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1.0 INTRODUCTION

The procedures contained in this manual include all the specifications, instructions and graphics needed to diagnose 2003 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 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 first.
2. Read DTC's (diagnostic trouble codes) with the DRBIII®.
3. If no DTC's 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 to diagnose 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.
An * placed before the symptom description indicates a customer complaint.

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

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 sheet in the back of this book and mail it back to us.

1.1 SYSTEM COVERAGE

This diagnostic procedures manual covers all 2003 JEEP GRAND CHEROKEE "body" related faults. This diagnostic procedures manual also covers both left hand drive (LHD) and right hand drive (RHD) vehicles. There may be some slight differences in the location views of components. If the location views shown are on a LHD vehicle, a RHD vehicle will be symmetrically opposite.

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:

- Airbag
- Audio
- Chime
- Communication
- Electrically heated system
- Exterior lighting
- Heating and A/C
- Instrument Cluster
- Interior Lighting
- Memory Seat
- Electronic Vehicle Information Center
- Power Door Lock/RKE
- Power mirrors
- Power sunroof
- Power windows
- Tire Pressure Monitoring (TPM)
- Vehicle theft security system (VTSS)
- Windshield Wiper and Washer

3.0 SYSTEM DESCRIPTION AND FUNCTIONAL OPERATION

The body system on the 2003 WJ/WG consists of a combination of modules that communicate over the PCI bus (Programmable Communication Interface multiplex system). Through the PCI bus, information about the operation of vehicle components and circuits is relayed quickly to the appropriate module(s). All modules receive all the information transmitted on the bus even though a module may not require all information to perform it's function. It will only respond to messages "addressed" to it through a 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 AIRBAG SYSTEM/OCCUPANT RESTRAINT CONTROLLER SYSTEM

The WJ/WG Airbag System contain the following components: Occupant Restraint Controller (ORC), Airbag Warning Indicator, Clockspring, Driver and Passenger Airbags, Driver and Passenger Hall-effect Seat Belt buckle Switches (SBS), Driver and Passenger Front and Side Impact Sensors, curtain Airbags, and front impact sensors.

The Occupant Restraint Controller (ORC) is a new type of Airbag Control Module (ACM). The new ACM supports staged airbag deployment and remote impact sensing. Staged deployment is the ability to trigger airbag system squib inflators individually as needed to provide the appropriate restraint for the severity of the impact. The ACM has four major functions: PCI Bus communications, onboard diagnostics, impact sensing, and component deployment. 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 console. 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 Impact Sensors Diagnostic trouble codes will be set if the communication with these modules is lost or contains invalid information.

The microprocessor in the ACM monitors the impact sensors signals and the airbag system electrical circuits to determine the system readiness. If the ACM detects a monitored system fault it sends a message to the instrument cluster via PCI bus to turn on the airbag warning indicator. The ACM can set both active and stored diagnostic trouble codes to aid in the diagnosing system problems. See DIAGNOSTIC TROUBLE CODES in this section.

The ACM uses two front impact sensors and ACM Accelerometer to sense the rate of vehicle deceleration, provide verification of the direction and severity of an impact. A pre-programmed decision algorithm in the ACM microprocessor determines when the deceleration rate is severe enough to require airbag system protection. The ACM also uses the driver and front passenger seat belt switch status (buckled or unbuckled) and crash severity to determine the level of driver and front passenger airbag deployment, low medium or high. When the programmed conditions are met, the ACM sends an electrical signal to deploy the appropriate airbag system components.

WARNING: THE AIRBAG SYSTEM IS A SENSITIVE, COMPLEX ELECTRO-MECHANICAL 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. 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.

The airbag warning indicator is the only point at which the customer can observe symptoms of a system malfunction. 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. 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 remains on, there could be an active fault in the system or the MIC lamp circuit may be internally shorted. 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.

3.1.1 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 module 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 module includes a housing to which the cushion and hybrid inflator are attached

and sealed. The 2003 WJ/WG is equipped with driver airbag with dual stage inflators. When supplied with the proper electrical signal, the 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 DRIVER AIRBAG MODULE CONTAINS ARGON GAS PRESSURIZED TO OVER 17236.89 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 93°C (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.

CAUTION: Deployed Front Air Bags may or may not have live pyrotechnic material within the air bag inflator. Do not dispose of 2003 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 opens is NOT an active code.	Driver Squib 1 was used; Driver Squib 2 is live.

ACTIVE DTC	CONDITIONS	SQUIB STATUS
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	

3.1.2 CLOCKSPRING

The clockspring is mounted on the steering column behind the steering wheel. This assembly consist 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.

3.1.3 PASSENGER AIRBAGS

The WJ/WG is equipped with front passenger airbag 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 17236.89 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 93°C (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.

CAUTION: Deployed Front Air Bags may or may not have live pyrotechnic material within the air bag inflator. Do not dispose of 2003 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.

ACTIVE DTC	CONDITIONS	SQUIB STATUS
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 Driver Squib 2 by 15 minutes or more.	Passenger Squib 1 is live; Driver 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
Passenger squib 2 open	Unknown.

3.1.4 SEAT BELT SWITCHES (SBS)

The hall-effect driver seat belt switch provide the seat belt status, buckled or unbuckled, via hard-wired inputs to the ACM. The ACM uses seat belt switch input to determine the appropriate level of airbag deployment. The ACM also controls the seat belt warning indicator via a PCI Bus message to the instrument cluster. The indicator will be turned on if the driver seat belt status is unbuckled. If the seat belt switch is damaged or defective the seat belt buckle assembly must be replaced. The ACM continuously monitors the seat belt switch circuits for an open or shorted conditions.

3.1.5 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 seat. 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 17236.89 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 93°C (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.

3.1.6 FRONT IMPACT SENSOR

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 sen-

sors each 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 impact sensors while the sensor is connected to the vehicle wiring.

3.1.7 SIDE IMPACT SENSOR

The 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 controls the airbag warning indicator operation accordingly. The side impact sensors receive battery current and ground through dedicated driver and passenger 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.

3.1.8 SPECIAL TOOLS

Some airbag diagnostic test use special tools, airbag load tools, 8310 and 8443 for testing squib circuits. 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 component 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.

3.1.9 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.

3.1.9.1 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.

3.1.9.2 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.

3.2 AUDIO SYSTEM

The PCI Bus inputs into the radio are used for VF dimming and remote steering wheel controls. All the radios are capable of displaying faults and allowing certain actuation tests through the use of the DRBIII®. When attempting to perform PCI Bus diagnostics, the first step is to identify the radio in use in the vehicle.

When trouble shooting output shorts or “output” error messages, the following applies:

On radios without an external amplifier, the term output refers to the path between the radio and the speaker. This type of circuit can be monitored all the way through the speaker connections by the radio assembly. When the radio displays a shorted output DTC with this type of system, the speaker, radio, or wiring could be at fault.

On radios with an external amplifier, the term “output” refers to the circuit between the radio connector and the amplifier. The radio is capable of monitoring only this portion and can tell nothing about the circuit between the amplifier and the speakers. Consequently, a shorted output DTC on this type of system would only refer to this circuit. A faulty speaker could not cause this DTC.

3.2.1 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®. 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 a voltage drop to be seen by the BCM and it sends a specific message to the radio on the PCI Bus circuit. The radio then responses 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.

3.2.2 CD CHANGER

The CD Changer is mounted in the cargo area of the passenger compartment on the right rear quarter panel. The CD Changer features a removable 10-CD magazine. The CD Changer receives both ground and radio switch power through the radio. The controls on the radio operate the CD Changer through messages sent over the PCI Bus. The two-channel audio outputs of the CD Changer are hard-wired back to the radio, which then outputs the signal through the channels to the speakers or amplifiers.

3.3 HEATING & A/C SYSTEM

3.3.1 SYSTEM AVAILABILITY

- Depending on the model, either a Manual Temperature Control (MTC) or Automatic Zone Control (AZC) HVAC system is available in these vehicles.

3.3.2 SYSTEM CONTROLS

Manual Temperature Control (MTC)

- Refer to the Service Manual for MTC system description and operation information.

The Automatic Zone Control (AZC) Module:

- is fully addressable with the DRBIII®.
- communicates over the Programmable Communication Interface Multiplex System (PCI) Bus.
- has dual infrared sensors, mounted in the AZC module face, which independently measure surface temperature to maintain occupant comfort levels.

- has dual-zone temperature-controls to provide a wide side-to-side variation in temperature to meet the needs of either front seat occupant.
- can be operated in a manual mode.
- uses engine temperature data, received over the PCI Bus, for cold engine blower lock-out.
- uses engine RPM data, received over the PCI Bus, for wide-open throttle A/C cut-out.
- uses vehicle speed data, received over the PCI Bus, to determine air-flow over the condenser for optimum cooling performance.
- uses Ambient Temperature Sensor data, received over the PCI Bus, to optimize comfort control.
- provides an A/C request to the BCM when compressor operation is desired.
- provides a request to the BCM when rear defogger operation is desired.
- controls fan speed, providing 10 blower speeds in manual mode and infinite speeds in automatic mode.
  - The Blower Motor Controller provides a 5.0 volt signal to the AZC Module over the Blower Motor Control circuit. The AZC Module provides a variable duty cycle ground to the 5.0 volt signal based on input from the blower switch. When the blower switch is set to LO speed, the AZC Module provides a short duty cycle (less time grounding the signal voltage). As higher blower speeds are requested, the AZC Module increases the duty cycle (more time grounding the signal voltage). When the blower switch reaches HI speed, the duty cycle increases to where the signal pattern is almost a flat line (with brief voltage spikes).
- controls electronic door actuator operation.
  - A simplified control system for operation of the mode, recirculation, and temperature control actuators provides positive positioning without the complexity of feedback from position sensors. The AZC 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 AZC 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.
- Refer to the Service Manual for additional AZC system description and operation information.

The Body Control Module:

- uses Evaporator Temperature Sensor data to prevent evaporator freeze up while maintaining optimum cooling performance.
- controls rear defogger operation.

The Dual-Zone AZC HVAC system uses:

- two, two-wire electronic blend door actuators.
- one, two-wire electronic mode door actuator.
- one, two-wire electronic recirculation door actuator.

3.3.3 SYSTEM REVISIONS

The 2003 WJ/WG HVAC systems remain mostly carryover from 2002. However, the 2003 model year AZC Module is NOT interchangeable with other model year AZC Modules due to revised control software.

3.3.4 SYSTEM DIAGNOSTICS (MTC)

Fault detection is through Diagnostic Trouble Codes (DTCs)

- DTCs are displayed by the DRBIII®.
- DTCs pertaining to the Evaporator Temperature Sensor are stored in the BCM. Diagnostics for these DTCs can be found in the Heating & A/C category of this manual.
- Diagnostics for symptoms pertaining to A/C compressor operation can be found in the Heating & A/C category of this manual and in the Powertrain Diagnostic Procedures manual.
- DTCs pertaining to A/C compressor control circuits are stored in the PCM/ECM. Diagnostics for these DTCs can be found in the Powertrain Diagnostic Procedures manual
- Refer to the Service Manual for additional MTC system diagnosis and testing information.

3.3.5 SYSTEM DIAGNOSTICS (AZC)

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

- DTCs are displayed by the DRBIII®.

AZC Module DTCs

- 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.
- Active DTCs become stored DTCs when the condition that caused the active DTC no longer exists.
- Stored DTCs will be erased after 72 key cycles or by clearing them with the DRBIII®.
- Diagnostics for symptoms pertaining to A/C compressor operation can be found in the Heating &

A/C category of this manual and in the Powertrain Diagnostic Procedures manual.

- Refer to the Service Manual for additional AZC system diagnosis and testing information.

BCM DTCs

- DTCs pertaining to the Evaporator Temperature Sensor are stored in the BCM. Diagnostics for these DTCs can be found in the Heating & A/C category of this manual.

PCM/ECM DTCs

- DTCs pertaining to A/C compressor control circuits are stored in the PCM/ECM. Diagnostics for these DTCs can be found in the Powertrain Diagnostic Procedures manual.

3.3.6 FOLLOWING A REPAIR (AZC)

Calibrate AZC Door Actuators

- Calibrate the door actuators after making any repairs to the AZC system. To calibrate the door actuators proceed as follows:

1. Turn the ignition on.
2. Set the AZC to automatic.
3. Turn the ignition off.
4. Remove the IOD fuse from the Power Distribution Center. Wait several seconds, and then install the IOD fuse.
5. Turn the ignition on. Do not touch any of the AZC controls for at least one minute to allow the calibration function to run to completion.

3.4 BODY CONTROL MODULE

The body control module (BCM) supplies vehicle occupants with visual and audible information and controls various vehicle functions. To provide and receive information, the module is interfaced to the vehicle's serial bus communication network (Programmable Communication Interface or PCI bus). This network consists of the powertrain control module (PCM) or engine control module (ECM) (diesel), the memory/heated seat module (MHSM, MSM or HSM), the sentry key immobilizer module (SKIM), the transmission control module (TCM), the electro/mechanical instrument cluster (MIC), the driver door module (DDM), the passenger door module (PDM), the airbag control module (ACM), the controller antilock brake (CAB), the optional electronic vehicle information center (EVIC), the optional PCI radio, the optional CD changer, the optional automatic zone control module (AZC), the shifter assembly (diesel), the optional power amplifier, the optional adjustable pedal module, the optional rain sensor, and the optional intrusion transceiver module (export). The BCM is operational when battery power is supplied to the module and in addition, ignition switch power is needed for ignition switched functions.

The BCM provides the following new features:

- Full control of all exterior and interior lamps, including these features:
  - > A Battery Saver automatically turns off all exterior and interior lamps within 8 minutes after the ignition is turned off, if they are not turned off by the driver. This includes the front and rear reading/courtesy lamps and the cargo area dome lamp, even if they are turned on manually.
  - > Theater-style interior lighting dims gradually when the doors are closed.
  - > Interior courtesy lamp operation may be "defeated" using the dimmer control ring on the left multifunction switch.
  - > Instrument panel light intensity may be maximized for daytime visibility with the head lamps or parking lights by using the dimmer control ring on the left multifunction switch.
- An Accessory/Sunroof Delay allows continued operation of the sunroof and the power windows after ignition-OFF. These accessories can be operated up to 45 seconds after ignition-OFF or until door is opened.
- Beep tones for warnings and programming actions associated with the Sentry Key Immobilizer system and the EVIC.

The BCM also provides the following features:

- Intermittent wipe and low speed wiper control
- Wiper system status
- Ignition on/off timer
- VF displays synchronization
- Rear door and liftgate ajar status
- Acquisition & transmission of external temperature
- A/C select switch status
- Chime
- Courtesy lamps with fade to off feature
- Reading lights/glove box lamp load shedding control
- Exterior lighting control including automatic headlamps, fog lamp control, rear fog lamp control and parking lamps
- Exterior lamp status
- Headlamp time delay upon ignition off and headlamps switch off
- Parade mode
- Illuminated entry
- Instrument panel dimming

- Vehicle theft security system with panic & horn and hazard lamp activation
- Key-in ignition switch interface
- Brake fluid level switch/park brake switch interface
- Seatbelt reminder
- Speed sensitive intermittent wipe control
- Remote radio switch interface to radio
- Vehicle ignition status
- BCM self diagnostics
- Liftgate courtesy lamp disable
- Rear window defogger control
- Accessory delay control (windows and sunroof)
- Fuel economy and distance to empty (DTE) calculations
- Heated seat switch status
- Exterior lamp load shed
- Support of EVIC programmable features

The BCM receives information over the PCI bus from the PCM in order to support certain features. The required information is as follows:

- Engine RPM
- Engine and battery temperature
- Injector on time and distance pulses
- Vehicle speed
- Engine model
- Fuel tank level
- Vehicle identification number

The BCM provides the PCM with information on the A/C switch status.

The WJ/WG has several programmable features which can be enabled/disabled by using the EVIC or the DRBIII®.

3.5 CHIME SYSTEM

The chime system responds to requests from five modules: the Body Control Module (BCM), Electronic Vehicle Information Center (EVIC), Mechanical Instrument Cluster (MIC), Sentry Key Immobilizer Module (SKIM) and the Powertrain Control Module (PCM). Each module monitors its related systems and, via the PCI bus, requests the BCM to sound its internal chime as needed.

The chime will sound for the following conditions:

3.5.1 MIC REQUESTED CHIME MESSAGES

- Airbag
- Check Gauges: Charging Voltage Low
  Coolant Temp High
  Low Oil Pressure
  Charging Voltage High
- Low Fuel
- ABS
- Low Battery Voltage
- Water in Fuel (Diesel)
- Low Coolant level (Diesel)

3.5.2 BCM INITIATED CHIME MESSAGES

- Headlamp ON with ignition OFF and driver door open
- Key in ignition with ignition OFF and driver door open
- Seat Belt Warning
- Overspeed Warning (Gulf Coast Countries Only)

3.5.3 EVIC CHIME REQUESTED MESSAGES

When the following messages are displayed the EVIC will send a chime request to the BCM. The BCM will respond with a series of chimes.

- Turn signal on for more than 1.0 mile
- Service reminder
- Coolant level low
- Washer fluid low
- Tire Pressure Monitoring System alert messages (if equipped)
- Door or liftgate ajar (when critical speed is reached)**

**CRITICAL SPEED CHART

DOOR AJAR	TURN CHIME ON	TURN CHIME OFF
LEFT REAR	3.0 MPH (5 kmh)	1.0 MPH (2 kmh)
RIGHT REAR	3.0 MPH (5 kmh)	1.0 MPH (2 kmh)
LIFTGATE	3.0 MPH (5 kmh)	1.0 MPH (2 kmh)
PASSENGER	3.0 MPH (5 kmh)	1.0 MPH (2 kmh)
DRIVER	10.0 MPH (16 kmh)	7.0 MPH (11 kmh)

3.5.4 SENTRY KEY IMMOBILIZER SYSTEM

The Sentry Key Immobilizer System (SKIS) also uses tactile beep support from the chime warning system. The Sentry Key Immobilizer Module (SKIM) is programmed to send chime request messages over the Programmable Communications Interface (PCI) data bus to the Body Control Module (BCM) to provide audible confirmation that:

- the SKIM has been successfully placed in the Customer Learn mode.
- A new Sentry key transponder has been successfully programmed by the SKIM.

See the owner's manual in the vehicle glove box for more information on the features, use and operation of the SKIS. Refer to **Sentry Key Immobilizer System** in the Description and Operation section of the service information - Vehicle Theft/ Alarm systems for more information on the SKIS. For diagnostic information, refer to the Powertrain Diagnostic Information.

3.6 DOOR AJAR SYSTEM

The door ajar, liftgate ajar, and the liftgate flip-up ajar states are used as inputs for various control modules on the vehicle. The DRBIII® will display the state of the door ajar, liftgate ajar, and liftgate flip-up ajar switches in Inputs/Outputs. It's important to note, that when a door, liftgate, or liftgate flip-up is closed, the switch state on the DRBIII® will show OPEN, and when the door, liftgate, or liftgate flip-up is open, the switch state will show CLOSED. During diagnosis, if a door, liftgate, or liftgate flip-up is closed and the DRBI-II® displays the switch state as CLOSED, it indicates a shorted ajar circuit. If the door, liftgate, or liftgate flip-up is open and the DRBIII® displays the switch state as OPEN, it indicates an open ajar circuit.

3.7 DOOR MODULES

A multiplexed door module is located on each front door, driver door (DDM) and passenger door (PDM). They control the following features: power door locks, automatic (rolling) door locks, driver window express down, memory recall functions (adjustable pedals, memory seats and mirrors), remote keyless entry, power mirrors, heated mirrors, door key cylinder disarm (driver door only), door lock inhibit and auto unlock on exit. 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.

3.7.1 POWER WINDOWS

The power windows can be raised or lowered from the driver's door module (DDM) or the individual door switch. The DDM has a lock out switch that prevents the windows from being operated from any switch except the driver's door. When the switch is pressed, it also shuts off the individual door switch LED's.

A feature of this system allows the windows to be operated from any window switch for 45 seconds after the ignition is turned off, provided a front door is not opened. Another feature is the "Express Down" driver door only. When the driver presses the down switch to the second detent, the window will travel all the way down even if the switch is released. To stop the window travel, simply press the switch momentarily in either direction.

Twelve volts are provided on the rear window motor circuit on both the up and down circuits. The appropriate door module supplies this voltage. When the rear switch is pressed, the supply circuit to one side of the switch is opened and ground is provided making a complete circuit and therefore operating the window motor.

3.7.2 POWER DOOR LOCKS

The power door locks are operated four different ways:

1. Front door lock switches
2. Auto (rolling) door lock feature (vehicle speed above 15 MPH (24 kmh) and all doors closed).
3. Auto unlock on exit (vehicle stopped after auto door locks had locked the doors, transmission in neutral or park and the drivers door is opened - all doors will unlock).
4. Remote Keyless Entry (RKE)

3.7.3 DOOR LOCK INHIBIT

When the key is in the ignition and in the off position, and either front door is opened, the lock switch on that door is disabled. The unlock switch is still functional. This protects against locking the vehicle with the keys still in the ignition. For example, if the driver's door is opened and the passenger front door closed, the locks are operational from the passenger door switch.

3.7.4 REMOTE KEYLESS ENTRY

When the lock button on the transmitter is pressed, all locks will lock, illuminated entry will be turned off, (providing all doors are closed) and the vehicle theft security system (if equipped) will be armed. When the unlock button on the transmitter is pressed one time, the driver front door will unlock, the illuminated entry will turn on the courtesy lamps, the vehicle theft security system (if equipped) will be disarmed. When the button is pressed a second time, the other doors will unlock. This feature is programmable to open all doors on one press using the EVIC or the DRBIII®.

The passenger door module (PDM) contains the RKE receiver. When the PDM receives a valid signal from the RKE transmitter, it will send a signal on the PCI bus to lock or unlock the doors.

The RKE transmitter uses radio frequency signals to communicate with the RKE receiver. If vehicle is equipped with the memory system, the memory message will be received as to which transmitter sent the signal (1 or 2).

3.7.4.1 PANIC FUNCTION

When the panic button on the RKE transmitter is pressed it pulsates the headlamp, hazard lamps and horn relays and actuates the courtesy lamp relay. By pressing the button again the horn and exterior lamps will stop but the courtesy lamps will remain on until the BCM times them out or the ignition is turned on. The panic feature is able to be set if the ignition is on but only if the panic button is pressed prior to the vehicle being started, it will continue for three minutes or until the vehicle has reached a speed of 15 MPH, if not canceled by the operator.

Actuating the headlamp, horn, hazard lamps and courtesy lamp relays with the DRBIII® will verify that the circuits and the body control module are OK. If the panic feature is still inoperable with both transmitters, replacement of the passenger door module will be necessary. If the function is inoperable with just one transmitter, then it is obvious that the transmitter must be replaced.

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

3.7.6 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 (DRBIII® only)
- 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 ELECTRONIC VEHICLE INFORMATION CENTER

The Electronic Vehicle Information Center (EVIC) is located in the overhead console. The EVIC supplements the standard vehicle instrumentation. The EVIC uses a vacuum fluorescent (VF) display to supply the vehicle operator with a compass reading, outdoor temperature, average fuel economy, distance to empty, trip odometer, elapsed ignition on time, distance to service, warning messages, service messages and memory system messages. It also provides an interface to enable and disable vehicle programmable features. If equipped, the EVIC is also available with an integrated Universal Garage Door Opener (UGDO) known as HomeLink®. Also if equipped, the EVIC is available with a Tire Pressure Monitoring (TPM) System.

The EVIC function buttons are labeled C/T, RESET, STEP, and MENU. The three UGDO buttons are labeled with dots to indicate the channel number.

The BCM supplies most of the information displayed by the EVIC. Display information is received over the PCI bus. The EVIC sends and receives data over the PCI bus, communicating with the BCM, PCM, and the Instrument Cluster. Tire Pressure Monitoring System information is received by the EVIC in the form of radio transmissions. The tire pressure sensors are mounted to the vehicle wheels. For complete information, refer to the Tire Pressure Monitoring System section in this publication.

3.8.1 VEHICLE INFORMATION DISPLAY

The EVIC provides the following functions:

- Compass direction
- Outside temperature
- Elapsed ignition on time
- Distance to empty
- Average fuel economy
- Trip odometer
- Distance to service
- Driver alert messages:
  - TURN SIGNAL ON (with vehicle graphic)

– PERFORM SERVICE
– DOOR OPEN (individual or multiple doors, with graphic)
– LIFTGATE OPEN (with graphic)
– LIFTGLASS OPEN (with graphic)
– COOLANT LEVEL LOW (with graphic)
– WASHER FLUID LOW (with graphic)

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

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 the EVIC.

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

- Verification of US/Metric status
- VF display dimming brightness and exterior lamp status
- Trip Odometer data
- Elapsed Ignition On Time data
- Fuel Economy
- Distance to Empty
- Outside Temperature
- Distance to service
- Driver warning messages

The EVIC transmits the following messages to the BCM:

- Status Request: Beep, Reset, US/M Toggle
- Current Display

The EVIC receives the following message from the PCM:

- Vehicle Speed

3.8.2 STEP BUTTON

The STEP Button can be used in one of the following three ways:

1) To sequentially select one of seven displays or blank display in the following order:

- Average Fuel Economy
- Distance to Empty
- Trip Odometer
- Time Elapsed
- Distance to Service Message
- Individual Tire Pressure
- Off (Blank)

2) To set the magnetic variance zone when VARIANCE = X (X = 1 - 15) is indicated in the VF Display.

3) To select the displayed programmable feature setting.

3.8.3 MENU BUTTON

Use the MENU button to sequentially step the EVIC through the programmable features.

Use the MENU button to enter the Tire Pressure Monitoring (TPM) Training Procedure.

3.8.4 RESET BUTTON

The RESET Button has two different functions:

1) To clear the trip functions that may be reset
2) To enter and exit the diagnostic mode

Pressing the RESET button once will clear the trip function that is currently being displayed (except Distance to Service) and the EVIC will 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 and an additional beep request is sent to the BCM. The trip functions that may be reset are:

- Average Fuel Economy
- Trip Odometer
- Elapsed Time

A reset will only occur if one of the trip functions that may be reset is currently being displayed.

Pressing the RESET button for more than three (3) seconds resets the Distance to Service function while the Distance to Service message is being displayed. The EVIC module will send a beep request to the BCM.

Simultaneously pressing the RESET button and the C/T button while turning the ignition from Off to On will enter the EVIC into the self-diagnostic mode.

3.8.5 COMPASS/TEMPERATURE (C/T) BUTTON

Actuating the Compass/Temperature Button (C/T) will cause the EVIC to display the compass and temperature information. This function will operate from another traveler display or from the programmable feature mode.

3.8.6 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.

3.8.7 COMPASS/TEMPERATURE

The EVIC simultaneously displays the compass reading and the outside temperature. Outside temperature information is received via the PCI bus from the BCM.

The EVIC module internally senses and calculates the compass direction.

3.8.8 COMPASS OPERATION

Upon ignition on, if the calibration information stored in the EVIC memory is within the normal range, the EVIC will perform in slow Auto-Cal mode. In slow Auto-Cal mode, the EVIC 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 EVIC memory is not within the normal range at ignition on, the EVIC will enter fast Auto-Cal. CAL is displayed along with the temperature.

Auto activation of the fast Auto-Cal mode will also occur when the EVIC 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, CAL will be displayed along with the temperature.

Fast Auto-Cal can also be performed manually, by pressing and holding the RESET button for 10 seconds during the Compass/Temperature display mode.

3.8.9 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/temperature data is not currently being displayed, momentarily press and release the C/T button to display compass/temp information.
- Press and hold the RESET button until VARIANCE = XX is displayed. The EVIC will display the variance zone stored in memory and the word VARIANCE.
- Use the STEP 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.

3.8.10 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 CAL. 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 C/T button to view the Compass/ Temperature display.
- Press and hold the RESET button until CAL is displayed, then release the button.
- Drive slowly, less than 5 MPH (8KPH) in at least 1 complete 360 degree circle.
- CAL will remain illuminated to alert the driver that the compass is in the calibration mode.
- After calibration is complete, CAL will turn off.

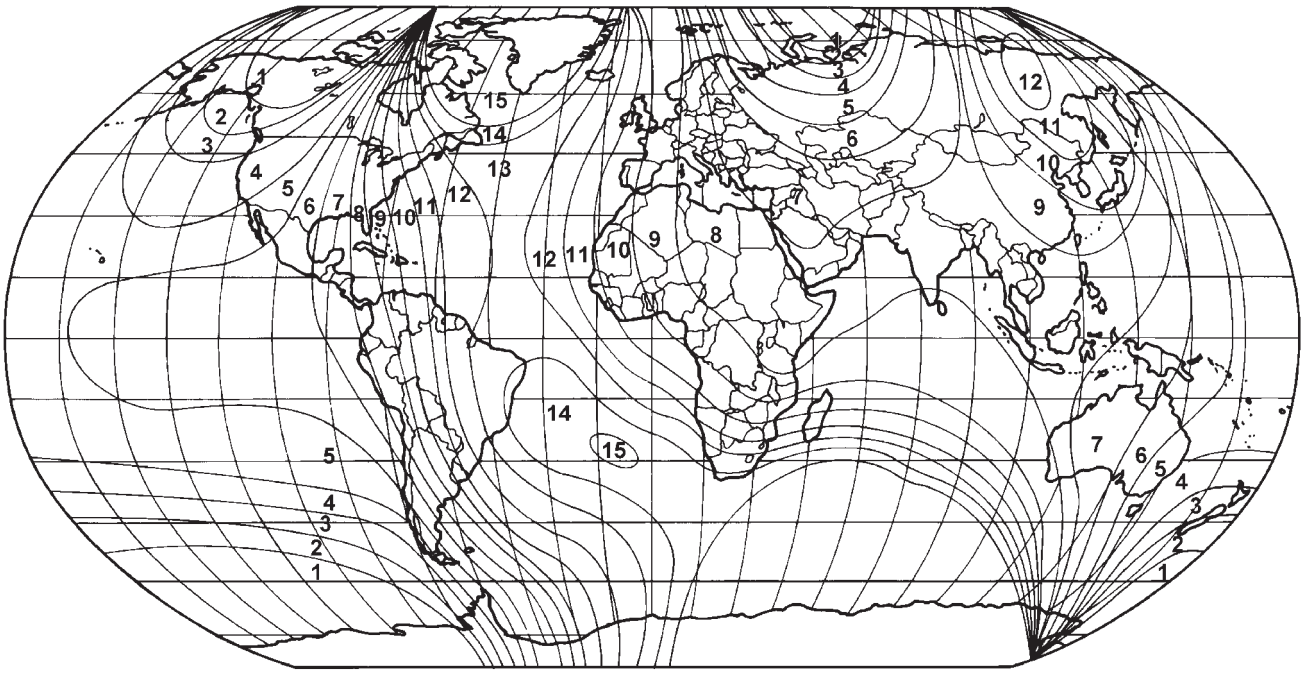
If the compass appears blank, unable to be calibrated, or the compass displays false indications, the vehicle must be demagnetized. Refer to Compass Demagnetizing Procedure in the Service Manual.

3.8.11 DIAGNOSIS AND TESTING

SELF-CHECK DIAGNOSTICS

The EVIC is capable of performing a diagnostic self check on its internal functions. EVIC diagnostics may be performed using a DRBIII® or by using the following procedure:

(1) With the ignition switch in the OFF position, depress and hold the RESET and the C/T buttons.
(2) Turn the ignition switch to the ON position.
(3) Continue to hold both buttons until the software versions are displayed, then release the buttons.
(4) All of the VFD segments will illuminate for 2-4 seconds. Check for segments that do not illuminate or illuminate all the time.



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(5) When the self-check is complete the EVIC will display one of the following messages:

- PASS SELF TEST
- FAILED SELF TEST
- NOT RECEIVING J1850 MESSAGE

(6) To exit the self-check mode, depress the RESET button or cycle the ignition switch and the EVIC will return to normal operation.

If a Communication fault is displayed, refer to the symptom list. If a FAILED is displayed, the EVIC must be replaced.

3.8.12 AMBIENT TEMPERATURE SENSOR

The ambient air temperature is monitored by the BCM and displayed by the EVIC. The BCM 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 BCM. The resistance in the ATS changes as the outside temperature rises or falls. The BCM senses the change in reference voltage through the ATS resistor. Based on the resistance of the ATS, the BCM is programmed to correspond to a specific temperature. The BCM stores and filters the ambient temperature data and transmits this data to the EVIC via the PCI Bus. The ATS cannot be adjusted or repaired and, if faulty or damaged, it must be replaced.

3.8.13 AMBIENT TEMPERATURE SENSOR FAULT CODES

The outside temperature function is supported by the ambient temperature sensor (ATS), a signal and ground circuit hardwired to the BCM, and the EVIC display.

If the EVIC display indicates 54°C (130°F) or the ATS sense circuit is shorted to ground, the temp display will be 54°C (130°F) to indicate a SHORT circuit condition.

If the EVIC display indicates -40°C (-40°F) or the ATS sense circuit is open, the temp display will be -40°C (-40°F) to indicate an OPEN circuit condition.

If there is an OPEN or SHORT circuit condition, it must be repaired before the EVIC VFD can be tested.

The ATS is supported by the BCM. Ambient Temperature Sensor DTCs will be recorded in the BCM. The ATS can be diagnosed using the following Sensor Test. Test the ATS circuits using the diagnostics in the Body Diagnostic Procedures Manual. If the EVIC passes the self test, and the ATS, the circuits, and PCI bus communications are confirmed to be OK, but the EVIC temperature display is inoperative or incorrect, replace the BCM.

3.8.14 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:

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

3.8.14 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.

3.9 TIRE PRESSURE MONITORING SYSTEM

If equipped with the Tire Pressure Monitoring System, each of the vehicle's five wheels will have a valve stem with a pressure sensor and radio transmitter built in. Signals from the tire pressure sensors are received and interpreted by the Electronic Vehicle Information Center (EVIC).

A sensor in a mounted wheel will broadcast its detected pressure once per minute when the vehicle is moving faster than 40 km/h (25 mph). The spare tire sensor will broadcast once every hour. Each sensor's broadcast is uniquely coded so that the EVIC can determine location. The individual tire pressures can be displayed graphically on the EVIC.

NOTE: The spare tire is only monitored when equipped with the 5-Tire TPM System.

3.9.1 TRAINING THE EVIC

The EVIC can be trained to recognize the source locations of pressure sensor signals. The training procedure is given below:

1. Locate ″RETRAIN TIRE SENSORS″ on the EVIC menu.
   When this mode is enabled by selecting ″YES″, the EVIC will initiate the following procedure.
2. A display will prompt the user to: ″TRAIN LEFT FRONT TIRE″. At this point the user must set the left front tire sensor to learn mode by positioning a magnet (Relearn Magnet special tool 8821) over the valve stem for at least 5 seconds. The Remote Tire Pressure Monitor (RTPM) in the front left tire will transmit a message indicating to the EVIC that it is in learn mode. When the EVIC has received this message and is assured that it has learned an ID, the EVIC will request a horn chirp via a bus message and then display the next train request. Note: There is a 60 second timer for learning the first tire location and a 30 second timer between the remaining tires. If any of these timers expire the EVIC will abort the training procedure.
3. The EVIC 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, Left Rear and Spare). The EVIC will allow 30 seconds (60 seconds for the first tire) from the beginning of the train request display to the receipt of a unique learn ID message from the RTPM. If, during a training session, a 60 or 30 second timer expires before a unique learn sensor ID is received or the vehicle is not in park, the EVIC will keep the previous set of trained IDs and will display ″TRAINING ABORTED″ until a button is pressed. Any IDs learned during the current session will be discarded. The EVIC will not store one ID for multiple locations.

NOTE: The spare tire is only monitored when equipped with the 5-Tire TPM System.

4. Once all four (or five) tires are successfully trained, 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 EVIC 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 module 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.″

Once training is complete, the EVIC can determine when the spare wheel has been mounted on the vehicle. The spare wheel sensor/transmitter is expected to transmit once per hour. If the sensor/transmitter ID for the spare wheel is received at a shorter interval, the EVIC will request a chime and display ″SPARE SWAP DETECTED″ for five seconds.

NOTE: The spare tire message is only available when equipped with the 5-Tire TPM System.

3.9.2 PRESSURE THRESHOLDS

The EVIC will monitor the tire pressure signals from the four (or five) tire sensors and determine if any tire has gone below the low pressure threshold or raised above the high pressure threshold. Refer to the table below.

LOW TIRE PRESSURE THRESHOLDS	
SYSTEM STATUS INDICATOR	TIRE PRESSURE
On	172 kPa (25 PSI)
Off	193 kPa (28 PSI)
HIGH TIRE PRESSURE THRESHOLDS	
SYSTEM STATUS INDICATOR	TIRE PRESSURE
On	310 kPa (45 PSI)
Off	276 kPa (40 PSI)

3.9.3 CRITICAL AND NON-CRITICAL PRESSURE ALERTS

A critical alert will be triggered when a tire pressure has gone below or above a set threshold pressure. Depending on what the condition is, the EVIC will request a chime and then display a LOW PRESSURE or HIGH PRESSURE message indicating the appropriate location.

