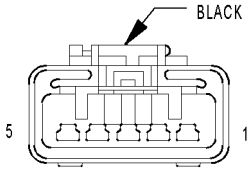
CAV	CIRCUIT	FUNCTION
1	W10 18BR	FRONT WASHER PUMP MOTOR CONTROL
2	Z243 18BK	GROUND



WASHER PUMP
MOTOR-REAR

WASHER PUMP MOTOR-REAR - DK. GRAY 2 WAY

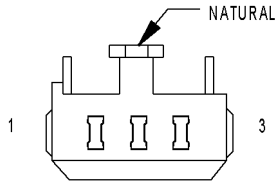
CAV	CIRCUIT	FUNCTION
1	W20 18BR/YL	REAR WASHER PUMP MOTOR CONTROL
2	Z243 18BK	GROUND



WIPER
MODULE-FRONT

WIPER MODULE-FRONT - BLACK 5 WAY

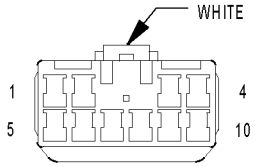
CAV	CIRCUIT	FUNCTION
1	Z103 12BK/WT	GROUND
2	W7 20BR/GY	FRONT WIPER PARK SWITCH SENSE
3	-	-
4	W3 12BR/WT	FRONT WIPER HIGH/LOW RELAY LOW SPEED OUTPUT
5	W4 12BR/OR	FRONT WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT



WIPER MODULE-REAR

WIPER MODULE-REAR - NATURAL 3 WAY

CAV	CIRCUIT	FUNCTION
1	Z213 18BK/OR	GROUND
2	W17 20BR/LG	REAR WIPER PARK SWITCH SENSE
3	W13 18BR/WT	REAR WIPER MOTOR CONTROL



WIPER/WASHER SWITCH

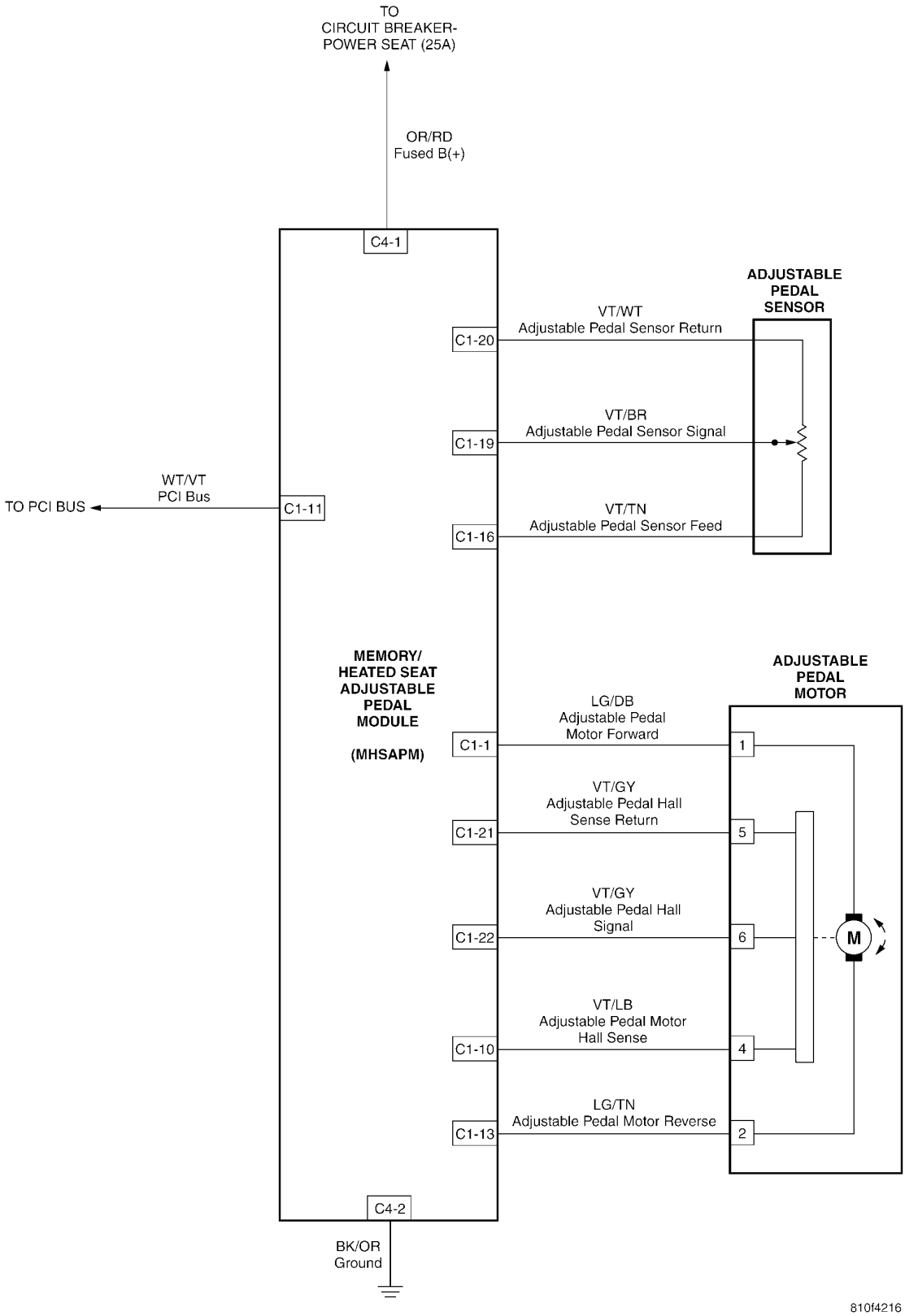
WIPER/WASHER SWITCH - WHITE 10 WAY

CAV	CIRCUIT	FUNCTION
1	G902 20VT/OR	MULTI-FUNCTION SWITCH MUX RETURN
2	-	-
3	W33 22BR/DG	FRONT WASHER SIGNAL
4	-	-
5	W26 20BR/DB	REAR WIPER SWITCH MUX
6	W27 22DB/BR	REAR WIPER SWITCH DELAY
7	G902 20VT/OR	MULTI-FUNCTION SWITCH MUX RETURN
8	W52 22BR/YL	FRONT WIPER SWITCH MUX
9	W35 22BR/LG	FRONT WIPER HIGH/LOW SWITCH SENSE
10	-	-