The alert message will display for three seconds and then switch to the tire pressure trip screen. The tire pressure for the tire that has exceeded its threshold will blink at one second intervals on the graphic display. The blinking pressure will continue for the rest of the 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 60 seconds to warn the drive of the low/high pressure condition.

A non-critical alert will be triggered when low or high pressure threshold has been exceeded in the spare tire. The ″SPARE LOW PRESSURE″ or ″SPARE HIGH PRESSURE″ alert will be displayed for 60 seconds during each ignition ON cycle. If the pressure threshold is exceeded while the ignition is OFF, the alert will be delayed 8-10 seconds after ignition ON.

NOTE: The spare tire is only monitored when equipped with the 5-Tire TPM System.

3.9.4 SYSTEM FAULTS

NOTE: The Remote Tire Pressure Monitors (RTPM) are not internally serviceable. For a Sensor Failure or Low Battery fault, the RTPM must be replaced.

There are four conditions which will cause a Tire Pressure Monitoring System fault to be set. All fault codes are associated with a specific wheel location.

1. If the EVIC detects a non-transmitting Sensor/Transmitter in a road wheel for ten consecutive minutes with vehicle speed above 25 MPH (40 kph), it will:
   a. Store an active fault code.
   b. Request a chime.
   c. Display ″TIRE SENSOR BAD / MISSING″.
   d. Display a dashed line at the wheel location on the graphic display if the display is activated.

When the EVIC detects:

2. A low pressure sensor battery status,
3. All five sensors transmitting at a shorter than expected interval or,
4. No valid pressure sensor ID from the spare tire for 20 consecutive ignition cycles spaced at least one hour apart, it will:
   a. Store an active fault code.
   b. Request a chime.
   c. Display ″TIRE SENSOR BAD / MISSING″.

Use the DRBIII® Input/Output function to further isolate the specific concern.

The DRBIII® can be queried to determine the Sensor/Transmitter status:

- ″Invalid Pressure″ - The Sensor/Transmitter is reporting a negative pressure or a pressure above 434 kPa (63 psi).
- ″Low Batt″ - The Sensor/Transmitter has reported a low battery status for seven consecutive ignition cycles.
- ″Trained″ - The Sensor/Transmitter ID code is recognized by the EVIC.

- ″Active″ - The vehicle is moving at 40 km/h (25 mph) and/or the Sensor/Transmitter is ″awake″ and transmitting as expected by the EVIC.

3.9.5 SPARE WHEEL AUTO-LOCATE (5-TIRE TPM SYSTEM ONLY)

If the spare tire is mounted on the vehicle, the EVIC will detect the move and determine from the sensor transmit intervals, which wheels are mounted and which one is now the spare. The spare tire sensor/transmitter transmits once per hour. The sensor/transmitters in the mounted wheels transmit once per minute when the vehicle is moving at 40 km/h (25 mph).

3.9.6 REMOVE MAGNET FROM SPARE (5-TIRE TPM SYSTEM ONLY)

A magnet is used to initiate a sensor ID transmission. In the EVIC training procedure, the spare wheel is the last in the sequence. If the magnet is left on the wheel, the sensor/transmitter will continue its ID transmission. If the EVIC detects 20 transmissions from the spare wheel in 60 seconds and the vehicle speed is above 40 km/h (25 mph), it will: * request a chime. * display ″REMOVE MAGNET FROM SPARE″ for 60 seconds per ignition-ON cycle.

3.9.7 TIRE PRESSURE UNAVAILABLE

The EVIC can detect high radio noise interference. When the noise level is too high to distinguish a transmission from a sensor/transmitter, it will:

- display ″TIRE PRESSURE UNAVAILABLE″ for 5 seconds.
- request a chime
- switch back to previous screen.

3.9.8 TIRE PRESSURE NOW AVAILABLE

If the ″TIRE PRESSURE UNAVAILABLE″ message was displayed because of radio noise interference, the EVIC will:

- display ″TIRE PRESSURE NOW AVAILABLE″ for 5 seconds.
- request a chime when the noise level no longer interferes with sensor/transmitter transmissions.

3.9.9 DIAGNOSING AND CLEARING SYSTEM FAULTS

All Tire Pressure Monitoring System Faults are specific to one location. If a ″LOW BATTERY″ fault is detected, the ″TIRE SENSOR BAD / MISSING″ message will be displayed. The appropriate sensor/transmitter can then be replaced.

If a single sensor/transmitter cannot be detected by the EVIC, replace that sensor transmitter. If none of the sensors/transmitters can be detected, refer to symptoms in the EVIC section.

3.9.10 SYSTEM TEST

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

1. Scroll to the blank display by pressing the STEP button.
2. Press and hold the RESET button for five seconds.
3. The EVIC will emit a beep to indicate the start of the test.
4. The EVIC will clear the sensor signal counters
5. The vehicle icon will be displayed with transmission counters at each corner. (Same display as for pressures but with counters in place of pressures.)
6. Drive the vehicle at speeds above 40 km/h (25 mph) for 10 minutes.
7. The counters will increase by one each time a sensor signal is received by the EVIC (approximately 1/min from each wheel except the spare).
8. The test will continue until any EVIC button is pressed or until the ignition is cycled to OFF.

3.10 EXTERIOR LIGHTING SYSTEM

3.10.1 EXTERIOR LIGHTING BATTERY SAVER

The BCM monitors the status of and controls the park lamp, head lamp and fog lamp relay's. If any exterior lamps are left on after the ignition is turned off, the BCM will turn them off after 8 minutes.

3.10.2 HEADLAMP DELAY

The headlamp time delay operates when the ignition switch is turned off while the headlamps are still on. This feature is customer programmable to provide a 30, 60 or 90 second time delay before turning off the headlamps. This feature can also be disabled.

3.10.3 HEADLAMP SWITCH

The headlight switch on WJ vehicles uses a multiplexed (MUX) circuit to the BCM. The BCM will then control the park lamp, low/high head lamp and fog lamp relay's based on this input.

3.10.4 FOG LAMP CONTROL

The body control module controls the operation of the fog lamp relay which controls the fog lamps. The fog lamps can only be on if the park or low beam headlamps are on. If the high beams are turned on, the fog lamps will automatically be turned off.

3.11 INTERIOR LIGHTING

3.11.1 COURTESY LAMP CONTROL

The body controller has direct control over all of the vehicle's courtesy lamps. The body computer will illuminate the courtesy lamps under any of the following conditions:

1. Any door is ajar and courtesy lamp switch on the left multi-function switch is not in the dome off position.
2. The courtesy lamp switch on the left multi-function switch is in the dome on position.
3. A Remote Keyless entry unlock message is received.
4. Driver door unlocked with key (with VTSS only).

3.11.2 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.

3.11.3 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, switched reading lamps and vanity lamps require that the ignition be turned to the on/acc position.

3.12 ELECTRO/MECHANICAL INSTRUMENT CLUSTER (EMIC)

The Instrument Cluster contains a Fuel, Voltmeter, Coolant Temp, and Oil Pressure gauge, a Tachometer and a Speedometer. With the exception of the Voltmeter, the cluster positions the gauges with PCI Bus messages received from the PCM. The Voltmeter operates directly off of the Fused B+ Switched Ignition Output circuit that supplies ignition voltage for the cluster.

The Instrument Cluster also contains warning indicators that are illuminated by hard wired inputs or by messages received from other modules on the PCI Bus.

The Trip/Total Odometer is a Vacuum Fluorescent Display (VF) that is controlled by PCI Bus messages received from the PCM.

The cluster illumination lamps are hard wired in the Instrument Cluster. When the Park or Headlamps are turned on, the cluster receives a dimmed battery feed from the Headlamp Switch. The cluster I/O Processor controls the VF display dimming and also sends dimming level messages on the PCI Bus.

The EMIC will communicate with the DRBIII® to display PCI Engine Info, PCI Bus Info, and certain input/outputs. Cluster diagnostic capabilities that the DRBIII® will actuate is limited to the Cluster Calibration Points for the gauges. The DRBIII® can also extract active and stored Diagnostic Trouble Codes (DTC) from the Instrument Cluster.

The EMIC is also capable of performing a diagnostic Self-Test that is actuated by depressing and holding the Odometer trip reset stalk while cycling the ignition from the off to the on position. After the cluster Odometer displays CHEC, releasing the reset stalk begins the test. The cluster will then position all of the gauges at specified calibration points and will illuminate all the PCI Bus controlled indicators. The cluster will also illuminate each segment of the VF display.

The EMIC can verify communications with the PCM, ID the module, or change the country code using the DRBIII®. For further information regarding the diagnostic routine and an explanation of the faults, refer to the appropriate Service Manual.

3.12.1 INSTRUMENT PANEL DIMMING

I/P dimming is accomplished using the body computer. The panel dimming level switch is read by the body computer which converts the level to a value that is sent over the PCI bus. Other modules such as the Radio, MIC, and the EVIC use this data so their display intensity matches the other incandescent bulbs in the vehicle that are driven directly by the BCM.

3.13 MEMORY SEATS

The memory system consists of the driver power seat, driver's side view mirror and the radio pre-

sets. The memory module for the seat is mounted under the driver's seat. The module is available with or without the heated seat feature. The seat module receives input from the 8-way power seat switch, the driver's seat position sensors, both front seat negative temperature coefficients (NTC's) (if heated seat equipped) and the PCI bus circuit. The memory switch, located on the driver door, is wired directly to the driver door module and sends its messages over the PCI bus. The memory seat module performs the following functions: positions the drivers seat, actuates the driver's and passenger's seat heaters (if equipped) and sends the memory location over the PCI bus.

When a memory button is pressed (#1 or #2) on the memory switch, the driver door module sends a recall message to the memory seat module (MSM), the PCI radio. They will in turn position the driver seat, driver side view mirror and set the radio presets. When the RKE button is pressed, depending on which transmitter (#1 or #2), the passenger door module sends the recall message.

3.13.1 POWER SEAT

The memory power seat provides the driver with 2 position settings for the driver's seat. Each power seat motor is connected to the MSM with two circuits. Each circuit is switched between battery and ground. By alternating the circuits the MSM controls the movement of the motors based on input from the seat mounted switch.

Each motor contains a potentiometer to monitor the seat position. To monitor the position of the motor, the MSM 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 MSM monitors the voltage change through the sensor on a separate signal circuit.

The MSM stores the input value of each of the four seat potentiometers in memory when the system is requested. The driver can initiate memory recall, using either the memory switch or the RKE transmitter. When initiated, the MSM adjusts the four seat motors to match the memorized seat position data.

For safety reasons, the memory seat recall is disabled by the MSM when the vehicle is out of park position or if the seatbelt is buckled. 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 MSM which would then flag a trouble code and the corresponding seat output would be deactivated. However, if the object obstructing the seat is removed, the seat will function normally again.

3.13.2 EASY EXIT SEAT (AVAILABLE WITH MEMORY SEAT)

The intent of this feature is to allow for easier entry and exit to the vehicle by moving the seat rearward a short distance when the operator turns the vehicle off. The seat can be recalled to one of it's two set memory positions by pressing either of the memory recall buttons on the switch or the RKE transmitters. If any seat movement is initiated, whether manual or by memory recall, after the ignition has been turned off, this will cancel any ensuing glide to enter movement until the next ignition cycle.

This feature can be enabled/disabled by the owner through the electronic vehicle information center (EVIC) or using the DRBIII®. When using the DRBIII® it will also inform as to what state it is in. To reinstate the feature, simply repeat the process.

3.13.3 GUARD BANDS

The module provides guard bands which prevent the seat track from hitting the hard limits of the given seat axis during manual power seat operation. The guard band values for each hard limit are stored in EEPROM. The guard band can be bypassed by running the seat to the end of its travel and then releasing the switch and pressing it again. The seat will move a short distance further. Once the seat is past the guard band, it can be stored in memory, but if recall is initiated the seat will move to the guard bands and no further.

When a seat module or seat track assembly is replaced, the DRBIII® must be used to perform the "Reset Guard Bands" procedure. WARNING: The operator must be out of the seat when this procedure is being used as the seat will move to the end of it's travel in all 8 positions.

3.13.4 ELECTRICALLY HEATED SEATS

The heated seat feature is available with or without the memory system. The module is located under the driver's seat and is known as the heated seat module (HSM) or the memory heated seat module (MHSM). The control switches for the heated seats are located on the instrument panel and are wired to the body control module. The BCM then sends the message to the HSM via the PCI bus. 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 HSM decreases. The seat heater output is deacti-

vated once the voltage reading reaches it's 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 body control module as the voltage readings indicating desired heat setting high or low.

The heater elements inside the seat back and cushion are different for the Limited and Laredo models. The Laredo seat heater elements are wired in series whereas the Limited seat elements are wired in parallel. This means that if an element is open in a Laredo model there will be no heater output to either the cushion or the seat back. If an element is open in a Limited model, the other elements will operate as usual. However, if one of the elements is open, the seat cushion will have to be replaced.

There are three heater elements in the seat cushions for both models. The Laredo uses a resistor wire for its center and both side bolsters (raised outer side panels) and the Limited uses a carbon fiber element for its center and resistor wire for the bolsters.

3.14 SENTRY KEY IMMOBILIZER SYSTEM (SKIS)

The Sentry Key Immobilizer System (SKIS) is an immobilizer system designed to prevent unauthorized vehicle operation. The system consists of a Sentry Key Immobilizer Module (SKIM), ignition key(s) equipped with a transponder chip and engine controller. When the ignition switch is turned on, the SKIM interrogates the ignition key. If the ignition key is "Valid" the SKIM sends a PCI Bus message to the engine controller indicating the presence of a valid ignition key. Upon receiving a "Valid" key signal the PCM/ECM will allow the engine to continue to operate.

For additional information on the SKIS, refer to the appropriate Powertrain Diagnostic information.

3.15 POWER SUNROOF

The power sunroof in the Grand Cherokee is controlled by the Body Control Module (BCM). After the ignition has been turned off, the power sunroof will remain operational for an additional 45 seconds. If the front doors are opened during this time, the BCM will remove power from the sunroof.

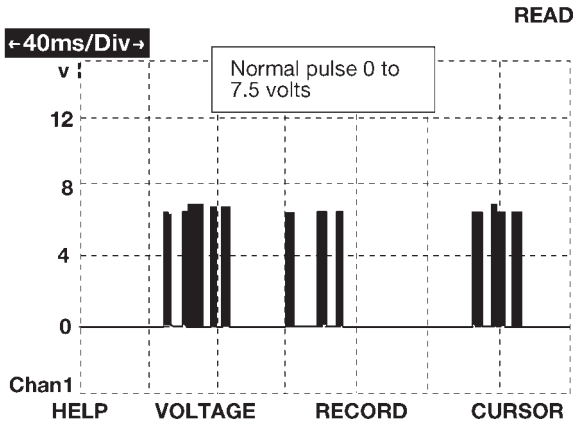
3.16 COMMUNICATION

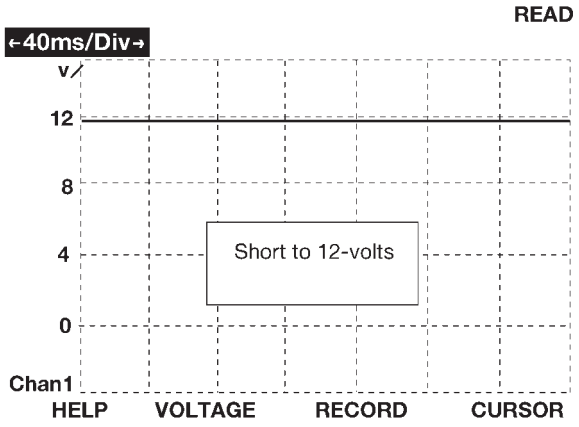
The Programmable Communication Interface or PCI Bus is a single wire multiplexed network capable of supporting binary encoded messages shared between multiple modules. The PCI bus circuit is identified as D25. The modules are wired in parallel. Connections are made in the harness using splices. The following modules are used on the WJ/WG:

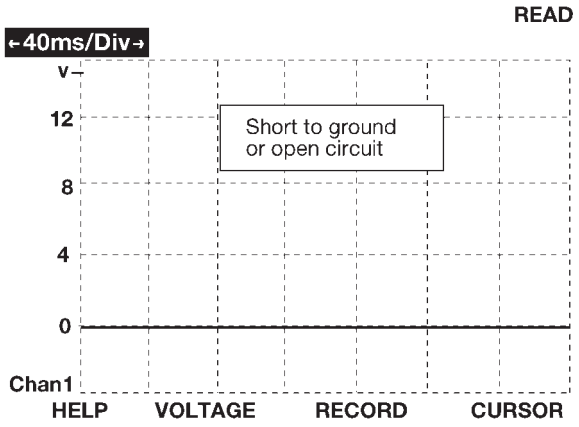
- Body Control Module
- Adjustable Pedals Module
- Door Modules (Driver & Passenger)
- Airbag Control Module
- Controller Antilock Brake
- Powertrain Control Module
- Engine Control Module (Diesel)
- Radio
- CD Changer
- Transmission Control Module
- Automatic Zone Control Module
- Sentry Key Immobilizer Module
- Seat Module
- Electronic Vehicle Information Center
- Mechanical Instrument Cluster
- Shifter Assembly (Diesel)
- Rain Sensor
- Power Amplifier
- Intrusion Transceiver Module (Export)

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 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 figure 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 PCI 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 EMIC stay at zero
- All telltales on EMIC illuminate
- EMIC backlighting at full intensity
- Dashed lines in the EVIC ambient temperature display
- No response received from any module on the PCI bus (expect the PCM/ECM)
- No start (if equipped with Sentry Key Immobilizer)

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 module's 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.

3.17 VEHICLE THEFT SECURITY SYSTEM

The vehicle theft security system (VTSS) is controlled by the body control module, which monitors vehicle doors, liftgate, liftglass and the ignition for unauthorized operation. The alarm activates by sounding the horn, flashing the headlamps, hazard lamps, and the VTSS indicator lamp. The VTSS does not prevent engine operation, this is done with the sentry key immobilizer module. Passive arming occurs upon normal vehicle exit by removing the ignition key, opening the driver door, locking the doors with the power lock, and closing the driver door or locking the doors with RKE. The indicator lamp on the dash will flash for 15 seconds, showing that arming is in progress. If no monitored systems are activated during this period, the system will arm and the indicator will flash at a slower rate. When something triggers the alarm, the system will signal the headlamps, park lamps, and horn for about 18 minutes.

For complaints about the Theft Alarm going off on it's own, use the DRBIII® and select "Theft Alarm", "VTSS" then "Monitor Display" and read the "Alarm Tripped By" status.

Tamper Alert - The VTSS tamper alert will sound the horn three times upon disarming to indicate a tamper condition has occurred.

Manual Override - The system will not arm if the doors are locked using the manual lock control or if the locks are actuated by an inside occupant after the doors are closed.

To verify the system, proceed as follows:

1. Open the driver's door.
2. Remove the ignition key (but keep it in hand).
3. Lock the doors with the power lock switch or the RKE.
4. Close the driver's door.

NOTE: After the doors are closed, locking the doors with RKE will also arm the system.

NOTE: If the VTSS indicator lamp flashed, the system is operational and verified. If not, there may be a problem with the system.

Arming/Disarming - Active arming occurs when the remote keyless entry transmitter is used to lock the vehicle doors, whether the doors are open or closed. If one or more doors are open, the arming sequence is completed only after all doors are closed.

Passive disarming occurs upon normal vehicle entry (unlocking driver's door with the key). This disarming also will halt the alarm once it has been activated.

Active disarming occurs when the remote keyless entry transmitter is used to unlock the vehicle doors. This disarming also will halt the alarm once it has been activated.

Intrusion Transceiver Module (Export only)

The Body Control Module (BCM) along with an Intrusion Transceiver Module (ITM) will control the premium Vehicle Theft Security System (VTSS) on export vehicles. Premium VTSS also includes a battery-backed siren for the audible alert. In addition to the other features of the base VTSS the ITM is used to monitor the interior of the vehicle for movement while the alarm is set. This feature can also be disabled with three additional lock commands from the Remote Keyless Entry system (which will be confirmed with an audible chirp) during the VTSS pre-arming sequence.

When the alarm is tripped it will actuate the hazard lamps for twenty-five seconds and the siren twenty-eight seconds. After that period if the disturbance is still present only the siren will be activated again for twenty-eight seconds with five seconds intervals between warning cycles. This will continue up to ten times unless the disturbance goes away. Also while the alarm is set the siren will monitor it's Fused B(+) and Siren Signal Control circuits. If either of these circuits become open the siren will trip itself to the alarming state.

NOTE: The intrusion transceiver module and/or siren must never be swapped from one vehicle to another. Once connected to a particular vehicle they will only properly function for that vehicle.

NOTE: If the VTSS indicator lamp comes on after ignition on and stays on, the PCI bus communication with the powertrain control module possibly has been lost.

3.18 WINDSHIELD WIPER & WASHER

3.18.1 FRONT WIPER

System Description

The front wiper system consists of the following features: *lo-speed, hi speed, mist wipers, intermittent wiper, rain sensitive wipers (if equipped) and wipe after wash*. The front wiper system is only active when the ignition is in the run/acc position.

The BCM controls the front wiper system with one low-going output to a relay. With this output the BCM determines the motor wipe rate. This rate is a function of the intermittent wiper switch position and vehicle speed. The BCM times the delay after the wipers have parked. If the driver goes from a longer to a shorter delay interval, a wipe is done immediately. The speed sensitive delay is set based on the current speed of the vehicle. If the vehicle crosses above the speed threshold of 10 MPH (16 kmh) while the intermittent wiper delay is occurring, a smaller delay can be used. If the vehicle crosses below the speed threshold a longer delay should not be used until the current delay is completed.

In the lo-speed and mist state, the BCM constantly outputs an active control signal for a delay of zero. The BCM also controls the wiper motor high/low relay which selects the motor winding to be energized. So when hi-speed is selected, the BCM energizes the hi-speed winding. The mist position is a momentary input to the BCM which causes the wipers to operate at low speed as long as the mist input is present.

The BCM also monitors the front washer motor to perform wipe after wash. The BCM will perform 3 wipes after the wash input is released.

Since the front wiper system is an important safety feature, the BCM will support wiper operation in the event of a failed park input.

If BCM does not detect a change of state on the park input for 8 seconds with the wiper relay energized a Diagnostic Trouble Code will set in the BCM.

Once a failed park switch is detected, intermittent operation is disabled and the BCM will default to the low speed wiper state when the wiper switch is in the intermittent position. The wiper relay will be de-energized when the wiper mode switch is in the OFF position. For open and short states on the wiper mode switch, the wipers should default to OFF.

SYSTEM FEATURES

Rain Sensor Module

The Microprocessor-based Rain Sensor Module (RSM) senses moisture on the outside of the windshield glass, and sends a wipe command to the Body Control Module (BCM). The RSM sends a wipe command to the BCM over the PCI data bus. The BCM then activates or deactivates the front wiper system. Sensitivity inputs are based on the driver-selected settings on the right side multifunction switch.

Speed Sensitive Intermittent Wipe Mode

There are 5 individual delay times with a minimum delay of 1/2 second to a maximum of 18 seconds. When the vehicle speed is under 10 MPH (16 kmh), the delay time is doubled providing a range of 1 second to 36 seconds.

Mist Wipe

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

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.

Wipe after Wash

When the driver presses the wash button and then releases it, the wiper will continue to run for 3 additional wipe cycles.

The wiper system utilizes the BCM to control the on/off relay for low wiper functions, intermittent wiper delay as the switch position changes, wipe after wash mode, and wiper motor park functions. The BCM uses the vehicle speed input to double the usual delay time below 10 MPH (16 kmh).

FRONT/REAR WIPER AND WASHER SWITCHES (RIGHT MULTI-FUNCTION SWITCH STALK)

The front windshield and rear liftglass wiper/washer switches are located on the wiper multifunction switch stalk which is secured to the right side of the multi-function switch mounting housing on the steering column.

A knob on the end of the wiper multifunction switch stalk is rotated to select the desired front wiper speed (HIGH or LOW) or one of the five intermittent front wiper positions. The wiper stalk is pulled toward the driver to activate the windshield washer system. Both the front wiper and front washer motors will operate continuously for as long as the stalk is held in the momentary FRONT WASH position.

Another rotary switch on the wiper multifunction switch stalk is rotated to select the desired rear wiper speed (ON or DELAY). The wiper stalk is pushed toward the instrument panel to activate the rear liftglass washer system. Both the rear wiper and rear washer motors will operate continuously for as long as the stalk is held in the momentary REAR WASH position.

If any part of the right multi-function switch stalk is faulty or damaged, the entire wiper multifunction switch assembly must be replaced.

3.18.2 REAR WIPER SYSTEM

Five circuits feed the rear wiper module. It has two high current circuits, battery (B+) and ground, that run the motor. The remaining three circuits are low current control circuits.

Two of these circuits come from the rear wiper switch on the right multi-function switch stalk. These circuits are referred to as the rear wiper motor control circuit and the rear wiper motor intermittent control circuit. When the rear wiper switch is in the Off position, both of these circuits are open and the wiper module parks or remains parked. When the rear wiper switch is in the Intermittent position, the intermittent control circuit is switched to ignition voltage, the motor control circuit is open and the wiper is in the intermittent modes. When the rear wiper switch is in the On position, the intermittent control circuit is open and the motor control circuit is switched to ignition voltage and the wiper is in continuous wipe mode.

REAR WIPER SYSTEM CONTROL CIRCUITS

REAR WIPER SWITCH POSITION	DELAY CIRCUIT	CONTINUOUS CIRCUIT	AJAR CIRCUIT	WIPER MODE
OFF	*OPEN*	*OPEN*	*OPEN*	PARKED
	OPEN	*OPEN*	*GROUND*	PARKED
DEL	*IGNITION*	*OPEN*	*OPEN*	DELAY
	IGNITION	*OPEN*	*GROUND*	PARKED
ON	*OPEN*	*IGNITION*	*OPEN*	ON
	OPEN	*IGNITION*	*GROUND*	PARKED
WASH	*IGNITON*	*IGNITION*	*OPEN*	WASH
	IGNITION	*IGNITION*	*GROUND*	PARKED

The third control circuit is the AJAR circuit. This circuit is fed by the flip-up glass ajar switch. When the flip-up glass is closed the ajar switch is open and the rear wiper module functions normally. When the flip-up glass is open, the ajar switch is closed and the circuit provides ground to the module. This ground signal indicates to the rear wiper module that it should park if operating or not allow operation if parked.