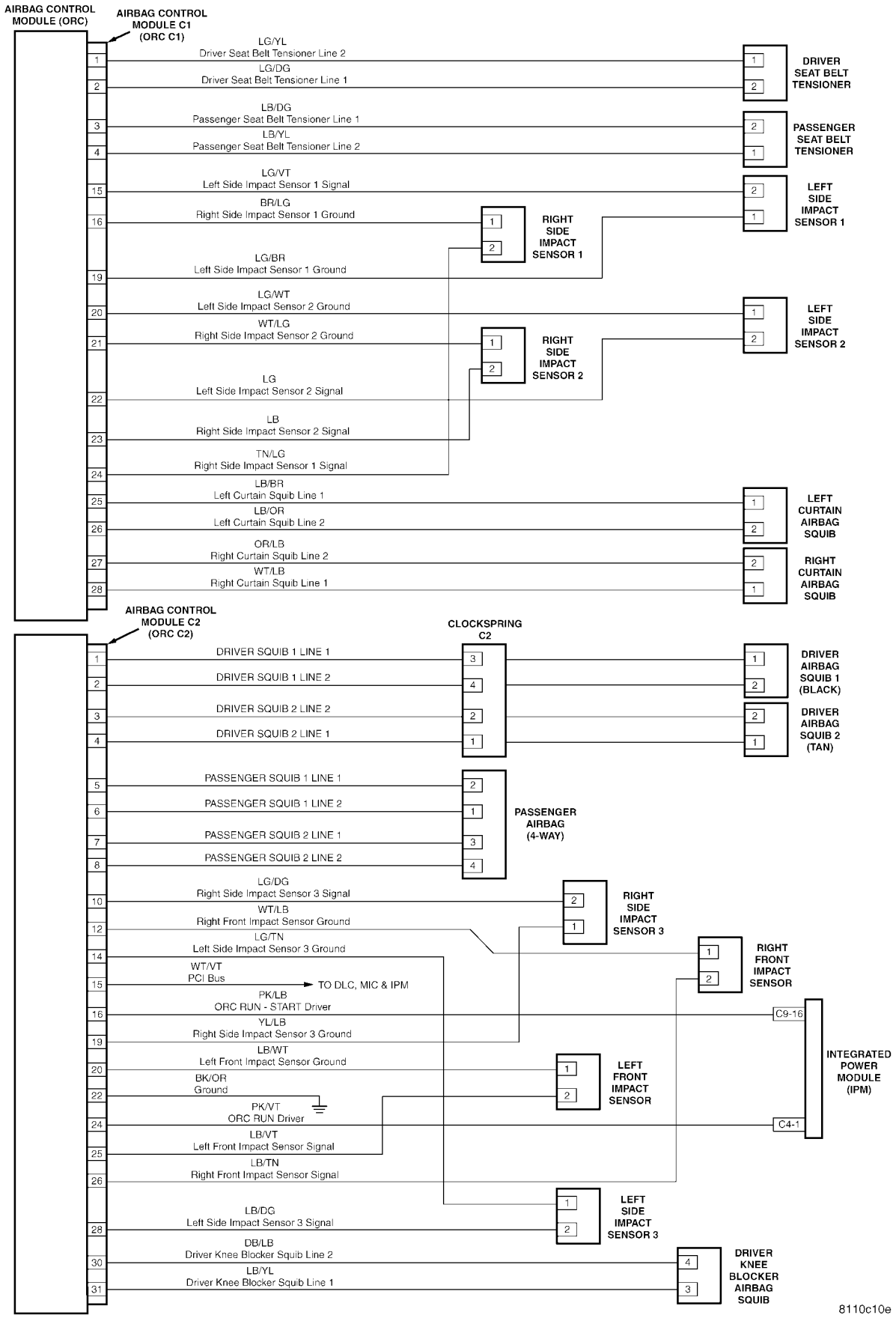
NOTES

10.0 SCHEMATIC DIAGRAMS

10.1 ADJUSTABLE PEDAL SYSTEM

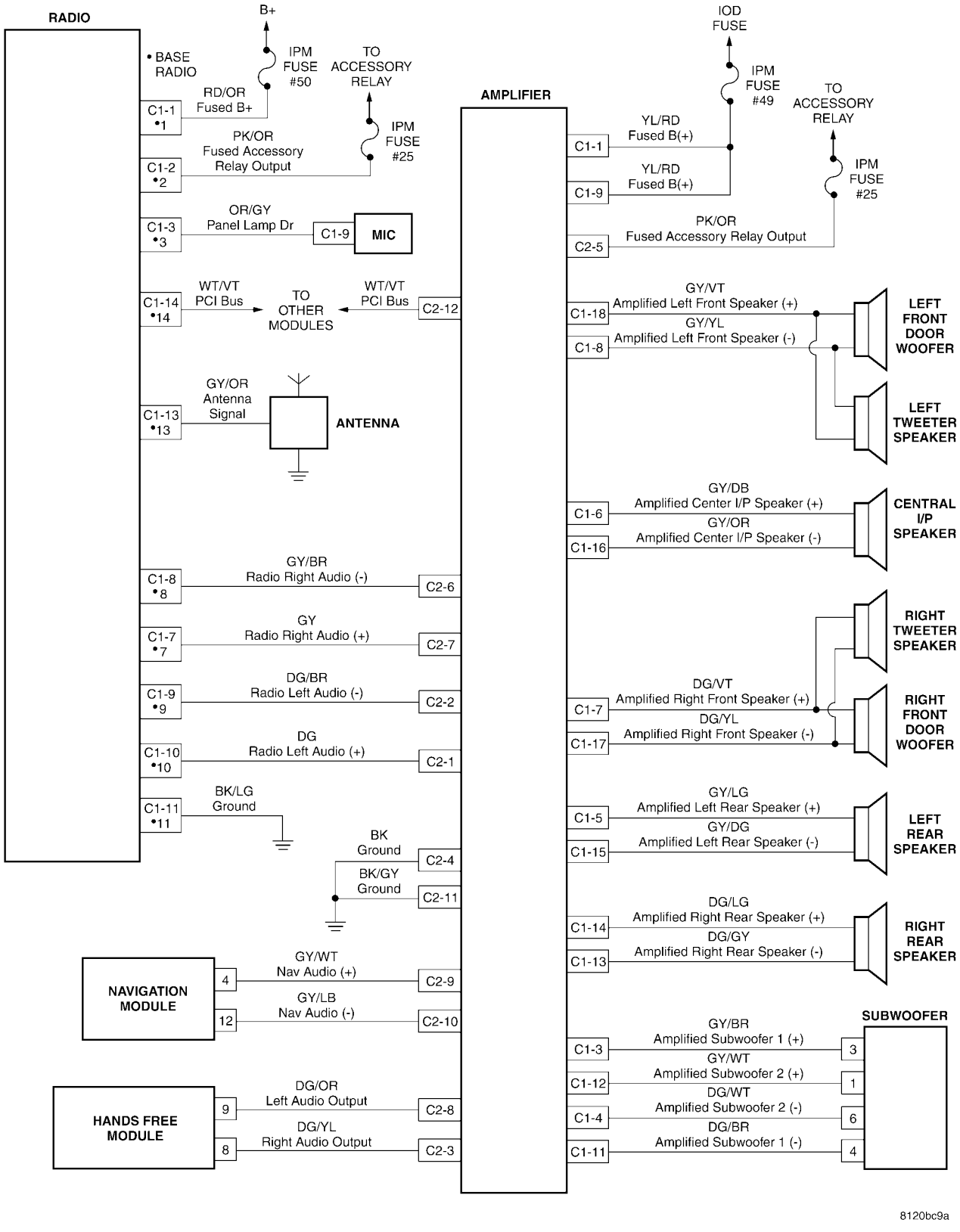


10.2 AIRBAG SYSTEM SCHEMATIC

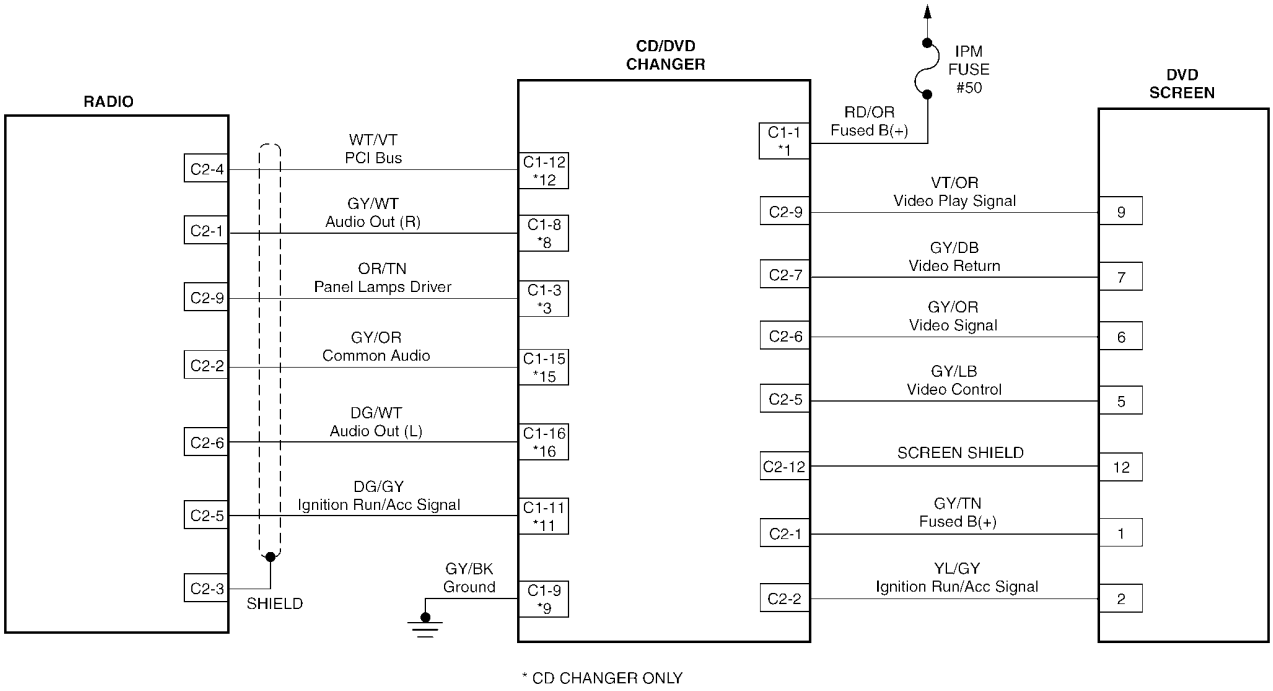


10.3 AUDIO

10.3.1 RADIO, AMPLIFIER, SPEAKERS

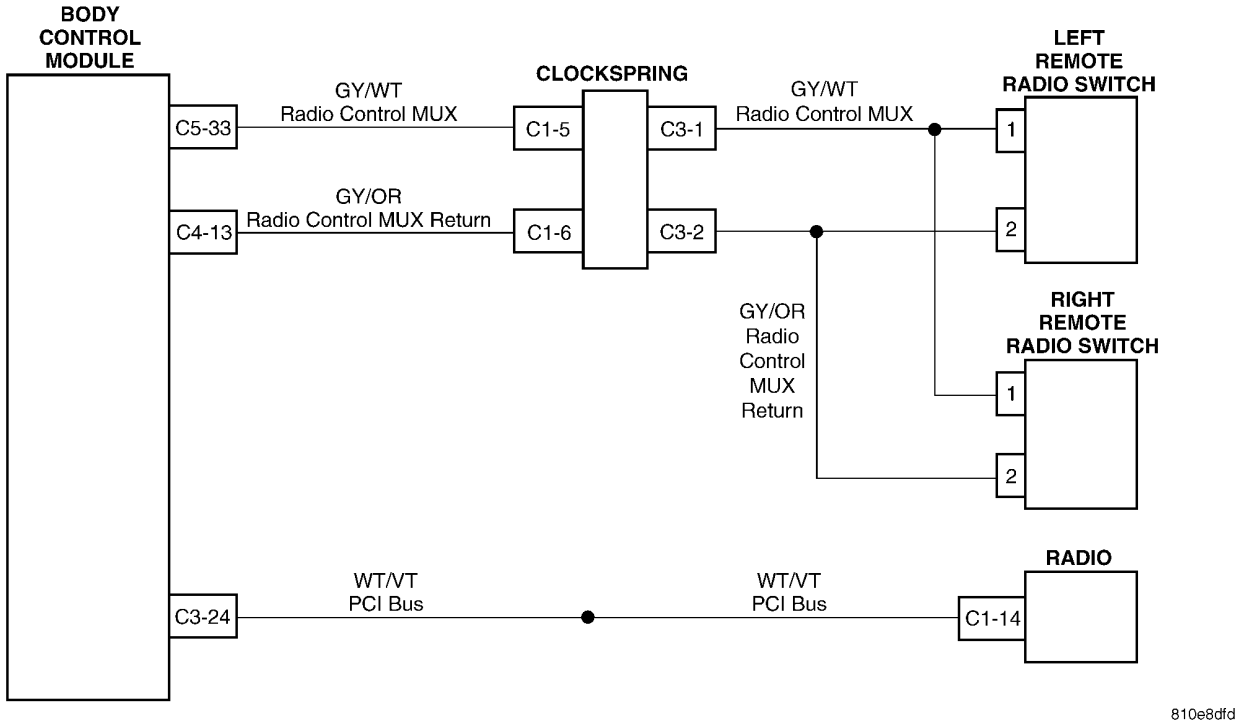


10.3 AUDIO (Continued)
10.3.2 CD/DVD CHANGER



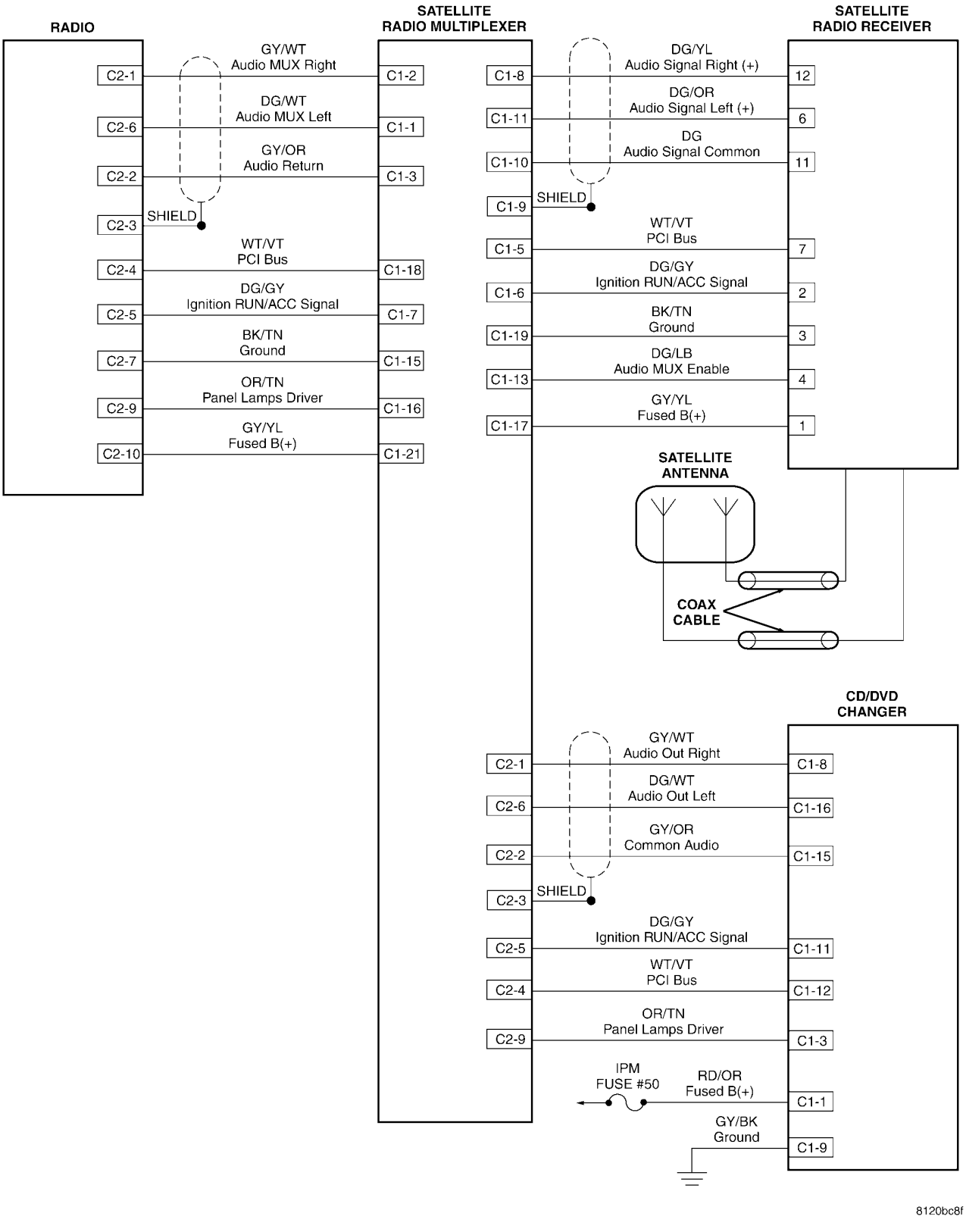
810e8e7a

10.3.3 REMOTE RADIO CONTROLS

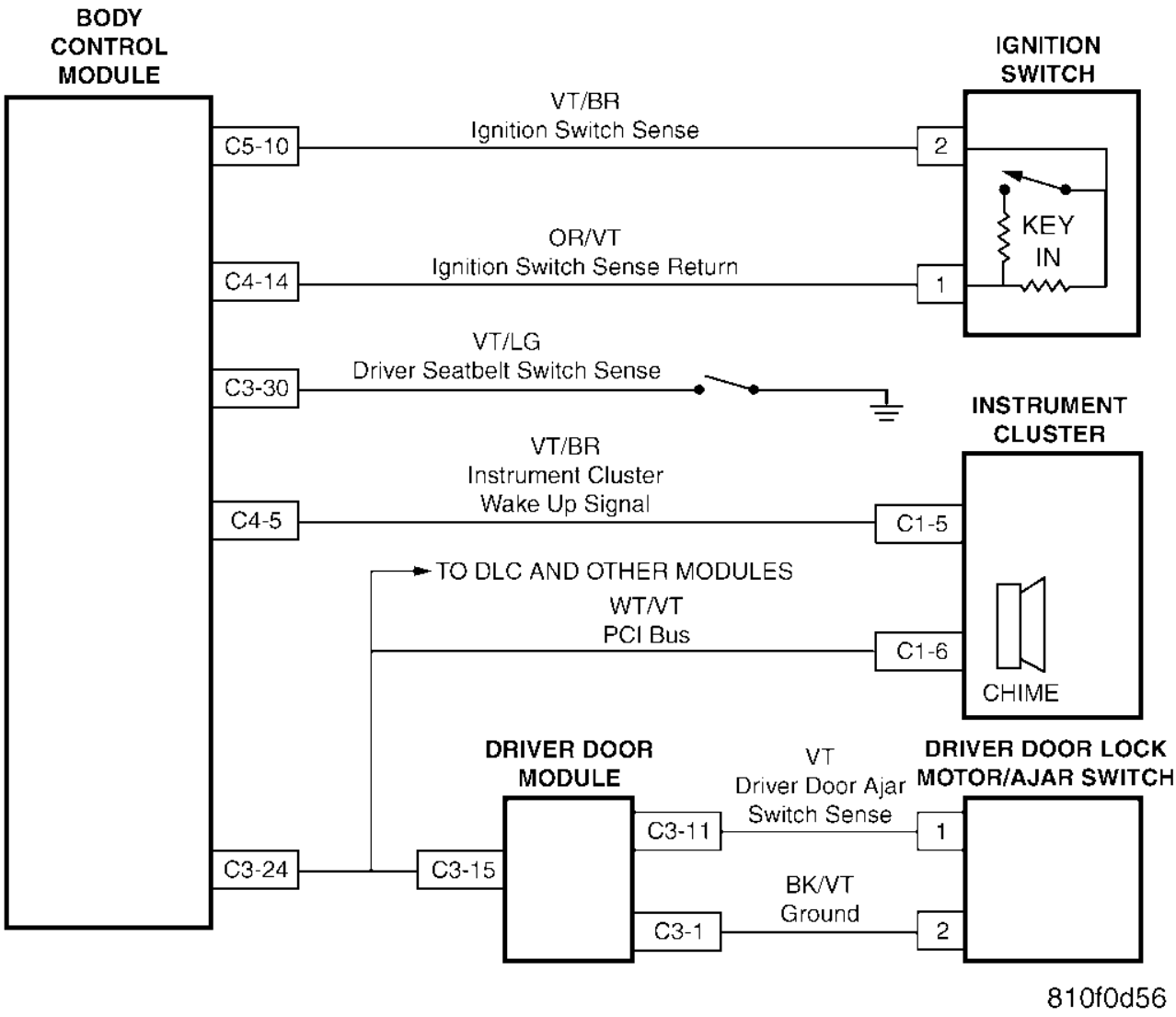


810e8dfd

10.3.4 SATELLITE DIGITAL AUDIO RECEIVER (SDAR) SYSTEM

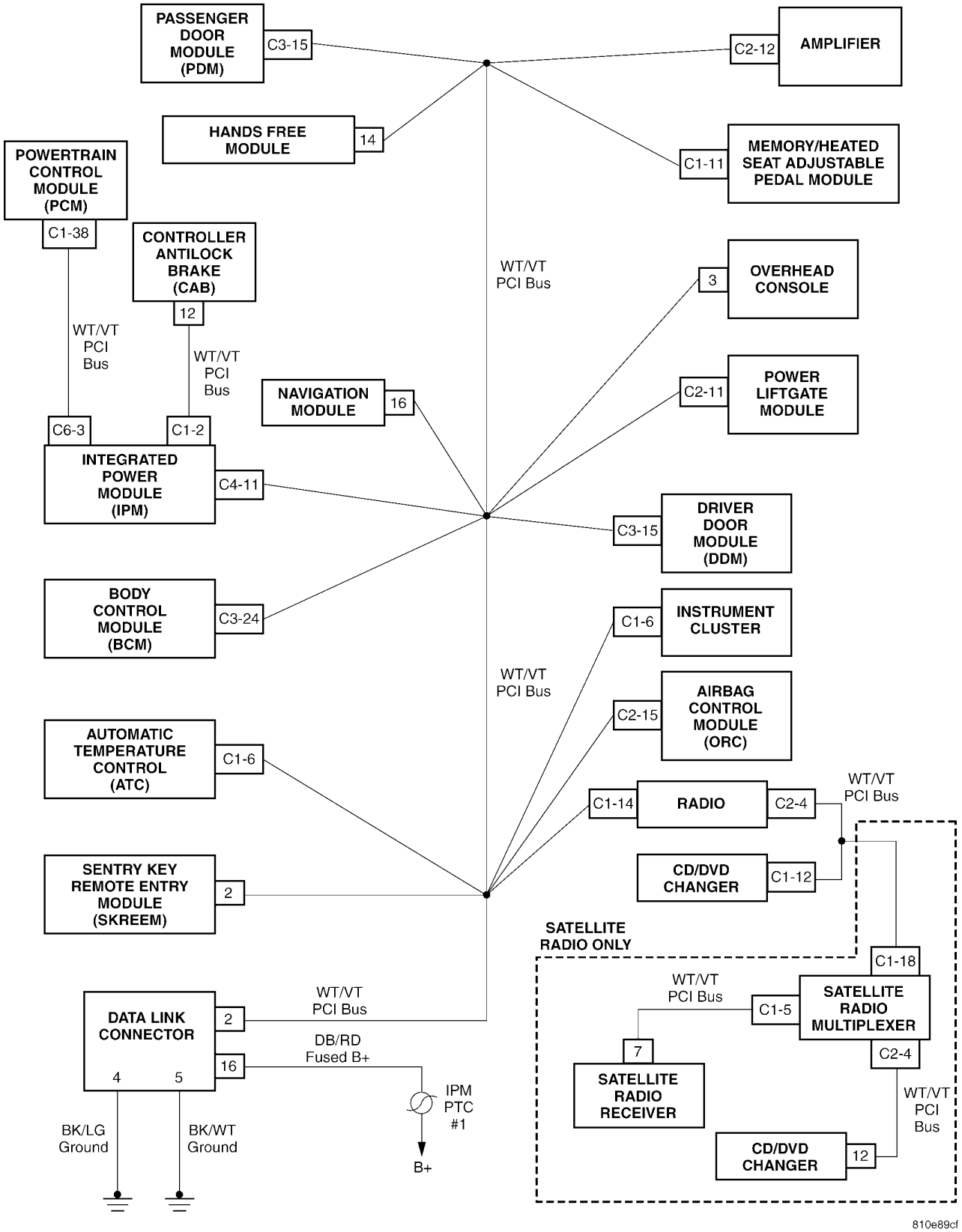


10.4 CHIME

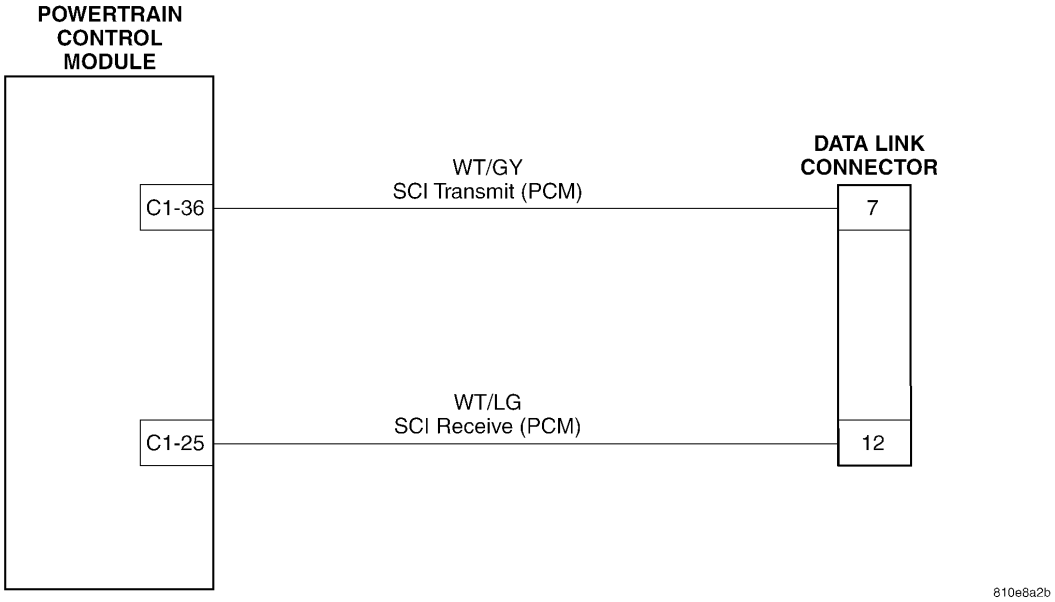

BODY CONTROL MODULE
IGNITION SWITCH
VT/BR
Ignition Switch Sense
C5-10
2
KEY IN
OR/VT
Ignition Switch Sense Return
C4-14
1
VT/LG
Driver Seatbelt Switch Sense
C3-30
INSTRUMENT CLUSTER
VT/BR
Instrument Cluster
Wake Up Signal
C4-5
C1-5
TO DLC AND OTHER MODULES
WT/VT
PCI Bus
C1-6
CHIME
DRIVER DOOR MODULE
VT
Driver Door Ajar
Switch Sense
DRIVER DOOR LOCK MOTOR/AJAR SWITCH
C3-11
1
C3-24
C3-15
BK/VT
Ground
C3-1
2
810f0d56