3.19 USING THE DRBIII®

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

3.19.1 DRBIII® ERROR MESSAGES AND BLANK SCREEN

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 for information and assistance. This is a sample of such an error message display:

```
ver: 2.14
date: 26 Jul93
file: key_itf.cc
date: Jul 26 1993
line: 548
err: 0x1
User-Requested COLD Boot

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

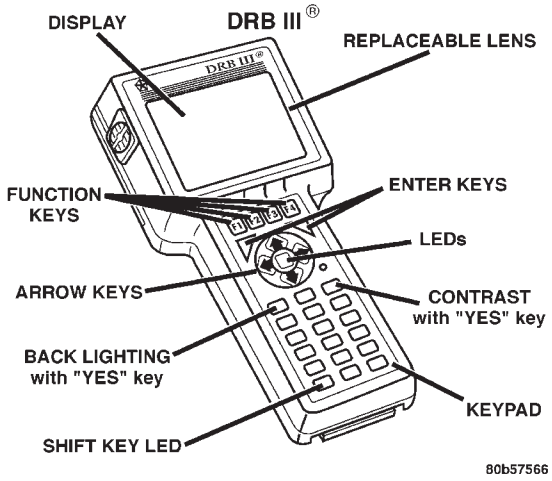
3.19.2 DRBIII® DOES NOT POWER UP

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®.

If all connections are proper between the DRBIII® and the vehicle or other devices, and the vehicle battery is fully charged, and inoperative DRBIII® may be the result of faulty cable or vehicle wiring.

3.19.3 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: ENGINES PRODUCE CARBON MONOXIDE THAT IS ODORLESS, CAUSES SLOWER REACTION TIME, AND CAN LEAD TO SERIOUS INJURY. 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 wheels 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 the 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 service manual procedures. Following these procedures is very important to the 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. IT CAN EXPOSE YOU TO SERIOUS OR POSSIBLY FATAL INJURY. CAREFULLY READ AND UNDERSTAND THE CAUTIONS AND THE SPECIFICATION LIMITS.

- 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 function for the measurement. Do not try voltage or current measurements 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 0 - 500 volts DC
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 test lead.
- Disconnect the live test lead before disconnecting the common test lead.
- When using the meter function, keep the DRBIII® 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.

CAUTION: Before road testing a vehicle, be sure that all components are reassembled. During the test drive, do not try to read the DRBIII® screen while in motion. Do not hang the DRB from the rear view mirror or operate it yourself. Have an assistant available to operate the DRBIII®.

5.0 REQUIRED TOOLS AND EQUIPMENT

DRBIII® (diagnostic read-out box)
Jumper Wires
Ohmmeter
Voltmeter
Test Light
Miller Special Tool #8310
8310 Airbag Load Tool
8443 SRS Airbag Load Tool

6.0 GLOSSARY OF ACRONYMS

ABS	antilock brake system
ACM	airbag control module
AECM	airbag electronic control module (ACM)
APM	adjustable pedals module
ASDM	airbag system diagnostic module (ACM)
AZC	automatic zone control
BCM	body control module
CAB	controller antilock brake
DAB	driver airbag
DDM	driver door module
DLC	data link connector
DTC	diagnostic trouble code
EBL	electric back lite (rear window defogger)
ECM	engine control module
EVIC	electronic vehicle information center
HSM	heated seat module (also called seat module)
HVAC	heater ventilation, air conditioning
I/R	infrared sensor
ITM	intrusion transceiver module
MHSM	memory heated seat module (also called seat module)
MIC	mechanical instrument cluster
MSM	memory seat module
MUX	Multiplexed
ODO	odometer
ORC	occupant restraint controller (ACM)
PAB	passenger airbag
PCI	Programmable Communication Interface (vehicle communication bus)
PCM	powertrain control module
PDC	power distribution center
PDM	passenger door module
PWM	pulse width modulated
RKE	remote keyless entry
SBS	Seatbelt switch
SKIM	sentry key immobilizer module
SKIS	sentry key immobilizer system
SQUIB	also called initiator (located in rear of airbag module)
TCM	transmission control module
TPM	tire pressure monitoring
VFD	vacuum fluorescent display
VTSS	vehicle theft security system

NOTES

7.0

DIAGNOSTIC INFORMATION AND PROCEDURES

Symptom List:

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

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be INTERNAL MODULE TEST.

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.

ACCELEROMETER 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 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 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.

STORED ENERGY FIRING 1

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

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

POSSIBLE CAUSES
AIRBAG CONTROL MODULE - ACM

INTERNAL MODULE TEST — Continued

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Ensure the battery is fully charged. **WARNING: IF THE MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED.** **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 reporting this diagnostic trouble code. SELECT ONE: ACM - ACTIVE or STORED DTC 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. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

Symptom List:

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 TEST.

When Monitored and Set Condition:

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 MIC transmits the message one time at ignition on, upon lamp state change, or in response to the ACM lamp message.

Set Condition: This DTC will set if the indicator status is OPEN for 2 or 3 consecutive messages or 2 or 3 seconds.

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 MIC transmits the message one time at ignition on, upon lamp state change, or in response to the ACM lamp message.

Set Condition: This DTC will set if the indicator status is SHORT for 2 or 3 consecutive messages or 2 or 3 seconds.

POSSIBLE CAUSES
MIC, COMMUNICATION FAILURE
WARNING INDICATOR
ACM, WARNING INDICATOR
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

AIRBAG WARNING INDICATOR TEST — Continued

TEST	ACTION	APPLICABILITY
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 INSTRUMENT CLUSTER BUS +/- SIGNAL OPEN.	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. Does the DRBIII® show the LAMP STATUS: OK? YES Go To 4 NO Replace Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1.	All
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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. 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 BODY VERIFICATION TEST - VER 1.	All
4	**WARNING: MAKE SURE THE BATTERY IS DISCONNECTED, THEN WAIT TWO MINUTES BEFORE PROCEEDING.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CURTAIN SQUIB CIRCUIT OPEN

When Monitored and Set Condition:

DRIVER CURTAIN SQUIB CIRCUIT OPEN

When Monitored: With the ignition is On, the ACM monitors the resistance of the Curtain Squib circuits.

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

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

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 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER CURTAIN SQUIB CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**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 Curtain Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Curtain Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the ACM active DTC's. Does the DRBIII® show CURTAIN SQUIB CIRCUIT OPEN? Yes → Go To 3 No → Replace Curtain 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.** **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 Jumper. 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 Curtain Squib Line 1 and Line 2 circuits between the Load Tool ACM adaptor and the Curtain Airbag connector. 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 Curtain Squib Line 1 or Line 2 circuits. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER CURTAIN SQUIB CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CURTAIN SQUIB CIRCUIT SHORT

When Monitored and Set Condition:

DRIVER CURTAIN SQUIB CIRCUIT SHORT

When Monitored: When the ignition is on, the ACM monitors the resistance between the Curtain Squib circuits.

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

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

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 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

DRIVER CURTAIN SQUIB CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TURN THE 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 Curtain Airbag connector. **NOTE: Check connectors - Clean repair as necessary.** Connect the appropriate Load Tool to the Curtain Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRB, read the ACM active DTC's. Does the DRBIII® show CURTAIN SQUIB CIRCUIT SHORT? Yes → Go To 3 No → Replace Curtain Airbag in accordance with the Service Information. Perform AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TURN THE 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 Airbag Load Tool Jumper. Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool adaptor to the ACM connector. Measure the resistance between the Curtain Squib Line 1 and Line 2 circuits at the Curtain Airbag connector. Is the resistance below 10K ohms? Yes → Repair Curtain Squib Line 1 shorted to Line 2 circuit. Perform AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER CURTAIN SQUIB CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CURTAIN SQUIB SHORT TO BATTERY

When Monitored and Set Condition:

DRIVER CURTAIN SQUIB SHORT TO BATTERY

When Monitored: When the ignition is on, the ACM monitors the voltage of the Curtain Squib circuits.

Set Condition: When the ACM detects high voltage on the Curtain Squib circuits.

POSSIBLE CAUSES
CURTAIN AIRBAG SHORT TO BATTERY
CURTAIN SQUIB LINE 1 OR LINE 2 SHORTED TO BATTERY
ACM, CURTAIN SQUIB SHORT TO BATTERY
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 ONE: 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 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 Curtain Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Curtain Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read ACM active DTC's. Does the DRBIII® display CURTAIN SQUIB SHORT TO BATTERY? Yes → Go To 3 No → Replace Curtain Airbag in accordance with the Service Information. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER CURTAIN SQUIB SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
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 Airbag Load Tool Jumper. Disconnect the Airbag Control Module connector. **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 Curtain Squib Line 1 and Line 2 circuits between the Curtain Airbag connector and ground. Is any voltage present on either circuit? Yes → Repair Curtain Squib Line 1 or Line 2 shorted to battery. Perform AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CURTAIN SQUIB SHORT TO GROUND

When Monitored and Set Condition:

DRIVER CURTAIN SQUIB SHORT TO GROUND

When Monitored: When the ignition is on, the ACM monitors the resistance of the Curtain Squib circuits.

Set Condition: When the ACM detects a short to ground on the Curtain Squib circuits.

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

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 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**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 Curtain Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Curtain Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read ACM active DTC's. Does the DRBIII® display CURTAIN SQUIB SHORT TO GROUND? Yes → Go To 3 No → Replace the Curtain Airbag in accordance with Service Instructions. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER CURTAIN SQUIB SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
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 Airbag Load Tool Jumper. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM adaptor to the ACM connector. Measure the resistance of the Curtain Squib Line 1 and Line 2 circuits between the Curtain Squib connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair Curtain 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 Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 SWITCH CIRCUIT OPEN

When Monitored and Set Condition:

DRIVER SEAT BELT SWITCH CIRCUIT OPEN

When Monitored: With the ignition on the ACM monitors the Seat Belt Switch circuit for an open condition.

Set Condition: The code will set if the ACM does not detect the correct circuit voltage.

POSSIBLE CAUSES
DRIVER SEAT BELT SWITCH OPEN
DRIVER SEAT BELT SWITCH CIRCUITS OPEN
ACM, DRIVER SEAT BELT SWITCH CIRCUIT OPEN
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that 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 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 off. Disconnect the Driver Seat Belt Switch. **NOTE: Check connectors - Clean and repair as necessary.** Turn the ignition on. Measure the voltage between Driver Seat Belt Switch Line 1 and Line 2 circuits at the SBS connector. Is there any voltage present? Yes → Replace the Driver Seat Belt Switch Buckle Assembly. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All

DRIVER SEAT BELT SWITCH CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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 SBS Line 1 and line 2 circuits between the Driver SBS harness connector and Airbag Load Tool adaptor. Is the resistance of both circuits below 10K ohms? 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. MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1. No → Repair the open Driver Seat Belt Switch Line 1 or Line 2. 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	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 SWITCH SHORT TO BATTERY

When Monitored and Set Condition:

DRIVER SEAT BELT SWITCH SHORT TO BATTERY

When Monitored: With the ignition on the ACM monitors the Seat Belt Buckle Switch circuit for an short to battery.

Set Condition: The code will set if the ACM detects high circuit voltage.

POSSIBLE CAUSES
DRIVER SEAT BELT SWITCH SHORT TO BATTERY
DRIVER SEAT BELT SWITCH CIRCUITS SHORT TO BATTERY
ACM, DRIVER SEAT BELT SWITCH SHORT TO BATTERY
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that 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 ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 4	All
2	Turn the ignition off. Disconnect the Driver Seat Belt Switch. **NOTE: Check connectors - Clean and repair as necessary.** Turn the ignition on. With the DRBIII®, read the active Airbag DTCs. Does the DRB show DRIVER SEAT BELT SWITCH CIRCUIT OPEN? Yes → Replace the Driver Seat Belt Switch Buckle Assembly. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All

DRIVER SEAT BELT SWITCH SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean and repair as necessary.** **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage on the Driver SBS Line 1 and line 2 circuits at the Driver SBS connector. Is there any voltage present? Yes → Repair the Driver Seat Belt Switch line 1 or line 2 shorted to battery. Perform AIRBAG VERIFICATION TEST - VER 1. No → 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. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 SWITCH SHORT TO GROUND

When Monitored and Set Condition:

DRIVER SEAT BELT SWITCH SHORT TO GROUND

When Monitored: With the ignition on the ACM monitors the Seat Belt Buckle Switch circuit for a shorted together or shorted to ground condition.

Set Condition: The code will set if the ACM detects low circuit voltage.

POSSIBLE CAUSES
DRIVER SEAT BELT SWITCH SHORT TOGETHER OR TO GROUND
DRIVER SEAT BELT SWITCH CIRCUITS SHORT TOGETHER
DRIVER SEAT BELT SWITCH CIRCUITS SHORT TO GROUND
ACM, DRIVER SEAT BELT SWITCH SHORT TO GROUND
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that 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 ACTIVE or STORED DTC: ACM - ACTIVE DTC Go To 2 ACM - STORED DTC Go To 5	All
2	Turn Ignition off. Disconnect the Driver Seat Belt Switch connector. **NOTE: Check connectors - Clean and repair as necessary.** Turn Ignition on. With the DRBIII®, read the active Airbag DTCs. Does the DRB show DRIVER SEAT BELT CIRCUIT OPEN? Yes → Replace the Driver Seat Belt Switch Buckle Assembly. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All

DRIVER SEAT BELT SWITCH SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance between the Driver SBS Line 1 and line 2 circuits at the Driver SBS connector. Is the resistance below 10K ohms? Yes → Repair the Driver Seat Belt Switch Line 1 and Line 2 shorted together. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 4	All
4	Measure the resistance of the Driver SBS Line 1 and Line 2 circuits between the Driver SBS connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair the Driver Seat Belt Switch line 1 or line 2 shorted to ground. Perform AIRBAG VERIFICATION TEST - VER 1. No → 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.	All
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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:

DRIVER SIDE IMPACT SENSOR INTERNAL 1
NO DRIVER SIDE IMPACT SENSOR COMMUNICATION

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be DRIVER SIDE IMPACT SENSOR INTERNAL 1.

When Monitored and Set Condition:

DRIVER SIDE 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 Side Impact Sensor Internal 1 message to the ACM.

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

NO DRIVER SIDE IMPACT SENSOR COMMUNICATION

When Monitored: The ACM continuously communicates with the Driver Side 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 Driver Side Impact Sensor do not establish and maintain valid data communications.

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

DRIVER SIDE IMPACT SENSOR INTERNAL 1 — Continued

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
2	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Driver Side Impact Sensor connector. Disconnect the Airbag Control Module connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Driver Side Impact Sensor Signal circuit between the Driver Side Sensor connector and ground. Is there any voltage present? Yes → Repair the Driver Side Impact Sensor Signal circuit shorted to battery. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Measure the resistance of the Driver Side Impact Sensor Signal circuit between the Driver Side Impact Sensor connector and ground. Is the resistance below 100K ohms? Yes → Repair the Driver Side 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 Driver Side Impact Sensor Signal and Sensor Ground circuits at the Driver Side Impact Sensor connector. Is the resistance below 100K ohms? Yes → Repair the Driver Side Impact Sensor circuits shorted together. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Side Impact Sensor Ground circuit between the Driver Side Impact Sensor connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Driver Side Impact Sensor Ground circuit open or high resistance. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SIDE IMPACT SENSOR INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
6	Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. Measure the resistance of the Driver Side Impact Sensor Signal circuit between the Driver Side Impact Sensor connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Driver Side Impact Sensor Signal circuit open or high resistance. Perform AIRBAG VERIFICATION TEST - VER 1.	All
7	Replace the Driver 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: 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: 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

DRIVER SIDE IMPACT SENSOR INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
9	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 OPEN
CLOCKSPRING SQUIB CIRCUITS OPEN
DRIVER SQUIB 1 LINE 1 OR LINE 2 CIRCUIT 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 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 SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**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 Driver Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Airbag connectors. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. Disconnect the Load Tool from the Clockspring connector. Measure the resistance of the Driver Squib 1 Line 1 and Line 2 circuit between the ACM adaptor and the Clockspring connector. Is the resistance below 1.0 ohms on both circuits? Yes → Replace the Airbag Control Module in accordance with Service Instructions. 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 Driver Squib 1 Line 1 or Line 2 circuit. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CIRCUIT SHORT
CLOCKSPRING, DRIVER SQUIB 1 CIRCUIT SHORT
DRIVER SQUIB 1 LINE 1 SHORT TO LINE 2
ACM, DRIVER SQUIB 1 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 5 **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 Driver Airbag. **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 Airbag connectors. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. Does the DRBIII® show DRIVER SQUIB 1 CIRCUIT SHORT? Yes → Go To 3 No → Replace Driver Airbag. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. Does the DRBIII® show DRIVER SQUIB 1 CIRCUIT SHORT? Yes → Go To 4 No → Replace Clockspring. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. Disconnect the Load Tool from the Clockspring connector. 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CIRCUIT SHORT TO BATTERY
CLOCKSPRING, DRIVER SQUIB 1 CIRCUIT SHORT TO BATTERY
DRIVER SQUIB 1 LINE 1 OR LINE 2 SHORT TO BATTERY
ACM, DRIVER SQUIB 1 CIRCUITS 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 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: 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 Driver Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Airbag connectors. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCS. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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
4	**WARNING: 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. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Disconnect the Load Tool from the Clockspring connector. 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 Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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: The ACM has detected a short to ground in the Driver Squib 1 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG CIRCUIT SHORT TO GROUND
CLOCKSPRING, DRIVER SQUIB 1 CIRCUIT SHORT TO GROUND
DRIVER SQUIB 1 LINE 1 OR LINE 2 SHORTED TO GROUND
ACM, DRIVER SQUIB 1 CIRCUITS 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 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 GROUND — Continued

TEST	ACTION	APPLICABILITY
2	**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 Driver Airbag Module. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Airbag connectors. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. Does the DRBIII® show DRIVER SQUIB 1 SHORT TO GROUND? Yes → Go To 4 No → Replace the Clockspring. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. Disconnect the Load Tool from the Clockspring 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 has detected an open circuit or high resistance in the Driver Squib 2 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG CIRCUIT OPEN
CLOCKSPRING, DRIVER SQUIB 2 CIRCUIT OPEN
DRIVER SQUIB 2 LINE 1 OR LINE 2 CIRCUIT 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 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 SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**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 Driver Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Airbag connectors. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRB, read the active Airbag DTCs. Does the DRB 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. Disconnect the Load Tool from the Clockspring connector. 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 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 the 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	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 has detected low resistance on the Driver Squib 2 circuits.

POSSIBLE CAUSES
DRIVER AIRBAG 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 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 SQUIB 2 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**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 Driver Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Airbag connectors. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. Disconnect the Load Tool from the Clockspring connector. Measure the resistance between the Driver Squib 2 Line 1 and Line 2 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 2 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 has detected high voltage on the Driver Squib 2 circuits.

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

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that 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 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 SQUIB 2 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	**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 Driver Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Airbag connectors. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTC's. Does the DRB 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Disconnect the Load Tool from the Clockspring connector. 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 2 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 has detected a short to ground in the Driver Squib 2 circuits.

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

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that 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 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 SQUIB 2 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
2	**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 Driver Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Driver Airbag connectors. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Clockspring connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Clockspring connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. Disconnect the Load Tool from the Clockspring 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All

DRIVER SQUIB 2 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
5	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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:

LEFT FRONT IMPACT SENSOR INTERNAL 1
NO LEFT FRONT IMPACT SENSOR COMMUNICATION

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

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 SENSOR CIRCUITS SHORTED TOGETHER
GROUND CIRCUIT OPEN
SIGNAL CIRCUIT OPEN
ACM, LEFT FRONT IMPACT SENSOR
REPAIR IS COMPLETE
STORED CODE OR INTERMITTENT CONDITION
ACTIVE CODE PRESENT

LEFT FRONT IMPACT SENSOR INTERNAL 1 — Continued

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
2	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Left Front Impact Sensor connector. Disconnect the Airbag Control Module connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Left Front Impact Sensor Signal circuit between the Left Sensor connector and ground. Is there any voltage present? Yes → Repair the Left Front Impact Sensor Signal circuit shorted to battery. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Measure the resistance of the Left Impact Sensor Signal circuit between the Left Impact Sensor connector and ground. Is the resistance below 100K ohms? Yes → Repair the Left 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 Signal and Sensor Ground circuits at the Left Impact Sensor connector. Is the resistance below 100K ohms? Yes → Repair the Left Front Impact Sensor circuits shorted together. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. Measure the resistance of the Left Front Impact Sensor Ground circuit between the Left Impact Sensor connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Left Front Impact Sensor Ground circuit open or high resistance. Perform AIRBAG VERIFICATION TEST - VER 1.	All

LEFT FRONT IMPACT SENSOR INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
6	Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. Measure the resistance of the Left Front Impact Sensor Signal circuit between the Left Impact Sensor connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Left Front Impact Sensor Signal circuit open or high resistance. Perform AIRBAG VERIFICATION TEST - VER 1.	All
7	Replace the Left Front 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: 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 Impact Sensor DTC return? Yes → Go To 8 No → Repair is complete.	All
8	**WARNING: 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

LEFT FRONT IMPACT SENSOR INTERNAL 1 — Continued

TEST	ACTION	APPLICABILITY
9	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LOSS OF IGNITION RUN - START

When Monitored and Set Condition:

LOSS OF IGNITION RUN - START

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

Set Condition: The code will set, if the voltage on the Run - Start circuit drops below approximately 4.5 volts for the ACM or 6.7 volts for the SIACM.

POSSIBLE CAUSES
IGNITION SWITCH RUN-START CIRCUIT OPEN
ACM, FUSED IGNITION SW OUTPUT RUN/START SHORTED TO GROUND
FUSED IGNITION SWITCH OUTPUT RUN-START CIRCUIT OPEN
ACM, FUSED IGNITION OUTPUT RUN-START CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT RUN-START 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: 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 the this diagnostic trouble code. SELECT ONE: 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
2	Turn ignition off. Remove and inspect the Airbag Run-Start Fuse. **NOTE: Check connectors - Clean and repair as necessary.** Is the Fuse open? Yes → Go To 3 No → Go To 4	All

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: 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 **NOTE: Check connectors - Clean and repair as necessary.** Disconnect Run - Start fuse. Connect the appropriate Load Tool adaptor to the Airbag connector. Measure the resistance of the Fused Ignition Switch Output Run-Start circuit between the Airbag Control Module adaptor and ground. Is the resistance below 10K ohms? Yes → Repair the Fused Ignition Switch Output Run-Start circuit short to ground. Perform AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: make sure the battery is disconnected and wait 2 minutes before proceeding. Replace the Airbag Run-Start Fuse. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	Turn the ignition on. Measure the voltage of the Ignition Switch Output circuit between the Airbag Run-Start Fuse and ground. Is the voltage above approximately 4.5 volts? Yes → Go To 5 No → Repair the open Ignition Switch Output Run-Start circuit. Perform AIRBAG VERIFICATION TEST - VER 1.	All
5	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Reinstall the previously removed Airbag Run-Start Fuse. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Fused Ignition Switch Output Run-Start Circuit between the Airbag Control Module connector ground. Is the voltage above approximately 4.5 volts? Yes → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1. No → Repair open Fused Ignition Switch Output Run-Start circuit. Perform AIRBAG VERIFICATION TEST - VER 1.	All

LOSS OF IGNITION RUN - START — Continued

TEST	ACTION	APPLICABILITY
6	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? Yes → Select appropriate symptom from Symptom List. No → No problem found at this time. Erase all codes before returning vehicle to customer.	All

Symptom:
LOSS OF IGNITION RUN ONLY

When Monitored and Set Condition:

LOSS OF IGNITION RUN ONLY

When Monitored: With the ignition in the run position the module monitors the Run Only circuit for proper system voltage.

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

POSSIBLE CAUSES
IGNITION SWITCH OUTPUT RUN CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT RUN CIRCUIT OPEN
ACM, FUSED IGNITION OUTPUT RUN CIRCUIT OPEN
CHECKING FOR A SHORTED RUN CIRCUIT
FUSED IGNITION SWITCH OUTPUT RUN CIRCUIT SHORT TO GROUND
ACM, FUSED IGNITION RUN CIRCUIT SHORT TO GROUND
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 8 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	Turn the ignition off. Remove and inspect the Airbag Run circuit fuse. Is the Fuse open? Yes → Go To 3 No → Go To 5	All

LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Airbag Run fuse. **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the Fused Ignition Switch Output Run circuit between the Run Fuse and ground. Is the resistance below 10.0 ohms ? Yes → Go To 4 No → Replace the defective fuse. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Measure the resistance of the Fused Ignition Switch Output Run circuit between the ACM connector and ground. Is the resistance below 10K ohms ? Yes → Repair the Fused Ignition Switch Output Run circuit for a short to ground and replace Airbag Run Fuse. Perform AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions and replace the Run Only Fuse. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
5	Turn the ignition on. Measure the voltage of the Ignition Switch Output Run circuit between the Airbag Run circuit fuse and ground. Is the voltage above approximately 4.5 volts? Yes → Go To 6 No → Repair the open Ignition Switch Output Run circuit. Perform AIRBAG VERIFICATION TEST - VER 1.	All
6	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Reinstall the airbag Run fuse. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Fused Ignition Switch Output Run circuit at the Airbag Control Module connector. Is the voltage above approximately 4.5 volts? Yes → Go To 7 No → Repair the an open or high resistance in the Fused Ignition Switch Output Run circuit. Perform AIRBAG VERIFICATION TEST - VER 1.	All

LOSS OF IGNITION RUN ONLY — Continued

TEST	ACTION	APPLICABILITY
7	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
8	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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	**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 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 INSTRUMENT CLUSTER BUS +/- SIGNAL OPEN.	All

NO CLUSTER MESSAGE — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** If there are no possible causes remaining, view repair. Repair Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. 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	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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:

NO PASSENGER SIDE IMPACT SENSOR COMMUNICATION
PASSENGER SIDE IMPACT SENSOR INTERNAL 1

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be NO PASSENGER SIDE IMPACT SENSOR COMMUNICATION.

When Monitored and Set Condition:

NO PASSENGER SIDE IMPACT SENSOR COMMUNICATION

When Monitored: The ACM continuously communicates with the Passenger Side 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 Passenger Side Impact Sensor do not establish and maintain valid data communications.

PASSENGER SIDE IMPACT SENSOR INTERNAL 1

When Monitored: The Passenger Side Impact Sensors is equipped with onboard diagnostics to monitor the sensors internal circuits. If a problem is identified the sensor sends the Passenger Side Impact Sensor Internal 1 message to the ACM.

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

POSSIBLE CAUSES
SIGNAL CIRCUIT SHORTED TO BATTERY
SIGNAL CIRCUIT SHORT TO GROUND
PASSENGER SIDE SENSOR 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

NO PASSENGER SIDE IMPACT SENSOR COMMUNICATION — Continued

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
2	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Passenger Side Impact Sensor connector. Disconnect the Airbag Control Module connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Passenger Side Impact Sensor Signal circuit between the Passenger Side Impact Sensor connector and ground. Is there any voltage present? Yes → Repair the Passenger Side Impact Sensor Signal circuit shorted to battery. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Measure the resistance of the Passenger Side Impact Sensor Signal circuit between the Passenger Side Impact Sensor connector and ground. Is the resistance below 100K ohms? Yes → Repair the Passenger Side 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 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 Passenger Side Impact Sensor circuits shorted together. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 5	All
5	Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. Measure the resistance of the Passenger Side Impact Sensor Ground circuit between the Passenger Side Impact Sensor connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Passenger Side Front Impact Sensor Ground circuit open or high resistance. Perform AIRBAG VERIFICATION TEST - VER 1.	All

NO PASSENGER SIDE IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
6	Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. Measure the resistance of the Passenger Side Impact Sensor Signal circuit between the Passenger Side Impact Sensor connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 7 No → Repair the Passenger Side Impact Sensor Signal circuit open or high resistance. Perform AIRBAG VERIFICATION TEST - VER 1.	All
7	Replace the Passenger 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: 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 Passenger Side Impact Sensor DTC return? Yes → Go To 8 No → Test Complete.	All
8	**WARNING: 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 PASSENGER SIDE IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 PCI BUS.

Set Condition: The code will set if the onboard diagnostic cannot detect the module transmitting information on the PCI BUS for 4 consecutive seconds. NOTE: Any PCI 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	**NOTE: Ensure that the battery is fully charged.** IF THE MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Turn the ignition on. From the list below, select the appropriate module and DTC type for the this diagnostic trouble code. **NOTE: For the purpose of this test, the AECM and ORC modules will be referred to as an ACM.** Select the appropriate module and type of DTC ACM - ACTIVE 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. ACM - STORED Go To 2	All

NO PCI TRANSMISSION — Continued

TEST	ACTION	APPLICABILITY
2	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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:

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION
RIGHT FRONT IMPACT SENSOR INTERNAL 1

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

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

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION — Continued

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
2	**WARNING: 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: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Measure the voltage of the Right Front Impact Sensor Signal circuit between the Right Sensor connector and ground. Is there any voltage present? Yes → Repair the Right Front Impact Sensor Signal circuit shorted to battery. Perform AIRBAG VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Measure the resistance of the Right Impact Sensor Signal circuit between the Right Impact Sensor connector and ground. Is the resistance below 100K ohms? Yes → Repair the Right 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 Right Front Impact Sensor Signal and Sensor Ground circuits at the Right Impact Sensor 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 adaptor to the Airbag Control Module connector. Measure the resistance of the Right Front Impact Sensor Ground circuit between the Right Impact Sensor connector and the Load Tool adaptor. Is the resistance below 1 ohm? Yes → Go To 6 No → Repair the Right Front Impact Sensor Ground circuit open or high resistance. Perform AIRBAG VERIFICATION TEST - VER 1.	All

NO RIGHT FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
6	Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. Measure the resistance of the Right Front Impact Sensor Signal circuit between the Right 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 Signal circuit open or high resistance. Perform AIRBAG VERIFICATION TEST - VER 1.	All
7	Replace the Right Front 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: 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 Impact Sensor DTC return? Yes → Go To 8 No → Repair is complete.	All
8	**WARNING: 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 FRONT IMPACT SENSOR COMMUNICATION — Continued

TEST	ACTION	APPLICABILITY
9	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CURTAIN SQUIB CIRCUIT OPEN

When Monitored and Set Condition:

PASSENGER CURTAIN SQUIB CIRCUIT OPEN

When Monitored: With the ignition is On, the ACM monitors the resistance of the Curtain Squib circuits.

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

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

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: RIGHT SIACM - ACTIVE DTC Go To 2 RIGHT SIACM - STORED DTC Go To 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER CURTAIN SQUIB CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**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 Curtain Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Curtain Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the ACM active DTC's. Does the DRB show CURTAIN SQUIB CIRCUIT OPEN? Yes → Go To 3 No → Replace Curtain 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.** **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 Jumper. Disconnect the Airbag Control Module Connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool adaptor to the Side Impact Airbag Control Module connector. Measure the resistance of the Curtain Squib Line 1 and Line 2 circuits between the Load Tool SIACM adaptor and the Curtain Airbag connector. Is the resistance below 1.0 ohms on both circuits? Yes → Test Complete. No → Repair open or high resistance in the Curtain Squib Line 1 or Line 2 circuits. Perform AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER CURTAIN SQUIB CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CURTAIN SQUIB CIRCUIT SHORT

When Monitored and Set Condition:

PASSENGER CURTAIN SQUIB CIRCUIT SHORT

When Monitored: When the ignition is on, the ACM monitors the resistance between the Curtain Squib circuits.

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

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

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 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

PASSENGER CURTAIN SQUIB CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
2	**WARNING: TURN THE 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 Curtain Airbag connector. **NOTE: Check connectors - Clean repair as necessary.** Connect the appropriate Load Tool to the Curtain Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRB, read the ACM active DTC's. Does the DRB show CURTAIN SQUIB CIRCUIT SHORT? Yes → Go To 3 No → Replace Curtain Airbag in accordance with the Service Information. Perform AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TURN THE 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 Airbag Load Tool Jumper. Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool adaptor to the ACM connector. Measure the resistance between the Curtain Squib Line 1 and Line 2 circuits at the Curtain Airbag connector. Is the resistance below 10K ohms? Yes → Repair Curtain Squib Line 1 shorted to Line 2 circuit. Perform AIRBAG VERIFICATION TEST - VER 1. No → Test Complete.	All

PASSENGER CURTAIN SQUIB CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CURTAIN SQUIB SHORT TO BATTERY

When Monitored and Set Condition:

PASSENGER CURTAIN SQUIB SHORT TO BATTERY

When Monitored: When the ignition is on, the ACM monitors the voltage of the Curtain Squib circuits.

Set Condition: When the ACM detects high voltage on the Curtain Squib circuits.

POSSIBLE CAUSES
CURTAIN AIRBAG SHORT TO BATTERY
CURTAIN SQUIB LINE 1 OR LINE 2 SHORTED TO BATTERY
ACM, CURTAIN SQUIB SHORT TO BATTERY
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 ONE: RIGHT SIACM - ACTIVE DTC Go To 2 RIGHT SIACM - 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 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 Curtain Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Curtain Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read ACM active DTC's. Does the DRBIII® display CURTAIN SQUIB SHORT TO BATTERY? Yes → Go To 3 No → Replace Curtain Airbag in accordance with the Service Information. Perform AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER CURTAIN SQUIB SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
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 Airbag Load Tool Jumper. Disconnect the Airbag Control Module connector. **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 Curtain Squib Line 1 and Line 2 circuits between the Curtain Airbag connector and ground. Is any voltage present on either circuit? Yes → Repair Curtain Squib Line 1 or Line 2 shorted to battery. Perform AIRBAG VERIFICATION TEST - VER 1. No → Test Complete.	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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 CURTAIN SQUIB SHORT TO GROUND

When Monitored and Set Condition:

PASSENGER CURTAIN SQUIB SHORT TO GROUND

When Monitored: When the ignition is on, the ACM monitors the resistance of the Curtain Squib circuits.

Set Condition: When the ACM detects a short to ground on the Curtain Squib circuits.

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

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 4 **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All
2	**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 Curtain Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Curtain Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read ACM active DTC's. Does the DRBIII® display CURTAIN SQUIB SHORT TO GROUND? Yes → Go To 3 No → Replace the Curtain Airbag in accordance with Service Instructions. Perform AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER CURTAIN SQUIB SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
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 Airbag Load Tool Jumper. Disconnect the Airbag Control Module connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool ACM adaptor to the ACM connector. Measure the resistance of the Curtain Squib Line 1 and Line 2 circuits between the Curtain Squib connector and ground. Is the resistance below 10K ohms on either circuit? Yes → Repair Curtain Squib Line 1 or Line 2 shorted to ground. Perform AIRBAG VERIFICATION TEST - VER 1. No → Test Complete.	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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:

PASSENGER SEAT BELT SWITCH CIRCUIT OPEN
PASSENGER SEAT BELT SWITCH SHORT TO BATTERY
PASSENGER SEAT BELT SWITCH SHORT TO GROUND

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be PASSENGER SEAT BELT SWITCH CIRCUIT TEST.

When Monitored and Set Condition:

PASSENGER SEAT BELT SWITCH CIRCUIT OPEN

When Monitored: The ACM monitors the Seat Belt Buckle Switch circuit for an open condition.

Set Condition: The code will set if the ACM does not detect the correct circuit voltage.

PASSENGER SEAT BELT SWITCH SHORT TO BATTERY

When Monitored: The ACM monitors the Seat Belt Buckle Switch circuit for an short to battery.

Set Condition: The code will set if the ACM detects high circuit voltage.

PASSENGER SEAT BELT SWITCH SHORT TO GROUND

When Monitored: The ACM monitors the Seat Belt Buckle Switch circuit for a shorted together or shorted to ground condition.

Set Condition: The code will set if the ACM detects low circuit voltage.

POSSIBLE CAUSES
ACM, PASSENGER SEAT BELT SWITCH DTC

PASSENGER SEAT BELT SWITCH CIRCUIT TEST — Continued

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 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. ACM - STORED DTC 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. **NOTE: When reconnecting Airbag system components, the ignition must be turned off and the battery must be disconnected.**	All

Symptom:
PASSENGER SQUIB 1 CIRCUIT OPEN

When Monitored and Set Condition:

PASSENGER SQUIB 1 CIRCUIT OPEN

When Monitored: When the ignition is On, the ACM monitors the resistance of the Passenger Squib 1 circuits.

Set Condition: The ACM has detected an open circuit or high resistance on the Passenger Squib 1 circuits.

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

TEST	ACTION	APPLICABILITY
1	**NOTE: 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 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

PASSENGER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**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 Passenger Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Airbag connector. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. Disconnect the Load Tool from the Passenger Airbag connector. 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 → Replace the Airbag Control Module in accordance with Service Instructions. 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 Passenger Squib 1 Line 1 or Line 2 circuits. 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

PASSENGER SQUIB 1 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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: When the ignition is on, the ACM monitors the resistance of the Passenger Squib 1 circuits.

Set Condition: The ACM has detected low resistance in the Passenger Squib 1 circuits.

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

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that 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 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.** **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 Passenger Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Airbag connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active airbag DTCs. Does the DRBIII® show PASSENGER SQUIB 1 CIRCUIT SHORT? Yes → Go To 3 No → Replace Passenger Airbag in accordance with the Service Information. Perform AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 1 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool adapter to the Airbag Control Module connector. Disconnect the Load Tool from the Passenger airbag connector. Measure the resistance between Passenger Squib 1 Line 1 and Squib 1 Line 2 circuit 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. 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	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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: When the ignition is on, the ACM monitors the voltage of the Passenger Squib 1 circuits.

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

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

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that 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 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.** **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 Passenger Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Airbag connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. 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

PASSENGER SQUIB 1 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. **WARNING: TURN IGNITION ON, THEN RECONNECT THE BATTERY.** Disconnect the Load Tool from the Passenger Airbag connector. 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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: When the ignition is on, the ACM monitors the resistance of the Passenger Squib 1 circuits for low resistance.

Set Condition: The ACM has detected a short to ground in the Passenger Squib 1 circuits.

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

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the battery is fully charged.** Turn the ignition on. **NOTE: Connect the appropriate Load Tool to the Passenger Airbag connector.** 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.** **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 Passenger Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Airbag connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. Does the DRBIII® show PASSENGER SQUIB 1 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

PASSENGER SQUIB 1 SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean repair as necessary.** Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. Disconnect the Load Tool from the Passenger Airbag 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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: When the ignition is On, the ACM monitors the resistance of the Passenger Squib 2 circuits.

Set Condition: The ACM has detected an open circuit or high resistance on the Passenger Squib 2 circuits.

POSSIBLE CAUSES
PASSENGER AIRBAG 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	**NOTE: Ensure that 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 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

PASSENGER SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
2	**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 Passenger Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Airbag connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. Does the DRB show PASSENGER SQUIB 2 CIRCUIT OPEN? Yes → Go To 3 No → Replace Passenger Airbag in accordance with the Service Information. Perform AIRBAG VERIFICATION TEST - VER 1.	All
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. Disconnect the Load Tool from the Passenger Airbag connector. 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 → Replace the Airbag Control Module in accordance with Service Instructions. 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 Passenger Squib 2 Line 1 or Line 2 circuits. Perform AIRBAG VERIFICATION TEST - VER 1.	All

PASSENGER SQUIB 2 CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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: When the ignition is on, the ACM monitors the resistance of the Passenger Squib 2 circuits.

Set Condition: The ACM has detected low resistance in the Passenger Squib 2 circuits.

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

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that 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 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.** **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 Passenger Airbag. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Airbag connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active DTCs. Does the DRB 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

PASSENGER SQUIB 2 CIRCUIT SHORT — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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 connectors. Disconnect the Load Tool from the Passenger Airbag connector. Measure the resistance between the Passenger Squib 2 Line 1 and line 2 circuits at the Passenger Airbag connector. 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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: When the ignition is on, the ACM monitors the voltage of the Passenger Squib 2 circuits.

Set Condition: The ACM has detected high voltage on the Passenger Squib 2 circuits.

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

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that 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 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.** **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 Passenger Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Airbag connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. Does the DRB show PASSENGER SQUIB 2 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

PASSENGER SQUIB 2 SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** 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. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** Disconnect the Load Tool from the Passenger Airbag connector. 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 → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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: When the ignition is on, the ACM monitors the resistance of the Passenger Squib 2 circuits for low resistance.

Set Condition: The ACM has detected a short to ground in the Passenger Squib 2 circuits.

POSSIBLE CAUSES
PASSENGER AIRBAG CIRCUIT SHORTED 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	**NOTE: Ensure that 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 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.** **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 Passenger Airbag connector. **NOTE: Check connectors - Clean and repair as necessary.** Connect the appropriate Load Tool to the Passenger Airbag connector. **WARNING: TURN THE IGNITION ON, THEN RECONNECT THE BATTERY.** With the DRBIII®, read the active Airbag DTCs. Does the DRB 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

PASSENGER SQUIB 2 SHORT TO GROUND — 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.** Disconnect the Airbag Control Module connector **NOTE: Check connectors - Clean repair as necessary.** Connect the appropriate Load Tool adaptor to the Airbag Control Module connector. Disconnect the Load Tool from the Passenger Airbag connector. 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 shorted to ground. Perform AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All
4	**NOTE: Ensure the battery is fully charged.** With the DRBIII®, record and erase all DTCs from all modules. All active codes must be resolved before diagnosing any stored codes. Maintain a safe distance from all airbags while performing the following steps. With the DRBIII® monitor active codes as you work through the system. **NOTE: If equipped with Passenger Airbag On-Off switch, read the DTC's in all switch positions.** Wiggle the wiring harness and connectors of the appropriate airbag system and rotate the steering wheel from stop to stop. **NOTE: Check connectors - Clean and repair as necessary.** You have just attempted to simulate the condition that initially set the trouble code message. The following additional checks may assist you in identifying a possible intermittent problem: - Visually inspect related wire harness connectors. Look for broken, bent, pushed out, spread, corroded, or contaminated terminals. - Visually inspect the related harnesses. Look for chafed, pierced, pinched or partially broken wire. - Refer to Wiring Diagrams and Technical Service Bulletins that may apply. Did the DTC become active ? 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
FRONT OR SIDE IMPACT SENSOR STORED TROUBLE CODE
ACM, IMPACT SENSOR INTERNAL 1 STORED TROUBLE CODE
INSTRUMENT CLUSTER PROBLEMS

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Make sure that all Airbag and Instrument Cluster active DTCs have been repaired before performing this procedure. With the DRBIII® select MONITOR DISPLAY, WARNING LAMP STATUS and read the PASSIVE RESTRAINTS, AIRBAG, MONITOR DISPLAY, WARNING LAMP STATES. With no active DTCs, Does the LAMP REQ by ACM monitor show ON? Yes → Go To 2 No → Repair or replace the Instrument Cluster as necessary. Perform BODY VERIFICATION TEST - VER 1. **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 stored DTCs. Does the DRB show a stored FRONT or SIDE IMPACT SENSOR INTERNAL 1 trouble code? Yes → WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING. Replace the front or side impact sensor indicated by the stored diagnostic trouble code. Perform AIRBAG VERIFICATION TEST - VER 1. No → Replace the Airbag Control Module in accordance with Service Instructions. WARNING: IF THE AIRBAG CONTROL MODULE IS DROPPED AT ANY TIME, IT MUST BE REPLACED. Perform AIRBAG VERIFICATION TEST - VER 1.	All

Symptom:
ALL OUTPUTS SHORT - BASE AUDIO SYSTEM

When Monitored and Set Condition:

ALL OUTPUTS SHORT - BASE AUDIO SYSTEM

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
FRONT SHORTED SPEAKER
REAR SHORTED SPEAKER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
SPEAKER (+) & (-) 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 intermittent short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. **NOTE: Perform this procedure after disconnecting each front speaker and each I/P speaker (if equipped) connector.** Disconnect each front speaker and each I/P speaker (if equipped) harness connector one at a time. 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 with all the speakers disconnected? Yes → Go To 3 No → Replace the Speaker that when disconnected the DTC did not reset. Perform BODY VERIFICATION TEST - VER 1.	All

ALL OUTPUTS SHORT - BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. **NOTE: Perform this procedure after disconnecting each rear speaker connector.** Disconnect each rear speaker harness connector one at a time. 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 with all the rear speakers disconnected? Yes → Go To 4 No → Replace the Speaker that when disconnected the DTC did not reset. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect each front and rear speaker harness connectors. Disconnect the Radio harness connector. Measure the resistance between ground and each speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect each front and rear speaker harness connectors. Disconnect the Radio harness connector. Measure the resistance between ground and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect each front and rear speaker harness connectors. Disconnect the Radio harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the speaker circuits shorted together. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
ALL OUTPUTS SHORT - PREMIUM AUDIO SYSTEM

When Monitored and Set Condition:

ALL OUTPUTS SHORT - PREMIUM AUDIO SYSTEM

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 POWER AMPLIFIER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
SPEAKER (+) & (-) 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 Power Amplifier harness connectors. 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 Power Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

ALL OUTPUTS SHORT - PREMIUM AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Amplifier harness connectors. Disconnect the Radio harness connector. Measure the resistance between ground and any speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Power Amplifier harness connectors. Disconnect the Radio harness connector. Measure the resistance between ground and any speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) 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 Amplifier harness connectors. Disconnect the Radio harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the speaker 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 List:

CASSETTE PLAYER INOP
CD MECHANICAL 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.

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 +70° C (+156° 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 -23° C and 70° C (-10° F and +156° 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:
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 harness connector. Start the engine. Measure the voltage of each Fused B+ circuit and the Fused Ignition Switch Output circuit. Is the voltage above or approximately 14 volts for each measurement? 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:
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 or scan 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. 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:
POWER AMP SHUTDOWN - BASE AUDIO SYSTEM

When Monitored and Set Condition:

POWER AMP SHUTDOWN - BASE AUDIO SYSTEM

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
FRONT SHORTED SPEAKER
REAR SHORTED SPEAKER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
SPEAKER (+) & (-) 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 intermittent short. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. **NOTE: Perform this procedure after disconnecting each front speaker and each I/P speaker (if equipped) connector.** Disconnect each front speaker and each I/P speaker (if equipped) harness connector one at a time. 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 with all the speakers disconnected? Yes → Go To 3 No → Replace the Speaker that when disconnected the DTC did not reset. Perform BODY VERIFICATION TEST - VER 1.	All

POWER AMP SHUTDOWN - BASE AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. **NOTE: Perform this procedure after disconnecting each rear speaker connector.** Disconnect each rear speaker harness connector one at a time. 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 with all the rear speakers disconnected? Yes → Go To 4 No → Replace the Speaker that when disconnected the DTC did not reset. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect each front and rear speaker harness connectors. Disconnect the Radio harness connector. Measure the resistance between ground and each speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect each front and rear speaker harness connectors. Disconnect the Radio harness connector. Measure the resistance between ground and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Disconnect each front and rear speaker harness connectors. Disconnect the Radio harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the speaker circuits shorted together. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

POWER AMP SHUTDOWN - PREMIUM AUDIO SYSTEM

When Monitored and Set Condition:

POWER AMP SHUTDOWN - PREMIUM AUDIO SYSTEM

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 POWER AMPLIFIER
(+) CIRCUIT SHORTED TO GROUND
(-) CIRCUIT SHORTED TO GROUND
SPEAKER (+) & (-) 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 Power Amplifier harness connectors. 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 Power Amplifier in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

POWER AMP SHUTDOWN - PREMIUM AUDIO SYSTEM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Power Amplifier harness connectors. Disconnect the Radio harness connector. Measure the resistance between ground and any speaker (+) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Power Amplifier harness connectors. Disconnect the Radio harness connector. Measure the resistance between ground and any speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms? Yes → Repair the speaker (-) 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 Amplifier harness connectors. Disconnect the Radio harness connector. Measure the resistance between each speaker (+) circuit and each speaker (-) circuit. Is the resistance below 1000.0 (1K) ohms for any of the measurements? Yes → Repair the speaker 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 DIMMING SHORTED HIGH

When Monitored and Set Condition:

RADIO DIMMING SHORTED HIGH

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: The BCM is trying to activate the radio dimming output (park lamps on and parade mode requested). The code will set if the BCM pulls this input low and excessive current is sinked into the BCM.

POSSIBLE CAUSES
DIMMER SECTION OF RADIO
PANEL LAMPS DRIVER CIRCUIT SHORTED TO VOLTAGE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Radio harness connector. Turn the ignition on. Turn the park lamps on. Measure the voltage of the Panel Lamps Driver circuit at the Radio connector. Rotate the dimmer switch from full low intensity to full high intensity. Does the voltage increase from approximately 3.5 volts to approximately 12.0 volts? Yes → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Radio harness connector. Disconnect the BCM C1 harness connector. Turn the ignition on. Measure the voltage of the Panel Lamps Driver circuit at the Radio connector. Is the voltage above 1.0 volt? Yes → Repair the Panel Lamps Driver 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:
REMOTE RADIO SWITCH SHORTED TO GROUND

When Monitored and Set Condition:

REMOTE RADIO SWITCH SHORTED TO GROUND

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: The code will set if the BCM detects a short to ground on the Radio Control MUX circuit for more than 5 seconds.

POSSIBLE CAUSES
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	**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 5.0 volts? Yes → Replace the Left Remote Radio Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

REMOTE RADIO SWITCH SHORTED TO GROUND — Continued

TEST	ACTION	APPLICABILITY
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 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 5.0 volts? Yes → Replace the Right Remote Radio Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Clockspring C4 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 4 No → Go To 5	All
4	Turn the ignition off. Disconnect the Clockspring C4 harness connector. **NOTE: Ensure both remote radio switches are disconnected.** Measure the resistance between ground and the Radio Control MUX circuit at the clockspring C4 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
5	Turn the ignition off. Disconnect the Clockspring C3 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. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All

REMOTE RADIO SWITCH SHORTED TO GROUND — Continued

TEST	ACTION	APPLICABILITY
6	Turn the ignition off. Disconnect the Clockspring C3 harness connector. Disconnect the BCM C2 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 7	All
7	Turn the ignition off. Disconnect the Clockspring C3 harness connector. Disconnect the BCM C2 harness connector. 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 8	All
8	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO SOUND FROM ALL SPEAKERS**

POSSIBLE CAUSES
INTERMITTENT SHORT - FUSE #5
POWER AMPLIFIER - INTERNAL SHORT
RADIO - FUSED B+ CKT SHORTED
FUSED B+ CIRCUIT SHORTED TO GROUND
INTERMITTENT SHORT - FUSE #30
RADIO - FUSED IGNITION SWITCH CKT SHORTED
FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORTED TO GROUND
OPEN FUSED B+ CIRCUIT TO RADIO
OPEN FUSED IGNITION SWITCH OUTPUT CKT TO RADIO
OPEN RADIO GROUND CIRCUIT
OPEN FUSED B+ CIRCUIT TO POWER AMPLIFIER
OPEN GROUND CIRCUIT TO POWER AMPLIFIER
OPEN ENABLE SIGNAL TO AMPLIFIER CIRCUIT
ENABLE SIGNAL TO AMPLIFIER CIRCUIT SHORTED TO GROUND
RADIO (NO SPEAKER OUTPUT)
RADIO (NO ENABLE SIGNAL TO AMPILIFER)
POWER AMPLIFIER (NO OUTPUT)

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect fuse #5 in the Junction Block. Is the fuse open? Yes → Go To 2 No → Go To 5	All
2	Replace fuse #5 in the Junction Block. Turn the radio on. Remove and inspect fuse #5 in the Junction Block. Is the fuse open? Yes → Go To 3 No → Replace fuse #5 in the Junction Block. 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.	All

*NO SOUND FROM ALL SPEAKERS — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: If vehicle is not equipped with a power amplifier, answer yes to the question.** Turn the ignition off. Disconnect the Power Amplifier harness connector. Replace fuse #5 in the Junction Block. Turn the radio on. Remove and inspect fuse #5 in the Junction Block. Is the fuse open? Yes → Go To 4 No → Replace the Power Amplifier. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Radio harness connector. Replace fuse #5 in the Junction Block. Remove and inspect fuse #5 in the Junction Block. Is the fuse open? Yes → Repair the Fused B+ circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Remove and inspect fuse #30 in the Junction Block. Is the fuse open? Yes → Go To 6 No → Go To 8	All
6	Turn the ignition off. Replace fuse #30 in the Junction Block. Turn the ignition on. Turn the radio on. Turn the ignition off. Remove and inspect fuse #30 in the Junction Block. Is the fuse open? Yes → Go To 7 No → Replace fuse #30 in the Junction Block. 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.	All
7	Turn the ignition off. Disconnect the Radio harness connector. Replace fuse #30 in the Junction Block. Cycle the ignition switch from on to off. Remove and inspect fuse #30 in the Junction Block. Is the fuse open? Yes → Repair the Fused Ignition Switch Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

*NO SOUND FROM ALL SPEAKERS — Continued

TEST	ACTION	APPLICABILITY
8	Turn the ignition off. Disconnect the Radio harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit. Is the test light illuminated? Yes → Go To 9 No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
9	Turn the ignition off. Disconnect the Radio 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 10 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Disconnect the Radio harness connector. Using a 12-volt test light connected to 12-volts, probe the radio ground circuit. Is the test light illuminated? Yes → Go To 11 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
11	**NOTE: If vehicle is not equipped with a power amplifier, answer yes to the question.** Turn the ignition off. Disconnect the Power Amplifier 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 12 No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
12	**NOTE: If vehicle is not equipped with a power amplifier, answer yes to the question.** Turn the ignition off. Disconnect the Power Amplifier 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 13 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO SOUND FROM ALL SPEAKERS — Continued

TEST	ACTION	APPLICABILITY
13	**NOTE: If vehicle is not equipped with a power amplifier, answer yes to the question.** Turn the ignition off. Disconnect the Radio harness connector. Disconnect the Power Amplifier harness connector. Measure the resistance of the Enable Signal to Amplifier circuit between the Radio connector and the Power Amplifier connector. Is the resistance below 5.0 ohms? Yes → Go To 14 No → Repair the Enable Signal to Amplifier circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
14	**NOTE: If vehicle is not equipped with a power amplifier, answer no to the question.** Turn the ignition off. Disconnect the Radio harness connector. Disconnect the Power Amplifier harness connector. Measure the resistance between ground and the Enable Signal to Amplifier circuit. Is the resistance below 5.0 ohms? Yes → Repair the Enable Signal to Amplifier circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 15	All
15	**NOTE: If vehicle is not equipped with a power amplifier, answer no to the question.** While back probing, measure the voltage of any speaker (+) circuit in the Radio connector. Turn the ignition and radio on. Is the voltage approximately 5.5 volts? Yes → Go To 16 No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
16	Turn the ignition off. Disconnect the Power Amplifier harness connector. Turn the ignition and Radio on. Measure the voltage of the Enable Signal to Amplifier circuit in the Power Amplifier connector. Is the voltage above 10.0 volts? Yes → Replace the Power Amplifier. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*REMOTE RADIO CONTROLS INOPERATIVE

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	**NOTE: If any DTCs are set, diagnose the DTC before continuing.** 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 C3 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. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Clockspring C3 harness connector. Turn the ignition on. Connect a jumper wire between cavity 1 and cavity 2 at the Clockspring C3 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

*REMOTE RADIO CONTROLS INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Clockspring C3 harness connector. Disconnect the BCM C2 harness connector. Measure the resistance of the Radio Control MUX circuit between the BCM C2 connector and the Clockspring C3 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 C3 harness connector. Disconnect the BCM C2 harness connector. Measure the resistance of the Radio Control MUX Return circuit between the BCM C2 connector and the Clockspring C3 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. Perform BODY VERIFICATION TEST - VER 1.	All
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

*REMOTE RADIO CONTROLS INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
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 C4 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:

CHIME INOPERATIVE WITH KEY IN IGNITION, DRIVER DOOR OPEN

POSSIBLE CAUSES
OPEN KEY-IN SWITCH
KEY-IN IGN SWITCH GROUND CIRCUIT OPEN
KEY-IN IGN SWITCH SENSE CIRCUIT OPEN
BODY CONTROL MODULE - KEY-IN IGNITION OPEN
DOOR AJAR PROBLEMS

TEST	ACTION	APPLICABILITY
1	**Note: Ensure the interior lamps turn on and off properly.** **Note: Ensure the exterior lamps turn on and off properly.** Remove the key from the ignition switch. With the DRBIII® select: Body, INPUT OUTPUT, KEY IN IGN SW Insert the key in to the ignition switch. With the DRBIII®, read key in ignition switch status. Does the DRBIII® display; KEY IN IGN SW :CLOSED? Yes → Refer to Door Ajar information for the related symptoms. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Ignition switch C2 connector. With the ignition key in. Using an Ohmmeter, check the resistance across the Ignition Switch Is the resistance above 10.0 ohms? Yes → Replace the Ignition Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn ignition off. Disconnect the Ignition Switch C2 connector. Measure the resistance between ground and the Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Key-in Ignition Switch Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the Ignition Switch C2 connector. Disconnect the Body Control Module C1 connector. Measure the resistance of the Key-in Ignition Switch Sense circuit between the BCM C1 connector and the Ignition Switch C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Key-in Ignition Switch Sense Wire. Perform BODY VERIFICATION TEST - VER 1.	All

CHIME INOPERATIVE WITH KEY IN IGNITION, DRIVER DOOR OPEN — Continued

TEST	ACTION	APPLICABILITY
5	If there are no possible causes remaining, view Repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*CHIME INOPERATIVE AT ALL TIMES

POSSIBLE CAUSES
ACTUATES OK
BODY CONTROL MODULE - CHIME INOPERATIVE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. Close all doors. With the DRBIII®, actuate the Chime. Does the chime sound when actuated by the DRB? Yes → If the chime operates as it should, check for other reasons that the chime is being inoperative. Refer to symptom list for related problems. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***CHIME INOPERATIVE WITH DRIVERS SEAT BELT UNFASTENED**

POSSIBLE CAUSES
AIRBAG CONTROL MODULE DTC'S
SEAT BELT BUCKLE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® read the ACM active and stored DTCs. Does the DRBIII® display any ACM DTC's? Yes → Refer to symptom list for problems related to AIRBAG. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII® select ACM Inputs/Outputs. Ensure the driver seatbelt is unbuckle. Read the Seat Belt Sw Status. Does the DRBIII® display Driver Seat Belt Switch: Unbuckled? Yes → Go To 3 No → Replace the Seat Belt Buckle. Perform BODY VERIFICATION TEST - VER 1.	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:

*CHIME INOPERATIVE WITH EXTERIOR LAMPS, DRIVER DOOR OPEN

POSSIBLE CAUSES
DRB TEST HEADLAMP SWITCH
DOOR AJAR PROBLEMS
EXTERIOR LIGHTING PROBLEMS

TEST	ACTION	APPLICABILITY
1	**Note: Ensure the interior lamps turn on and off properly.** **Note: Ensure the exterior lamps turn on and off properly.** Remove the key from the ignition switch. With the DRBIII® select: Body, Monitor Display, Lighting Monitor. Open the Driver door. With the DRBIII®, read the Driver Door Switch status. Does the DRBIII® display Closed? Yes → Go To 2 No → Refer to Door Ajar information for the related symptoms. Perform BODY VERIFICATION TEST - VER 1.	All
2	**Note: Ensure the interior lamps turn on and off properly.** **Note: Ensure the exterior lamps turn on and off properly.** Remove the key from the ignition switch. With the DRB III select: Body, Monitor Display, Lighting Monitor. Read the Headlamp Switch voltage while turning the Parklamps on. Does the DRBIII® display: 2.0 to 3.2 volts? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Refer to Exterior Lighting information for the related symptoms. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*CHIME SOUNDS WITH DRIVER DOOR OPEN

POSSIBLE CAUSES
KEY-IN IGN SWITCH STATUS WRONG
KEY-IN IGNITION SWITCH CIRCUIT SHORTED
KEY-IN IGN SWITCH SENSE WIRE SHORT TO GROUND
BODY CONTROL MODULE - KEY-IN IGNITION SHORTED

TEST	ACTION	APPLICABILITY
1	**Note: Ensure the interior lamps turn on and off properly.** **Note: Ensure the exterior lamps turn on and off properly.** Remove the key from the ignition switch. With the DRB III select: Body, Body Computer, Input Output. Turn off; Headlamps and Parklamps. Read the Key-In Ignition status. Does the DRB III show Key-In Ign OPEN? Yes → No problem found at this time. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Ignition Switch C2 connector. With the DRB III select: Body, Body Computer, Input Output. Read the Key-In Ignition status. Does the DRB III show: Key-In Ign, CLOSED? Yes → Go To 3 No → Replace the Ignition Switch. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the Ignition Switch C2 connector. Disconnect the Body Control Module C1 connector. Measure the resistance of the Key-in Ignition Switch Sense circuit to chassis ground. Is the resistance below 100.0 ohms? Yes → Repair the Key-in Ignition Switch Sense wire 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 Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*CHIME SOUNDS WITH DRIVER SEAT BELT FASTENED

POSSIBLE CAUSES
AIRBAG CONTROL MODULE DTC'S
SEAT BELT BUCKLE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® read the ACM active and stored DTCs. Does the DRBIII® display any ACM DTC's? Yes → Refer to symptom list for problems related to AIRBAG. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRBIII® select: ACM Inputs/Outputs. Buckle the driver seatbelt. Read the Seat Belt Sw Status Does the DRBIII® display Driver Seat Belt Switch: Buckled? Yes → Go To 3 No → Replace the Seat Belt Buckle. Perform BODY VERIFICATION TEST - VER 1.	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:

*VEHICLE SPEED WARNING CHIME PROBLEM

POSSIBLE CAUSES
COUNTRY CODE IN BODY CONTROL MODULE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Ensure there is communication between the BCM and the PCM and that there are no related DTC's before continuing. **NOTE: The high speed warning Chime is for Gulf Coast Countries only.** With the DRBIII®, read the Country Code setting in module display. Is the country code setting correct? Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Select the correct country code for the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

BATTERY IOD DISCONNECT AT BCM

When Monitored and Set Condition:

BATTERY IOD DISCONNECT AT BCM

When Monitored: Each time the DRB request DTC's from the BCM, the BCM check for battery voltage on the IOD circuit.

Set Condition: The DTC will set if the BCM detects a low or no voltage condition on the IOD circuit.

POSSIBLE CAUSES
VERIFYING ACTIVE DTC
PDC FUSE #15
CHECK FUSED B+ FEED TO JUNCTION BLOCK
JUNCTION BLOCK IOD FAILURE
BODY CONTROL MODULE
FUSED B(+) CIRCUIT SHORTED TO GROUND
JUNCTION BLOCK FUSE #7

TEST	ACTION	APPLICABILITY
1	Connect the DRB to the Data Link Connector. Turn the ignition on. With the DRB, erase BCM DTC's. Turn the ignition off then turn the ignition on. With the DRB, read BCM DTC's. **NOTE: If DTC is active check Junction Block fuse #7 for an open.** Does the DRB display: Battery IOD Disconnect at BCM? Yes → Go To 2 No → No problem found at this time. Use the wiring diagrams located in the service information to help isolate a possible intermittent wiring problem. Perform BODY VERIFICATION TEST - VER 1.	All
2	Inspect fuse #15 in the Power Distribution Center. Is the fuse open? Yes → Re-install or replace PDC fuse #15. Use the wiring diagrams located in the service information to help isolate a possible intermittent wiring problem. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

BATTERY IOD DISCONNECT AT BCM — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Junction Block C4 harness connector. Using a 12-volt test light connected to ground, probe the Fused B+ circuit in the Junction Block C4 connector (cavity 1). Is the test light illuminated? Yes → Go To 4 No → Repair the Fused B+ circuit for an open between the Junction Block and the PDC. Perform BODY VERIFICATION TEST - VER 1.	All
4	Inspect the IOD fuse in the Junction Block (Fuse #7). Is the fuse open? Yes → Go To 5 No → Go To 6	All
5	Turn the ignition off. Remove Fuse #7 from the Junction Block. Measure the resistance between ground and the Fused B+ circuit at the junction block fuse #7 (output side of fuse). Is the resistance below 100.0 ohms? Yes → Refer to the wiring diagrams located in the service information to help isolate a short to ground condition. Perform BODY VERIFICATION TEST - VER 1. No → Replace the fuse. Perform BODY VERIFICATION TEST - VER 1.	All
6	Install fuse #7 in the Junction Block. Remove the BCM from the Junction Block. Using a 12-volt test light connected to ground, probe the Fused B+ circuit in the junction block body control module connector cavity 26. Is the test light illuminated? Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BCM EEPROM CHECKSUM FAILURE

When Monitored and Set Condition:

BCM EEPROM CHECKSUM FAILURE

When Monitored: Each time the DRB request DTC's from the BCM, the BCM runs an EEPROM checksum test.

Set Condition: The DTC will set if the BCM detects an EEPROM checksum failure.

POSSIBLE CAUSES
BCM INTERNAL EEPROM FAILURE

TEST	ACTION	APPLICABILITY
1	Connect the DRB to the Data Link Connector. Turn the ignition on. With the DRB, erase BCM DTC's. Turn the ignition off then turn the ignition on. With the DRB, read BCM 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:
BCM FLASH CHECKSUM FAILURE

When Monitored and Set Condition:

BCM FLASH CHECKSUM FAILURE

When Monitored: Each time the DRB performs the flash process, the BCM runs a flash checksum test.

Set Condition: The DTC will set if the BCM detects a flash checksum failure.

POSSIBLE CAUSES
BCM INTERNAL FLASH CHECKSUM FAILURE

TEST	ACTION	APPLICABILITY
1	Connect the DRB to the Data Link Connector. Turn the ignition on. With the DRB, erase BCM DTC's. Turn the ignition off then turn the ignition on. With the DRB, read BCM DTC's. Did this DTC reset? Yes → Reflash or Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
DDM MESSAGE NOT RECEIVED

When Monitored and Set Condition:

DDM MESSAGE NOT RECEIVED

When Monitored: With the ignition in run, and the IOD fuse installed.

Set Condition: The BCM does not receive any messages from the Driver Door Module (DDM) for at least 30 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE DOOR MODULES
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Door Module. Was the DRB able to I/D or communicate with the Door Modules? Yes → Go To 2 No → Refer to the Communication category and perform the symptom No Response from Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Turn the ignition on and wait approximately 1 minute. 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:
MIC MESSAGE NOT RECEIVED AT BCM

When Monitored and Set Condition:

MIC MESSAGE NOT RECEIVED AT BCM

When Monitored: With the ignition in run, and the IOD fuse installed.

Set Condition: The BCM does not receive any messages from the Instrument Cluster (MIC) for at least 30 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE INSTRUMENT CLUSTER (MIC)
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Electro/Mech Cluster. Was the DRB able to I/D or communicate with the Instrument Cluster (MIC)? 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. Turn the ignition on and wait approximately 1 minute. 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:
NO PCI MESSAGES FROM CD CHANGER

When Monitored and Set Condition:

NO PCI MESSAGES FROM CD CHANGER

When Monitored: With the ignition on and the radio on.

Set Condition: If the DRB interrogates the CD changer and does not receive the proper response from the CD changer.

POSSIBLE CAUSES
CD CHANGER (DIN) CABLE
CD CHANGER PCI BUS CIRCUIT OPEN
IGNITION SWITCH OUTPUT CIRCUIT OPEN
RADIO GROUND CKT OPEN
CD CHANGER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Radio C2 connector (DIN cable) from the Radio and the CD Changer. Visually inspect the cable for damage. In the next step check for open wires in the DIN cable. Measure the resistance of the each DIN cable circuit between the Radio DIN cable connector and the CD Changer DIN cable connector. In the next step check for wires shorted to the DIN cable metal connectors. Measure the resistance between each Radio C2 connector (DIN cable) circuit and the cable's metal connector. Are the DIN cable circuits shorted together or open? Yes → Replace the CD Changer (DIN) cable. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

NO PCI MESSAGES FROM CD CHANGER — 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. Set Probe to x10. Press F2 again when complete. Disconnect the CD Changer harness connector (DIN cable). Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the CD Changer DIN Cable connector. Reconnect the Radio C2 (DIN Cable) harness connector. Turn the ignition on. Turn the Radio and CD 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 3 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the CD Changer harness connector (DIN cable). Turn the ignition on. Turn the Radio and the CD Changer on. Using a 12-volt test light connected to ground, probe the ignition switch output circuit in the CD Changer DIN Cable connector. 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 CD Changer harness connector (DIN cable). Using a 12-volt test light connected to 12-volts, probe each CD Changer ground circuit in the CD Changer connector (DIN cable). Is the test light illuminated for each circuit? Yes → Replace the CD Changer. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PCM MESSAGE NOT RECEIVED AT BCM

When Monitored and Set Condition:

PCM MESSAGE NOT RECEIVED AT BCM

When Monitored: With the ignition in run, and the IOD fuse installed.

Set Condition: The BCM does not receive any messages from the PCM for at least 30 seconds.

POSSIBLE CAUSES
PCM MESSAGE NOT RECEIVED AT BCM
ATTEMPT TO COMMUNICATE WITH THE PCM
PCI BUS CIRCUIT OPEN
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body Computer, System Tests then PCM Monitor. Does the DRB display: PCM is active on BUS? Yes → Replace the Body Control Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRB, attempt to communicate with the PCM. Was the DRB 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. Disconnect the DRBIII® from the DLC. Measure the resistance of the PCI Bus circuit between the DLC and the PCM connector. Is the resistance below 5.0 ohms? Yes → Replace 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 NOT RECEIVED

When Monitored and Set Condition:

PDM MESSAGE NOT RECEIVED

When Monitored: With the ignition in run, and the IOD fuse installed.

Set Condition: The BCM does not receive any messages from the Passenger Door Module (PDM) for at least 30 seconds.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE DOOR MODULES
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body then Door Module. Was the DRB able to I/D or communicate with the Door Modules? Yes → Go To 2 No → Refer to the Communication category and perform the symptom No Response from Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRB, erase DTC's. Turn the ignition on and wait approximately 1 minute. 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:
RAIN SENSOR MESSAGES NOT RECEIVED

When Monitored and Set Condition:

RAIN SENSOR MESSAGES NOT RECEIVED

When Monitored: With the ignition in run, and the IOD fuse installed.

Set Condition: The BCM does not receive any messages from the rain sensor module.

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE RAIN SENSOR MODULE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the rain sensor module. Was the DRB able to I/D or communicate with the rain sensor 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. Turn the ignition on and wait approximately 1 minute. 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:

***NO RESPONSE FROM ADJUSTABLE PEDALS MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
FUSED B(+) CKT OPEN
GROUND CKT OPEN
OPEN PCI BUS CIRCUIT
ADJUSTABLE PEDALS 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 ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Adjustable Pedals 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 3 No → Repair the Fused B+ circuit for an open or short. Refer to the wiring diagrams in the service information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Adjustable Pedals Module 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 4 No → Repair the Ground circuit for an open. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM ADJUSTABLE PEDALS 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 Adjustable Pedals 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. Set the probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Adjustable Pedals 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 Adjustable Pedals Module in accordance with the service information. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform ADJUSTABLE PEDALS VERIFICATION TEST - VER 1.	All