10.5 COMMUNICATION

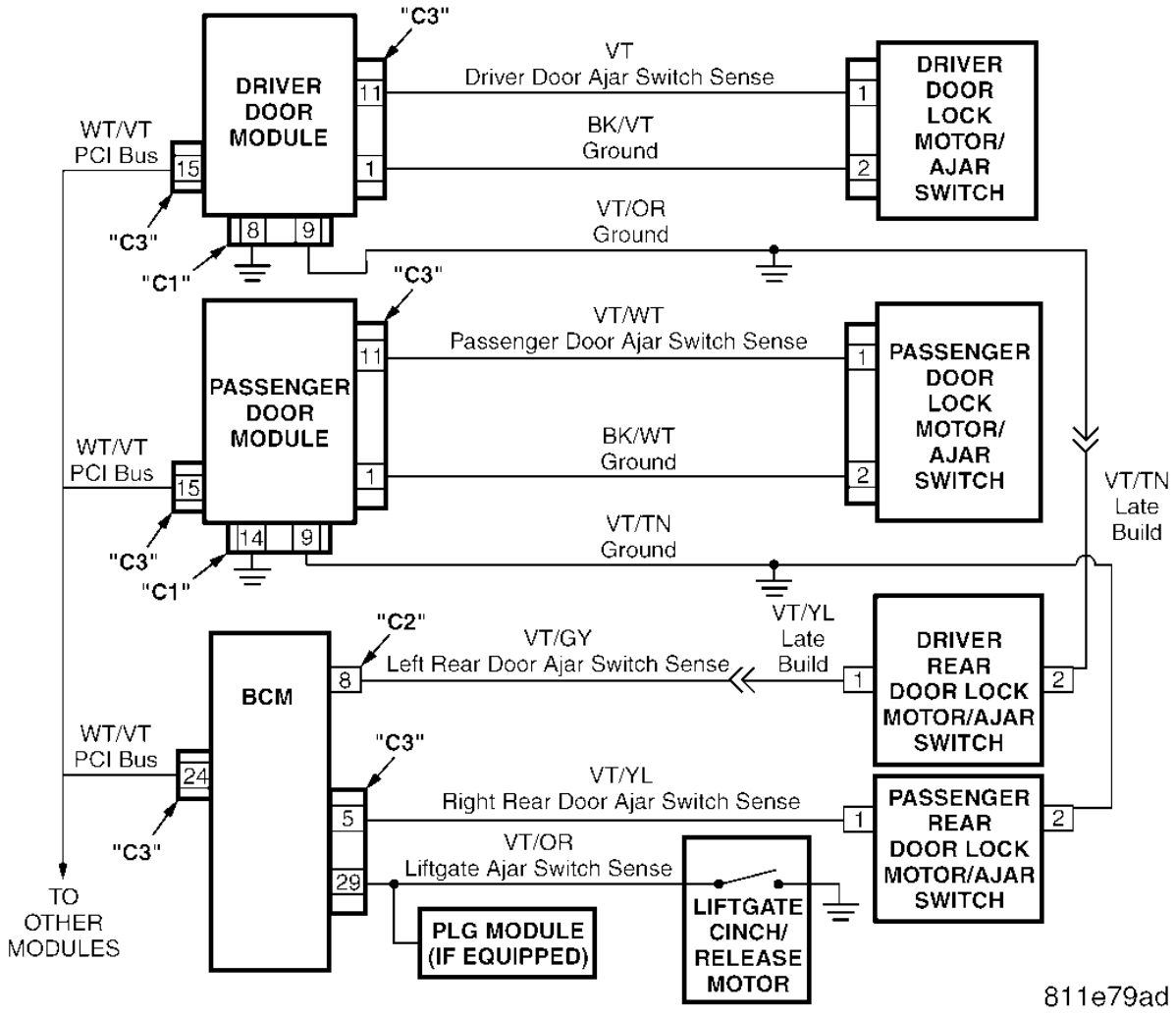
10.5.1 VEHICLE COMMUNICATION



10.5 COMMUNICATION (Continued)
10.5.2 PCM COMMUNICATION

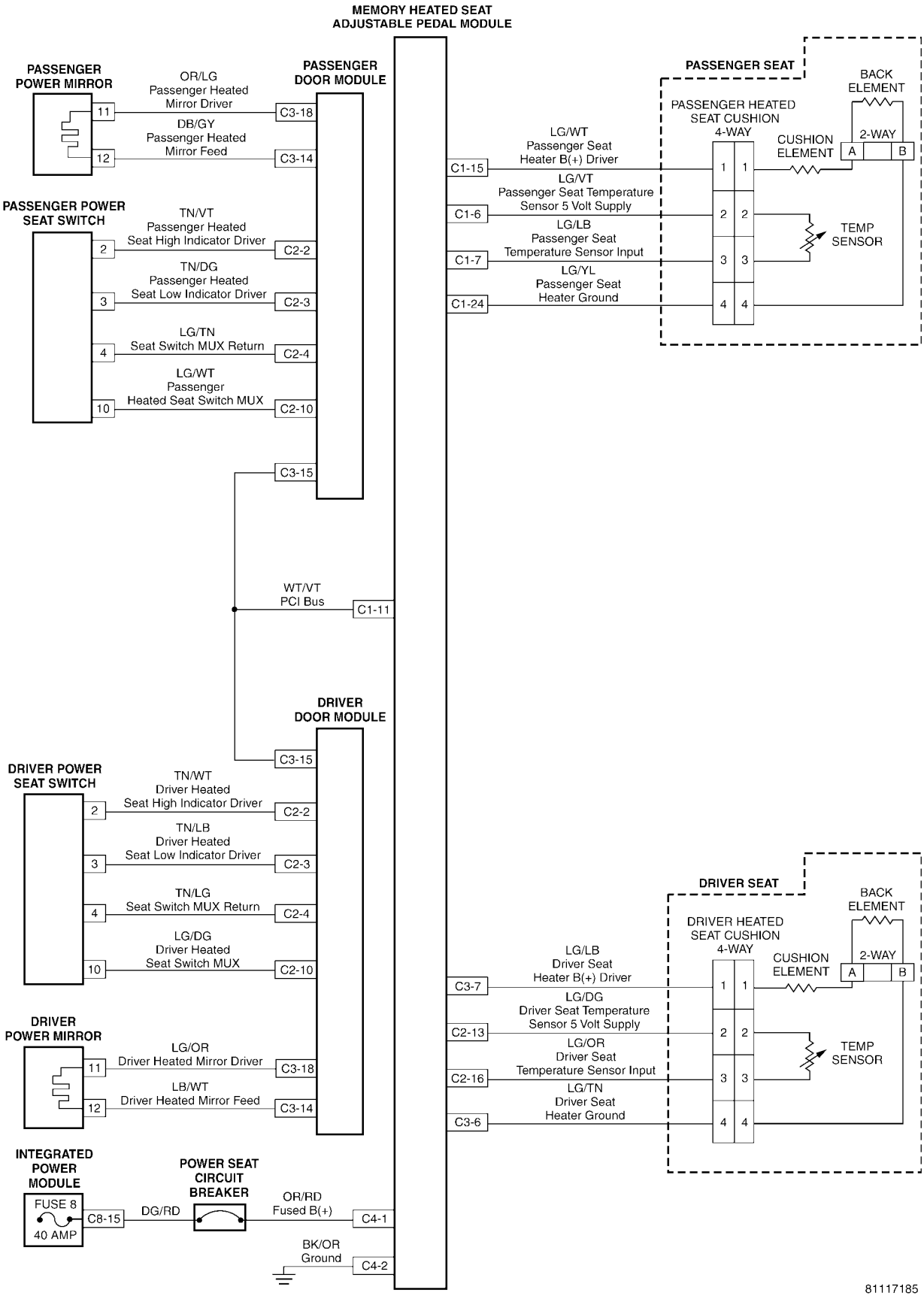


10.6 DOOR AJAR SYSTEM

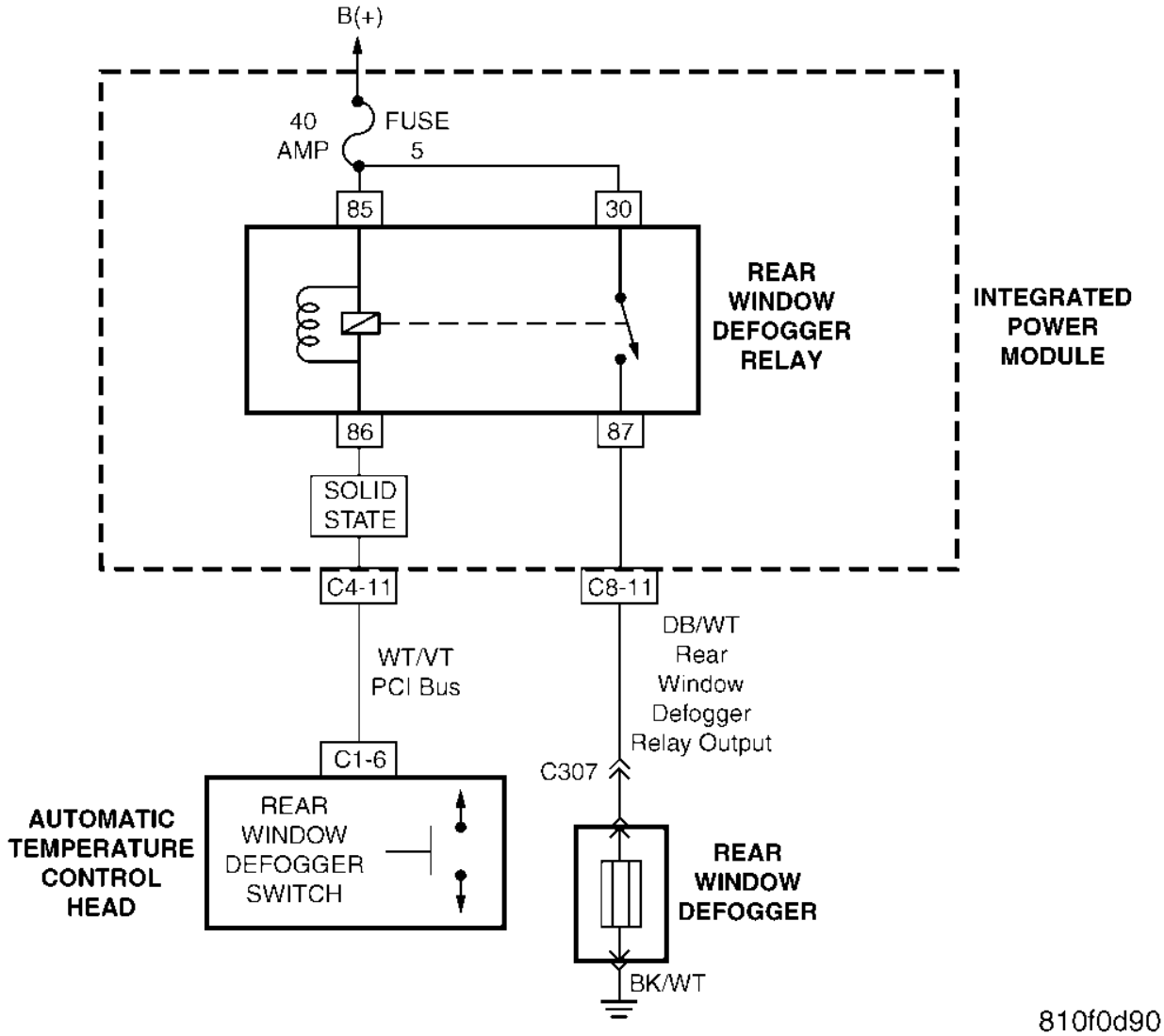


10.7 ELECTRICALLY HEATED SYSTEMS

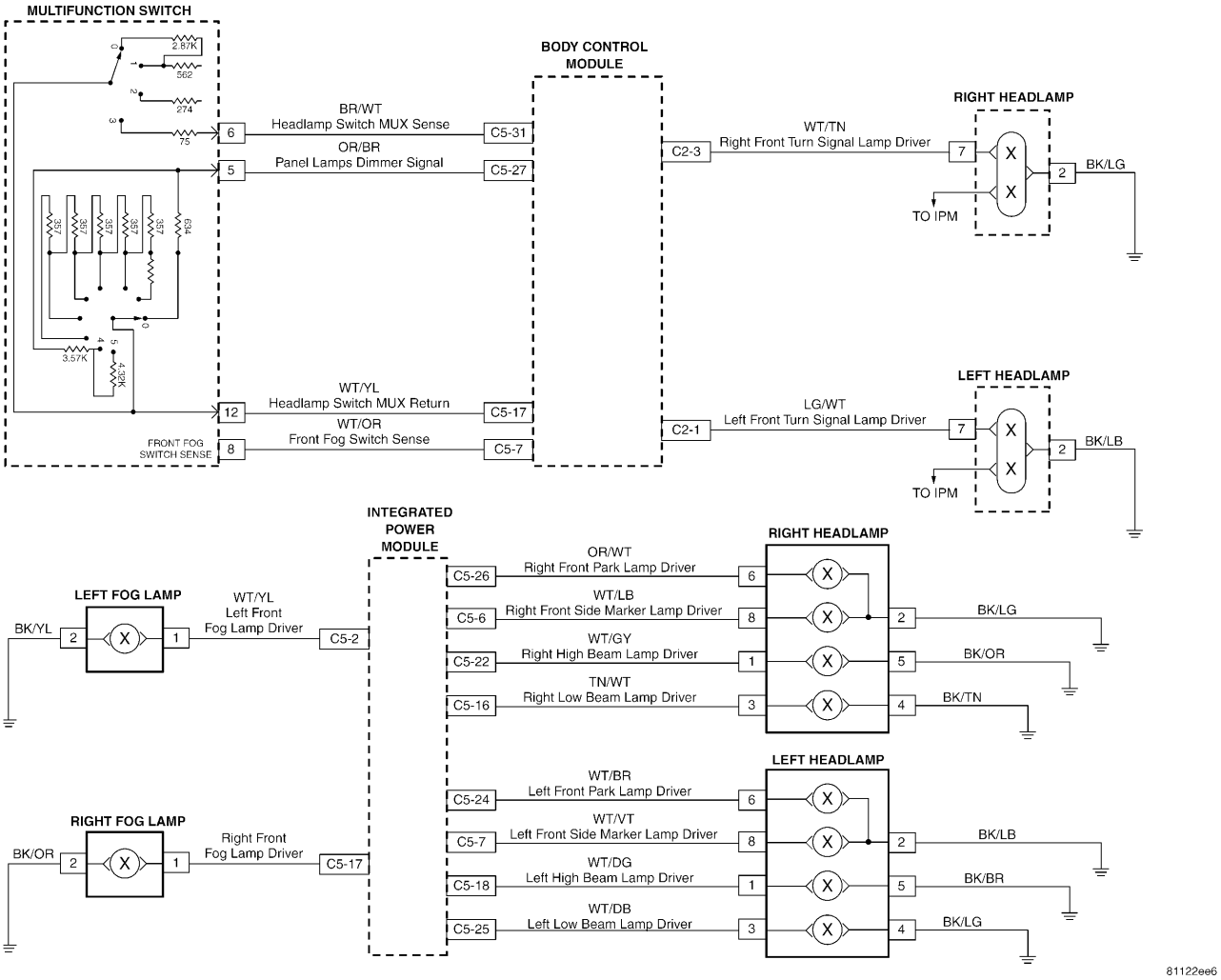
10.7.1 HEATED SEATS — FRONT



10.7 ELECTRICALLY HEATED SYSTEMS (Continued)