Symptom:
*NO RESPONSE FROM AIRBAG CONTROL MODULE

POSSIBLE CAUSES
CHECKING FOR VOLTAGE AT ACM
GROUND CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
AIRBAG CONTROL 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.** Ensure that the battery is fully charged. **WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module harness connectors. Connect the appropriate Load Tool ACM adaptor to the ACM connector. Turn the ignition on and then reconnect the Battery. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output (Run) Circuit and the Fused Ignition Switch Output (Run/Start) Circuit at the ACM 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 Fused Ignition Switch Output (Run) and Fused Ignition Switch Output (Run/Start) 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	**WARNING: TURN THE IGNITION OFF, DISCONNECT THE BATTERY AND WAIT TWO MINUTES BEFORE PROCEEDING.** Disconnect the Airbag Control Module harness connectors. Connect the appropriate Load Tool ACM adaptor 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. **Note: 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 on the vehicle before proceeding. If not, refer to the symptom list from the menu and repair as necessary.** Turn the ignition off and wait 2 minutes before proceeding. Disconnect the Airbag Control Module harness connectors. Connect the appropriate Load Tool ACM adaptor to the ACM 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. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the ACM 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 Airbag Control Module in accordance with the Service Information. Perform AIRBAG VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit 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

Symptom:

***NO RESPONSE FROM AMPLIFIER**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE RADIO
GROUND CIRCUIT OPEN
FUSED B(+) 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 C1 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 → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM AMPLIFIER — 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 Amplifier 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. Set Probe to x10. 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 ZONE CONTROL MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
FUSED B(+) CKT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
AUTOMATIC ZONE 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 Automatic Zone Control Module C2 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 → 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
3	Turn the ignition off. Disconnect the Automatic Zone Control Module 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 AUTOMATIC ZONE CONTROL 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 Automatic Zone Control 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. Set the probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the AZC 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 Automatic Zone 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
OPEN GROUND CIRCUIT
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 MIC? 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 harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit (cavity 1). 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	**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 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. Set Probe to x10. 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 → Go To 4 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM BODY CONTROL MODULE — Continued

TEST	ACTION	APPLICABILITY
4	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:
*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE

POSSIBLE CAUSES
NO RESPONSE FROM CAB
REPLACE FUSE #19
CONTROLLER ANTILOCK BRAKE SHORTED TO GROUND
FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORTED TO GROUND
JUNCTION BLOCK SHORTED TO GROUND
GROUND CIRCUIT OPEN
OPEN FUSED IGNITION SWITCH OUTPUT 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 (ACM). 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. Remove and inspect fuse #19 in the junction block. Is the fuse open? Yes → Go To 3 No → Go To 6	All
3	Turn the ignition off. Replace Fuse #19 in the junction block. Turn the ignition on. Remove and inspect fuse #19 in the junction block. Is the fuse open? Yes → Go To 4 No → Check the Fused Ignition Switch Output circuit for an intermittent short to ground, refer to the wiring diagrams in the service information. Perform ABS VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Replace fuse #19 in the junction block. Disconnect the CAB harness connector. Turn the ignition on. Remove and inpsect fuse #19 in the junction block. Is the fuse open? Yes → Go To 5 No → Replace the Controller Antilock Brake in accordance with the Service Information. Perform ABS VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the CAB harness connector. Disconnect the Junction Block C2 harness connector. Measure the resistance between ground and the Fused Ignition Switch Output circuit. Is the resistance below 5.0 ohms? Yes → Repair the Fused Ignition Switch Output circuit for a short to ground. Perform ABS VERIFICATION TEST - VER 1. No → Replace the Junction Block in accordance with the service information. Perform ABS VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the CAB 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 7 No → Repair the ground circuit(s) for an open. Perform ABS VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. **Note: Ensure fuse #19 is installed in the junction block.** Disconnect the CAB 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 8 No → Repair the Fused Ignition Switch Output circuit for an open. Perform ABS VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM CONTROLLER ANTILOCK BRAKE — Continued

TEST	ACTION	APPLICABILITY
8	**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. Set Probe to x10. 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 9 No → Repair the PCI Bus circuit for an open. Perform ABS VERIFICATION TEST - VER 1.	All
9	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 B+ 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. 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 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 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

*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 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. Set Probe to x10. 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 ECM (PCI BUS) - DIESEL ONLY

POSSIBLE CAUSES
ECM PCI NO RESPONSE
PCI BUS CIRCUIT OPEN
ENGINE 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, enter Body then Body Computer. With the DRB, enter Anti-Lock Brakes. 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 ROAD TEST VERIFICATION - VER-2.	All
2	With the DRB read ECM Diagnostic Trouble Codes. This is to ensure power and grounds to the ECM are operational. **NOTE: If the DRB will not read ECM DTCs, follow the NO RESPONSE TO ECM (SCI only) symptom path, if vehicle will start. For NO START Conditions follow the no start symptom in the powertrain diagnostic information.** Turn the ignition off. Disconnect the ECM 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. Set Probe to x10. Press F2 again when complete. Connect the Black lead to ground. Connect the Red lead to the PCI Bus circuit in the ECM 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 and program the Engine Control Module in accordance with the Service Information. Perform ROAD TEST VERIFICATION - VER-2. No → Repair the PCI Bus circuit for an open. Perform ROAD TEST VERIFICATION - VER-2.	All

Symptom:

***NO RESPONSE FROM ECM (SCI ONLY) - DIESEL ONLY**

POSSIBLE CAUSES
CHECK ECM POWERS AND GROUNDS
SCI TRANSMIT CIRCUIT SHORTED TO VOLTAGE
TRANSMISSION CONTROL MODULE
SCI TRANSMIT CIRCUIT SHORTED TO GROUND
SCI TRANSMIT CIRCUIT OPEN
ENGINE CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Perform the symptom Checking ECM Power and Ground Circuits in the Driveability category. Did the vehicle pass this test? Yes → Go To 2 No → Repair as necessary. Perform ROAD TEST VERIFICATION - VER-2.	All
2	Turn the ignition off. Disconnect the ECM harness connectors. Disconnect the DRB from the DLC. Measure the resistance between ground and the SCI Transmit circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Go To 4	All
3	Turn the ignition off. Disconnect the TCM C1 harness connector. Measure the resistance between ground and the SCI Transmit circuit. Is the resistance below 5.0 ohms? Yes → Repair the SCI Transmit circuit for a short to ground. Perform ROAD TEST VERIFICATION - VER-2. No → Replace the Transmission Control Module in accordance with the service information. Perform ROAD TEST VERIFICATION - VER-2.	All
4	Turn the ignition off. Disconnect the DRB from the DLC. Disconnect the ECM harness connectors. Disconnect the TCM C1 harness connector. Turn the ignition on. Measure the voltage of the SCI Transmit circuit at the DLC connector (cav 7). Is the voltage above 1.0 volt? Yes → Repair the SCI Transmit circuit for a short to voltage. Perform ROAD TEST VERIFICATION - VER-2. No → Go To 5	All

*NO RESPONSE FROM ECM (SCI ONLY) - DIESEL ONLY — Continued

TEST	ACTION	APPLICABILITY
5	Turn the ignition off. Disconnect the ECM harness connectors. Disconnect the DRB from the DLC. Measure the resistance of the SCI Transmit circuit between the ECM connector and the DLC. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the SCI Transmit circuit for an open. Perform ROAD TEST VERIFICATION - VER-2.	All
6	If there are no possible causes remaining, view repair. Repair Replace and program the Engine Control Module in accordance with the Service Information. Perform ROAD TEST VERIFICATION - VER-2.	All

Symptom:
*NO RESPONSE FROM INSTRUMENT CLUSTER

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
OPEN GROUND CIRCUIT
OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT
OPEN FUSED B+ CIRCUIT
OPEN PCI BUS CIRCUIT
INSTRUMENT CLUSTER

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. Turn all lights off. Disconnect the Instrument Cluster 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
3	Turn the ignition off. Disconnect the Instrument Cluster 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. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Instrument Cluster 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 BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM INSTRUMENT CLUSTER — 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 Instrument Cluster 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. Set Probe to x10. 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 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 Instrument Cluster in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM INTRUSION TRANSCEIVER MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
GROUND CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
INTRUSION TRANSCEIVER 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 Intrusion Transceiver 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 Intrusion Transceiver 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 → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM INTRUSION TRANSCEIVER 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 Intrusion Transceiver 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. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the ITM 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 Intrusion Transceiver 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 PASSENGER DOOR MODULE

POSSIBLE CAUSES
OPEN FUSED B+ 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. 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 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 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

*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 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. Set Probe to x10. 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) - GAS ONLY

POSSIBLE CAUSES
PCM PCI NO RESPONSE
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 DRBIII®, enter Body then Body Computer. With the DRBIII®, enter Anti-Lock Brakes. With the DRBIII®, enter Body then Electro/Mechanical Cluster (MIC). With the DRBIII®, 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

*NO RESPONSE FROM PCM (PCI BUS) - GAS ONLY — Continued

TEST	ACTION	APPLICABILITY
2	With the DRBIII® read PCM Diagnostic Trouble Codes. 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 (SCI only) symptom path.** **NOTE: If the vehicle will not start and the DRBIII® displays a no response message, refer to the appropriate symptom in the powertrain diagnostic procedures.** Turn the ignition off. Disconnect the PCM 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 DRBIII®. Attach the red and black leads and the cable to probe adapter to the scope input cable. Install DRBIII® SuperCard 2 CH8361 into DRBIII®. 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. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the PCM ground. Connect the Red lead to the PCI Bus circuit in the PCM 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 → 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 (SCI ONLY) - GAS ONLY

POSSIBLE CAUSES
CHECK PCM POWERS AND GROUNDS
SCI TRANSMIT CIRCUIT SHORTED TO VOLTAGE
SCI RECEIVE CIRCUIT SHORTED TO VOLTAGE
TRANSMISSION CONTROL MODULE
SCI CIRCUITS SHORTED TOGETHER
SCI TRANSMIT CIRCUIT SHORTED TO GROUND
SCI RECEIVE CIRCUIT SHORTED TO GROUND
SCI RECEIVE CIRCUIT OPEN
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 PCM C3 harness connector. Disconnect the DRBIII® from the DLC. Measure the resistance between ground and the SCI Transmit circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Go To 4	All
3	Turn the ignition off. Disconnect the TCM harness connector (if equipped). **NOTE: If vehicle is not equipped with a TCM, answer yes to the question.** Measure the resistance between ground and the SCI Transmit circuit. Is the resistance below 5.0 ohms? Yes → Repair the SCI Transmit circuit for a short to ground. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Replace the Transmission Control Module in accordance with the service information. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

*NO RESPONSE FROM PCM (SCI ONLY) - GAS ONLY — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the DRBIII® from the DLC. Disconnect the PCM harness connectors. Disconnect the TCM harness connector (if equipped). Turn the ignition on. Measure the voltage of the SCI Transmit circuit. Is the voltage above 1.0 volt? Yes → Repair the SCI Transmit circuit for a short to voltage. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Go To 5	All
5	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 circuit. Is the voltage above 1.0 volt? Yes → Repair the SCI Receive circuit for a short to voltage. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Go To 6	All
6	Turn the ignition off. Disconnect the DRBIII® from the DLC. Disconnect the PCM harness connectors. Measure the resistance between the SCI Transmit circuit and the SCI Receive circuit at the PCM connector. Is the resistance below 5.0 ohms? Yes → Repair the short between the SCI Transmit and the SCI Receive circuits. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Go To 7	All
7	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRBIII® from the DLC. Measure the resistance between ground and the SCI Receive circuit. Is the resistance below 5.0 ohms? Yes → Repair the SCI Receive circuit for a short to ground. Perform POWERTRAIN VERIFICATION TEST VER - 1. No → Go To 8	All
8	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRBIII® from the DLC. Measure the resistance of the SCI Receive circuit between the PCM C3 connector and the DLC. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the SCI Receive circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All

*NO RESPONSE FROM PCM (SCI ONLY) - GAS ONLY — Continued

TEST	ACTION	APPLICABILITY
9	Turn the ignition off. Disconnect the PCM C3 harness connector. Disconnect the DRBIII® from the DLC. Measure the resistance of the SCI Transmit circuit between the PCM C3 connector and the DLC. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the SCI Transmit circuit for an open. Perform POWERTRAIN VERIFICATION TEST VER - 1.	All
10	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 RADIO

POSSIBLE CAUSES
NO RESPONSE FROM RADIO
REPLACE FUSE #30
RADIO SHORTED TO GROUND
FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORTED TO GROUND
JUNCTION BLOCK SHORTED TO GROUND
OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT
OPEN FUSED B+ CIRCUIT
RADIO 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 (ACM). 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. Remove and inspect fuse #30 in the junction block. Is the fuse open? Yes → Go To 3 No → Go To 6	All
3	Turn the ignition off. Replace Fuse #30 in the junction block. Turn the ignition on. Turn the Radio on. Remove and inspect fuse #30 in the junction block. Is the fuse open? Yes → Go To 4 No → Check the Fused Ignition Switch Output circuit for an intermittent short to ground, refer to the wiring diagrams in the service information. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM RADIO — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Replace fuse #30 in the junction block. Disconnect the Radio C1 harness connector. Turn the ignition on. Remove and inpsect fuse #30 in the junction block. Is the fuse open? Yes → Go To 5 No → Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Radio C1 harness connector. Disconnect the Junction Block C3 harness connector. Measure the resistance between ground and the Fused Ignition Switch Output circuit. Is the resistance below 5.0 ohms? Yes → Repair the Fused Ignition Switch Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. **Note: Ensure fuse #30 is installed in the junction block.** Disconnect the Radio C1 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 7 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Disconnect the Radio C1 harness connector. 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 8 No → Repair the Fused B+ circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Disconnect the Radio 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 9 No → Repair the ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM RADIO — Continued

TEST	ACTION	APPLICABILITY
9	**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 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. Set Probe to x10. 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 10 No → Repair the PCI Bus circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	If there are no possible causes remaining, view repair. Repair Replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM RAIN SENSOR**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
ACCESSORY DELAY RELAY OUTPUT CIRCUIT OPEN
GROUND CKT OPEN
OPEN PCI BUS CIRCUIT
RAIN SENSOR

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 Rain Sensor harness connector. Using a 12-volt test light connected to ground, probe the Accessory Delay Relay Output circuit. Is the test light illuminated? Yes → Go To 3 No → Repair the Accessory Delay Relay Output circuit 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 Rain Sensor 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 RAIN SENSOR — 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 Rain Sensor 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. Set the probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Rain Sensor 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 Rain Sensor 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 SEAT MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
FUSED B(+) CKT OPEN
GROUND CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
SEAT 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 VERIFICATION TEST -MEMORY SYSTEM.	All
2	Turn the ignition off. Disconnect the Seat Module C2 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 3 No → Repair the Fused B+ circuit for an open. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
3	Turn the ignition off. Disconnect the Seat Module harness connectors. 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 4 No → Repair the ground circuit for an open. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*NO RESPONSE FROM SEAT 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 Seat 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 Seat Module C1 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 Seat Module in accordance with the service information. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Repair the PCI Bus circuit for an open. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

***NO RESPONSE FROM SENTRY KEY IMMOBILIZER MODULE**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
GROUND CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
SENTRY KEY IMMOBILIZER 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 SKIS VERIFICATION.	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 SKIS VERIFICATION.	All
3	Turn the ignition off. Disconnect the SKIM 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. Perform SKIS VERIFICATION.	All
4	Turn the ignition off. Disconnect the SKIM 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 SKIS VERIFICATION.	All

*NO RESPONSE FROM SENTRY KEY IMMOBILIZER 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 SKIM 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. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the SKIM 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 SKIS VERIFICATION.	All
6	If there are no possible causes remaining, view repair. Repair Replace and program the Sentry Key Immobilizer Module in accordance with the Service Information. Perform SKIS VERIFICATION.	All

Symptom:

***NO RESPONSE FROM SHIFTER ASSEMBLY - DIESEL ONLY**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
OPEN GROUND CIRCUIT
OPEN FUSED IGNITION SWITCH OUTPUT CIRCUIT
OPEN PCI BUS CIRCUIT
SHIFTER ASSEMBLY

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 W5J400 TRANSMISSION VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the Shifter Assembly 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 W5J400 TRANSMISSION VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Shifter Assembly C1 and C2 harness connectors. Turn the ignition on. Using a 12-volt test light connected to ground, probe each Fused Ignition Switch Output circuit. Is the test light illuminated for each circuit? 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 W5J400 TRANSMISSION VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM SHIFTER ASSEMBLY - DIESEL ONLY — 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 Shifter Assembly 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. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the Shifter Assembly 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 Shifter Assembly in accordance with the service information. Perform W5J400 TRANSMISSION VERIFICATION TEST - VER 1. No → Repair the PCI Bus circuit for an open. Perform W5J400 TRANSMISSION VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM TRANSMISSION CONTROL MODULE - DIESEL ONLY**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE ECM
FUSED IGNITION SWITCH OUTPUT (RUN/ST) CIRCUIT OPEN
GROUND CIRCUIT OPEN
SCI TRANSMIT CIRCUIT OPEN
TRANSMISSION CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, attempt to communicate with the ECM. Was the DRB able to I/D or communicate with the ECM? Yes → Go To 2 No → Refer to the symptom list for problems related to no communication with the ECM (SCI Only). Perform W5J400 TRANSMISSION VERIFICATION TEST - VER 1.	All
2	Turn the ignition off to the lock position. Disconnect the TCM C1 harness connector. Ignition on, engine not running. Using a 12-volt test light connected to ground, check the Fused Ignition Switch Output (Run/St) 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 Fused Ignition Switch Output (Run/St) circuit for an open. Refer to the wiring diagrams in the Service Information. Perform W5J400 TRANSMISSION VERIFICATION TEST - VER 1.	All
3	Turn the ignition off to the lock position. Disconnect the TCM C1 harness connector. Using a 12-volt test light connected to 12-volts, check the ground circuit in the TCM 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 Ground circuit for an open. Perform W5J400 TRANSMISSION VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM TRANSMISSION CONTROL MODULE - DIESEL ONLY — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the TCM C1 harness connector. Disconnect the DRB from the DLC. Measure the resistance of the SCI Transmit circuit between the TCM connector and the DLC. Is the resistance below 5.0 ohms? Yes → Replace the Transmission Control Module in accordance with the service information. Perform W5J400 TRANSMISSION VERIFICATION TEST - VER 1. No → Repair the SCI Transmit circuit for an open. Perform W5J400 TRANSMISSION VERIFICATION TEST - VER 1.	All

Symptom:

***NO RESPONSE FROM TRANSMISSION CONTROL MODULE - GAS ONLY**

POSSIBLE CAUSES
NO RESPONSE FROM TRANSMISSION CONTROL MODULE
FUSED IGNITION SWITCH OUTPUT (RUN/ST) CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT (START) CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT (START) CIRCUIT SHORT
FUSED B(+) CIRCUIT OPEN
GROUND CIRCUIT(S) OPEN
OPEN PCI BUS CIRCUIT
TRANSMISSION CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Ignition on, engine not running. **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 (ACM). With the DRB, attempt to communicate with the Instrument Cluster. Was the DRB able to I/D or establish communications with either of the modules? Yes → Go To 2 No → Refer to the Body Communication category and perform the symptom PCI Bus Communication Failure. Perform TRANSMISSION VERIFICATION TEST VER - 1.	All
2	Turn the ignition off to the lock position. Disconnect the TCM harness connector. Ignition on, engine not running. Using a 12-volt test light connected to ground, check the Fused Ignition Switch Output (Run/St) 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 Fused Ignition Switch Output (Run/St) circuit for an open. Refer to the wiring diagrams location in the Service Information. Perform TRANSMISSION VERIFICATION TEST VER - 1.	All

*NO RESPONSE FROM TRANSMISSION CONTROL MODULE - GAS ONLY — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off to the lock position. Disconnect the TCM harness connector. Remove the starter relay from the PDC. Using a 12-volt test light connected to ground, check the Fused Ignition Switch Output (Start) circuit. **NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.** Observe the test light while momentarily turning the ignition switch to the Start position. Does the test light illuminate brightly? Yes → Go To 4 No → Repair the Fused Ignition Switch Output (Start) circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform TRANSMISSION VERIFICATION TEST VER - 1.	All
4	Turn the ignition off to the lock position. Disconnect the TCM harness connector. With a voltmeter in the millivolt scale, measure the voltage of the Fused Ignition Switch Output (Start) circuit. **NOTE: A no response condition can exist if voltage is present on this circuit with the ignition switch in any position except for the Start position.** **NOTE: Voltage up to .080 millivolts can cause this condition.** **NOTE: Check for after market components that could cause this condition.** Perform this step with the Ignition Switch in every position except for the Start position. Is any voltage present? Yes → Repair the Fused Ignition Switch Output (Start) circuit for a short to voltage. Refer to the wiring diagrams located in the Service Information. Perform TRANSMISSION VERIFICATION TEST VER - 1. No → Go To 5 **Note: Reinstall the original Starter Relay.**	All
5	Turn the ignition off. Disconnect the TCM harness connector. Using a 12-volt test light connected to ground, check the Fused B(+) 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 6 No → Repair the Fused B(+) circuit for an open. Refer to the wiring diagrams located in the Service Information. Perform TRANSMISSION VERIFICATION TEST VER - 1.	All

*NO RESPONSE FROM TRANSMISSION CONTROL MODULE - GAS ONLY — Continued

TEST	ACTION	APPLICABILITY
6	Turn the ignition off to the lock position. Disconnect the TCM harness connector. Using a 12-volt test light connected to 12-volts, check each ground circuit in the TCM 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 at all the ground circuits? Yes → Go To 7 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 TRANSMISSION VERIFICATION TEST VER - 1.	All
7	**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 TCM 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. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the TCM 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 8 No → Repair the PCI Bus circuit for an open. Perform TRANSMISSION VERIFICATION TEST VER - 1.	All
8	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 the Transmission Control Module in accordance with the service information. WITH THE DRBIII® PERFORM QUICK LEARN. Perform TRANSMISSION VERIFICATION TEST VER - 1.	All

Symptom:
*NO RESPONSE FROM VEHICLE INFORMATION CENTER

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
OPEN PCI BUS CIRCUIT
VEHICLE INFORMATION CENTER (VIC)

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 Vehicle Information Center harness connector. Using a 12-volt test light connected to 12-volts, probe the ground circuit. Is the test light illuminated? Yes → Go To 2 No → Repair the ground circuit for an open. 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 Vehicle Information Center 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 3 No → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*NO RESPONSE FROM VEHICLE INFORMATION CENTER — 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 Vehicle Information Center 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. Set Probe to x10. Press F2 again when complete. Connect the Black lead to the chassis ground. Connect the Red lead to the PCI Bus circuit in the VIC 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 Vehicle Information Center in accordance with the service information. Perform BODY 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
3	Turn the ignition off. Disconnect the PCM/ECM harness connector. 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/ECM 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

*PCI BUS COMMUNICATION FAILURE — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Reconnect the PCM/ECM 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
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:

***UNABLE TO ACCESS DRIVER DOOR MODULE AND/OR PASSENGER DOOR MODULE WITH DRBIII®**

POSSIBLE CAUSES
ATTEMPT TO COMMUNICATE WITH THE BCM
CHECK BCM DTCS
INSPECT JUNCTION BLOCK FUSE #22 AND #28
CHECK VOLTAGE SUPPLY TO BCM - JUNCTION BLOCK BCM CONNECTOR CAVITY 5
CHECK VOLTAGE SUPPLY TO BCM - JUNCTION BLOCK BCM CONNECTOR CAVITY 25
BODY 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 on. With the DRB, enter Body then Body Computer and read DTC's. Are any DTCs present? Yes → Refer to the appropriate category and perform the diagnostic test associated with the DTC that is set. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove and inspect fuse #22 and #28 from the junction block. Is either fuse open? Yes → Refer to the wiring diagrams in the service information to help isolate a possible short to ground condition, replace fuse and retest. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*UNABLE TO ACCESS DRIVER DOOR MODULE AND/OR PASSENGER DOOR MODULE WITH DRBIII® — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. **Note: Ensure Fuse #22 is installed in the junction block.** Remove the BCM from the Junction Block. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit at the Junction Block Body Control Module connector cavity 5. Is the test light illuminated? Yes → Go To 5 No → Replace the Junction Block in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. **NOTE: Ensure Fuse #28 is installed in the junction block.** Remove the BCM from the Junction Block. Turn the ignition on. Using a 12-volt test light connected to ground, probe the Fused Ignition Switch Output circuit at the Junction Block Body Control Module connector cavity 25. Is the test light illuminated? Yes → Go To 6 No → Replace the Junction Block in accordance with the service information. 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

Symptom:

* DRIVER DOOR AJAR CIRCUIT SHORTED TO GROUND

POSSIBLE CAUSES
DRIVER DOOR LOCK MOTOR/AJAR SWITCH SHORTED TO GROUND
DRIVER DOOR AJAR SWITCH SENSE CKT SHORTED 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:

***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 CKT
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. 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 in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. 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:

*HOOD AJAR CIRCUIT OPEN (IF EQUIPPED)

POSSIBLE CAUSES
BCM NOT RESPONDING TO INPUT
GROUND CIRCUIT OPEN
HOOD AJAR SWITCH OPEN
HOOD AJAR SWITCH SENSE CIRCUIT OPEN
BODY CONTROL MODULE, INTERNAL OPEN

TEST	ACTION	APPLICABILITY
1	Open the hood. With the DRBIII® in Inputs/Outputs, read the HOOD 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 Hood 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. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Hood Ajar Switch harness connector. Connect a jumper wire between the Sense circuit and the Ground circuit. With the DRBIII® in Inputs/Outputs, read the HOOD AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Hood Ajar Switch, Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Hood Ajar Switch harness connector. Disconnect the BCM C1 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 Hood Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***HOOD AJAR CIRCUIT SHORT TO GROUND (IF EQUIPPED)**

POSSIBLE CAUSES
HOOD AJAR SWITCH SHORT TO GROUND
HOOD AJAR SWITCH SENSE CIRCUIT, SHORT TO GROUND
BCM, SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the Hood Open Sw state. Disconnect the Hood Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the HOOD AJAR SW state. Does the Switch State change from CLOSED to OPEN? Yes → Replace the Hood Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the BCM harness connector. Disconnect the Hood 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 Hood 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:

*LEFT REAR DOOR AJAR CIRCUIT OPEN

POSSIBLE CAUSES
BCM NOT RESPONDING TO INPUT
GROUND CKT OPEN
LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH OPEN
LEFT REAR DOOR AJAR SWITCH SENSE CKT OPEN
JUNCTION BLOCK - OPEN LEFT REAR DOOR AJAR SWITCH SENSE CKT
BODY CONTROL MODULE INTERNAL FAULT

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. 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 Junction Block C1 harness connector. Measure the resistance of the Sense circuit. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Left Rear Door Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*LEFT REAR DOOR AJAR CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	Disconnect the Junction Block C1 harness connector. Remove the BCM from the Junction Block. Measure the resistance of the Left Rear Door Ajar Switch Sense circuit across the Junction Block between the C1 connector and the Junction Block-to-BCM connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*LEFT REAR DOOR AJAR CIRCUIT SHORTED TO GROUND

POSSIBLE CAUSES
LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH SHORTED TO GROUND
LEFT REAR DOOR AJAR SWITCH SENSE CKT SHORTED TO GROUND
BODY CONTROL MODULE INTERNAL FAULT
LEFT REAR DOOR AJAR SWITCH SENSE CKT SHORTED TO GROUND IN JUNCTION BLOCK

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 Junction Block C1 harness connector. Disconnect the Left 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 Left Rear Door Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the BCM from the Junction Block. Using a 12-volt Test Light connected to 12-volts, check the Sense circuit. Does the test light illuminate? Yes → Replace the Junction Block in accordance with the Service Information. 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
JUNCTION BLOCK - OPEN LIFTGATE AJAR CIRCUIT
BODY CONTROL MODULE-OPEN LIFTGATE AJAR CIRCUIT

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 Right or Left Liftgate 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 Liftgate Ajar Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Right or Left Liftgate Ajar Switch harness connector. Disconnect the Junction Block C1 harness connector. Measure the resistance of the Sense circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Liftgate Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Junction Block C1 harness connector. Remove the BCM from the Junction Block. Measure the resistance of the Liftgate Ajar Switch Sense circuit across the Junction Block between the C1 connector and the Junction Block-to-BCM connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*LIFTGATE AJAR CIRCUIT SHORT TO GROUND

POSSIBLE CAUSES
LEFT LIFTGATE AJAR SWITCH SHORT TO GROUND
RIGHT LIFTGATE AJAR SWITCH SHORT TO GROUND
LIFTGATE AJAR SWITCH SENSE CIRCUIT, SHORT TO GROUND
LIFTGATE AJAR SWITCH SENSE SHORT IN THE JUNCTION BLOCK
BCM, SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the LIFTGATE AJAR SW state. Disconnect the Left Liftgate Ajar Switch 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 Left Liftgate Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII® in Inputs/Outputs, read the LIFTGATE AJAR SW state. Disconnect the Right Liftgate Ajar Switch 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 Right Liftgate Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Junction Block C1 harness connector. Disconnect the Right and Left Liftgate Ajar Switch 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 → Go To 4	All
4	Disconnect the BCM from the Junction Block. Using a 12-volt Test Light connected to 12-volts, check the Liftgate Ajar Switch Sense circuit. Does the test light illuminate? Yes → Replace the Junction Block in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*LIFTGATE FLIP-UP AJAR CIRCUIT OPEN

POSSIBLE CAUSES
BCM NOT RESPONDING TO INPUT
GROUND CIRCUIT OPEN
LIFTGATE FLIP-UP AJAR SWITCH OPEN
LIFTGATE FLIP-UP AJAR SWITCH SENSE CIRCUIT OPEN
JUNCTION BLOCK - OPEN LIFTGATE FLIP-UP AJAR SWITCH SENSE CIRCUIT
BODY CONTROL MODULE, INTERNAL OPEN

TEST	ACTION	APPLICABILITY
1	Open the liftgate flip-up. With the DRBIII® in Inputs/Outputs, read the LFTGT FLIP-UP AJAR 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 Flip-Up 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. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Liftgate Flip-Up Ajar Switch harness connector. Connect a jumper wire between the Sense circuit and the Ground circuit. With the DRBIII® in Inputs/Outputs, read the LFTGT FLIP-UP AJAR SW state. Does the DRBIII® display CLOSED? Yes → Replace the Liftgate Flip-Up Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Disconnect the Liftgate Flip-Up Ajar Switch harness connector. Disconnect the Junction Block C1 harness connector. Measure the resistance of the Sense circuit. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Liftgate Flip-Up Ajar Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*LIFTGATE FLIP-UP AJAR CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
5	Disconnect the Junction Block C1 harness connector. Remove the BCM from the Junction Block. Measure the resistance of the Liftgate Flip-Up Ajar Switch Sense circuit across the Junction Block between the C1 connector and the Junction Block-to-BCM connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*LIFTGATE FLIP-UP AJAR CIRCUIT SHORT TO GROUND

POSSIBLE CAUSES
LIFTGATE FLIP-UP AJAR SWITCH SHORTED TO GROUND
LIFTGATE FLIP-UP AJAR SWITCH SENSE CKT SHORTED TO GROUND
BODY CONTROL MODULE INTERNAL FAULT
LIFTGATE FLIP-UP AJAR SENSE CKT SHORTED TO GROUND IN JUNCTION BLOCK

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the LIFTGLASS SW state. Disconnect the Liftgate Flip-Up Ajar Switch harness connector. With the DRBIII® in Inputs/Outputs, read the LIFTGLASS SW state. Does the Switch State change from CLOSED to OPEN? Yes → Replace the Liftgate Flip-Up Ajar Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Junction Block C1 harness connector. Disconnect the Liftgate Flip-Up 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 Liftgate Flip-Up Ajar Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the BCM from the Junction Block. Using a 12-volt Test Light connected to 12-volts, check the Liftgate Flip-Up Ajar Switch Sense circuit. Does the test light illuminate? Yes → Replace the Junction Block in accordance with the Service Information. 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 CKT
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. 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 SHORTED TO GROUND
PASSENGER DOOR AJAR SWITCH SENSE CKT SHORTED 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 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 CKT OPEN
RIGHT REAR DOOR AJAR SWITCH OPEN
RIGHT REAR DOOR AJAR SWITCH SENSE CIRCUIT OPEN
BODY CONTROL MODULE INTERNAL FAULT

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 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. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Right Rear Door 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 Ajar Switch harness connector. Disconnect the BCM C1 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 SHORTED TO GROUND
RIGHT REAR DOOR AJAR SWITCH SENSE CKT SHORTED TO GROUND
BODY CONTROL MODULE INTERNAL FAULT

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 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 SEAT HEAT OUTPUT OPEN/SHT TO BATTERY

When Monitored and Set Condition:

DRIVER SEAT HEAT OUTPUT OPEN/SHT TO BATTERY

When Monitored: With the ignition on, during the heated seat operation.

Set Condition: This condition is set immediately after the Heated Seat Module loses the seat heat element output.

POSSIBLE CAUSES
DTC PRESENT
DRIVER SEAT HEATER SYSTEM SHORT TO BATTERY
DRIVER SEAT HEATER B(+) DRIVER CKT SHORTED TO VOLTAGE
DRIVER HEATED SEAT CUSHION SHORTED TO VOLTAGE
DRIVER SEAT HEATER GROUND CKT SHORTED TO VOLTAGE
HEATED SEAT DRIVER CKT SHORTED TO VOLTAGE
DRIVER HEATED SEAT CUSHION OPEN
DRIVER SEAT BACK HEATER OPEN
HEATED SEAT DRIVER CKT OPEN
DRIVER SEAT HEATER GROUND CKT OPEN
DRIVER SEAT HEATER B(+) DRIVER CKT OPEN

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Start the engine. Turn the driver seat heater on and operate in both ranges. With the DRBIII®, read DTCs. Did the DRIVER SEAT HEAT OUTPUT OPEN/SHORT TO BATTERY 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 VERIFICATION TEST -MEMORY SYSTEM.	All

DRIVER SEAT HEAT OUTPUT OPEN/SHT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Measure the total resistance of the Driver Seat Heat System between the Driver Seat Heater B(+) Driver and the Driver Seat Heater Ground circuits in the HSM C2 connector. Is the resistance below 50.0 ohms? Yes → Go To 3 No → Go To 7	All
3	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Turn the ignition on. Measure the voltage of the Driver Seat Heater B(+) Driver circuit. Is ANY voltage present on the Driver Seat Heater B(+) Driver circuit? Yes → Go To 4 No → Replace the Heated Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
4	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage of the Driver Seat Heater B(+) Driver circuit. Is there ANY voltage on the Driver Seat Heater B(+) Driver circuit? Yes → Repair the Driver Seat Heater B(+) Driver circuit for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 5	All
5	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Disconnect the Driver Heated Seat Back 4-way connector. Turn the ignition on. Measure the voltage of the Driver Seat Heater Ground circuit. Is there ANY voltage on the Driver Seat Heater Ground circuit? Yes → Go To 6 No → Replace the Driver Heated Seat Cushion. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

DRIVER SEAT HEAT OUTPUT OPEN/SHT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
6	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Disconnect the Driver Heated Seat Back 2-way (green) connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage of the Driver Seat Heater Ground circuit. Is there ANY voltage on the Driver Seat Heater Ground circuit? Yes → Repair the Driver Seat Heater Ground circuit for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Repair the Heated Seat Driver circuit for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance of the CUSHION SEAT HEATER ELEMENT. Connect one lead to the Heated Seat Driver circuit (cushion side) and the other lead to the Driver Seat Heater B(+) Driver circuit (cushion side) in the Driver Heated Seat Cushion 4 way connector. Is the resistance below 3.0 ohms? Yes → Go To 8 No → Replace the Driver Heated Seat Cushion / Bolster. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Disconnect the Driver Heated Seat Back 2-way (green) connector. Measure the resistance of the SEAT BACK HEATER ELEMENT. Connect one lead to the Heated Seat Driver circuit (seat back side) and the other lead to the Driver Seat Heater Ground circuit (seat back side) in the Driver Heated Seat 2-way connector. Is the resistance below 3.0 ohms? Yes → Go To 9 No → Replace the Driver Heated Seat Back. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

DRIVER SEAT HEAT OUTPUT OPEN/SHT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