10.7.2 REAR WINDOW DEFOGGER

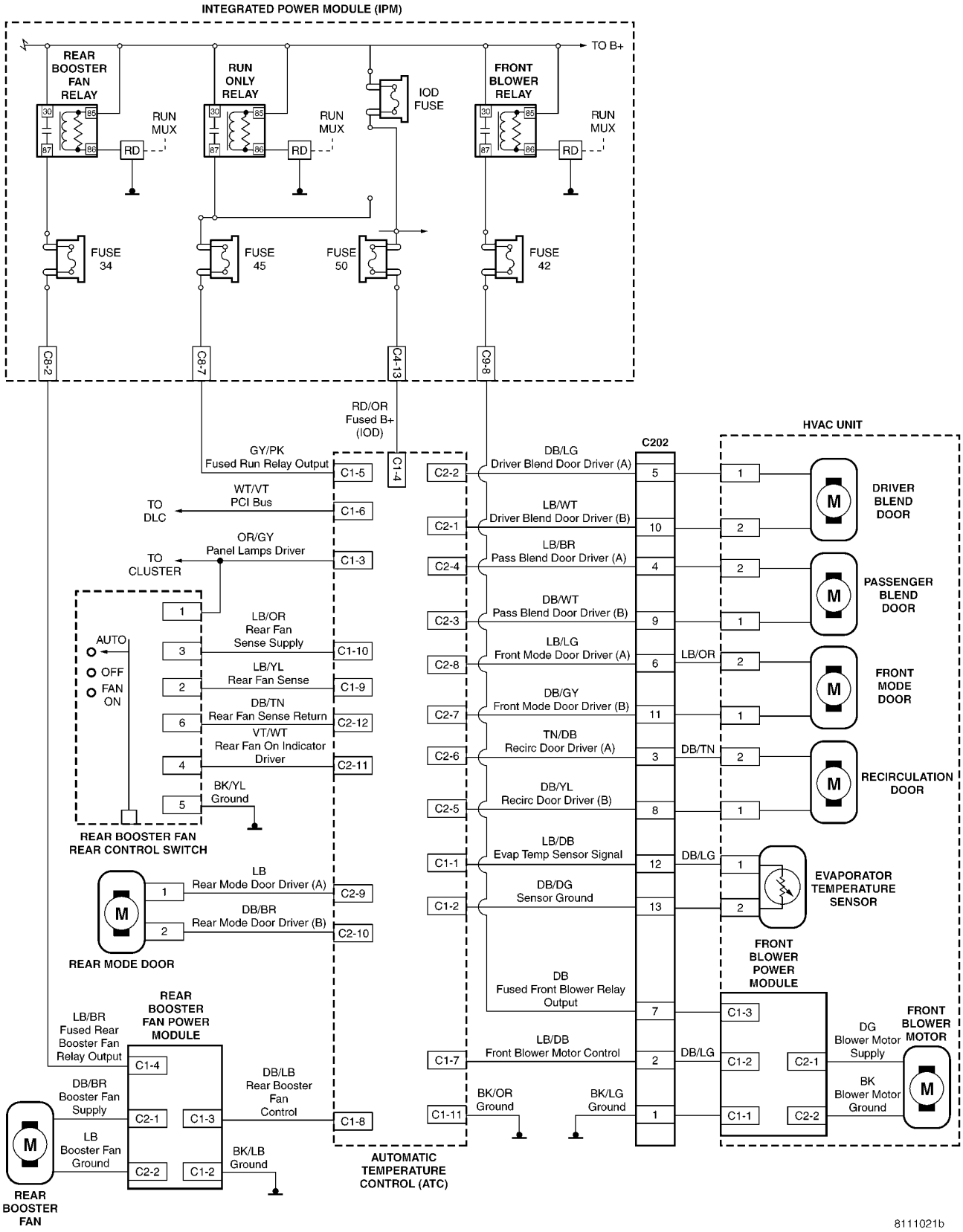


10.8 EXTERIOR LIGHTS/FRONT LIGHTING



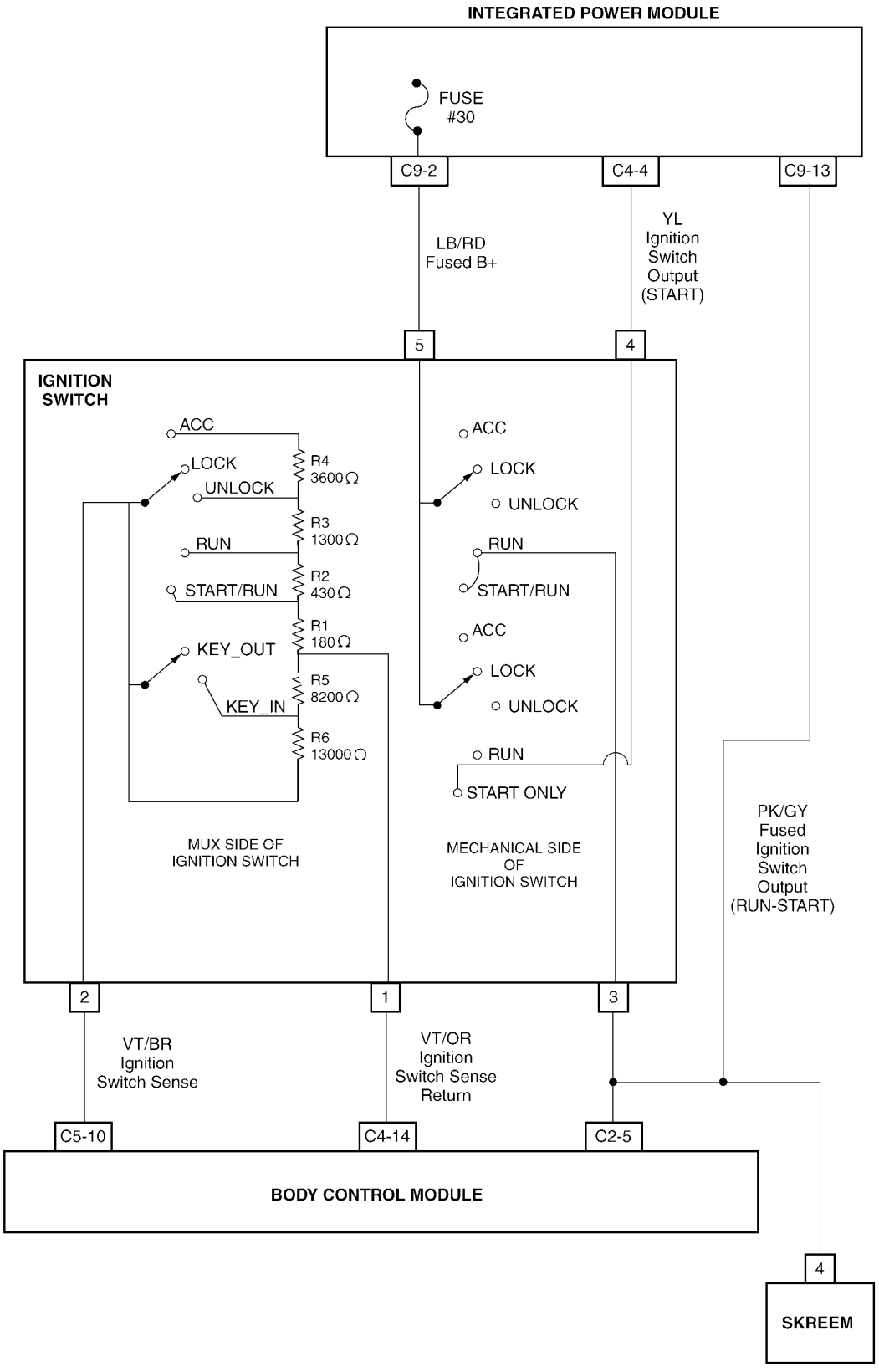
10.9 HEATING & A/C

10.9.1 AUTOMATIC TEMPERATURE CONTROL SYSTEM



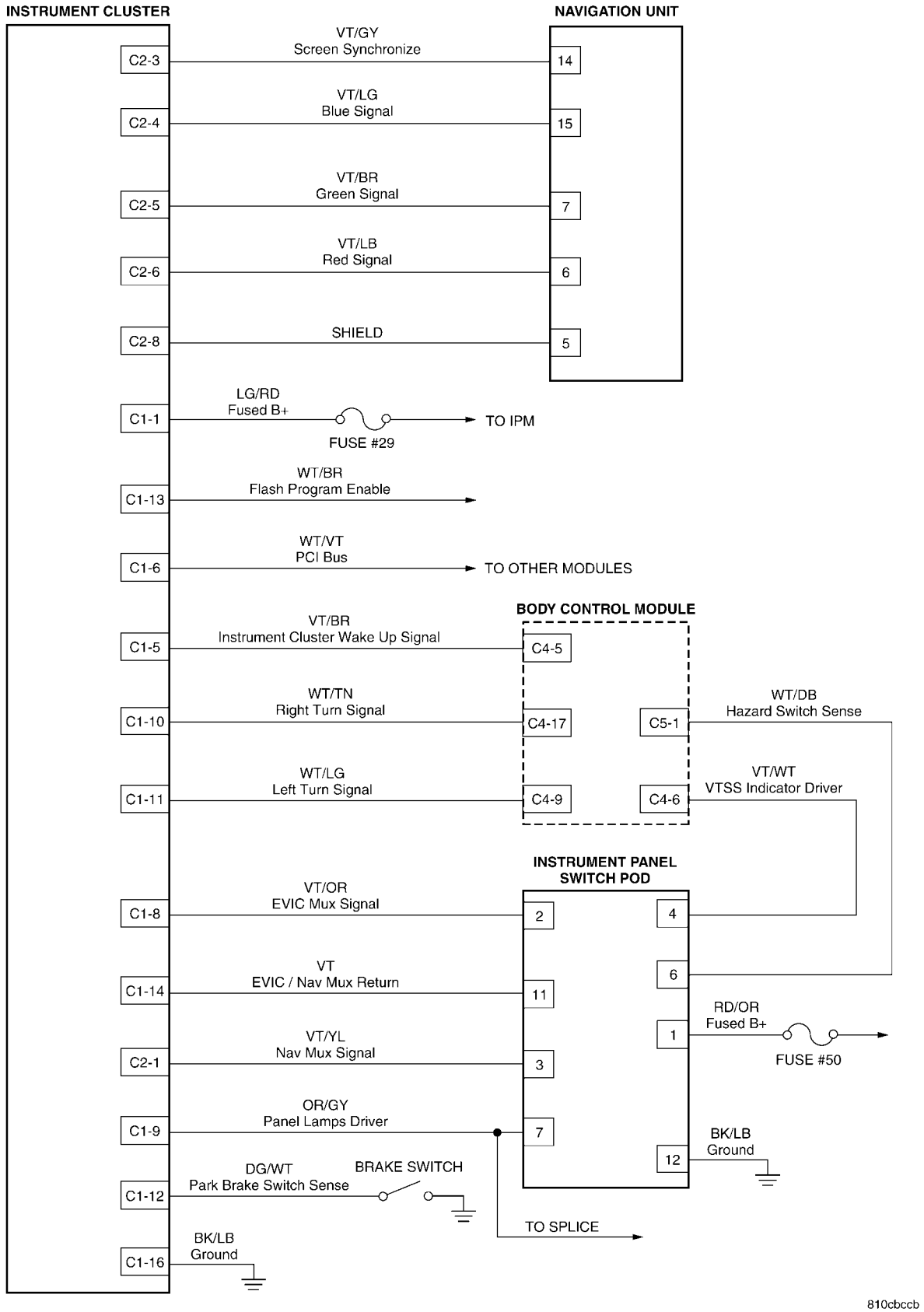
10.10 IGNITION POWER ACCESSORY

10.10.1 IGNITION SWITCH

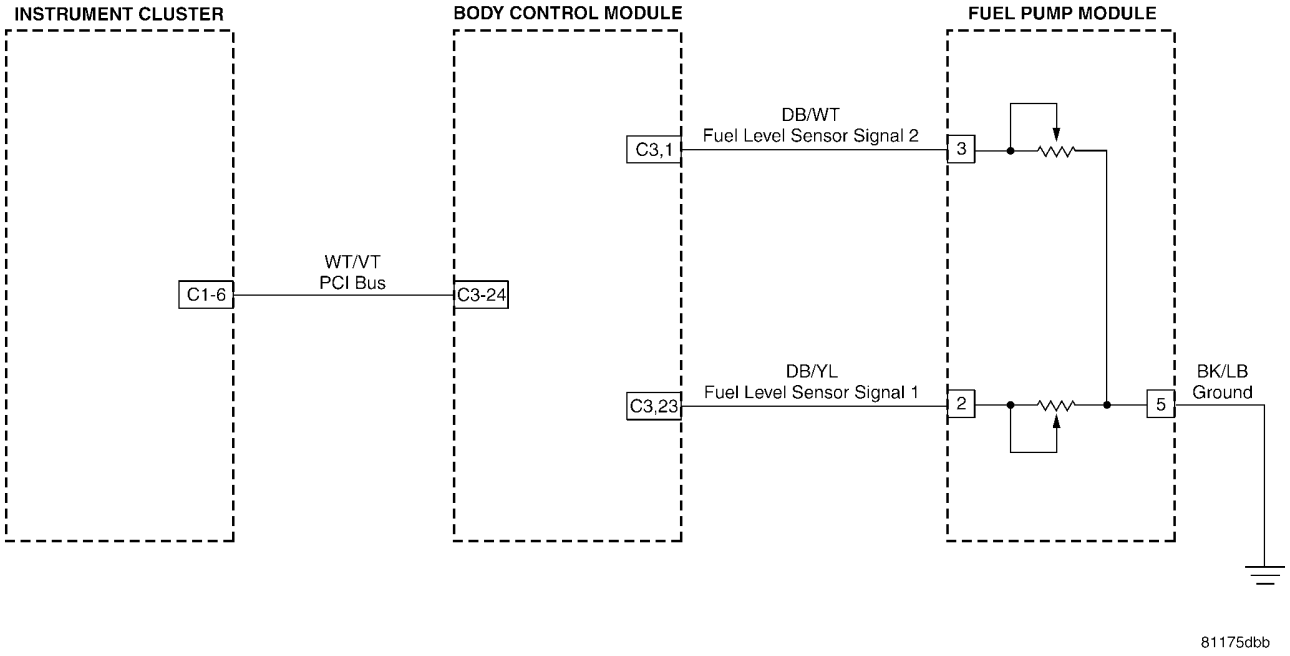


10.11 INSTRUMENT CLUSTER

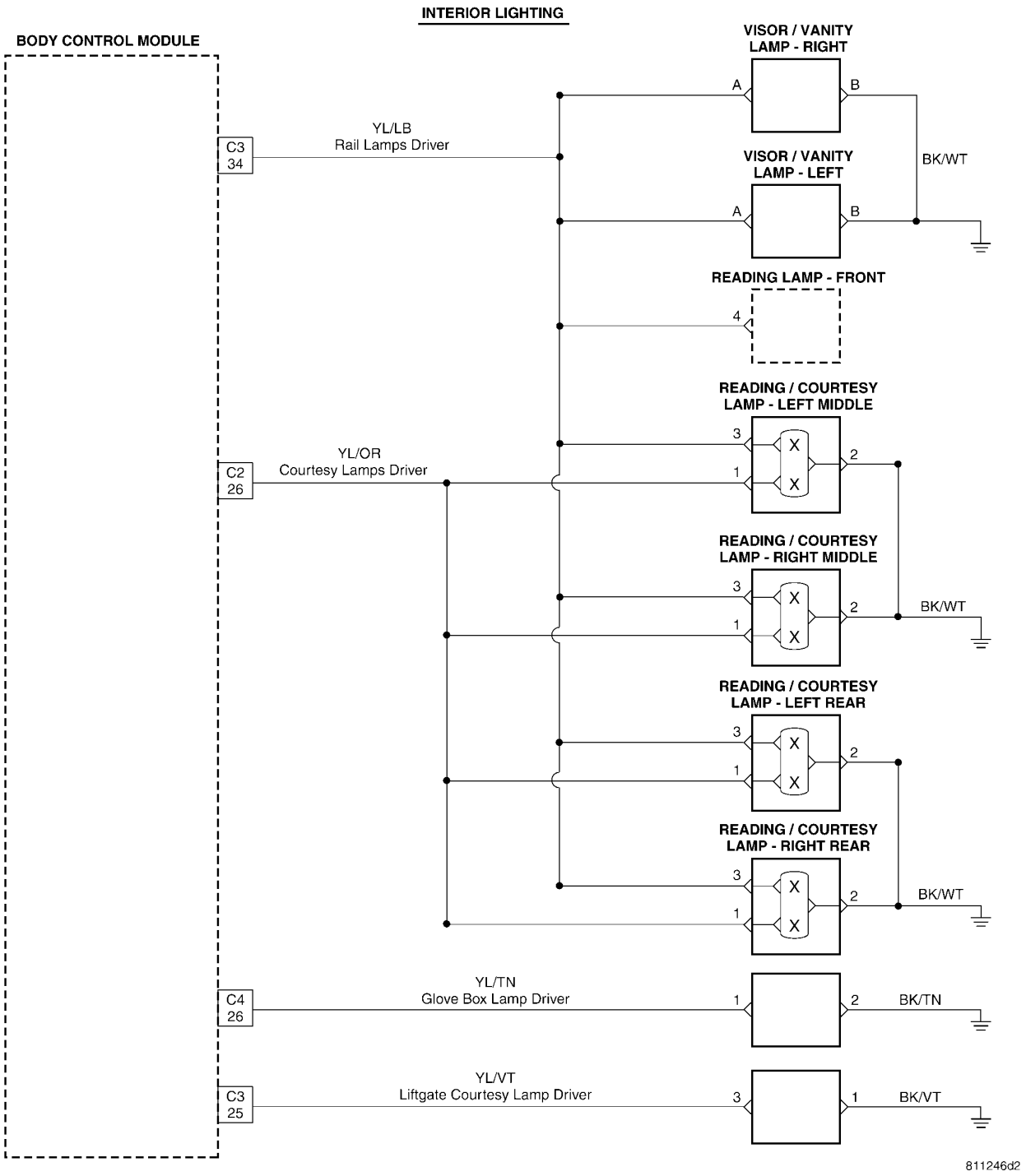
10.11.1 NAVIGATION, BCM, SWITCH POD



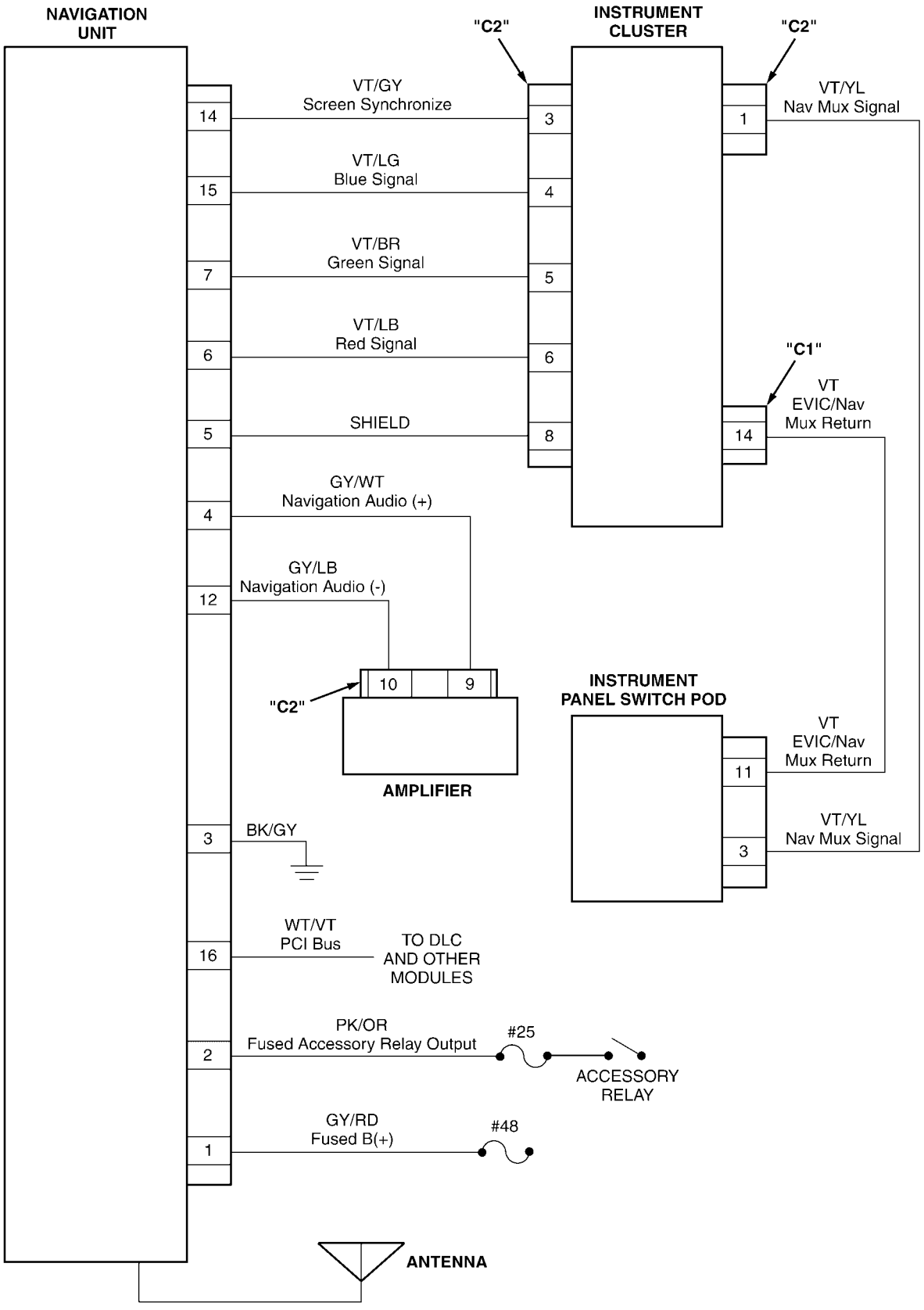
10.11.2 FUEL LEVEL SENSORS



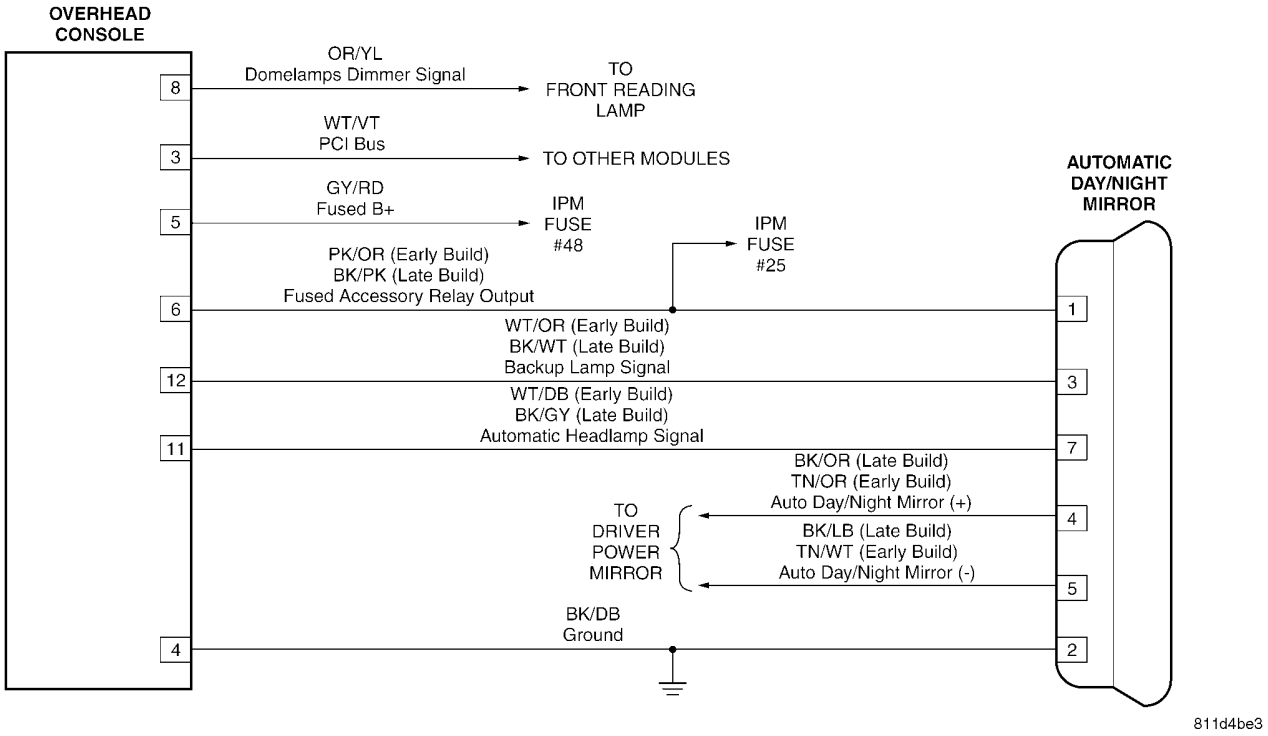
10.12 INTERIOR LIGHTING



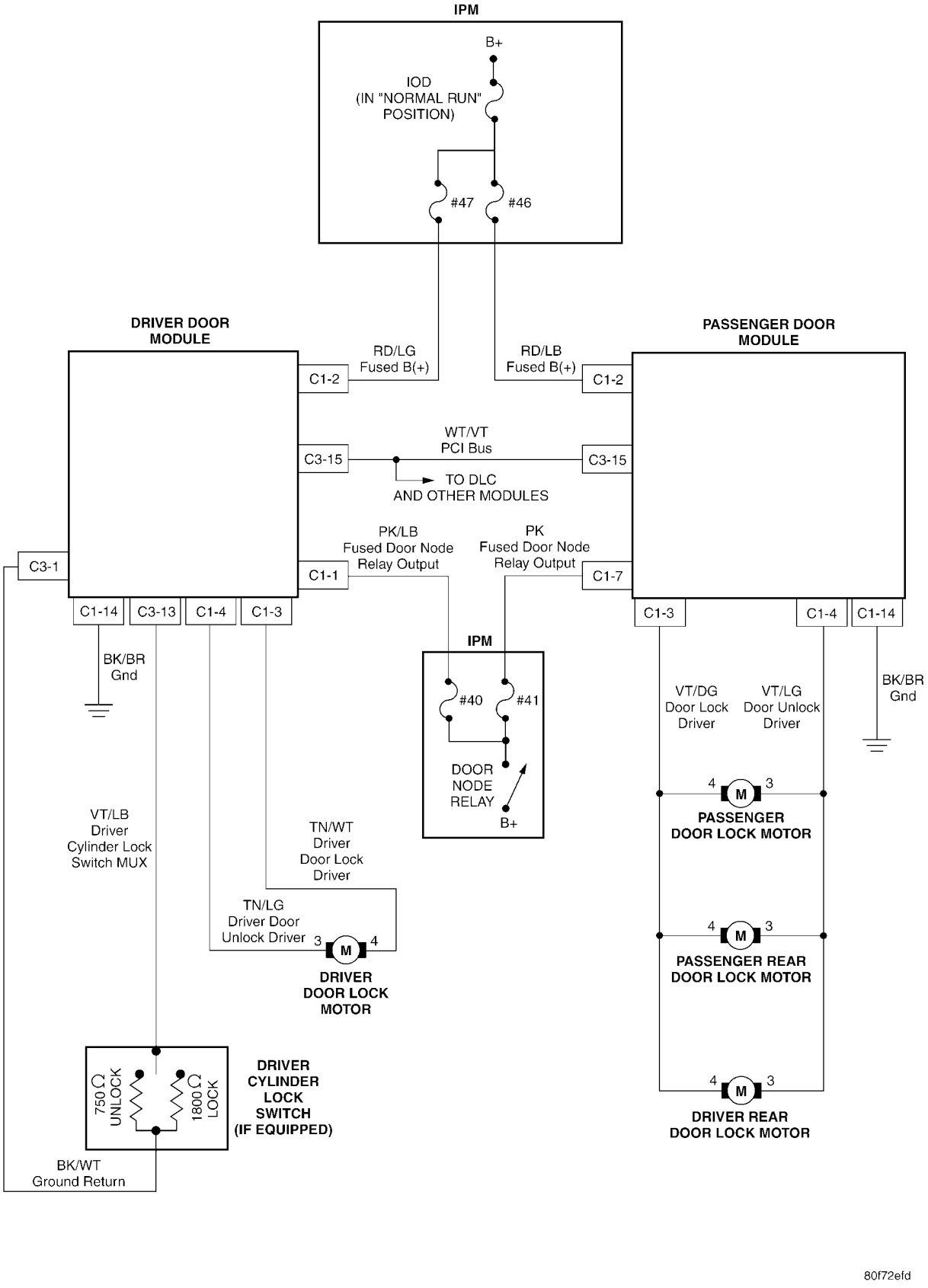
10.13 NAVIGATION SYSTEM



10.14 OVERHEAD CONSOLE

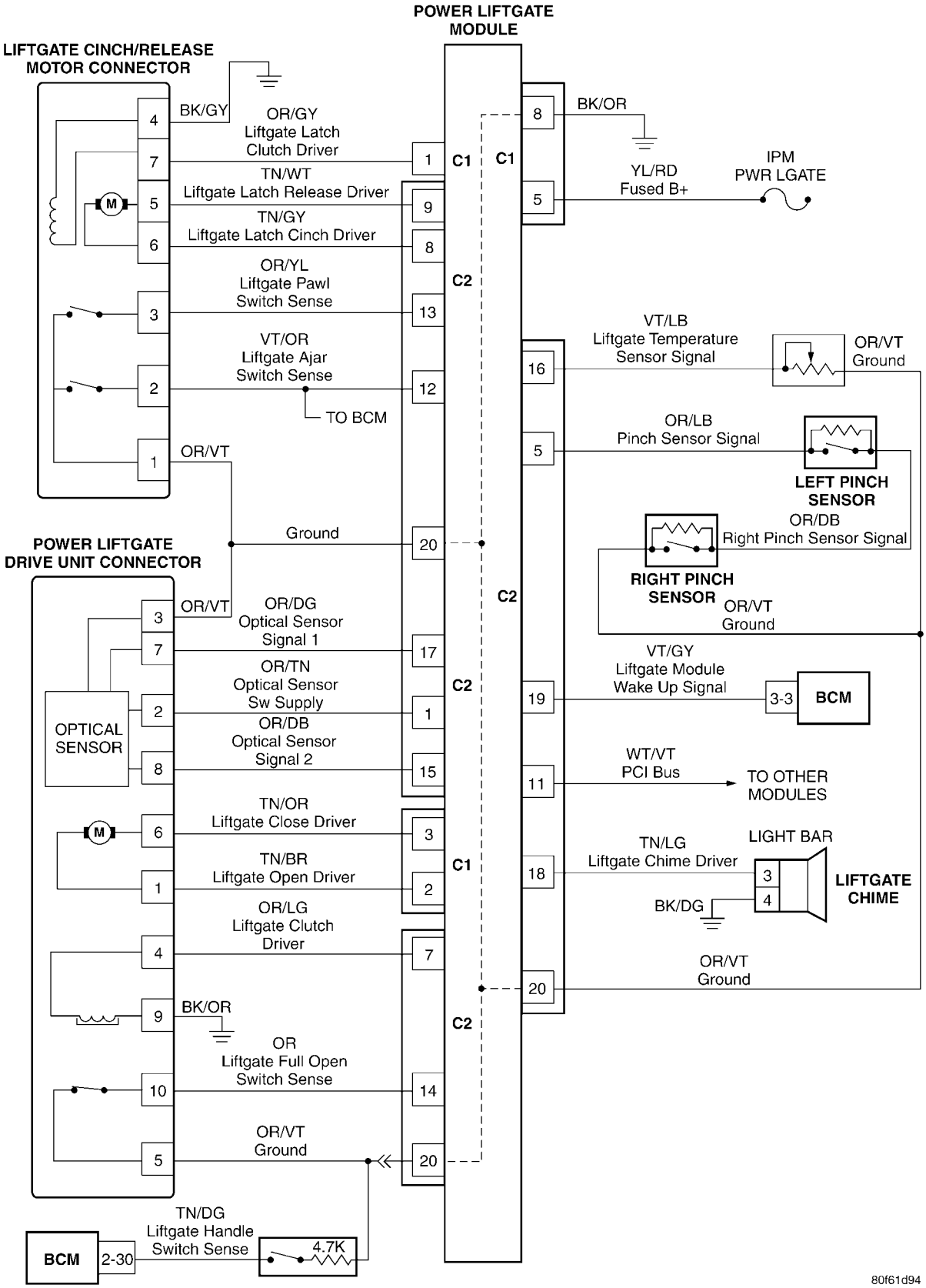


10.15 POWER DOOR LOCKS/RKE

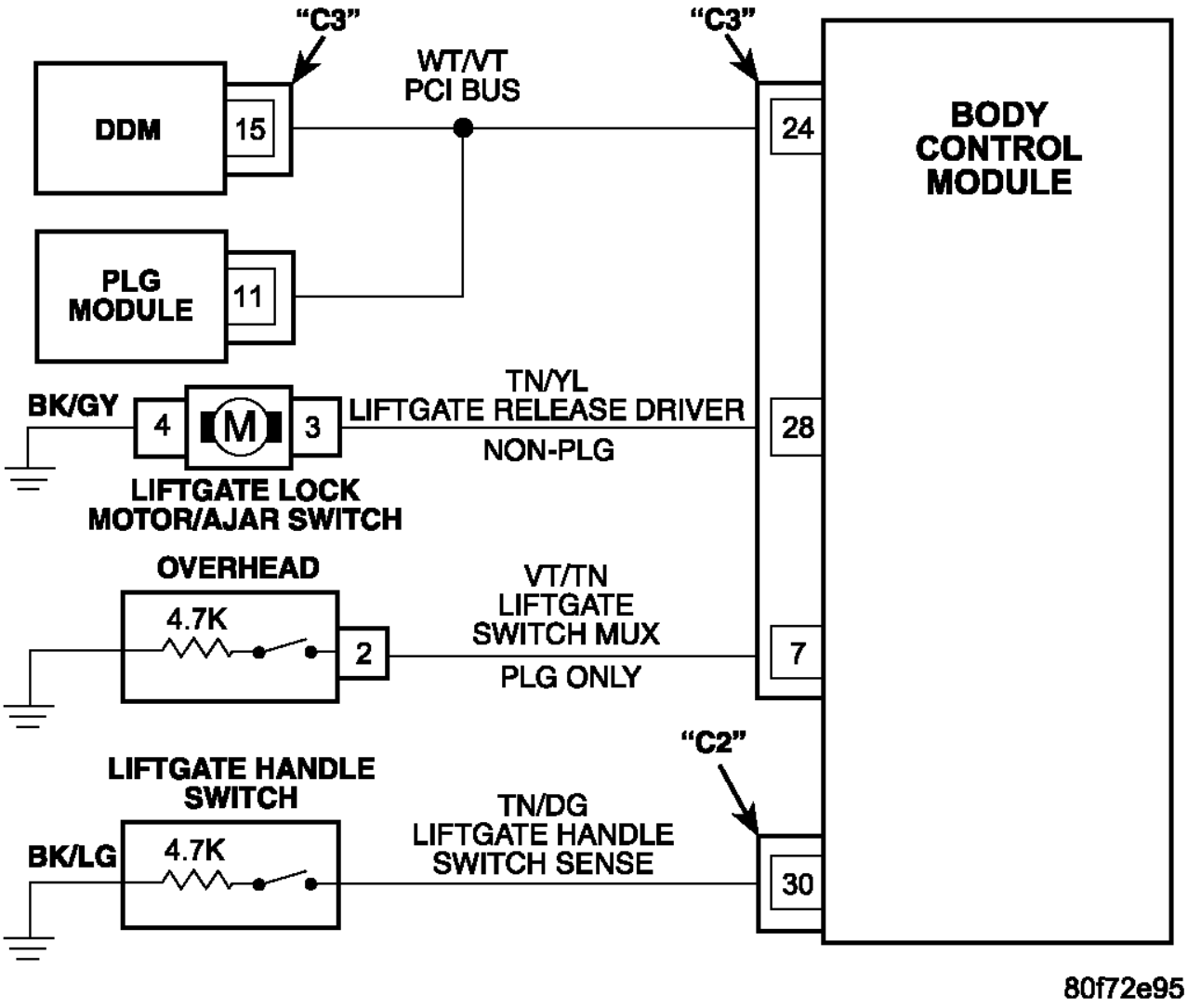


10.16 POWER LIFTGATE SYSTEM

10.16.1 LIFTGATE