9	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Disconnect the Driver Heated Seat Back 2-way (green) connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance of the Heated Seat Driver circuit between the Driver Heated Seat Back 2-way connector (harness side) and the Driver Heated Seat Cushion 4-way connector (harness side). Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the open Heated Seat Driver circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
10	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Disconnect the Driver Heated Seat Back 2-way (green) connector. Disconnect the HSM C2 harness connector. Measure the resistance of the Driver Seat Heater Ground circuit between the Seat Back 2-way connector (harness side) and the Heated Seat Module connector. Is the resistance below 5.0 ohms? Yes → Go To 11 No → Repair the Driver Seat Heater Ground circuit for an open. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
11	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Driver Heated Seat Cushion 4-way connector. Disconnect the Heated Seat Module C2 harness connector. Measure the resistance of the Driver Seat Heater B(+) Driver circuit between the HSM C2 connector and the Driver Heated Seat Cushion 4-way connector (harness side). Is the resistance below 5.0 ohms? Yes → Test Complete. No → Repair the open Driver Seat Heater B(+) Driver circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
DRIVER SEAT HEAT OUTPUT SHORT TO GROUND

When Monitored and Set Condition:

DRIVER SEAT HEAT OUTPUT SHORT TO GROUND

When Monitored: With the ignition on, during the heated seat operation.

Set Condition: This condition is set immediately after the Heated Seat Module detects an output shorted to ground.

POSSIBLE CAUSES
DTC PRESENT
DRIVER SEAT HEATER B(+) DRIVER CKT SHORTED TO DRIVER SEAT HEATER GROUND
DRIVER SEAT HEATER B(+) DRIVER CKT SHORTED TO GROUND
DRIVER SEAT CUSHION SHORTED TO GROUND
HEATED SEAT MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Start the engine. Turn the driver seat heater on and operate in both ranges. With the DRBIII®, read DTCs. Did the DRIVER SEAT HEAT OUTPUT SHORT TO GROUND 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 VERIFICATION TEST -MEMORY SYSTEM.	All
2	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Using the DRBIII®, select: Body - Memory Seat Module - Erase DTC's. Turn the ignition off. Disconnect the Driver Heated Seat Cushion 4-way connector. Start the engine. Turn the driver seat heater on and operate at both ranges. With the DRBIII®, read DTC's. Does the DRBIII® still show Driver Seat Heat Output Short to Gnd? Yes → Go To 3 No → Go To 5	All

DRIVER SEAT HEAT OUTPUT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. 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 in the HSM C2 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 VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All
4	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance of the Driver Seat Heater B(+) Driver circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Driver Seat Heater B(+) Driver circuit for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Replace the Heated Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition on. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance of the Driver Seat Cushion connector (cushion side) to ground. Is the resistance below 100.0 ohms? Yes → Replace the Driver Heater Cushion. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Test Complete.	All

Symptom:
DRIVER THERMISTOR OUT OF RANGE HIGH

When Monitored and Set Condition:

DRIVER THERMISTOR OUT OF RANGE HIGH

When Monitored: With the ignition on, during the heated seat operation.

Set Condition: This condition is immediately set when the Heated Seat Module senses a greater value than the value stored in EEPROM.

POSSIBLE CAUSES
DRIVER HEATED SEAT SENSOR SHORTED
DRIVER SEAT TEMPERATURE SENSOR INPUT CIRCUIT SHORTED TO BATTERY
DRIVER SEAT TEMPERATURE SENSOR INPUT CIRCUIT SHORTED TO 5 VOLT SUPPLY
SEAT SENSOR 5-VOLT SUPPLY CIRCUIT SHORTED TO GROUND
HEATED SEAT MODULE - SENSOR SHORTED

TEST	ACTION	APPLICABILITY
1	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance between the Seat Sensor 5 Volt Supply circuit and the Driver Seat Temperature Sensor Input circuit at the driver heated seat cushion (cushion side) connector. Is the resistance below 800 ohms at room temperature? Yes → Replace the Driver Heated Seat Cushion Cover - sensor shorted.. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 2	All
2	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 harness connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage between the Driver Seat Temperature Sensor Input circuit and ground. Is the voltage above 5.5 volts? Yes → Repair the Driver Seat Temperature Sensor Input circuit for a short to battery. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All

DRIVER THERMISTOR OUT OF RANGE HIGH — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 harness connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage between the 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 5 volt supply. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All
4	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 harness connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the resistance of the Seat Sensor 5 Volt Supply circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Seat Sensor 5 Volt Supply circuit for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Replace the Heated Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
DRIVER THERMISTOR OUT OF RANGE LOW

When Monitored and Set Condition:

DRIVER THERMISTOR OUT OF RANGE LOW

When Monitored: With the ignition on, during the heated seat operation.

Set Condition: This condition is immediately set when the Heated Seat Module senses a lesser value than the value stored in EEPROM.

POSSIBLE CAUSES
DRIVER HEATED SEAT CUSHION SENSOR OPEN
DRIVER SEAT TEMPERATURE SENSOR INPUT CKT SHORTED TO GROUND
DRIVER HEATED SEAT CUSHION FAILED SENSOR
DRIVER SEAT TEMPERATURE SENSOR INPUT CKT OPEN
SEAT SENSOR 5-VOLT SUPPLY CKT OPEN
HEATED SEAT MODULE
HEATED SEAT MODULE - 5 VOLT SUPPLY OPEN

TEST	ACTION	APPLICABILITY
1	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Driver Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage between the Seat Sensor 5 Volt Supply circuit and ground. Is the voltage below 4.5 volts? Yes → Go To 2 No → Go To 3	All
2	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance of the Seat Sensor 5 Volt Supply circuit between the Heated Seat Module connector and the Driver Heated Seat Cushion (harness side) connector. Is the resistance below 5.0 ohms? Yes → Replace the Heated Seat Module - 5 volt supply open. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Repair the open Seat Sensor 5 Volt Supply circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

DRIVER THERMISTOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance between the Seat Sensor 5 Volt Supply circuit and the Driver Seat Temperature Sensor Input circuit at the driver heated seat cushion (cushion side) connector. Is the resistance above 70,000 (70K) ohms at room temperature? Yes → Replace the Driver Heated Seat Cushion. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All
4	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 harness connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance of the Driver Seat Temperature Sensor Input circuit (harness side) and ground. Is the resistance below 1,000.0 ohms? Yes → Repair the Driver Seat Temperature Sensor Input circuit for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 5	All
5	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance between the Driver Seat Temp Sensor Input circuit (cushion side) and ground. Is the resistance below 1000.0 ohms? Yes → Replace the Driver Heated Seat Cushion. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 6	All
6	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 connector. Disconnect the Driver Heated Seat Cushion 4-way connector. Measure the resistance of the Driver Seat Temperature Sensor Input circuit from the Heated Seat Module connector to the Driver Heated Seat Cushion connector. Is the resistance below 5.0 ohms? Yes → Replace the Heated Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Repair the open Driver Seat Temperature Sensor Input circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

PASSENGER SEAT HEAT OUTPUT OPEN/SHT TO BATTERY

When Monitored and Set Condition:

PASSENGER SEAT HEAT OUTPUT OPEN/SHT TO BATTERY

When Monitored: With the ignition on, during the heated seat operation.

Set Condition: This condition is set immediately after the Heated Seat Module loses the seat heat element output.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER SEAT HEATER SYSTEM SHORTED TO VOLTAGE
PASSENGER SEAT HEATER B(+) DRIVER CKT SHORTED TO VOLTAGE
PASSENGER HEATED SEAT CUSHION SHORTED TO VOLTAGE
PASSENGER SEAT HEATER GROUND CKT SHORTED TO VOLTAGE
HEATED SEAT DRIVER CKT SHORTED TO VOLTAGE
PASSENGER HEATED SEAT CUSHION OPEN
PASSENGER SEAT BACK HEATER OPEN
HEATED SEAT DRIVER CKT OPEN
PASSENGER SEAT HEATER GROUND CKT OPEN
PASSENGER SEAT HEATER B(+) DRIVER CKT OPEN

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Start the engine. Turn the passenger seat heater on and operate in both ranges. With the DRBIII®, read DTCs. Did the PASSENGER SEAT HEAT OUTPUT OPEN/SHORT TO BATTERY 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 VERIFICATION TEST -MEMORY SYSTEM.	All

PASSENGER SEAT HEAT OUTPUT OPEN/SHT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
2	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Measure the total resistance of the Passenger Seat Heater System between the Passenger Seat Heater B(+) Driver and the Passenger Seat Heater Ground circuits in the HSM C2 connector. Is the resistance below 50.0 ohms? Yes → Go To 3 No → Go To 7	All
3	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Turn the ignition on. Measure the voltage of the Passenger Seat Heater B(+) Driver circuit. Is ANY voltage present on the Passenger Seat Heater B(+) Driver circuit? Yes → Go To 4 No → Replace the Heated Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
4	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Disconnect the Passenger Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage of the Passenger Seat Heater B(+) Driver circuit. Is there ANY voltage on the Passenger Seat Heater B(+) Driver circuit? Yes → Repair the Passenger Seat Heater B(+) Driver circuit for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 5	All
5	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Disconnect the Passenger Heated Seat Back 4-way connector. Turn the ignition on. Measure the voltage of the Passenger Seat Heater Ground circuit. Is there ANY voltage on the Passenger Seat Heater Ground circuit? Yes → Go To 6 No → Replace the Passenger Heated Seat Cushion / Bolster. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

PASSENGER SEAT HEAT OUTPUT OPEN/SHT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
6	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Disconnect the Passenger Heated Seat Back 2-way (green) connector. Disconnect the Passenger Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage of the Passenger Seat Heater Ground circuit. Is there ANY voltage on the Passenger Seat Heater Ground circuit? Yes → Repair the Passenger Seat Heater Ground circuit for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Repair the Heated Seat Driver circuit for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance of the CUSHION SEAT HEATER ELEMENT. Connect one lead to the Heated Seat Driver circuit (cushion side) and the other lead to the Passenger Seat Heater B(+) Driver circuit (cushion side) in the Passenger Heated Seat Cushion 4 way connector. Is the resistance below 2.0 ohms? Yes → Go To 8 No → Replace the Passenger Heated Seat Cushion / Bolster. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Disconnect the Passenger Heated Seat Back 2-way (green) connector. Measure the resistance of the SEAT BACK HEATER ELEMENT. Connect one lead to the Heated Seat Driver circuit (seat back side) and the other lead to the Passenger Seat Heater Ground circuit (seat back side) in the Passenger Heated Seat 2-way connector. Is the resistance below 2.0 ohms? Yes → Go To 9 No → Replace the Passenger Heated Seat Back. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

PASSENGER SEAT HEAT OUTPUT OPEN/SHT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
9	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Disconnect the Passenger Heated Seat Back 2-way (green) connector. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance of the Heated Seat Driver circuit between the Passenger Heated Seat Back 2-way connector (harness side) and the Passenger Heated Seat Cushion 4-way connector (harness side). Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the open Heated Seat Driver circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
10	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Disconnect the Passenger Heated Seat Back 2-way (green) connector. Disconnect the HSM C2 harness connector. Measure the resistance of the Passenger Seat Heater Ground circuit between the Seat Back 2-way connector (harness side) and the Heated Seat Module connector. Is the resistance below 5.0 ohms? Yes → Go To 11 No → Repair the Passenger Seat Heater Ground circuit for an open. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
11	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Disconnect the Heated Seat Module C2 harness connector. Measure the resistance of the Passenger Seat Heater B(+) Driver circuit between the HSM C2 connector and the Passenger Heated Seat Cushion 4-way connector (harness side). Is the resistance below 5.0 ohms? Yes → Test Complete. No → Repair the open Passenger Seat Heater B(+) Driver circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
PASSENGER SEAT HEAT OUTPUT SHORT TO GND

When Monitored and Set Condition:

PASSENGER SEAT HEAT OUTPUT SHORT TO GND

When Monitored: With the ignition on, during the heated seat operation.

Set Condition: This condition is set immediately after the Heated Seat Module detects an output shorted to ground.

POSSIBLE CAUSES
DTC PRESENT
PASSENGER SEAT HEATER B(+) DRIVER CKT SHORTED TO GROUND
HEATED SEAT MODULE
PASSENGER HEATED SEAT CUSHION SHORTED TO GROUND
PASSENGER HEATED SEAT BACK SHORTED TO GROUND
HEATED SEAT DRIVER CKT SHORTED TO GROUND
HEATED SEAT MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Start the engine. Turn the passenger seat heater on and operate in both ranges. With the DRBIII®, read DTCs. Did the PASSENGER SEAT HEAT OUTPUT SHORT TO GROUND 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 VERIFICATION TEST -MEMORY SYSTEM.	All
2	Using the DRBIII®, select: Body - Memory Seat Module - Erase DTC's. **NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Start the engine. Turn the passenger seat heater on and operate at both ranges. With the DRBIII®, read DTC's. Does the DRBIII® still show Passenger Seat Heat Output Short to Gnd? Yes → Go To 3 No → Go To 4	All

PASSENGER SEAT HEAT OUTPUT SHORT TO GND — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C2 harness connector. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance of the Passenger Seat Heater B(+) Driver circuit to ground. Is the resistance below 5.0 ohms? Yes → Repair the Passenger Seat Heater B(+) Driver circuit for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Replace the Heated Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
4	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance of the Passenger Seat Heater B(+) Driver circuit in the Passenger Heated Seat Cushion connector (cushion side) to ground. Is the resistance below 100.0 ohms? Yes → Replace the Passenger Heated Seat Cushion. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 5	All
5	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Passenger Heated Seat Back 2-way (green) connector. Measure the resistance of the Heated Seat Driver circuit, in the Passenger Heated Seat Back connector (seat back side) to ground. Is the resistance below 1000.0 ohms? Yes → Replace the Passenger Heated Seat Back. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 6	All
6	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Passenger Heated Seat Cushion 4-way (green) connector. Disconnect the Passenger Heated Seat Back 2-way (green) connector. Measure the resistance of the Heated Seat Driver circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Heated Seat Driver circuit for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Test Complete.	All

Symptom:
PASSENGER THERMISTOR OUT OF RANGE HIGH

When Monitored and Set Condition:

PASSENGER THERMISTOR OUT OF RANGE HIGH

When Monitored: With the ignition on, during the heated seat operation.

Set Condition: This condition is immediately set when the Heated Seat Module senses a greater value than the value stored in EEPROM.

POSSIBLE CAUSES
PASSENGER SEAT SENSOR SHORTED
PASSENGER SEAT TEMPERATURE SENSOR INPUT CIRCUIT SHORTED TO BATTERY
PASSENGER SEAT TEMPERATURE SENSOR INPUT CKT SHORTED TO 5 VOLTS
HEATED SEAT MODULE - SENSOR SHORTED
SEAT SENSOR 5-VOLT SUPPLY CKT SHORTED TO GROUND

TEST	ACTION	APPLICABILITY
1	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance between the Seat Sensor 5 Volt Supply circuit and the Passenger Seat Temperature Sensor Input circuit at the Passenger Heated Seat Cushion (cushion side) connector. Is the resistance below 800 ohms at room temperature? Yes → Replace the Passenger Heated Seat Cushion - sensor shorted.. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 2	All
2	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 harness connector. Disconnect the Passenger Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage between the Passenger Seat Temperature Sensor Input circuit and ground. Is the voltage above 5.5 volts? Yes → Repair the Passenger Seat Temperature Sensor Input circuit for a short to battery. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All

PASSENGER THERMISTOR OUT OF RANGE HIGH — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 harness connector. Disconnect the Passenger Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage between the Passenger Seat Temperature Sensor Input circuit and 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 VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All
4	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 connector. Disconnect the Passenger Heated Seat Cushion 4-way (green) connector. Measure the resistance of the Seat Sensor 5 Volt Supply circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the open Seat Sensor 5-Volt Supply circuit. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Replace the Heated Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
PASSENGER THERMISTOR OUT OF RANGE LOW

When Monitored and Set Condition:

PASSENGER THERMISTOR OUT OF RANGE LOW

When Monitored: With the ignition on, during the heated seat operation.

Set Condition: This condition is immediately set when the Heated Seat Module senses a lesser value than the value stored in EEPROM.

POSSIBLE CAUSES
PASSENGER HEATED SEAT CUSHION SENSOR OPEN
PASSENGER SEAT TEMPERATURE SENSOR INPUT CKT SHORTED TO GROUND
PASSENGER HEATED SEAT CUSHION SENSOR SHORT TO GROUND
PASSENGER SEAT TEMPERATURE SENSOR INPUT CKT OPEN
HEATED SEAT MODULE
SEAT SENSOR 5-VOLT SUPPLY CKT OPEN
HEATED SEAT MODULE-5 VOLTS OPEN

TEST	ACTION	APPLICABILITY
1	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Turn the ignition on. Measure the voltage between the Seat Sensor 5 Volt Supply circuit and ground. Is the voltage below 4.5 volts? Yes → Go To 2 No → Go To 3	All
2	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 connector. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance of the Seat Sensor 5 Volt Supply circuit between the Heated Seat Module connector and the Passenger Heated Seat Cushion (harness side) connector. Is the resistance below 5.0 ohms? Yes → Replace the Heated Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Repair the open Seat Sensor 5 Volt Supply circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

PASSENGER THERMISTOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance between the Seat Sensor 5 Volt Supply circuit and the Passenger Seat Temperature Sensor Input circuit at the Passenger Heated Seat Cushion (cushion side) connector. Is the resistance above 70,000 (70K) ohms at room temperature? Yes → Replace the Passenger Heated Seat Cushion. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All
4	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 harness connector. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance of the Passenger Seat Temperature Sensor Input circuit to ground. Is the resistance below 1,000.0 ohms? Yes → Repair the Passenger Seat Temperature Sensor Input circuit for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 5	All
5	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance between the Passenger Seat Temp Sensor Input circuit and ground. Is the resistance below 1000.0 ohms? Yes → Replace the Passenger Seat Cushion Cover Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 6	All
6	**NOTE: Raise the seat to the highest position to gain access to the connectors. The HSM is located at the front of the seat and the Seat Heater connectors are at the rear of the seat.** Turn the ignition off. Disconnect the Heated Seat Module C1 connector. Disconnect the Passenger Heated Seat Cushion 4-way connector. Measure the resistance of the Passenger Seat Temperature Sensor Input circuit from the Heated Seat Module connector to the Passenger Heated Seat Cushion connector. Is the resistance below 5.0 ohms? Yes → Replace the Heated Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Repair the open Passenger Seat Temperature Sensor Input circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
REAR DEF RELAY SHORTED HI

When Monitored and Set Condition:

REAR DEF RELAY SHORTED HI

When Monitored: With the ignition key in the run position.

Set Condition: The BCM attempts to activate the rear defogger relay and senses excessive current on the circuit.

POSSIBLE CAUSES
REAR DEFOGGER RELAY
JUNCTION BLOCK
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Lower the Junction Block and remove the Rear Window Defogger Relay. Connect a test light between cavities 85 & 86 of the Rear Window Defogger Relay connector. Turn the ignition on. With the DRBIII®, actuate the R Defog Relay and observe the test light. Does the test light flash on and off when the relay is actuated? Yes → Replace the Rear Window Defogger Relay. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 2	All
2	Turn the ignition off. Lower the Junction Block and remove the Rear Window Defogger Relay. Disconnect and remove the Body Control Module. Turn the ignition on. Measure the voltage at cavities 85 & 86 of the Relay connector. Is the voltage above 1.0 volts at BOTH cavities? (Note: there should only be voltage on one cavity) Yes → Replace the Junction Block. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Replace the Body Control Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
REAR DEFOGGER RELAY OPEN

When Monitored and Set Condition:

REAR DEFOGGER RELAY OPEN

When Monitored: With the ignition in the run position.

Set Condition: The rear defogger relay output of the BCM does not have battery voltage.

POSSIBLE CAUSES
FUSED B(+) CKT SHORTED TO GROUND
REAR DEFOGGER RELAY OUTPUT CKT SHORTED TO GROUND
PDC FUSE #2 OPEN
FUSED B(+) CKT OPEN
REAR WINDOW DEFOGGER RELAY
REAR WINDOW DEFOGGER RELAY CONTROL SHORT TO GROUND.
JUNCTION BLOCK
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect the PDC fuse #2. Is the PDC fuse #2 open? Yes → Go To 2 No → Go To 4	All
2	Turn the ignition off. Lower the Junction Block and remove the Rear Window Defogger Relay. Measure the resistance of the Fused B(+) circuits in the Rear Window Defogger Relay connector to ground. Is the resistance below 5.0 ohms? Yes → Repair the Fused B(+) circuit for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All

REAR DEFOGGER RELAY OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Rear Window Defogger connector at the rear window Grid. Remove the Rear Window Defogger Relay from the Junction Block. Measure the resistance between ground and the Rear Window Defogger Relay Output circuit at the Rear Window Defogger connector. Is the resistance below 5.0 ohms? Yes → Repair the Rear Window Defogger Relay Output circuit for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Replace PDC fuse #2. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
4	Turn the ignition off. Lower the Junction Block and remove the Rear Window Defogger Relay. Turn the ignition on. Measure the voltage of the Fused B(+) circuit in the Rear Window Defogger Relay connector. Is the voltage above 10.0 volts? Yes → Go To 5 No → Repair the open Fused B(+) circuit from PDC fuse #2. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	Turn the ignition off. Lower the Junction Block and remove the Rear Window Defogger Relay. Connect a test light between cavities 85 & 86 of the Rear Window Defogger Relay connector. Turn the ignition on. With the DRBIII®, actuate the R Defog Relay and observe the test light. Does the test light flash on and off when the relay is actuated? Yes → Replace the Rear Window Defogger Relay. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 6	All
6	Turn the ignition off. Lower the Junction Block and remove the Rear Window Defogger Relay. Disconnect and remove the Body Control Module. Measure the resistance of the Rear Window Defogger Relay Control circuit to ground. Is the resistance below 1000.0 ohms? Yes → Replace the Junction Block. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 7	All
7	Turn the ignition off. Lower the Junction Block and remove the Rear Window Defogger Relay. Disconnect and remove the Body Control Module. Measure the resistance of the Rear Window Defogger Relay Control circuit between the relay connector and the J/B-BCM connector in the Junction Block. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Replace the Junction Block. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

***HEATED SEATS INOPERATIVE DUE TO KEY-IN IGNITION SWITCH INPUT**

POSSIBLE CAUSES
OBSERVE THE KEY-IN IGNITION SWITCH STATUS
IGNITION SWITCH OPEN
KEY-IN IGNITION SWITCH GROUND CIRCUIT OPEN
KEY-IN IGNITION SWITCH SENSE CIRCUIT OPEN
BCM-INCORRECT KEY-IN IGNITION SWITCH STATUS

TEST	ACTION	APPLICABILITY
1	**Note: Ensure that the Key is still in the Ignition Switch.** With the DRBIII® enter Body Computer then Input Output and read the Key-In Ignition Switch status. Does the DRB display: KEY-IN IGN: CLOSED ? Yes → Test complete. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 2	All
2	Turn the ignition off. Disconnect the Ignition Switch harness connector. Connect a jumper between the Key-In Ignition Switch Sense circuit and Ground circuit. With the DRBIII® enter Body Computer then Input Output and observe the Key-In Ignition Switch status. Does the DRBIII display KEY-IN IGN: CLOSED? Yes → Replace the Ignition Switch. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All
3	Turn the ignition off. Disconnect the Ignition Switch harness connector. Turn all lights off. Measure the resistance between ground and the ground circuit in the ignition switch connector. Is the resistance below 5.0 ohms ? Yes → Go To 4 No → Repair the ground circuit for an open. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*HEATED SEATS INOPERATIVE DUE TO KEY-IN IGNITION SWITCH INPUT — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Ignition Switch harness connector. Disconnect the Body Control Module C1 harness connector. Measure the resistance of the Key-In Ignition Switch Sense circuit between the ignition switch connector and the BCM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Key-In Ignition Switch Sense circuit for an open. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	If there are no possible causes remaining, view repair. Repair Replace and program the Body Control Module in accordance with the Service Information. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

*REAR WINDOW DEFOGGER GRID INOPERATIVE

POSSIBLE CAUSES
REAR DEFOGGER RELAY DTC'S
INTERMITTENT CONDITION
REAR WINDOW DEFOGGER GROUND CKT
REAR WINDOW DEFOGGER GRID OPEN
REAR WINDOW DEFOGGER RELAY OUTPUT OPEN
REAR WINDOW DEFOGGER RELAY
REAR WINDOW DEFOGGER RELAY OUTPUT SHORTED TO GROUND
REPLACE FAULTY FUSE
FUSED B(+) CKT OPEN AT RELAY
SUBSTITUTE RELAY
JUNCTION BLOCK
REAR WINDOW DEFOGGER SWITCH SENSE CKT OPEN
REAR WINDOW DEFOGGER SWITCH SENSE CKT SHORTED TO GROUND
REAR WINDOW DEFOGGER SWITCH SENSE CKT SHORTED TO VOLTAGE
AUTOMATIC ZONE CONTROL MODULE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the Body Computer DTC's. Are there any Rear Defogger Relay DTC's present? Yes → Refer to the symptom list for problems related to Rear Defogger Relay DTC's. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Toggle the Rear Defogger switch and observe the indicator. Does the indicator toggle on and off when the switch is pressed? Yes → Go To 3 No → Go To 5	All
3	Turn the ignition and all lights off. Open the liftgate. Measure the resistance between ground and the Rear Window Defogger Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Rear Window Defogger Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All

*REAR WINDOW DEFOGGER GRID INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition on. Turn the Rear Window Defogger on. Measure the voltage between the Rear Window Defogger Relay Output circuit at the defogger grid on the rear window to ground. Is the voltage above 12.0 volts? Yes → Repair the open in the Rear Window Defogger Grid. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Rear Window Defogger Relay Output circuit. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition on. With the DRBIII®, read the R DEFOG SWITCH Input/Output display. Toggle the Rear Window Defogger Switch on and off and observe the DRB. Does the DRBIII® show that the Rear Defog Switch is toggling on and off? Yes → Go To 6 No → Go To 12	All
6	Remove and inspect the PDC fuse #2. Is the PDC fuse #2 open? Yes → Go To 7 No → Go To 9	All
7	Remove the Rear Window Defogger Relay from the Junction Block. Measure the resistance of the Rear Window Defogger Relay coil in cavities 85 and 86. Is the resistance between 50.0 and 100.0 ohms? Yes → Go To 8 No → Replace the Rear Window Defogger Relay and replace PDC fuse #2 if necessary. Perform BODY VERIFICATION TEST - VER 1.	All
8	Disconnect the Rear Window Defogger connector at the rear window grid. Remove the Rear Window Defogger Relay from the Junction Block. Measure the resistance between ground and the Rear Window Defogger Relay Output circuit at the Rear Window Defogger connector. Is the resistance below 5.0 ohms? Yes → Repair the Rear Window Defogger Relay Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the PDC fuse #2. Perform BODY VERIFICATION TEST - VER 1.	All
9	Lower the Junction Block and remove the Rear Window Defogger Relay. Turn the ignition on. Measure the voltage of the Fused B(+) circuit in the Rear Window Defogger Relay connector. Is the voltage above 10.0 volts? Yes → Go To 10 No → Repair the open Fused B(+) circuit from PDC fuse #2. Perform BODY VERIFICATION TEST - VER 1.	All

*REAR WINDOW DEFOGGER GRID INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
10	Lower the Junction Block and remove the Rear Window Defogger Relay. Install a known good relay in the Rear Window Defogger Relay connector. Turn the ignition on. Check the Rear Window Defogger for proper operation. Does the system operate properly now? Yes → Replace the original Rear Window Defogger Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	With the DRBIII®, actuate the R DEFOG RELAY. Using a 12-volt Test Light connected to ground, back probe the Rear Window Defogger Relay Output circuit in the Junction Block C1 connected. Does the test light flash on and off when the relay is actuated? Yes → The condition that caused this symptom is currently not present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced, pinched or partially broken wires. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
12	Turn the ignition off. Disconnect the BCM C2 connector. Disconnect the Temperature Control C1 connector. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance of the Rear Window Defogger Switch Sense circuit between the BCM connector and the AZC connector. Is the resistance below 5.0 ohms? Yes → Go To 13 No → Repair the open Rear Window Defogger Switch Sense circuit. Perform BODY VERIFICATION TEST - VER 1.	All
13	Turn the ignition off. Disconnect the BCM C2 connector. Disconnect the Temperature Control C1 connector. Measure the resistance between ground and the Rear Window Defogger Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Rear Window Defogger Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 14	All

*REAR WINDOW DEFOGGER GRID INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
14	Turn the ignition off. Disconnect the BCM C2 connector. Disconnect the Temperature Control C1 connector. **NOTE: Check connectors - Clean/repair as necessary.** Turn the ignition on. Measure the voltage between the Rear Window Defogger Switch Sense circuit and ground. Is there any voltage present? Yes → Repair the Rear Window Switch Sense circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 15	All
15	**NOTE: Ensure the BCM is connected before proceeding.** Turn the ignition off. Disconnect the Temperature Control C1 connector. Connect a jumper wire between the Rear Window Defogger Switch Sense circuit in the Temperature Control connector to ground. Turn the ignition on. With the DRBIII®, read the R DEFOG SWITCH status. Does the DRBIII® display R DEFOG SWITCH: CLOSED? Yes → Replace the Automatic Zone Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*REAR WINDOW DEFOGGER SWITCH INDICATOR INOPERATIVE

POSSIBLE CAUSES
FUSED REAR WINDOW DEFOGGER RELAY OUTPUT CKT SHORTED TO GROUND
JUNCTION BLOCK FUSE #11
FUSED REAR WINDOW DEFOGGER RELAY OUTPUT CKT OPEN
TEMPERATURE CONTROL HEAD (AZC OR MANUAL)

TEST	ACTION	APPLICABILITY
1	Inspect Junction Block fuse #11. Is Junction Block fuse #11 open? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. Disconnect the Temperature Control Head C1 connector. Measure the resistance of the Fused Rear Window Defog Relay Output circuit to ground (from the output side of fuse #11) Is the resistance below 5.0 ohms? Yes → Repair the Fused Rear Window Defogger Relay Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block fuse #11. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Temperature Control Head C1 connector. Remove the Rear Window Defogger Relay. **NOTE: Check connectors - Clean/repair as necessary.** Ensure that Junction Block fuse #11 is installed. Measure the resistance of the Fused rear Window Defogger Relay Output circuit from the relay output terminal to the Temperature Control Head C1 connector. Is the resistance below 5.0 ohms? Yes → Replace the Temperature Control Head (AZC or manual). Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Fused Rear Window Defogger Relay Output circuit. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

FOG LAMP RELAY CKT SHORTED HI

When Monitored and Set Condition:

FOG LAMP RELAY CKT SHORTED HI

When Monitored: Ignition in run position.

Set Condition: The BCM detects excessive current on the fog lamp relay control circuit.

POSSIBLE CAUSES
FOG LAMP RELAY
FOG LAMP RELAY CONTROL SH TO B(+)
BCM INTERNAL DEFECT FOG LAMP CONTROL SHORT TO BATTERY

TEST	ACTION	APPLICABILITY
1	Install a known good relay in place of the Fog Lamp Relay. Does the system operate correctly? Yes → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the Fog Lamp Relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Turn ignition on. Measure voltage of the Fog Lamp Relay control circuit at the Junction Block to ground. Is the voltage greater than 1.0 volt? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
FOG LAMP RELAY CKT SHORTED LO/OPEN

When Monitored and Set Condition:

FOG LAMP RELAY CKT SHORTED LO/OPEN

When Monitored: With the ignition switch in the on position.

Set Condition: This DTC sets if no voltage is seen at the fog lamp relay control circuit cavity.

POSSIBLE CAUSES
FOG LAMP RELAY COIL SHORTED
FOG LAMP RELAY OUTPUT CKT SHORT
FOG LAMP RELAY MISSING
OPEN B(+)
OPEN FUSED B+ TO FOG RELAY
FOG LAMP RELAY
FOG LAMP RELAY CONTROL CKT OPEN
FOG LAMP RELAY CONTROL CKT SHORTED TO GROUND
BCM FOG LAMP RELAY CONTROL
FUSE #24

TEST	ACTION	APPLICABILITY
1	Check Junction Block fuse #24. Is fuse #24 open? Yes → Go To 2 No → Go To 4	All
2	Remove the Fog Lamp Relay from the Junction Block. Using an ohmmeter measure the Fog lamp relay coil terminals 85 and 86. Is the resistance between 70 and 80 ohms? Yes → Go To 3 No → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the Fog Lamp Relay from the Junction Block. Using an ohmmeter measure the Fog Lamp Relay Output circuit to ground. Is the resistance below 0.5 ohms? Yes → Repair the relay output circuit for a short to ground and replace the fuse if necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the fuse. Perform BODY VERIFICATION TEST - VER 1.	All

FOG LAMP RELAY CKT SHORTED LO/OPEN — Continued

TEST	ACTION	APPLICABILITY
4	Looking at the Junction Block, see if the Fog Lamp Relay is present. Is the relay present? Yes → Go To 5 No → Install the missing relay. Perform BODY VERIFICATION TEST - VER 1.	All
5	For the results of this test to be valid voltage must be present at the Junction Block C5 connector cavity #3. Measure the voltage of the B(+) circuit to fuse #24. Is the voltage above 10.0 volts? Yes → Go To 6 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
6	Remove the Fog Lamp Relay from the Junction Block. Measure Fused B+ cavities for the Fog Lamp Relay in the Junction Block. Is the voltage above 10.0 volts at both cavities? Yes → Go To 7 No → Replace the junction block. Perform BODY VERIFICATION TEST - VER 1.	All
7	Install a known good relay in place of the Fog Lamp Relay. Does the system operate correctly? Yes → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Remove the Fog Lamp Relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Measure the resistance of the Fog Lamp Relay Control circuit between the relay and the Body Control Module. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
9	Remove the fog lamp relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Measure the resistance of the Fog Lamp Relay Control circuit to ground. Is the resistance below 10.0 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Go To 10	All
10	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
HAZARD RELAY CKT SHORTED HI

When Monitored and Set Condition:

HAZARD RELAY CKT SHORTED HI

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: This code is set if the BCM tries to activate the hazard lamps and excessive current is sinked into the BCM.

POSSIBLE CAUSES
COMBO FLASHER INTERNAL SHORT TO B(+)
HAZARD SWITCH SENSE CIRCUIT SHORTED TO B(+)
BCM HAZARD CIRCUIT SHORT TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	Remove the combination flasher from the junction block With the DRB III erase BCM DTC's. Operate either the panic feature on the RKE fob or trigger the vehicle theft alarm. With the DRB re-read the BCM trouble codes. Did the ″Hazard relay ckt shorted Hi″ trouble code reset? Yes → Go To 2 No → Replace the Combination Flasher. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the Combination Flasher from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Turn ignition on. Using a voltmeter measure the Hazard switch sense ckt cavity 9 to ground at the combination flasher socket in the Junction Block. Was the voltage greater than 1.0 volt? Yes → Repair the Hazard Switch Sense circuit for a short to voltage. 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:
HEADLAMP SW OPEN CKT

When Monitored and Set Condition:

HEADLAMP SW OPEN CKT

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: This DTC sets if the BCM detects voltage on the MUX circuit above 4.8 volts.

POSSIBLE CAUSES
HEADLAMP MUX VOLTS > 4.9
HEADLAMP SWITCH MUX OPEN
HEADLAMP SWITCH RETURN OPEN
BCM HEADLAMP MUX

TEST	ACTION	APPLICABILITY
1	Disconnect the left multi-function switch connector. Turn ignition on. Connect a jumper wire between headlamp switch MUX and headlamp switch return at the left multifunction switch. With the DRBIII® in Body Sensors, read the Headlamp sw volts. Does the DRB display ″Headlamp switch″ 0.0 volts? No → Go To 2 Yes → Replace the left multi-function switch Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the left multi-function switch connector. Disconnect the Body Control Module C-1 connector. Measure the resistance of the headlamp switch mux circuit from the BCM C1 connector to the left multi-function switch connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Headlamp Switch Mux circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the left multi-function switch connector. Disconnect the Body Control Module-C1 connector. Using an ohmmeter measure the Headlamp Switch Return circuit from BCM to left multi-function. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open headlamp switch return circuit. Perform BODY VERIFICATION TEST - VER 1.	All

HEADLAMP SW OPEN CKT — Continued

TEST	ACTION	APPLICABILITY
4	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
HEADLAMP SW SHORT TO GROUND

When Monitored and Set Condition:

HEADLAMP SW SHORT TO GROUND

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: This DTC sets if the BCM detects voltage on the MUX circuit below 0.3 volts.

POSSIBLE CAUSES
HEADLAMP SWITCH MUX SHORTED
LEFT MULTI-FUNTION SWITCH SHORTED
BCM

TEST	ACTION	APPLICABILITY
1	Disconnect the left multi-function switch connector. Turn ignition on. Does the DRB display ″Headlamp switch″ 5.0 volts? No → Go To 2 Yes → Replace the left multi-function switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Disconnect the left multi-function switch connector. Disconnect the Body Control Module C-1 connector. Measure the resistance of the headlamp switch mux circuit to ground at the left multi-function switch connector. Is the resistance below 5.0 ohms? Yes → Repair the Headlamp Switch Mux 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:
HIGH BEAM RELAY CKT SHORTED HI

When Monitored and Set Condition:

HIGH BEAM RELAY CKT SHORTED HI

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: This condition is set when the BCM is trying to activate the High beam relay and excessive current is sinked into the BCM.

POSSIBLE CAUSES
HI BEAM RELAY
HIGH BEAM RELAY CONTROL CIRCUIT SHORTED TO B(+)
BCM HIGH BEAM CONTROL SHORT TO BATTERY

TEST	ACTION	APPLICABILITY
1	Install a known good relay in place of the High Beam relay. Does the system now operate correctly? Yes → Replace the High Beam relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the High Beam relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Turn ignition on. Using a voltmeter measure the High Beam Relay control ckt cavity 86 to ground at the Junction Block. Was the voltage greater than 1.0 volt? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LOW BEAM RELAY CKT SHORTED HI

When Monitored and Set Condition:

LOW BEAM RELAY CKT SHORTED HI

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: This condition is set when the BCM is trying to activate the lo beam relay and excessive current is sinked into the BCM.

POSSIBLE CAUSES
LOW BEAM RELAY
LOW BEAM RELAY CONTROL SHORTED TO B(+)
BCM LOW BEAM CONTROL SHORT TO BATTERY

TEST	ACTION	APPLICABILITY
1	Install a known good relay in place of the Low Beam relay. Does the system now operate correctly? Yes → Replace the Low Beam relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the Low Beam relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Turn ignition on. Using a voltmeter measure the Low Beam Relay control ckt cavity 86 to ground at the Junction Block. Was the voltage greater than 1.0 volt? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LOW BEAM RELAY CKT SHORTED LO/OPEN

When Monitored and Set Condition:

LOW BEAM RELAY CKT SHORTED LO/OPEN

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: This condition detects if the lo beam relay has not been installed in the vehicle by monitoring the BCM lo beam relay output for battery voltage applied.

POSSIBLE CAUSES
LOW BEAM RELAY
OPEN FUSED B(+)
LOW BEAM RELAY CTL CKT OPEN
LOW BEAM RELAY CONTROL CIRCUIT SHORTED TO GROUND
BCM LOW BEAM CONTROL CIRCUIT SHORTED LOW/OPEN
LOW BEAM RELAY MISSING

TEST	ACTION	APPLICABILITY
1	Install a known good relay in place of the Low Beam relay. Does the system now operate correctly? Yes → Replace the Low Beam relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Looking at the Junction Block, see if the relay is present. Is the relay present? Yes → Go To 3 No → Install the correct relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	For the results of this test to be valid, voltage must be present at the Junction Block C5 connector cavity #1. Measure the voltage of the fused B(+) circuits to Low Beam relay cavities #30 and #85. Is the voltage above 10.0 volts at both cavities? Yes → Go To 4 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All

LOW BEAM RELAY CKT SHORTED LO/OPEN — Continued

TEST	ACTION	APPLICABILITY
4	Remove the Low Beam relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Using an ohmmeter measure the Low Beam Relay control circuit from relay cavity 86 to the Junction Block Body Control Module connector cavity 4. Was the resistance below 5.0 ohms? Yes → Go To 5 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn ignition off. Remove the Body Control Module from the Junction Block. Remove the Low Beam Relay from the junction block. Measure the resistance of the Low Beam Relay Control circuit. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

PARK LAMP RELAY CKT SHORTED HI

When Monitored and Set Condition:

PARK LAMP RELAY CKT SHORTED HI

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: This condition is set when the BCM is trying to activate the park relay and excessive current is detected on the control circuit.

POSSIBLE CAUSES
PARK LAMP RELAY
BCM PARK LAMP CONTROL SHORT TO BATTERY
PARK LAMP RELAY CONTROL SH TO B(+)

TEST	ACTION	APPLICABILITY
1	Install a known good relay in place of the Park Lamp relay. Does the system now operate correctly? Yes → Replace the Park Lamp relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the park lamp relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Turn ignition on. Using a voltmeter measure the Park Lamp Relay control ckt cavity 86 to ground at the Junction Block. Was the voltage greater than 1.0 volt? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PARK LAMP RELAY CKT SHORTED LO/OPEN

When Monitored and Set Condition:

PARK LAMP RELAY CKT SHORTED LO/OPEN

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: The DTC is is set if the BCM detects excessive current on the park lamp relay control circuit.

POSSIBLE CAUSES
PARK LAMP RELAY OUTPUT CIRCUIT SHORT
PARK LAMP RELAY MISSING
PARK LAMP RELAY
PARK LAMP RELAY CTL CKT OPEN
OPEN FUSED B(+) TO PARK RELAY
OPEN B(+)
BCM PARKLAMP CONTROL CIRCUIT SHORTED LOW/OPEN
FUSE #6

TEST	ACTION	APPLICABILITY
1	Check J/B fuse #6. Is fuse #6 open? Yes → Go To 2 No → Go To 3	All
2	Remove the park lamp relay from the Junction Block. Using an ohmmeter measure the park lamp relay output circuit from relay cavity 30 to ground. Is the resistance below 0.6 ohms? Yes → Repair the relay output circuit for a short to ground and replace the fuse if necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the fuse. Perform BODY VERIFICATION TEST - VER 1.	All
3	Looking at the Junction Block, see if the Park Lamp Relay is present. Is the relay present? Yes → Go To 4 No → Install the missing relay. Perform BODY VERIFICATION TEST - VER 1.	All

PARK LAMP RELAY CKT SHORTED LO/OPEN — Continued

TEST	ACTION	APPLICABILITY
4	Install a known good relay in place of the Park Lamp relay. Does the system now operate correctly? Yes → Replace the Parklamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Remove the Park Lamp relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Using an ohmmeter measure the Park Lamp Relay control circuit from relay cavity 86 to the Junction Block Body Control Module connector cavity 1. Was the resistance below 5.0 ohms? Yes → Go To 6 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
6	For the results of this test to be valid, voltage must be present at the Junction Block C5 connector cavity #1. Measure the voltage of the B(+) circuit to fuse #6. Is the voltage above 10.0 volts? Yes → Go To 7 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
7	Remove the Park Lamp Relay from the Junction Block. Measure cavities 85 and 87 (fused B(+)) for the Park Lamp Relay at the Junction Block. Is the voltage above 10.0 volts at both cavities? Yes → Go To 8 No → Replace the junction block. Perform BODY VERIFICATION TEST - VER 1.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

REAR FOG LAMP RELAY CKT OPEN

When Monitored and Set Condition:

REAR FOG LAMP RELAY CKT OPEN

When Monitored: Ignition switch in the On position and the IOD fuse installed.

Set Condition: This DTC sets if the BCM does not detect any voltage on the control circuit.

POSSIBLE CAUSES
JUNCTION BLOCK - REAR FOG LAMP RELAY CONTROL CKT SHORTED TO GROUND
REAR FOG LAMP RELAY OPEN
JUNCTION BLOCK - REAR FOG LAMP RELAY CONTROL CKT OPEN
BODY CONTROL MODULE
INSPECT FUSE #27
JUNCTION BLOCK - FUSED B+ CKT SHORTED TO GROUND
REAR FOG LAMP RELAY SHORTED
REAR FOG LAMP RELAY OUTPUT CIRCUIT SHORTED TO GROUND

TEST	ACTION	APPLICABILITY
1	Remove the Rear Fog Lamp Relay from the Junction Block. Using a 12-volt Test Light connected to ground, probe cavity 85 of the Rear Fog Lamp Relay connector. Is the test light illuminated? Yes → Go To 2 No → Go To 6	All
2	Remove the Rear Fog Lamp Relay from the Junction Block. Turn the ignition on. Using a 12-volt Test Light connected to 12-volts, probe cavity 86 of the Rear Fog Lamp Relay connector. With the DRB enter Body, Body Computer, then Actuator Tests. While monitoring the test light, actuate the Rear Fog Lamp Relay. Does the test light flash on and off as the relay is actuated? Yes → Replace the Rear Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

REAR FOG LAMP RELAY CKT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Remove the Rear Fog Lamp Relay from the Junction Block. Remove the BCM from the Junction Block. Measure the resistance between ground and cavity 86 of the Rear Fog Lamp Relay connector. Is the resistance below 5.0 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Remove the Rear Fog Lamp Relay from the Junction Block. Remove the BCM from the Junction Block. Measure the resistance of the Rear Fog Lamp Relay Control circuit between the Rear Fog Lamp Relay connector cavity 86 and the Junction Block BCM connector cavity 13. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
6	Inspect fuse #27 in the Junction Block. Is the fuse open? Yes → Go To 7 No → Check the B+ feed circuit from the PDC fuse for an open or short. If ok, replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
7	Remove the Rear Fog Lamp Relay from the Junction Block. Turn the ignition off. Measure the resistance between ground and cavity 30 of the Rear Fog Lamp Relay connector. Is the resistance below 5.0 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Turn the ignition off. Remove the Rear Fog Lamp Relay from the Junction Block. Remove the BCM from the Junction Block. Measure the resistance between ground and cavity 86 of the Rear Fog Lamp Relay connector. Is the resistance below 5.0 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All

REAR FOG LAMP RELAY CKT OPEN — Continued

TEST	ACTION	APPLICABILITY
9	Turn the ignition off. Remove the Rear Fog Lamp Relay from the Junction Block. Replace Fuse #27 in the Junction Block with a good fuse. Connect a jumper wire between cavity 30 and cavity 87 of the Rear Fog Lamp Relay connector. Inspect fuse #27 in the Junction Block. Is the fuse open? Yes → Check the Rear Fog Lamp Relay Output circuit for a short to ground. If ok, replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rear Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
REAR FOG RELAY OUTPUT SHORTED HI

When Monitored and Set Condition:

REAR FOG RELAY OUTPUT SHORTED HI

When Monitored: Ignition switch in the On position and the IOD fuse installed.

Set Condition: This condition is set when the BCM is trying to activate the rear fog lamp relay and excessive current is detected on the control circuit.

POSSIBLE CAUSES
REAR FOG LAMP RELAY SHORTED TO VOLTAGE
JUNCTION BLOCK - REAR FOG LAMP RELAY CONTROL CKT SHORTED TO VOLTAGE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Remove the Rear Fog Lamp Relay from the Junction Block. Turn the ignition on. Measure the voltage of the Rear Fog Lamp Relay Control circuit (cavity 86) in the Rear Fog Lamp Relay connector. Is the voltage above 1.0 volt? Yes → Go To 2 No → Replace the Rear Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition off. Remove the Rear Fog Lamp Relay from the Junction Block. Remove the BCM from the Junction Block. Turn the ignition on. Measure the voltage of the Rear Fog Lamp Relay Control circuit (cavity 86) in the Rear Fog Lamp Relay connector. Is the voltage above 1.0 volt? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

***AUTO HEADLAMPS WILL NOT TURN OFF**
***AUTO HEADLAMPS WILL NOT TURN ON**

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be *AUTO HEADLAMPS WILL NOT TURN OFF.

POSSIBLE CAUSES
HEADLAMP SWITCH FUNCTION
AUTOMATIC HEADLAMP LIGHT SENSOR OPEN
ULTRALIGHT SENSOR SIGNAL OPEN
BCM ULTRALIGHT SENSE CIRCUIT OPEN
AUTO HEADLAMP SENSOR CIRCUIT SHORTED
ULTRALIGHT SENSOR SIGNAL SHORTED TO GROUND
BCM ULTRALIGHT SENSE CIRCUIT SHORTED

TEST	ACTION	APPLICABILITY
1	With the DRB III read the ″AUTO HEADLAMP SENSE VOLTS″ under sensors while shinning a shop light on the Auto Headlamp Light sensor and then covering it up. The ″Auto Headlamp Sense″ voltage should change from approximately 0.0 to 5.0 volts, Choose outcome. A. Voltage in range Go To 2 B. Stays above 4.8 volts Go To 3 C. Stays below 0.5 volts Go To 7	All
2	With the DRB III under Body sensors, read the HEADLAMP SW VOLTS. Move the Headlamp switch to the different modes and compare the values to values shown. Headlamp switch OFF 4.4 VOLTS Parking lamps ON 3.2 VOLTS Headlamps ON 2.0 VOLTS Auto headlamps ON 0.6 VOLTS Do the values on the the DRB match. Yes → Test Complete. No → Replace the Left Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1.	All

*AUTO HEADLAMPS WILL NOT TURN OFF — Continued

TEST	ACTION	APPLICABILITY
3	With the DRB III under Body sensors, read the HEADLAMP SW VOLTS. Move the Headlamp switch to the different modes and compare the values to values shown. Headlamp switch OFF 4.4 VOLTS Parking lamps ON 3.2 VOLTS Headlamps ON 2.0 VOLTS Auto headlamps ON 0.6 VOLTS Do the values on the the DRB match. Yes → Go To 4 No → Replace the Left Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Automatic headlamp light sensor/VTSS led 4-way connector. Connect a jumper from the ultra light sensor signal ckt to the ultra light sensor return ckt. With the DRB III in sensors read Auto head sensor volts. Does the DRB III show Auto head sensor volts under .5 volts? Yes → Replace the Automatic Headlamp Light Sensor/VTSS LED. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the Auto headlamp light sensor 4-way connector. Disconnect the BCM C2 connector. Using an ohmmeter measure the ultralight sense circuit from the Auto headlamp light sensor 4-way to the BCM C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the open Ultralight Sensor Signal circuit. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
7	With the DRB III under Body sensors, read the HEADLAMP SW VOLTS. Move the Headlamp switch to the different modes and compare the values to values shown. Headlamp switch OFF 4.4 VOLTS Parking lamps ON 3.2 VOLTS Headlamps ON 2.0 VOLTS Auto headlamps ON 0.6 VOLTS Do the values on the the DRB match. Yes → Go To 8 No → Replace the Left Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1.	All
8	Disconnect the Automatic headlamp light sensor/VTSS led 4-way connector. With the DRB III in sensors read Auto Headlamp sensor volts. Does the DRB III display Auto Headlamp sensor above 4.8 volts? Yes → Replace the Auto Headlamp Light Sensor/VTSS LED. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All

*AUTO HEADLAMPS WILL NOT TURN OFF — Continued

TEST	ACTION	APPLICABILITY
9	Disconnect the Auto headlamp light sensor 4-way connector. Disconnect the BCM C2 connector. Using an ohmmeter measure the ultralight sense signal circuit from the Auto headlamp light sensor 4-way to ground. Is the resistance below 5.0 ohms? Yes → Repair the Ultralight Sensor Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 10	All
10	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*FLASH TO PASS INOPERATIVE

POSSIBLE CAUSES
JUNCTION BLOCK HIGH BEAM RELAY CONTROL OPEN
LEFT MULTI-FUNCTION SWITCH
HIGH BEAM RELAY CONTROL CIRCUIT OPEN TO LEFT MULTI-FUNCTION SWITCH

TEST	ACTION	APPLICABILITY
1	The High Beam Headlamps must be operational for the result of this test to be valid. Disconnect the Left Multi-Function switch harness connector. Measure the voltage of the High Beam Relay control circuit in the Left Multi-Function switch connector. Is the voltage above 10.0 volts? Yes → Replace the Left Multi-Function Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn ignition off. Disconnect the left multi-function switch connector. Disconnect the Junction Block C-3 harness connector. Using an ohmmeter measure the High Beam Relay control circuit from the left multi-function switch connector to the Junction Block C-3 connector. Was the resistance below 5.0 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Repair the High Beam Relay Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***FOG LAMPS WILL NOT TURN OFF**

POSSIBLE CAUSES
FOG LAMP RELAY
JUNCTION BLOCK
FOG LAMP RELAY OUTPUT CIRCUIT SHORT TO BATTERY
FOG LAMP SWITCH SENSE SHORTED
FOG LAMP SWITCH OPEN/SHORTED
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRB III under Body Input/Outputs, read the Fog lamp switch state while turning the Fog lamp switch on and off. Did the fog lamp switch state change? Yes → Go To 2 No → Go To 4	All
2	Install a known good relay in place of the Fog Lamp relay. Does the system now operate correctly? Yes → Replace the Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Junction Block C-2 harness connector. Did the fog lamps turn off? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Relay Output circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the left multi-function switch connector if not already disconnected. Disconnect the BCM C2 connector Measure the fog lamp switch sense circuit to ground at the left multi-function switch connector. Is the resistance below 5.0 ohms? Yes → Repair the Fog Lamp Switch Sense for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All

*FOG LAMPS WILL NOT TURN OFF — Continued

TEST	ACTION	APPLICABILITY
5	Disconnect the left multi-function switch connector. With the DRB III under Body Input Outputs read the Fog Lamp switch state while connecting a jumper from the Fog lamp switch sense to the Headlamp switch return at the left multifunction Did the fog lamp switch state change? Yes → Replace the Left Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***FOG LAMPS WILL NOT TURN ON**

POSSIBLE CAUSES
JUNCTION BLOCK FOG LAMP RELAY OUTPUT CIRCUIT
FOG LAMP SWITCH SENSE SHORTED
OPEN B(+)
FOG LAMP RELAY OUTPUT CKT OPEN
FOG LAMP RELAY
FOG LAMP RELAY CTL CKT OPEN
FOG LAMP RELAY CTL CKT SHORTED TO GROUND
BCM FOG LAMP RELAY CONTROL
BCM FOG LAMP SENSE SHORTED
FOG LAMP SWITCH OPEN/SHORTED
FOG LAMP RELAY OUTPUT WIRE SHORT TO GROUND
FUSE #24

TEST	ACTION	APPLICABILITY
1	With the DRB III under Body Input Outputs read the Fog lamp switch state while turning the Fog lamp switch on and off. Did the fog lamp switch state change? Yes → Go To 2 No → Go To 11	All
2	Check Junction Block fuse #24. Is fuse #24 open? Yes → Go To 3 No → Go To 5	All
3	Remove the fog lamp relay from the Junction Block. Using an ohmmeter measure the fog lamp relay output circuit from relay cavity 87 to ground. Is the resistance below 0.5 ohms? Yes → Go To 4 No → Replace the fuse. Perform BODY VERIFICATION TEST - VER 1.	All

*FOG LAMPS WILL NOT TURN ON — Continued

TEST	ACTION	APPLICABILITY
4	Remove the fog lamp relay from the Junction Block. Disconnect the Junction Block C2 connector. Using an ohmmeter measure the fog lamp relay output circuit from relay cavity 87 to ground. Is the resistance below 0.5 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Repair the relay output wire for a short to ground and replace the fuse if necessary. Perform BODY VERIFICATION TEST - VER 1.	All
5	For the results of this test to be valid, voltage must be present at the Junction Block C5 connector cavity 3. Measure the voltage of the B(+) circuit to fuse #24. Is the voltage above 10.0 volts? Yes → Go To 6 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
6	Install a known good relay in place of the Fog Lamp relay. Does the system now operate correctly? Yes → Replace the Fog Lamp relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Remove the Fog Lamp relay from the Junction Block. Disconnect a Fog Lamp bulb connector. Using an ohmmeter measure the Fog Lamp relay output circuit from relay cavity 87 to the fog lamp bulb connector. Is the resistance below 0.5 ohms? Yes → Go To 8 No → Repair the open fog lamp relay output circuit. Perform BODY VERIFICATION TEST - VER 1.	All
8	Remove the Fog Lamp Relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Using an ohmmeter measure the Fog Lamp Relay control circuit from relay cavity 86 to the Junction Block Body Control Module connector cavity 2. Was the resistance below 5.0 ohms? Yes → Go To 9 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
9	Remove the fog lamp relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Using an ohmmeter measure the Fog Lamp Relay control ckt cavity 86 to ground at the Junction Block. Was the resistance below 10 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Go To 10	All

*FOG LAMPS WILL NOT TURN ON — Continued

TEST	ACTION	APPLICABILITY
10	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
11	Disconnect the left multi-function switch connector. With the DRBIII® under Body Input Outputs read the Fog Lamp switch state while connecting a jumper from the Fog Lamp Switch Sense to the Headlamp switch return at the left multi-function switch connector. Did the fog lamp switch state change? Yes → Replace the Left Multi-function switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 12	All
12	Disconnect the left multi-function switch connector if not already disconnected. Disconnect the BCM C2 connector Measure the Fog Lamp switch sense circuit to ground at the left multi-function switch connector. Is the resistance below 5.0 ohms? Yes → Repair the Fog lamp switch sense for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 13	All
13	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***HIGH BEAM HEADLAMPS WILL NOT TURN OFF**

POSSIBLE CAUSES
HIGH BEAM RELAY CONTROL WIRE SHORT TO GROUND
JUNCTION BLOCK HIGH BEAM CONTROL SHORT TO GROUND
LEFT MULTI-FUNCTION SWITCH FLASH TO PASS CIRCUIT
LEFT MULTI-FUNCTION SWITCH HIGH BEAM SENSE CIRCUIT SHORTED
HIGH BEAM RELAY OUTPUT SHORTED B+
HIGH BEAM RELAY
HIGH BEAM SWITCH SENSE SHORTED
BCM DEF HIGH BEAM SWITCH SENSE SHORTED
BCM HIGH BEAM RELAY CONTROL SHORTED

TEST	ACTION	APPLICABILITY
1	With the DRBIII® under Body Input Outputs, read the High beam switch state while turning the High Beam switch on and off. Did the high beam switch state change? Yes → Go To 2 No → Go To 7	All
2	Install a known good relay in place of the High Beam relay. Does the system now operate correctly? Yes → Replace the High Beam relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Remove the High beam relay from the junction block. Are the High beam lamps still on? Yes → Repair the High beam relay output for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn ignition off. Remove the High Beam Relay from the Junction Block. Remove the Body Control Module from the Junction Block. Measure the resistance of the High Beam Relay Control circuit to ground at the relay connector. Is the resistance below 10.0 ohms? Yes → Go To 5 No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

*HIGH BEAM HEADLAMPS WILL NOT TURN OFF — Continued

TEST	ACTION	APPLICABILITY
5	Disconnect the left multi-function switch connector. Measure the resistance of the High Beam Relay Control circuit between the relay connector and ground. Is the resistance below 10.0 ohms? Yes → Go To 6 No → Replace the left multi-function switch. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Junction Block C3 connector. Measure the resistance of the High Beam Relay Control circuit between the relay connector and ground. Is the resistance below 10.0 ohms? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Repair the High Beam Relay Control wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
7	Disconnect the left multi-function switch connector. Did the High Beam Lamps turn off? Yes → Replace the left multi-function switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Disconnect the left multi-function switch connector if not already disconnected. Disconnect the BCM C2 connector Measure the high beam switch sense circuit to ground at the left multi-function switch connector. Is the resistance below 5.0 ohms? Yes → Repair the high beam switch sense 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:

***HIGH BEAM HEADLAMPS WILL NOT TURN ON**

POSSIBLE CAUSES
FUSED HIGH BEAM RELAY OUTPUT SHORT TO GROUND
HIGH BEAM RELAY OUTPUT CKT OPEN
OPEN FUSED B(+)
HIIGH BEAM RELAY
FUSES
HIGH BEAM SWITCH SENSE OPEN
HIGH BEAM RELAY CONTROL CIRCUIT OPEN
BCM HIGH BEAM CONTROL CIRCUIT
BCM HIGH BEAM SWITCH SENSE OPEN
JUMPER HIGH BEAM SWITCH SENSE TO GROUND

TEST	ACTION	APPLICABILITY
1	With the DRB III under Body Input Outputs read the High beam switch state while turning the high beam switch on and off. Did the high beam switch state change? Yes → Go To 2 No → Go To 9	All
2	Check Junction Block fuses #3 and #16. Are the fuses open? Yes → Go To 3 No → Go To 4	All
3	Using an ohmmeter measure the fused high Beam relay output circuit from the #3 fuse and then the #16 fuse to ground. Is the resistance below 0.4 ohms? Yes → Repair the fused high beam relay output for a short to ground and replace the fuse if necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the fuse(s). Perform BODY VERIFICATION TEST - VER 1.	All
4	Install a known good relay in place of the High Beam relay. Does the system now operate correctly? Yes → Replace the High Beam relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All

*HIGH BEAM HEADLAMPS WILL NOT TURN ON — Continued

TEST	ACTION	APPLICABILITY
5	For the results of this test to be valid, voltage must present at the Junction Block C5 connector cavity #1. Measure the voltage of the fused B(+) circuits to High Beam relay cavities #30 and #85. Is the voltage above 10.0 volts at both cavities? Yes → Go To 6 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
6	Remove the High Beam relay from the Junction Block. Using an ohmmeter measure the High Beam relay output circuit from relay cavity 87 to the right high beam fuse #16 and then the left high beam fuse #3 in the Junction Block. Is the resistance below 5.0 ohms from cavity 87 to both high beam fuses? Yes → Go To 7 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
7	Remove the High Beam relay from the Junction Block. Turn ignition off. Remove the Body Control Module from the Junction Block. Measure the High Beam Relay control circuit from relay cavity to the Junction Block Body Control Module connector. Was the resistance below 5.0 ohms? Yes → Go To 8 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
9	Disconnect the Left-Multifunction switch. With the DRBIII® under Body Input Outputs read the High beam switch state while jumping the high beam switch sense to ground. Did the high beam switch state change? Yes → Replace the Left-Multifunction switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 10	All
10	Disconnect the left multi-function switch connector if not already disconnected. Disconnect the BCM C2 connector Measure the High beam switch sense circuit from the left multi-function switch connector to the BCM C2 connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open High beam switch sense circuit. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***LOW BEAM HEADLAMPS WILL NOT TURN OFF**

POSSIBLE CAUSES
LOW BEAM RELAY
LOW BEAM RELAY OUTPUT SHT B(+)
LOW BEAM RELAY CTL CKT SHORTED TO GROUND
HEADLAMP SWITCH FUNCTION
BCM LOW BEAM LAMPS WILL NOT TURN OFF

TEST	ACTION	APPLICABILITY
1	With the DRBIII® under Body sensors read the HEADLAMP SW VOLTS. Move the Headlamp switch to the different modes and compare the values to values shown. Headlamp switch OFF 4.4 VOLTS Parking lamps ON 3.2 VOLTS Headlamps ON 2.0 VOLTS Auto headlamps ON 0.6 VOLTS Do the values on the the DRB match. Yes → Go To 2 No → Replace the left multifunction switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	Install a known good relay in place of the Low Beam relay. Does the system now operate correctly? Yes → Replace the Low Beam relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Remove the low beam relay from the Junction Block. Did the lamps turn off? Yes → Go To 4 No → Repair the low beam relay output circuit for a short to battery Perform BODY VERIFICATION TEST - VER 1.	All
4	Reinstall the Low Beam Relay if previously removed. Turn ignition off. Remove the Body Control Module from the Junction Block. Turn the ignition on. Did the low beam headlamps turn off? Yes → Go To 5 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***LOW BEAM HEADLAMPS WILL NOT TURN ON**

POSSIBLE CAUSES
HEADLAMP SWITCH FUNCTION
LOW BEAM RELAY
LOW BEAM RELAY OUTPUT CKT OPEN
FUSE
LOW BEAM RELAY OUTPUT CKT SHORTED
BCM HEADLAMP MUX INOP

TEST	ACTION	APPLICABILITY
1	Check Junction Block fuses #14 and #15. Is one or both fuses open? Yes → Go To 2 No → Go To 3	All
2	Remove the Low Beam relay from the Junction Block. Remove both of the Low Beam relay fuses #14 and #15. Using an ohmmeter measure the Low Beam relay output circuit from relay cavity 87 to ground. Is the resistance below 0.4 ohms? Yes → Repair the relay output circuit for a short to ground and replace the fuse if necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the fuse. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRB III under Body sensors, read the HEADLAMP SW VOLTS. Move the Headlamp switch to the different modes and compare the values to values shown. Headlamp switch OFF 4.4 VOLTS Parking lamps ON 3.2 VOLTS Headlamps ON 2.0 VOLTS Auto headlamps ON 0.6 VOLTS Do the values on the the DRB match. Yes → Go To 4 No → Replace the left multifunction switch. Perform BODY VERIFICATION TEST - VER 1.	All
4	Install a known good relay in place of the Low Beam relay. Does the system now operate correctly? Yes → Replace the Low Beam relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All

*LOW BEAM HEADLAMPS WILL NOT TURN ON — Continued

TEST	ACTION	APPLICABILITY
5	Remove the Low Beam relay from the Junction Block. Ensure fuses #14 and #15 are installed in the Junction Block. Using an ohmmeter measure the Low Beam relay output circuit from relay cavity 87 to either the right or left front lighting module connectors. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***PARK LAMPS WILL NOT TURN OFF**

POSSIBLE CAUSES
HEADLAMP SWITCH FUNCTION
PARK LAMP RELAY
PARK LAMP OUTPUT SHT B(+)
PARK LAMP RELAY CTL CKT SHORTED TO GROUND
BCM PARK LAMP CONTROL CKT

TEST	ACTION	APPLICABILITY
1	With the DRBIII® under Body sensors read the HEADLAMP SW VOLTS. Move the Headlamp switch to the different modes and compare the values to values shown. Headlamp switch OFF 4.4 VOLTS Parking lamps ON 3.2 VOLTS Headlamps ON 2.0 VOLTS Auto headlamps ON 0.6 VOLTS Do the values on the the DRB match. Yes → Go To 2 No → Replace the left multifunction switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	Install a known good relay in place of the park lamp relay. Does the system now operate correctly? Yes → Replace the parklamp relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Remove the Park Lamp relay from the Junction Block. Did the lamps turn off? Yes → Go To 4 No → Repair the park lamp relay output circuit for a short to battery Perform BODY VERIFICATION TEST - VER 1.	All
4	Install the park lamp relay if removed in previous test. Turn ignition off. Remove the Body Control Module from the Junction Block. Turn ignition on. Did the park lamps turn off? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*PARK LAMPS WILL NOT TURN ON

POSSIBLE CAUSES
CHECK BCM FOR DTCS
HEADLAMP SWITCH FUNCTION
PARK LAMP RELAY
PARK LAMP RELAY OUTPUT CKT OPEN
BCM HEADLAMP MUX INOP

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® check the BCM for any DTCs. Are any DTCs set? Yes → Refer to symptom list and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRBIII® under Body sensors read the HEADLAMP SW VOLTS. Move the Headlamp switch to the different modes and compare the values to values shown. Headlamp switch ″OFF″ 4.4 VOLTS Parking lamps ″ON″ 3.2 VOLTS Headlamps ″ON″ 2.0 VOLTS Auto headlamps ″ON″ 0.6 VOLTS Do the values on the the DRB match. Yes → Go To 3 No → Replace the left multifunction switch. Perform BODY VERIFICATION TEST - VER 1.	All
3	Install a known good relay in place of the park lamp relay. Does the system now operate correctly? Yes → Replace the parklamp relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Remove the park lamp relay from the Junction Block. Disconnect the appropriate lighting module connector. Using an ohmmeter measure the park lamp relay output circuit from relay cavity 30 to the appropriate lighting module connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open park lamp relay output circuit. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***REAR FOG LAMPS WILL NOT TURN OFF**

POSSIBLE CAUSES
CHECK BCM FOR DTCS
CHECK THE LEFT MULTI-FUNCTION SWITCH OPERATION
REAR FOG LAMP RELAY
BODY CONTROL MODULE
JUNCTION BLOCK - REAR FOG LAMP RELAY OUTPUT CIRCUIT SHORTED TO GROUND
REAR FOG LAMP RELAY OUTPUT CIRCUIT SHORTED TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII® check the BCM for any DTCs. Are any DTCs set? Yes → Refer to symptom list and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the Left Multi-Function Switch to the off position. With the DRBIII® enter Body Computer sensors and monitor the Headlamp SW voltage. Does the DRB display voltage at approximately 0.6 volts? Yes → Replace the Left Multi-Function Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Install a substitute relay in place of the Rear Fog Lamp Relay. **Note: Ensure the Left Multi-Function Switch is in the off position.** Did the Rear Fog Lamps turn off? Yes → Replace the Rear Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Remove the BCM from the Junction Block. Did the rear fog lamps turn off? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All

*REAR FOG LAMPS WILL NOT TURN OFF — Continued

TEST	ACTION	APPLICABILITY
5	Disconnect the Junction Block C1 harness connector. Did the rear fog lamps turn off? Yes → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Rear Fog Lamp Relay Output circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***REAR FOG LAMPS WILL NOT TURN ON**

POSSIBLE CAUSES
CHECK BCM FOR DTCS
CHECK THE LEFT MULTI-FUNCTION SWITCH OPERATION
JUNCTION BLOCK - FUSED B+ CIRCUIT OPEN
REAR FOG LAMP RELAY
REAR FOG LAMP RELAY OUTPUT CIRCUIT OPEN
JUNCTION BLOCK - REAR FOG LAMP RELAY OUTPUT CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB check the BCM for any DTCs. Are any DTCs set? Yes → Refer to symptom list and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the Left Multi-Function Switch to the rear fog lamp position. With the DRB enter Body, Body Computer, then sensors and monitor the Headlamp Sw voltage. Does the DRB display voltage at approximately 0.6 volts? Yes → Go To 3 No → Replace the Left Multi-Function Switch. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the Rear Fog Lamp Relay from the Junction Block. Using a 12-volt Test Light connected to ground, probe cavity 30 of the Rear Fog Lamp Relay connector. Is the test light illuminated? Yes → Go To 4 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
4	Install a substitute relay in place of the Rear Fog Lamp Relay. Turn the Rear Fog Lamps on. Did the Rear Fog Lamps turn on? Yes → Replace the Rear Fog Lamp Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All

*REAR FOG LAMPS WILL NOT TURN ON — Continued

TEST	ACTION	APPLICABILITY
5	Turn the Rear Fog Lamps on. Using a 12-volt Test Light connected to ground, backprobe the Rear Fog Lamp Relay Output circuit at the Junction Block C1 connector cavity 5. Is the test light illuminated? Yes → Repair the Rear Fog Lamp Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Remove the BCM from the Junction Block. Connect a jumper wire between ground and the J/B BCM connector cavity 13 (Junction Block side). Do the Rear Fog Lamps turn on when the jumper wire is connected? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
AMBIENT AIR TEMP FAILURE (AZC) (ACTIVE)

When Monitored and Set Condition:

AMBIENT AIR TEMP FAILURE (AZC) (ACTIVE)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: When an outside air temperature signal is expected is not received in the maximum allowed time.

POSSIBLE CAUSES
AZC - AMBIENT AIR TEMP SENSOR
AMBIENT AIR TEMP FAILURE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **Note: Ensure the DRB is capable of communicating with the BCM before continuing.** With the DRB, enter Body, Automatic Temp Control, Monitor Display then PCI Bus Info and observe the outside air temp display. Is the correct Outside Air Temp displayed? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the Overhead Console category and perform the symptom related to the ambient air temperature sensor. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
AMBIENT AIR TEMP FAILURE (AZC) (STORED)

When Monitored and Set Condition:

AMBIENT AIR TEMP FAILURE (AZC) (STORED)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: When an outside air temperature signal is expected is not received in the maximum allowed time.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. Manually press the recirculation mode switch on, wait 30 seconds then press it off. Manually press the A/C mode switch on, wait 30 seconds then press it off. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BLOWER SELECT SW OPEN (AZC) (ACTIVE)

When Monitored and Set Condition:

BLOWER SELECT SW OPEN (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC reads the blower switch value and it is above 250 A/D counts.

POSSIBLE CAUSES
BLOWER MOTOR SWITCH FAILED OPEN

TEST	ACTION	APPLICABILITY
1	When this code is present the AZC Module must be replaced. View repair Repair Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

BLOWER SELECT SW OPEN (AZC) (STORED)

When Monitored and Set Condition:

BLOWER SELECT SW OPEN (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC reads the blower switch value and it is above 250 A/D counts.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. Manually press the recirculation mode switch on, wait 30 seconds then press it off. Manually press the A/C mode switch on, wait 30 seconds then press it off. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
BLOWER SELECT SW SHORTED (AZC) (ACTIVE)

When Monitored and Set Condition:

BLOWER SELECT SW SHORTED (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC reads the blower switch value and it is below 5 A/D counts.

POSSIBLE CAUSES
BLOWER MOTOR SWITCH FAILED SHORTED

TEST	ACTION	APPLICABILITY
1	When this code is present the AZC Module must be replaced. View repair Repair Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

BLOWER SELECT SW SHORTED (AZC) (STORED)

When Monitored and Set Condition:

BLOWER SELECT SW SHORTED (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC reads the blower switch value and it is below 5 A/D counts.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
CAL CHECKSUM FAILURE (AZC) (ACTIVE)

When Monitored and Set Condition:

CAL CHECKSUM FAILURE (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed after a battery disconnect.

Set Condition: This condition is set if the calibrated check sum does not match the stored value.

POSSIBLE CAUSES
AZC - CAL CHECKSUM FAILURE

TEST	ACTION	APPLICABILITY
1	When this code is present the AZC Module must be replaced. View repair Repair Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

CAL CHECKSUM FAILURE (AZC) (STORED)

When Monitored and Set Condition:

CAL CHECKSUM FAILURE (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed after a battery disconnect.

Set Condition: This condition is set if the calibrated check sum does not match the stored value.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
COUNTRY CODE FAILURE (AZC) (ACTIVE)

When Monitored and Set Condition:

COUNTRY CODE FAILURE (AZC) (ACTIVE)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the country code message within 8 seconds.

POSSIBLE CAUSES
COUNTRY CODE FAILURE
PROGRAM COUNTRY CODE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body, Body Computer then Module Display and observe the country code. Compare the country code to the VIN. Does the country code match the VIN? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Program the correct country code into the BCM and retest vehicle. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
COUNTRY CODE FAILURE (AZC) (STORED)

When Monitored and Set Condition:

COUNTRY CODE FAILURE (AZC) (STORED)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the country code message within 8 seconds.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DEFECTIVE I/R SENSOR (AZC) (ACTIVE)

When Monitored and Set Condition:

DEFECTIVE I/R SENSOR (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC cannot read the I/R sensor values and or the I/R sensor values are not within a defined range of the HVAC air door motor counts.

POSSIBLE CAUSES
AZC - DEFECTIVE I/R SENSOR

TEST	ACTION	APPLICABILITY
1	When this code is present the AZC Module must be replaced. View repair Repair Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

DEFECTIVE I/R SENSOR (AZC) (STORED)

When Monitored and Set Condition:

DEFECTIVE I/R SENSOR (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC cannot read the I/R sensor values and or the I/R sensor values are not within a defined range of the HVAC air door motor counts.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER BLEND DOOR NOT RESPONDING (AZC) (ACTIVE)

When Monitored and Set Condition:

DRIVER BLEND DOOR NOT RESPONDING (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC does not receive feedback pulses within 5 seconds of the drive voltage being applied.

POSSIBLE CAUSES
DRIVER CIRCUIT (B) SHORTED TO GROUND
DRIVER CIRCUIT (A) SHORTED TO GROUND
DRIVER CIRCUITS (A) AND (B) SHORTED TOGETHER
AZC MODULE DRIVER BLEND DOOR NOT RESPONDING
DRIVER CIRCUIT (A) OPEN
DRIVER CIRCUIT (B) OPEN
DRIVER BLEND DOOR MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Driver Blend Door Motor/Actuator harness connector. Disconnect the AZC module C1 and C2 harness connectors. Measure the resistance between ground and the Driver Blend Door Driver (B) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Driver Blend Door Driver (B) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Driver Blend Door Motor/Actuator harness connector. Disconnect the AZC module C1 and C2 harness connectors. Measure the resistance between ground and the Driver Blend Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Driver Blend Door Driver (A) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

DRIVER BLEND DOOR NOT RESPONDING (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Blend Door Motor/Actuator harness connector. Disconnect the AZC module C1 and C2 harness connectors. Measure the resistance between the Driver Blend Door Driver (B) circuit and the Driver Blend Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Driver Blend Door Driver (B) circuit for a short to the Driver Blend Door Driver (A) circuit. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Driver Blend Door Motor/Actuator harness connector. Disconnect the AZC module C1 and C2 harness connectors. Measure the resistance of the Driver Blend Door Driver (A) circuit between the AZC Module C1 connector and the Driver Blend Door Motor/Actuator connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Driver Blend Door Driver (A) circuit for an open. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Driver Blend Door Motor/Actuator harness connector. Disconnect the AZC module C1 and C2 harness connectors. Measure the resistance of the Driver Blend Door Driver (B) circuit between the AZC Module C2 connector and the Driver Blend Door Motor/Actuator connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Driver Blend Door Driver (B) circuit for an open. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Make sure that the Driver Blend Door Motor harness connector is connected to the Driver Blend Door Motor. Disconnect the AZC module C1 and C2 harness connectors. Measure the resistance between the Driver Blend Door Driver (B) circuit and the Driver Blend Door Driver (A) circuit. Is the resistance between 26.0 and 46.0 ohms? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Driver Blend Door Motor. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER BLEND DOOR NOT RESPONDING (AZC) (STORED)

When Monitored and Set Condition:

DRIVER BLEND DOOR NOT RESPONDING (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC does not receive feedback pulses within 5 seconds of the drive voltage being applied.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER BLEND DOOR RANGE TOO LARGE (AZC) (ACTIVE)

When Monitored and Set Condition:

DRIVER BLEND DOOR RANGE TOO LARGE (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is greater than expected.

POSSIBLE CAUSES
CHECK THE AZC MODULE FOR DTCS
DRIVER CIRCUIT (B) SHORTED TO GROUND
DRIVER CIRCUIT (A) SHORTED TO GROUND
DRIVER BLEND DOOR MOTOR
DRIVER BLEND DOOR MOTOR
CHECK BLEND DOOR LINKAGE
AZC MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read the active AZC DTC's. Is the Driver Blend Door Not Responding DTC set? Yes → Refer to the Heating and A/C category and perform the symptom Driver Blend Door Not Responding. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Driver Blend Door Motor/Actuator harness connector. Disconnect the AZC module C1 and C2 harness connectors. Measure the resistance between ground and the Driver Blend Door Driver (B) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Driver Blend Door Driver (B) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

DRIVER BLEND DOOR RANGE TOO LARGE (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Driver Blend Door Motor/Actuator harness connector. Disconnect the AZC module C1 and C2 harness connectors. Measure the resistance between ground and the Driver Blend Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Driver Blend Door Driver (A) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Remove the Driver Blend Door Motor/Actuator from the vehicle. By hand, attempt to rotate the driver blend door motor in both directions. Did the blend door motor turn in either direction? Yes → Replace the Driver Blend Door Motor. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Remove the Driver Blend Door Motor from the vehicle. Rotate the blend door (door only), this should rotate approximately 45 degrees from stop to stop. Inspect the blend door linkage for excessive wear or missing linkage. Were any mechanical problems found? Yes → Repair or replace the blend door/linkage as necessary. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER BLEND DOOR RANGE TOO LARGE (AZC) (STORED)

When Monitored and Set Condition:

DRIVER BLEND DOOR RANGE TOO LARGE (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is greater than expected.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER BLEND DOOR RANGE TOO SMALL (AZC) (ACTIVE)

When Monitored and Set Condition:

DRIVER BLEND DOOR RANGE TOO SMALL (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is less than expected.

POSSIBLE CAUSES
CHECK THE AZC MODULE FOR DTCS
CHECK THE AZC SIGNAL TOO DRIVER BLEND DOOR
OBSTRUCTED BLEND DOOR
DRIVER BLEND DOOR MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read the active AZC DTC's. Is the Driver Blend Door Not Responding DTC set? Yes → Refer to the Heating and A/C category and perform the symptom Driver Blend Door Not Responding. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Driver Blend Door Motor/Actuator harness connector. Connect a 12-volt Test Light across the Driver Blend Door Motor/Actuator harness connector. Turn the ignition on. While monitoring the test light, turn the driver blend control knob 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 AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

DRIVER BLEND DOOR RANGE TOO SMALL (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Driver Blend Door Motor from the vehicle. Rotate the blend door (door only), this should rotate approximately 45 degrees from stop to stop. Does the blend door move smoothly in both directions? Yes → Replace the Driver Blend Door Motor/Actuator. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Repair or replace the blend door as necessary. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DRIVER BLEND DOOR RANGE TOO SMALL (AZC) (STORED)

When Monitored and Set Condition:

DRIVER BLEND DOOR RANGE TOO SMALL (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is less than expected.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

ENGINE COOLANT RESPONSE FAILURE (AZC) (ACTIVE)

When Monitored and Set Condition:

ENGINE COOLANT RESPONSE FAILURE (AZC) (ACTIVE)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the engine coolant response message within 8 seconds.

POSSIBLE CAUSES
CHECK THE PCM FOR ANY DTCS
OBSERVE THE ECT DISPLAY IN THE INSTRUMENT CLUSTER
AUTOMATIC ZONE CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB check the PCM for any DTCs. Are any DTCs present? Yes → Refer to the Powertrain Diagnostic Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRB, enter Body, Electro/Mech Cluster (MIC), Monitor Display then PCI Bus Engine Info and monitor the engine coolant temperature display. Does the DRB display approximately the correct engine coolant temperature? Yes → Go To 3 No → Replace and program the Powertrain Control Module in accordance with the Service Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRB, erase the AZC DTC's. Turn the ignition on, wait 1 minute, then check for any AZC DTCs. Did this DTC reset? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
ENGINE COOLANT RESPONSE FAILURE (AZC) (STORED)

When Monitored and Set Condition:

ENGINE COOLANT RESPONSE FAILURE (AZC) (STORED)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the engine coolant response message within 8 seconds.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

ENGINE RPM FAILURE (AZC) (ACTIVE)

When Monitored and Set Condition:

ENGINE RPM FAILURE (AZC) (ACTIVE)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the engine RPM response message within 8 seconds.

POSSIBLE CAUSES
CHECK THE PCM FOR ANY DTCS
OBSERVE THE RPM DISPLAY IN THE INSTRUMENT CLUSTER
AUTOMATIC ZONE CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB check the PCM for any DTCs. Are any DTCs present? Yes → Refer to the Powertrain Diagnostic Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRB, enter Body, Electro/Mech Cluster (MIC), Monitor Display then PCI Bus Engine Info and monitor the engine RPM display. Start the engine. Does the DRB display approximately the correct engine RPM? Yes → Go To 3 No → Replace and program the Powertrain Control Module in accordance with the Service Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRB, erase the AZC DTC's. Start the engine, wait 1 minute, then check for any AZC DTCs. Did this DTC reset? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
ENGINE RPM FAILURE (AZC) (STORED)

When Monitored and Set Condition:

ENGINE RPM FAILURE (AZC) (STORED)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the engine RPM response message within 8 seconds.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
EVAP TEMP SENSOR OPEN (MTC & AZC)

When Monitored and Set Condition:

EVAP TEMP SENSOR OPEN (MTC & AZC)

When Monitored: With the ignition on.