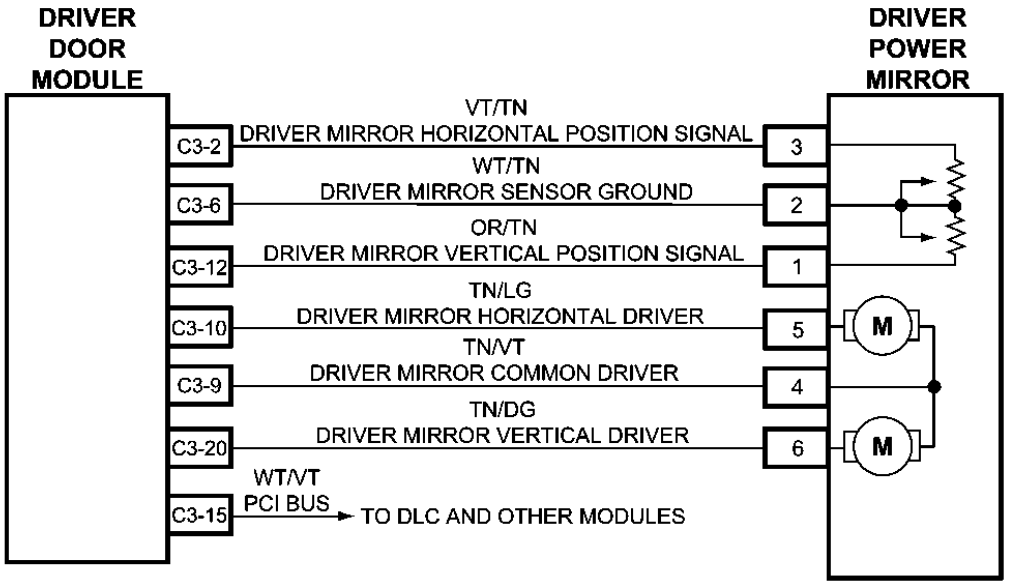
10.16.2 LIFTGATE RELEASE



80f72e95

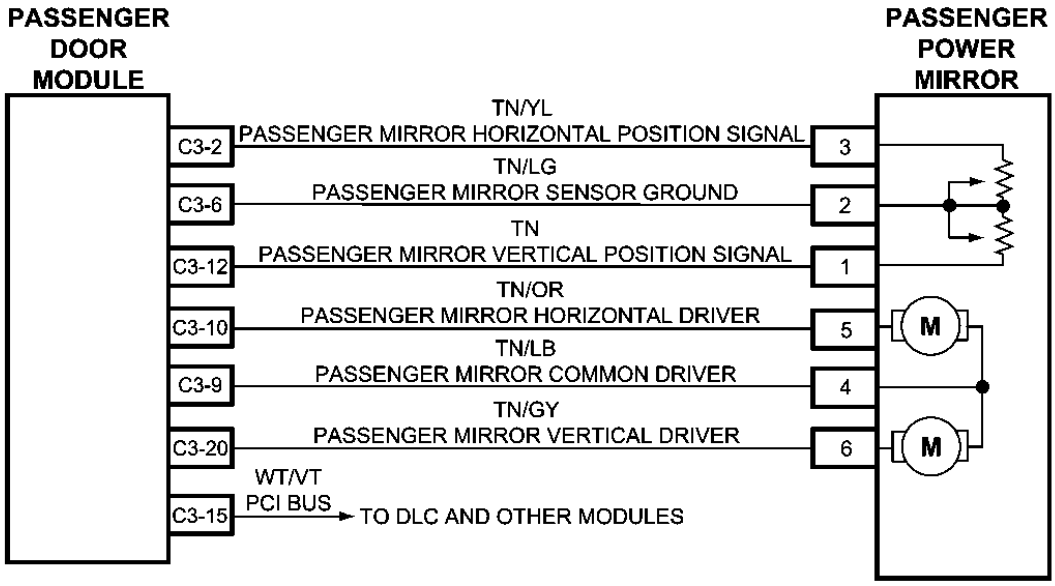
10.17 POWER MIRROR SYSTEM

10.17.1 DRIVER MIRROR



8111745c

10.17.2 PASSENGER MIRROR



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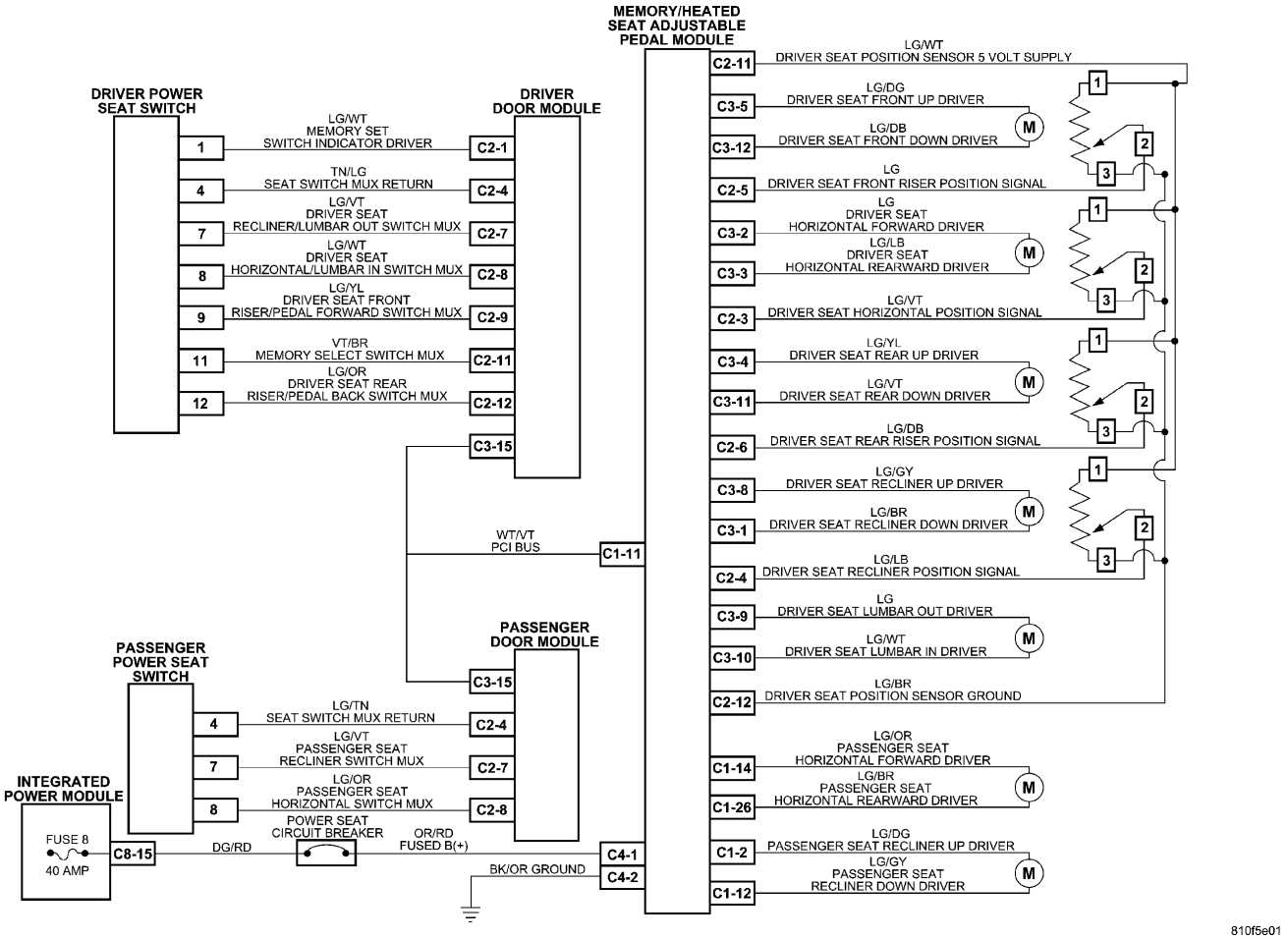
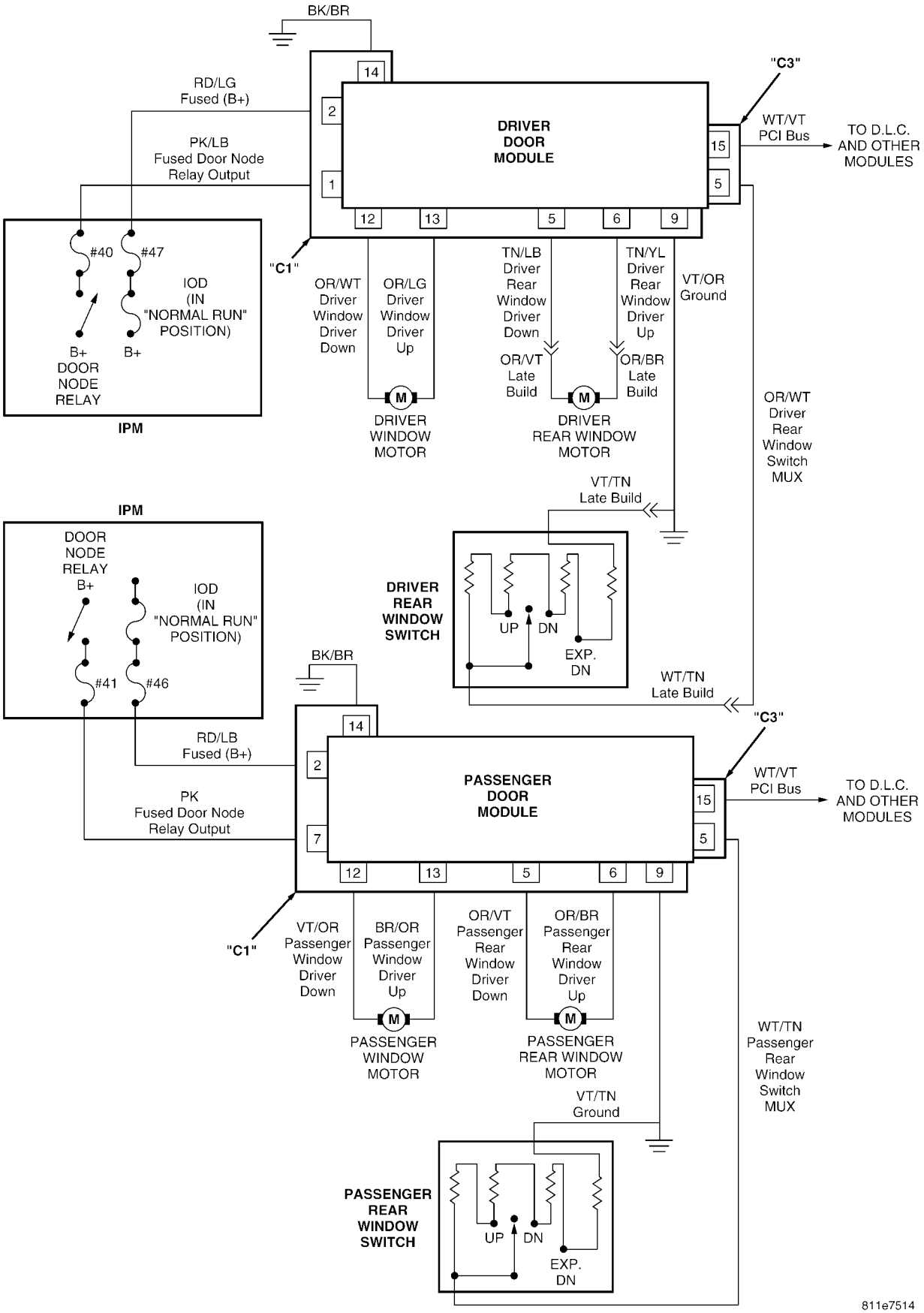
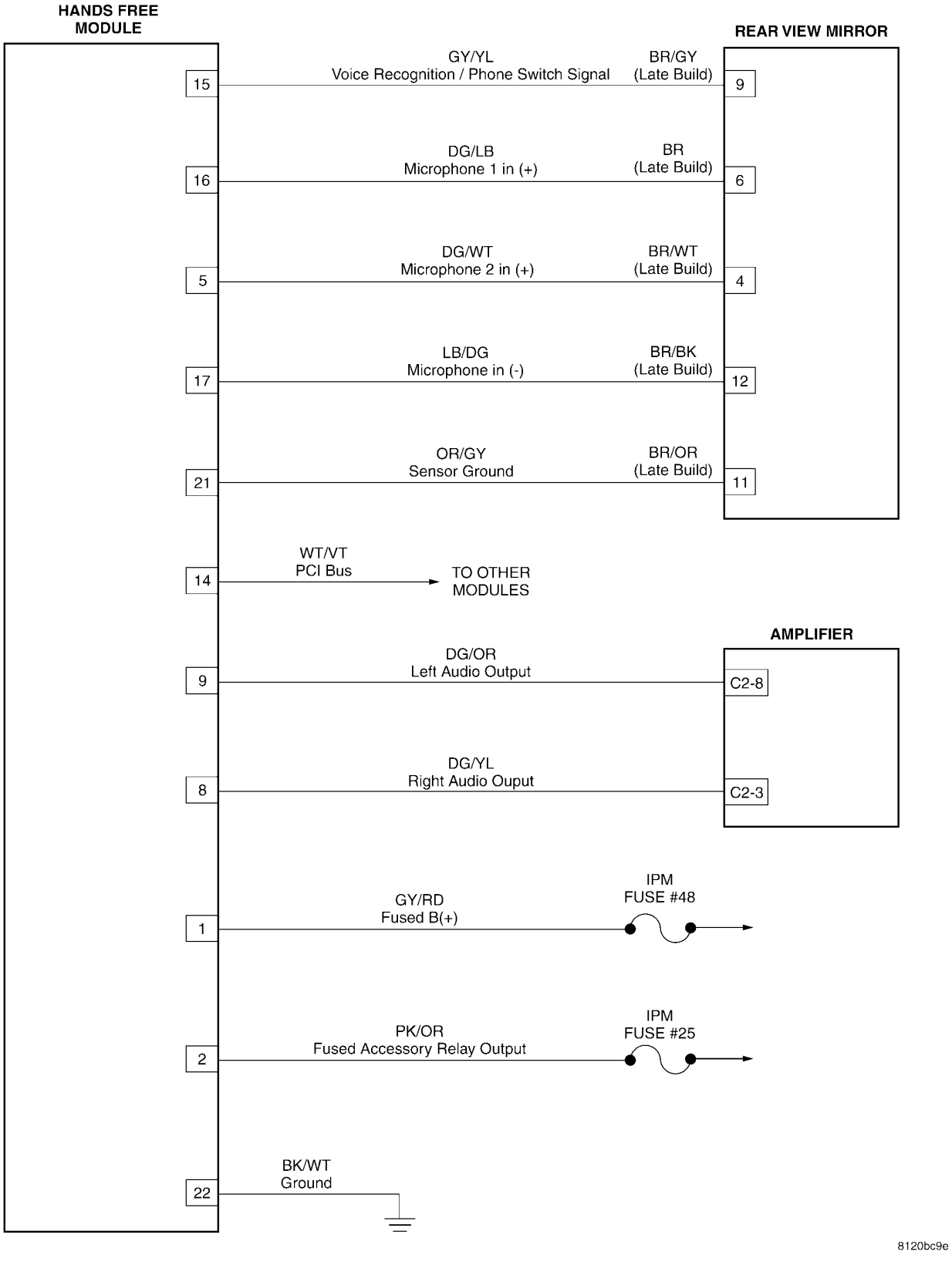
10.18 POWER SEAT SYSTEM



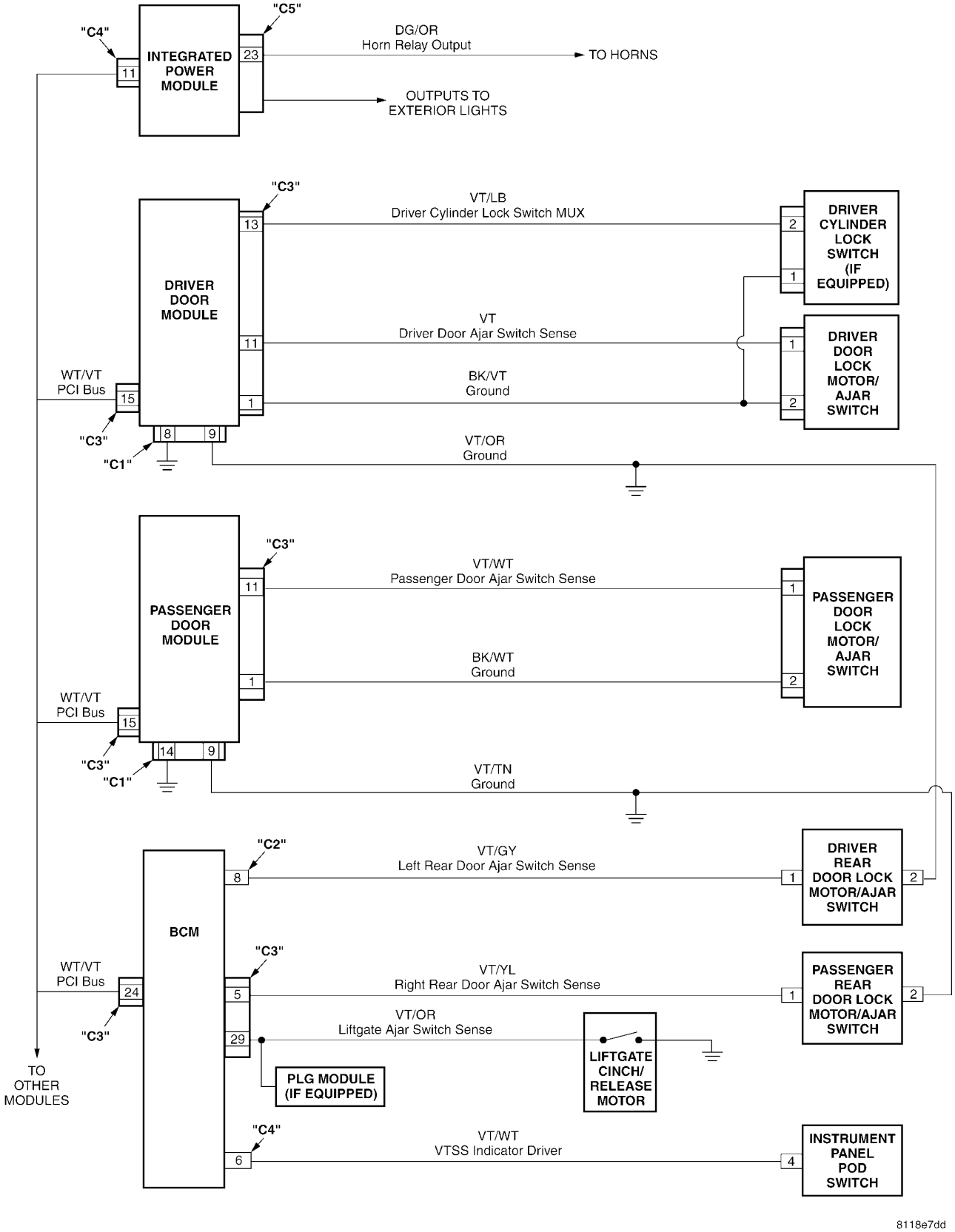
10.19 POWER WINDOW SYSTEM



10.20 TELECOMMUNICATIONS — HANDS FREE SYSTEM

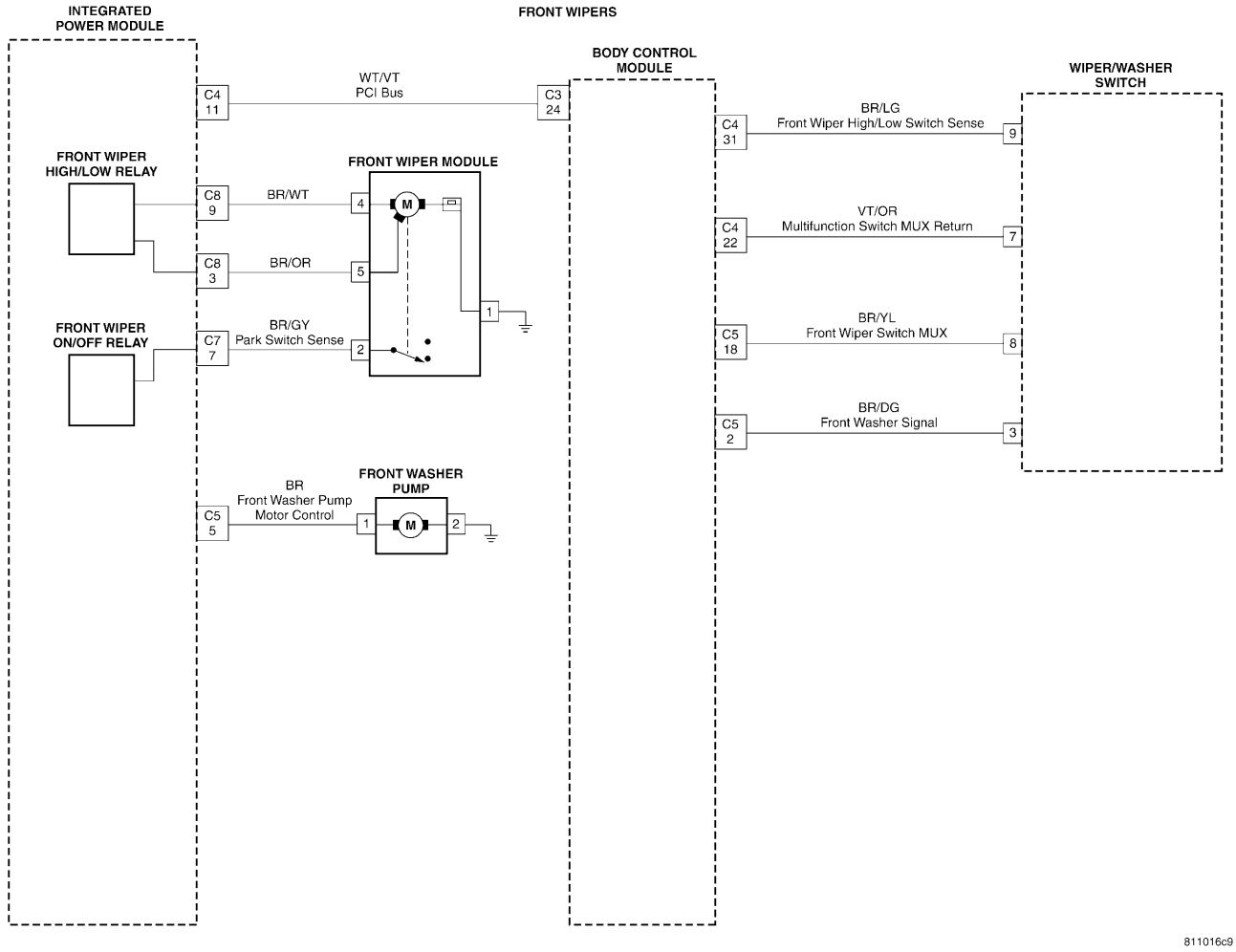
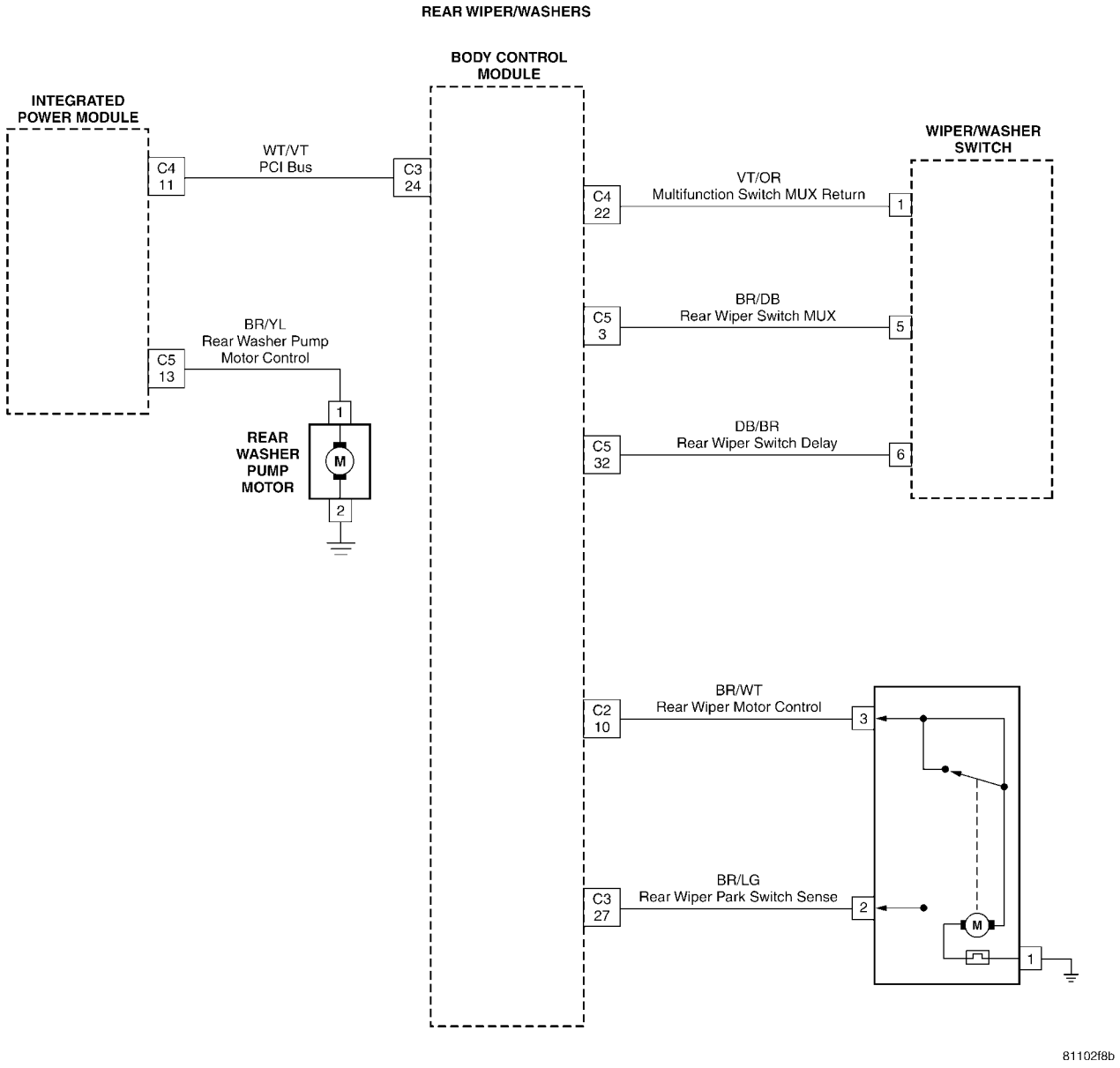


10.21 VEHICLE THEFT SECURITY SYSTEM



10.22 WINDSHIELD WIPERS

10.22.1 FRONT WIPER/WASHER



10.22 WINDSHIELD WIPERS (Continued)
10.22.2 REAR WIPER/WASHER