Set Condition: This DTC is displayed if the BCM detects an abnormally high voltage on the Evaporator Temperature Sensor Signal circuit.

POSSIBLE CAUSES
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORTED TO VOLTAGE
BODY CONTROL MODULE
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT OPEN
SENSOR GROUND CIRCUIT OPEN
EVAPORATOR TEMPERATURE SENSOR
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase all BCM DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the BCM DTC's. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 6	All
2	Turn the ignition off. Disconnect the BCM C2 harness connector. Turn the ignition on. Measure the voltage of the Evaporator Temperature Sensor Signal circuit. Is there any voltage present? Yes → Repair the Evaporator Temperature Sensor Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

EVAP TEMP SENSOR OPEN (MTC & AZC) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the BCM C2 harness connector. Measure the resistance between the Evaporator Temperature Sensor Signal circuit and the Sensor Ground circuit. The approximate circuit resistance should be: 2,874 ohms @ 38°C (100°F). 3,214 ohms @ 35°C (95°F). 3,659 ohms @ 32°C (90°F). 4,125 ohms @ 29°C (85°F). 4,615 ohms @ 27°C (80°F). 5,238 ohms @ 24°C (75°F). 5,902 ohms @ 21°C (70°F). 6,733 ohms @ 18°C (65°F). 7,633 ohms @ 16°C (60°F). 8,611 ohms @ 13°C (55°F). 9,838 ohms @ 10°C (50°F). 11,199 ohms @ 7°C (45°F). 13,125 ohms @ 4°C (40°F). 14,883 ohms @ 2°C (35°F). 17,143 ohms @ -1°C (30°F). Is the resistance within the specifications? 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
4	Turn the ignition off. Disconnect the BCM C2 harness connector. Disconnect the Evaporator Temperature Sensor harness connector. Measure the resistance of the Evaporator Temperature Sensor Signal circuit between the BCM C2 harness connector and the Evaporator Temperature Sensor harness connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Evaporator Temperature Sensor Signal circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the BCM C2 harness connector. Disconnect the Evaporator Temperature Sensor harness connector. Measure the resistance of the Sensor Ground circuit between the BCM C2 harness connector and the Evaporator Temperature Sensor harness connector. Is the resistance below 5.0 ohms? Yes → Rplace the Evaporator Temperature Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

EVAP TEMP SENSOR OPEN (MTC & AZC) — Continued

TEST	ACTION	APPLICABILITY
6	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:
EVAP TEMP SENSOR SHORTED (MTC & AZC)

When Monitored and Set Condition:

EVAP TEMP SENSOR SHORTED (MTC & AZC)

When Monitored: With the ignition on.

Set Condition: This DTC is displayed if the BCM detects an abnormally low voltage on the Evaporator Temperature Sensor Signal circuit.

POSSIBLE CAUSES
EVAPORATOR TEMPERATURE SENSOR
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO GROUND
EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO SENSOR GROUND CIRCUIT
BODY CONTROL MODULE
WIRING HARNESS INSPECTION

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase all BCM DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the BCM DTC's. Does the DRBIII® display this DTC? Yes → Go To 2 No → Go To 5	All
2	Turn the ignition off. Disconnect the Evaporator Temperature Sensor harness connector. Turn the ignition on. With the DRBIII®, erase all BCM DTC's. Cycle the ignition switch from off to on and wait 10 seconds. With the DRBIII®, read the BCM DTC's. Does the DRBIII® display: Evap Temp Sensor Open? Yes → Replace the Evaporator Temperature Sensor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

EVAP TEMP SENSOR SHORTED (MTC & AZC) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the BCM C2 harness connector. Disconnect the Evaporator Temperature Sensor harness connector. Measure the resistance between ground and the Evaporator Temperature Sensor Signal circuit. Is the resistance above 100k ohms? Yes → Go To 4 No → Repair the Evaporator Temperature Sensor Signal circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Body Control Module C2 harness connector. Disconnect the Evaporator Temperature Sensor harness connector. Measure the resistance between the Evaporator Temperature Sensor Signal circuit and the Sensor Ground circuit. Is the resistance above 100k ohms? Yes → Replace and program the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Evaporator Temperature Sensor Signal circuit for a short to Sensor Ground. 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:
IAT RESPONSE FAILURE (AZC) (ACTIVE)

When Monitored and Set Condition:

IAT RESPONSE FAILURE (AZC) (ACTIVE)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the intake air temperature response message within 8 seconds.

POSSIBLE CAUSES
CHECK THE PCM FOR ANY DTCS
AUTOMATIC ZONE CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB check the PCM for any DTCs. Are any DTCs present? Yes → Refer to the Powertrain Diagnostic Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	With the DRB, erase the AZC DTC's. Turn the ignition on, wait 1 minute, then check for any AZC DTCs. Did this DTC reset? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
IAT RESPONSE FAILURE (AZC) (STORED)

When Monitored and Set Condition:

IAT RESPONSE FAILURE (AZC) (STORED)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the intake air temperature response message within 8 seconds.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MODE DOOR RANGE TOO LARGE (AZC) (ACTIVE)

When Monitored and Set Condition:

MODE DOOR RANGE TOO LARGE (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is greater than expected.

POSSIBLE CAUSES
CHECK THE AZC MODULE FOR DTCS
MODE DOOR DRIVER CIRCUIT (B) SHORTED TO GROUND
MODE DOOR DRIVER CIRCUIT (A) SHORTED TO GROUND
MODE DOOR MOTOR
MODE DOOR MOTOR
CHECK MODE DOOR LINKAGE
AZC MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read the active AZC DTC's. Is the Mode Motor Not Responding DTC set? Yes → Refer to the Heating and A/C category and perform the symptom Mode Motor Not Responding. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Mode Door Motor/Actuator harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between ground and the Mode Door Driver (B) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Mode Door Driver (B) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

MODE DOOR RANGE TOO LARGE (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Mode Door Motor/Actuator harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between ground and the Mode Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Mode Door Driver (A) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Remove the Mode Door Motor/Actuator from the vehicle. By hand, attempt to rotate the mode door motor in both directions. Did the mode door motor turn in either direction? Yes → Replace the Mode Door Motor. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Remove the Mode Door Motor from the vehicle. Rotate the mode doors (doors only), these should rotate approximately 45 degrees from stop to stop. Inspect the mode door linkage for excessive wear or missing linkage. Were any mechanical problems found? Yes → Repair or replace the mode door/linkage as necessary. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MODE DOOR RANGE TOO LARGE (AZC) (STORED)

When Monitored and Set Condition:

MODE DOOR RANGE TOO LARGE (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is greater than expected.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MODE DOOR RANGE TOO SMALL (AZC) (ACTIVE)

When Monitored and Set Condition:

MODE DOOR RANGE TOO SMALL (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is less than expected.

POSSIBLE CAUSES
CHECK THE AZC MODULE FOR DTCS
CHECK THE AZC SIGNAL TOO MODE DOOR
OBSTRUCTED MODE DOOR
MODE DOOR MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read the active AZC DTC's. Is the Mode Motor Not Responding DTC set? Yes → Refer to the Heating and A/C category and perform the symptom Mode Motor Not Responding. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Mode Door Motor/Actuator harness connector. Connect a 12-volt Test Light across the Mode Door Motor/Actuator harness connector. Turn the ignition on. While monitoring the test light, turn the mode control knob 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 AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the Mode Door Motor from the vehicle. Rotate the mode doors (doors only), these should rotate approximately 45 degrees from stop to stop. Do the mode doors move smoothly in both directions? Yes → Replace the Mode Door Motor. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Repair or replace the mode door as necessary. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MODE DOOR RANGE TOO SMALL (AZC) (STORED)

When Monitored and Set Condition:

MODE DOOR RANGE TOO SMALL (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is less than expected.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MODE MOTOR NOT RESPONDING (AZC) (ACTIVE)

When Monitored and Set Condition:

MODE MOTOR NOT RESPONDING (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC does not receive feedback pulses within 5 seconds of the drive voltage being applied.

POSSIBLE CAUSES
MODE DOOR DRIVER CIRCUIT (B) SHORTED TO GROUND
MODE DOOR DRIVER CIRCUIT (A) SHORTED TO GROUND
MODE DOOR DRIVER CIRCUITS (A) AND (B) SHORTED TOGETHER
AZC MODULE MODE DOOR NOT RESPONDING
MODE DOOR DRIVER CIRCUIT (A) OPEN
MODE DOOR DRIVER CIRCUIT (B) OPEN
MODE DOOR MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Mode Door Motor/Actuator harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between ground and the Mode Door Driver (B) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Mode Door Driver (B) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Mode Door Motor/Actuator harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between ground and the Mode Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Mode Door Driver (A) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

MODE MOTOR NOT RESPONDING (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Mode Door Motor/Actuator harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between the Mode Door Driver (B) circuit and the Mode Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Mode Door Driver (B) circuit for a short to the Mode Door Driver (A) circuit. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the Mode Door Motor/Actuator harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance of the Mode Door Driver (A) circuit between the AZC Module C1 connector and the Mode Door Motor/Actuator connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Mode Door Driver (A) circuit for an open. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the Mode Door Motor/Actuator harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance of the Mode Door Driver (B) circuit between the AZC Module C1 connector and the Mode Door Motor/Actuator connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Mode Door Driver (B) circuit for an open. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Make sure that the Mode Door Motor harness connector is connected to the Mode Door Motor. Disconnect the AZC module C1 harness connector. Measure the resistance between the Mode Door Driver (B) circuit and the Mode Door Driver (A) circuit. Is the resistance between 26.0 and 46.0 ohms? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Mode Door Motor. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MODE MOTOR NOT RESPONDING (AZC) (STORED)

When Monitored and Set Condition:

MODE MOTOR NOT RESPONDING (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC does not receive feedback pulses within 5 seconds of the drive voltage being applied.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MODE SELECT SW OPEN (AZC) (ACTIVE)

When Monitored and Set Condition:

MODE SELECT SW OPEN (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC reads the mode select switch value and it is above 250 A/D counts.

POSSIBLE CAUSES
MODE SELECT SWITCH FAILED OPEN

TEST	ACTION	APPLICABILITY
1	When this code is present the AZC Module must be replaced. View repair Repair Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

MODE SELECT SW OPEN (AZC) (STORED)

When Monitored and Set Condition:

MODE SELECT SW OPEN (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC reads the mode select switch value and it is above 250 A/D counts.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. Manually press the recirculation mode switch on, wait 30 seconds then press it off. Manually press the A/C mode switch on, wait 30 seconds then press it off. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MODE SELECT SW SHORTED (AZC) (ACTIVE)

When Monitored and Set Condition:

MODE SELECT SW SHORTED (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC reads the mode select switch value and it is below 5 A/D counts.

POSSIBLE CAUSES
MODE SELECT SWITCH FAILED SHORTED

TEST	ACTION	APPLICABILITY
1	When this code is present the AZC Module must be replaced. View repair Repair Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
MODE SELECT SW SHORTED (AZC) (STORED)

When Monitored and Set Condition:

MODE SELECT SW SHORTED (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC reads the mode select switch value and it is below 5 A/D counts.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PASS BLEND DOOR NOT RESPONDING (AZC) (ACTIVE)

When Monitored and Set Condition:

PASS BLEND DOOR NOT RESPONDING (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC does not receive feedback pulses within 5 seconds of the drive voltage being applied.

POSSIBLE CAUSES
DRIVER CIRCUIT (B) SHORTED TO GROUND
DRIVER CIRCUIT (A) SHORTED TO GROUND
DRIVER CIRCUITS (A) AND (B) SHORTED TOGETHER
AZC MODULE PASSENGER BLEND DOOR NOT RESPONDING
DRIVER CIRCUIT (A) OPEN
DRIVER CIRCUIT (B) OPEN
PASSENGER BLEND DOOR MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C2 harness connector. Measure the resistance between ground and the Passenger Blend Door Driver (B) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Passenger Blend Door Driver (B) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C2 harness connector. Measure the resistance between ground and the Passenger Blend Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Passenger Blend Door Driver (A) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

PASS BLEND DOOR NOT RESPONDING (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C2 harness connector. Measure the resistance between the Passenger Blend Door Driver (B) circuit and the Passenger Blend Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Passenger Blend Door Driver (B) circuit for a short to the Passenger Blend Door Driver (A) circuit. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C2 harness connector. Measure the resistance of the Passenger Blend Door Driver (A) circuit between the AZC Module C2 connector and the in-line C202 connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Passenger Blend Door Driver (A) circuit for an open. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C2 harness connector. Measure the resistance of the Passenger Blend Door Driver (B) circuit between the AZC Module C2 connector and the in-line C202 connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Passenger Blend Door Driver (B) circuit for an open. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Make sure that the in-line C202 harness connector is connected. Disconnect the AZC module C2 harness connector. Measure the resistance between the Passenger Blend Door Driver (B) circuit and the Passenger Blend Door Driver (A) circuit. Is the resistance between 26.0 and 46.0 ohms? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	**Note: Before replacing the passenger blend door motor, inspect the wiring harness between the in-line C202 connector and the blend door motor for any opens or shorts. Repair as necessary.** If there are no possible causes remaining, view repair. Repair Replace the Passenger Blend Door Motor. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PASS BLEND DOOR NOT RESPONDING (AZC) (STORED)

When Monitored and Set Condition:

PASS BLEND DOOR NOT RESPONDING (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC does not receive feedback pulses within 5 seconds of the drive voltage being applied.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PASS BLEND DOOR RANGE TOO LARGE (AZC) (ACTIVE)

When Monitored and Set Condition:

PASS BLEND DOOR RANGE TOO LARGE (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is greater than expected.

POSSIBLE CAUSES
CHECK THE AZC MODULE FOR DTCS
DRIVER CIRCUIT (B) SHORTED TO GROUND
DRIVER CIRCUIT (A) SHORTED TO GROUND
PASSENGER BLEND DOOR MOTOR
PASSENGER BLEND DOOR MOTOR
CHECK BLEND DOOR LINKAGE
AZC MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read the active AZC DTC's. Is the Pass Blend Door Not Responding DTC set? Yes → Refer to the Heating and A/C category and perform the symptom Pass Blend Door Not Responding. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C2 harness connector. Measure the resistance between ground and the Passenger Blend Door Driver (B) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Passenger Blend Door Driver (B) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

PASS BLEND DOOR RANGE TOO LARGE (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C2 harness connector. Measure the resistance between ground and the Passenger Blend Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Passenger Blend Door Driver (A) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Remove the Passenger Blend Door Motor/Actuator from the vehicle. By hand, attempt to rotate the passenger blend door motor in both directions. Did the blend door motor turn in either direction? Yes → Replace the Passenger Blend Door Motor. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Remove the Passenger Blend Door Motor from the vehicle. Rotate the blend door (door only), this should rotate approximately 45 degrees from stop to stop. Inspect the blend door linkage for excessive wear or missing linkage. Were any mechanical problems found? Yes → Repair or replace the blend door/linkage as necessary. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PASS BLEND DOOR RANGE TOO LARGE (AZC) (STORED)

When Monitored and Set Condition:

PASS BLEND DOOR RANGE TOO LARGE (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is greater than expected.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PASS BLEND DOOR RANGE TOO SMALL (AZC) (ACTIVE)

When Monitored and Set Condition:

PASS BLEND DOOR RANGE TOO SMALL (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is less than expected.

POSSIBLE CAUSES
CHECK THE AZC MODULE FOR DTCS
CHECK THE AZC SIGNAL TOO PASSENGER BLEND DOOR
OBSTRUCTED BLEND DOOR
PASSENGER BLEND DOOR MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read the active AZC DTC's. Is the Pass Blend Door Not Responding DTC set? Yes → Refer to the Heating and A/C category and perform the symptom Pass Blend Door Not Responding. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the in-line C202 harness connector. Connect a 12-volt Test Light across the passenger blend door driver (A) circuit and the passenger blend door driver (B) circuit at the C202 harness connector (AZC harness side). Turn the ignition on. While monitoring the test light, turn the passenger blend control knob 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 AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

PASS BLEND DOOR RANGE TOO SMALL (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Passenger Blend Door Motor from the vehicle. Rotate the blend door (door only), this should rotate approximately 45 degrees from stop to stop. Does the blend door move smoothly in both directions? Yes → Replace the Passenger Blend Door Motor/Actuator. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Repair or replace the blend door as necessary. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PASS BLEND DOOR RANGE TOO SMALL (AZC) (STORED)

When Monitored and Set Condition:

PASS BLEND DOOR RANGE TOO SMALL (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is less than expected.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RECIRC DOOR RANGE TOO LARGE (AZC) (ACTIVE)

When Monitored and Set Condition:

RECIRC DOOR RANGE TOO LARGE (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is greater than expected.

POSSIBLE CAUSES
CHECK THE AZC MODULE FOR DTCS
DRIVER CIRCUIT (B) SHORTED TO GROUND
DRIVER CIRCUIT (A) SHORTED TO GROUND
RECIRCULATION DOOR MOTOR
RECIRCULATION DOOR MOTOR
CHECK RECIRCULATION DOOR LINKAGE
AZC MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read the active AZC DTC's. Is the Recirc Motor Not Responding DTC set? Yes → Refer to the Heating and A/C category and perform the symptom Recirc Motor Not Responding. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between ground and the Recirculation Door Driver (B) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Recirculation Door Driver (B) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

RECIRC DOOR RANGE TOO LARGE (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between ground and the Recirculation Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Recirculation Door Driver (A) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Remove the Recirculation Door Motor/Actuator from the vehicle. By hand, attempt to rotate the recirculation door motor in both directions. Did the recirculation door motor turn in either direction? Yes → Replace the Recirculation Door Motor/Actuator. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Remove the Recirculation Door Motor from the vehicle. Rotate the recirculation door (door only), this should rotate approximately 45 degrees from stop to stop. Inspect the recirculation door linkage for excessive wear or missing linkage. Were any mechanical problems found? Yes → Repair or replace the recirculation door/linkage as necessary. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RECIRC DOOR RANGE TOO LARGE (AZC) (STORED)

When Monitored and Set Condition:

RECIRC DOOR RANGE TOO LARGE (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is greater than expected.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RECIRC DOOR RANGE TOO SMALL (AZC) (ACTIVE)

When Monitored and Set Condition:

RECIRC DOOR RANGE TOO SMALL (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is less than expected.

POSSIBLE CAUSES
CHECK THE AZC MODULE FOR DTCS
CHECK THE AZC SIGNAL TOO RECIRCULATION DOOR
OBSTRUCTED RECIRC DOOR
RECIRCULATION DOOR MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, read the active AZC DTC's. Is the Recirc Motor Not Responding DTC set? Yes → Refer to the Heating and A/C category and perform the symptom Recirc Motor Not Responding. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the in-line C202 harness connector. Connect a 12-volt Test Light across the recirculation door driver (A) circuit and the recirculation door driver (B) circuit at the C202 harness connector (AZC harness side). Turn the ignition on. While monitoring the test light, press the recirculation control button 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 AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

RECIRC DOOR RANGE TOO SMALL (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Recirculation Door Motor from the vehicle. Rotate the recirculation door (door only), this should rotate approximately 45 degrees from stop to stop. Does the recirculation door move smoothly in both directions? Yes → Replace the Recirculation Door Motor/Actuator. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Repair or replace the recirculation door as necessary. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RECIRC DOOR RANGE TOO SMALL (AZC) (STORED)

When Monitored and Set Condition:

RECIRC DOOR RANGE TOO SMALL (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set when the AZC monitors the travel range during system initialization and the measured range is less than expected.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RECIRC MOTOR NOT RESPONDING (AZC) (ACTIVE)

When Monitored and Set Condition:

RECIRC MOTOR NOT RESPONDING (AZC) (ACTIVE)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC does not receive feedback pulses within 5 seconds of the drive voltage being applied.

POSSIBLE CAUSES
DRIVER CIRCUIT (B) SHORTED TO GROUND
DRIVER CIRCUIT (A) SHORTED TO GROUND
DRIVER CIRCUITS (A) AND (B) SHORTED TOGETHER
AZC MODULE RECIRCULATION MOTOR NOT RESPONDING
DRIVER CIRCUIT (A) OPEN
DRIVER CIRCUIT (B) OPEN
RECIRCULATION DOOR MOTOR

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between ground and the Recirculation Door Driver (B) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Recirculation Door Driver (B) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between ground and the Recirculation Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Recirculation Door Driver (A) circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

RECIRC MOTOR NOT RESPONDING (AZC) (ACTIVE) — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance between the Recirculation Door Driver (B) circuit and the Recirculation Door Driver (A) circuit. Is the resistance below 5.0 ohms? Yes → Repair the Recirculation Door Driver (B) circuit for a short to the Recirculation Door Driver (A) circuit. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance of the Recirculation Door Driver (A) circuit between the AZC Module C1 connector and the in-line C202 connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Recirculation Door Driver (A) circuit for an open. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the ignition off. Disconnect the in-line C202 harness connector. Disconnect the AZC module C1 harness connector. Measure the resistance of the Recirculation Door Driver (B) circuit between the AZC Module C1 connector and the in-line C202 connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Recirculation Door Driver (B) circuit for an open. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Make sure that the in-line C202 harness connector is connected. Disconnect the AZC module C1 harness connector. Measure the resistance between the Recirculation Door Driver (B) circuit and the Recirculation Door Driver (A) circuit. Is the resistance between 26.0 and 46.0 ohms? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	**Note: Before replacing the recirculation door motor, inspect the wiring harness between the in-line C202 connector and the recirculation door motor for any opens or shorts. Repair as necessary.** If there are no possible causes remaining, view repair. Repair Replace the Recirculation Door Motor. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
RECIRC MOTOR NOT RESPONDING (AZC) (STORED)

When Monitored and Set Condition:

RECIRC MOTOR NOT RESPONDING (AZC) (STORED)

When Monitored: Ignition in RUN and IOD fuse installed.

Set Condition: This condition is set if the AZC does not receive feedback pulses within 5 seconds of the drive voltage being applied.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
VEHICLE SPEED FAILURE (AZC) (ACTIVE)

When Monitored and Set Condition:

VEHICLE SPEED FAILURE (AZC) (ACTIVE)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the vehicle speed response message within 8 seconds.

POSSIBLE CAUSES
CHECK THE PCM FOR ANY DTCS
OBSERVE THE VEHICLE SPEED DISPLAY IN THE INSTRUMENT CLUSTER
AUTOMATIC ZONE CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB check the PCM for any DTCs. Are any DTCs present? Yes → Refer to the Powertrain Diagnostic Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Raise the drive wheels off the ground. **Warning: Be sure to keep hands and feet clear of rotating wheels.** With the DRB, enter Body, Electro/Mech Cluster (MIC), Monitor Display then PCI Bus Engine Info and monitor the vehicle speed display. Start the engine and place the transmission in any forward gear. Does the DRB display vehicle speed above zero? Yes → Go To 3 No → Replace and program the Powertrain Control Module in accordance with the Service Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRB, erase the AZC DTC's. Test drive vehicle, then check for any AZC DTCs. Did this DTC reset? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
VEHICLE SPEED FAILURE (AZC) (STORED)

When Monitored and Set Condition:

VEHICLE SPEED FAILURE (AZC) (STORED)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the vehicle speed response message within 8 seconds.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
VEHICLE VIN FAILURE (AZC) (ACTIVE)

When Monitored and Set Condition:

VEHICLE VIN FAILURE (AZC) (ACTIVE)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the vehicle VIN response message within 8 seconds.

POSSIBLE CAUSES
VEHICLE VIN FAILURE
POWERTRAIN CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Engine then Miscellaneous. Compare the VIN that is programmed into the PCM with the VIN plate on the vehicle. Do the VIN(s) match? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the Powertrain Control Module in accordance with the Service Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
VEHICLE VIN FAILURE (AZC) (STORED)

When Monitored and Set Condition:

VEHICLE VIN FAILURE (AZC) (STORED)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the vehicle VIN response message within 8 seconds.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
VF DIMMING FAILURE (AZC) (ACTIVE)

When Monitored and Set Condition:

VF DIMMING FAILURE (AZC) (ACTIVE)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the VF dimming response message within 8 seconds.

POSSIBLE CAUSES
AZC - VF DIMMING FAILURE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRB, read the BCM codes. These BCM DTC'S must NOT be present before continuing, for THIS test to be valid: Head Lamp SW Open CKT, Headlamp Sw Short to Ground, DIM SW Open CKT, DIM SW Short to Ground. With the DRB, enter Automatic Temp Control, Monitor Display then PCI Bus Info and look for the VF DIM Msg Present. Does the DRB display: VF DIM Msg present: Yes? Yes → Replace the AZC Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
VF DIMMING FAILURE (AZC) (STORED)

When Monitored and Set Condition:

VF DIMMING FAILURE (AZC) (STORED)

When Monitored: Every 8 seconds with the ignition on.

Set Condition: This condition is set if the AZC does not receive the VF dimming response message within 8 seconds.

POSSIBLE CAUSES
AZC MODULE STORED CODES PRESENT
STORED CODES TEST COMPLETE

TEST	ACTION	APPLICABILITY
1	**Note: Active codes must be resolved before diagnosing stored codes.** Anytime a code becomes active during this test, proceed to the conclusion question. Turn the ignition on. With the DRB, erase any stored DTC's. Monitor the DRB for active codes during the following test steps. Turn the mode select switch to the panel position with the fan control on low. Manually sweep the driver and passenger temperature control knobs from cold to hot then back to cold. Manually sweep the blower motor control knob through all positions. Manually sweep the mode select switch knob through all positions. With the DRB, perform the AZC self test. With the DRB, actuate all of the AZC door motors. Place the vehicle on a hoist, and raise the wheels off the floor. Start engine. Place the transmission in drive. Brake off. **WARNING: Be sure to keep hands and feet clear of rotating wheels. Keep clear of the engine's moving parts** Did any AZC code become active during this test? Yes → Return to the Symptom List and choose the active code. Perform BODY VERIFICATION TEST - VER 1. No → No problem found at this time. Erase all codes before returning vehicle to customer. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***A/C OPERATES WITH A/C SELECT SWITCH OFF (AZC & MTC W/GASOLINE ENGINE)**

POSSIBLE CAUSES
CHECK FOR PCM DTCS
POWERTRAIN CONTROL MODULE
A/C CLUTCH
A/C CLUTCH RELAY OUTPUT CIRCUIT SHORTED TO VOLTAGE
A/C CLUTCH RELAY
CHECK A/C SWITCH SIGNAL CIRCUIT FOR A SHORT TO GROUND
AZC MODULE OR A/C - HEATER CONTROL MODULE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, check for PCM DTCs. Are any DTCs present? Yes → Return to the symptom list and choose the symptom(s). Calibration must be performed after repair is completed. Perform POWERTRAIN VERIFICATION TEST VER - 2. No → Go To 2	All
2	Turn the ignition on. Position the Mode switch on the AZC Module or the A/C - Heater Control Module to the Panel position. Turn the A/C Select switch off. With the DRBIII® in BCM, select Inputs/Outputs. Monitor the A/C Select Switch state while turning the A/C Select switch from off to on and then back to off. Does the switch state change from ″Off″ to ″On″ and then back to ″Off″. Yes → Go To 3 No → Go To 6	All
3	Turn the ignition on. Position the Mode switch on the AZC Module or the A/C - Heater Control Module to the Panel position. Turn the A/C Select switch off. With the DRBIII®, select Engine and select Inputs/Outputs. Monitor the A/C Select Switch state while turning the A/C Select switch from off to on and then back to off. Does the switch state change from ″Off″ to ″Selected″ and then back to ″Off″. Yes → Go To 4 No → Replace and program the Powertrain Control Module in accordance with the Service Information. Calibration must be performed after repair is completed. Perform POWERTRAIN VERIFICATION TEST VER - 2.	All

*A/C OPERATES WITH A/C SELECT SWITCH OFF (AZC & MTC W/GASOLINE ENGINE) — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the A/C Clutch harness connector. Start the engine and observe the A/C Clutch and Compressor. Does the A/C Compressor run with the harness connector disconnected? Yes → Replace the A/C Clutch in accordance with the Service Information. Calibration must be performed after repair is completed. Perform POWERTRAIN VERIFICATION TEST VER - 2. No → Go To 5	All
5	Turn the ignition off. Remove the A/C Clutch Relay from the PDC. Disconnect the A/C Clutch harness connector. Measure the voltage of the A/C Clutch Relay Output circuit. Is the voltage above 1.0 volt? Yes → Repair the A/C Clutch Relay Output circuit for a short to voltage. Calibration must be performed after repair is completed. Perform POWERTRAIN VERIFICATION TEST VER - 2. No → Replace the A/C Clutch Relay. Calibration must be performed after repair is completed. Perform POWERTRAIN VERIFICATION TEST VER - 2.	All
6	Turn the ignition off. Disconnect the BCM C2 harness connector. Disconnect the AZC Module C2 harness connector or the A/C - Heater Control C1 harness connector. Measure the resistance of the A/C Switch Signal circuit between the AZC Module C2 harness connector or the A/C - Heater Control C1 harness connector and ground. Is the resistance below 10K ohms? Yes → Repair the A/C Switch Signal Circuit for a short to ground. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	Turn the ignition off. Make sure that the BCM harness connectors are connected to the BCM. Disconnect the AZC Module C2 harness connector or the A/C - Heater Control C1 harness connector. Turn the ignition on. With the DRBIII® in BCM, select Inputs/Outputs. Monitor the A/C Select Switch state while connecting a jumper wire between ground and the A/C Switch Signal circuit in the AZC Module C2 harness connector or the A/C - Heater Control C1 harness connector. Does the A/C Select Switch state change from ″Off″ to ″On″ when the jumper wire is connected. Yes → Replace the AZC Module or the A/C - Heater Control Module in accordance with the Service Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1. No → Replace and program the Body Control Module in accordance with the Service Information. Calibration must be performed after repair is completed. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*A/C SWITCH SIGNAL NOT OPERATING PROPERLY (MTC & AZC)

POSSIBLE CAUSES
A/C OPERATES WITH A/C SELECT SWITCH OFF
A/C INOPERABLE WITH NO DTCS PRESENT

TEST	ACTION	APPLICABILITY
1	**NOTE: This test applies to both manual and automatic temperature control systems.** Which condition is present? A/C Operates With A/C Select Switch Off For vehicles with gasoline engines, refer to *A/C Operates With A/C Select Switch Off in the Heating & A/C category. For vehicles with diesel engines, Refer to *A/C Operates With A/C Select Switch Off in the Powertrain Diagnostic Information. Perform BODY VERIFICATION TEST - VER 1. A/C Inoperable With No DTCS Present For vehicles gasoline engines, refer to *Checking A/C System Operation With No DTCs in the Powertrain Diagnostic Information. For vehicles with diesel engines, refer to *A/C Inoperative in the Powertrain Diagnostic Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*BLOWER MOTOR ALWAYS RUNS AT ONE SPEED ONLY (AZC)

POSSIBLE CAUSES
BLOWER MOTOR CONTROL CKT SHORTED TO GROUND
BLOWER MOTOR CONTROL CIRCUIT SHORTED TO BLOWER MOTOR HIGH DRIVER CIRCUIT
AZC MODULE, FAN STUCK ON ONE SPEED ONLY
BLOWER MOTOR CONTROLLER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Blower Motor Controller harness connector. Disconnect the AZC module C2 harness connector. Measure the resistance between ground and the Blower Motor Control circuit. Is the resistance below 5.0 ohms? Yes → Repair the Blower Motor Control circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Blower Motor Controller harness connector. Disconnect the Blower Motor harness connector. Measure the resistance between the Blower Motor Control circuit and the Blower Motor High Driver circuit. Is the resistance below 5.0 ohms? Yes → Repair the Blower Motor Control circuit for a short to the Blower Motor High Driver circuit. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Reconnect all previous disconnected components. Use the DRB oscilloscope, select Lab Scope and set the following lab scope parameters. Set voltage range to +10.0v. Set probe to X10. Set time to 20ms/Div. Using the oscilloscope lead, backprobe the Blower Motor Control circuit at the Blower Motor Controller harness connector. Turn the ignition on. Set the blower switch to LO then slowly move to HI while observing the DRB display. The Scope patten should appear similar to what is provided in the reference material (Section 8.0). The voltage should cycle from approximately 0.5 volts, up to 5.0 volts in the low speed fan position. The duty cycle pattern should change smoothly as the blower switch is turned from LO to HI. The pattern should completely flatline when the blower speed reaches the HI setting. Does the DRB display a duty cycle pattern that changes from approximately 0.5 to 5.0 volts in LO? Yes → Go To 4 No → Replace the AZC Module. Perform BODY VERIFICATION TEST - VER 1.	All

*BLOWER MOTOR ALWAYS RUNS AT ONE SPEED ONLY (AZC) — Continued

TEST	ACTION	APPLICABILITY
4	If there are no possible causes remaining, view repair. Repair Replace the Blower Motor Controller. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*BLOWER MOTOR INOPERATIVE (AZC)

POSSIBLE CAUSES
PDC FUSE #1
BLOWER MOTOR SUPPLY CIRCUIT SHORTED TO GROUND
BLOWER MOTOR SHORTED TO GROUND
BLOWER MOTOR CONTROLLER SHORTRD TO GROUND
CHECK FOR POWER TO THE BLOWER MOTOR CONTROLLER
GROUND CIRCUIT OPEN
BLOWER MOTOR CONTROL CIRCUIT SHORTED TO VOLTAGE
BLOWER MOTOR CONTROL CIRCUIT OPEN
BLOWER MOTOR CONTROLLER OPEN
AUTOMATIC ZONE CONTROL MODULE OPEN
BLOWER MOTOR OPEN
BLOWER MOTOR CONTROLLER OPEN

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect Power Distribution Center (PDC) Fuse #1. Is the fuse open? Yes → Go To 2 No → Go To 5	All
2	Replace PDC Fuse #1. Turn the ignition on. Operate the blower motor in all speeds. Start the engine and operate the AZC system in all modes and speeds. Does the 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 3	All
3	Turn the ignition off. Disconnect the Blower Motor Controller harness connector. Measure the resistance between ground and the Blower Motor Supply circuit. Is the resistance below 10K ohms? Yes → Repair the Blower Motor Supply circuit for a short to ground. Replace PDC Fuse #1. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*BLOWER MOTOR INOPERATIVE (AZC) — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Blower Motor Controller harness connector. Disconnect the Blower Motor harness connector. Replace PDC Fuse #1. **CAUTION: Do not allow the jumper wire contacts to touch one another when connecting them to the Blower Motor. Doing so will cause the results of this test will be inaccurate.** Connect a jumper wire between Pin #1 on the Blower Motor and the Blower Motor Supply circuit in the Blower Motor Controller harness connector. Connect a jumper wire between Pin #2 on the Blower Motor and the Ground circuit in the Blower Motor Controller harness connector. Does the Blower Motor operate at full speed without blowing the fuse? Yes → Replace the Blower Motor Controller in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Blower Motor in accordance with the Service Information. Replace PDC Fuse #1. Perform BODY VERIFICATION TEST - VER 1.	All
5	Ensure PDC Fuse #1 is installed. Disconnect the Blower Motor Controller harness connector. **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 Blower Motor Supply circuit in the Blower Motor Controller harness connector. Does the test light illuminate brightly? Yes → Go To 6 No → Repair the Blower Motor Supply circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the ignition off. Disconnect the Blower Motor Controller harness connector. Measure the resistance between ground and the Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
7	Turn the ignition off. Disconnect the Blower Motor Controller harness connector. Disconnect the Automatic Zone Control Module C2 harness connector. Turn the ignition on. Measure the voltage of the Blower Motor Control circuit. Is there any voltage present? Yes → Repair the Blower Motor Control circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All

*BLOWER MOTOR INOPERATIVE (AZC) — Continued

TEST	ACTION	APPLICABILITY
8	Turn the ignition off. Disconnect the Blower Motor Controller harness connector. Disconnect the Automatic Zone Control Module C2 harness connector. Measure the resistance of the Blower Motor Control circuit between the Blower Motor Controller harness connector and the Automatic Zone Control Module C2 harness connector. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the Blower Motor Control circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
9	Turn the ignition off. Make sure that the Blower Motor Controller harness connector is connected to the Blower Motor Controller. Make sure that the Automatic Zone Control Module C2 harness connector is connected to the Automatic Zone Control Module. While back probing, measure the voltage of the Blower Motor Control circuit in the Automatic Zone Control Module C2 harness connector. Is the voltage above 4.0 volts? Yes → Go To 10 No → Replace the Blower Motor Controller in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Reconnect all previous disconnected components. Use the DRB oscilloscope, select Lab Scope and set the following lab scope parameters. Set voltage range to +10.0v. Set probe to X10. Set time to 20ms/Div. Using the oscilloscope lead, back probe the Blower Motor Control circuit at the Blower Motor Controller harness connector. Turn the ignition on. Set the blower switch to LO then slowly move to HI while observing the DRB display. The Scope patten should appear similar to what is provided in the reference material (Section 8.0). The voltage should cycle from approximately 0.5 volts, up to 5.0 volts in the low speed fan position. The duty cycle pattern should change smoothly as the blower switch is turned from LO to HI. The pattern should completely flat line when the blower speed reaches the HI setting. Does the DRB display a duty cycle pattern that changes from approximately 0.5 to 5.0 volts in LO? Yes → Go To 11 No → Replace the Automatic Zone Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

*BLOWER MOTOR INOPERATIVE (AZC) — Continued

TEST	ACTION	APPLICABILITY
11	Turn the ignition off. Disconnect the Blower Motor Controller harness connector. Disconnect the Blower Motor harness connector. **CAUTION: Do not allow the jumper wire contacts to touch one another when connecting them to the Blower Motor. Doing so will cause the results of this test will be inaccurate.** Connect a jumper wire between Pin #1 on the Blower Motor and the Blower Motor Supply circuit in the Blower Motor Controller harness connector. Connect a jumper wire between Pin #2 on the Blower Motor and the Ground circuit in the Blower Motor Controller harness connector. Does the Blower Motor operate at full speed? Yes → Replace the Blower Motor Controller in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Blower Motor in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

ABS LAMP CIRCUIT SHORT
AIRBAG LAMP DRIVER FAILURE
BRAKE LAMP CIRCUIT SHORT

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ABS LAMP CIRCUIT SHORT.

When Monitored and Set Condition:

ABS LAMP CIRCUIT SHORT

When Monitored: 10 seconds after ignition on.

Set Condition: The Instrument Cluster detects a short in the ABS lamp driver circuit.

AIRBAG LAMP DRIVER FAILURE

When Monitored: 10 seconds after ignition on.

Set Condition: The Instrument Cluster detects a short in the Airbag lamp driver circuit.

BRAKE LAMP CIRCUIT SHORT

When Monitored: With the ignition on. (NOTE: The Instrument Cluster can not monitor with parking brake engaged)

Set Condition: The Instrument Cluster detects a short in the Brake indicator driver circuit.

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	This is an internal cluster failure. If there are no possible causes remaining, view repair. Repair Replace Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

ABS LAMP OPEN
AIRBAG LAMP OPEN
BRAKE LAMP OPEN

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ABS LAMP OPEN.

When Monitored and Set Condition:

ABS LAMP OPEN

When Monitored: 10 seconds after ignition on.

Set Condition: The Instrument Cluster detects an open in the ABS indicator bulb.

AIRBAG LAMP OPEN

When Monitored: 10 seconds after ignition on

Set Condition: The Instrument Cluster detects an open in the Airbag indicator bulb.

BRAKE LAMP OPEN

When Monitored: With the ignition on. (NOTE: The Instrument Cluster can not monitor while the parking brake is engaged.)

Set Condition: The Instrument Cluster detects an open in the Brake indicator bulb.

POSSIBLE CAUSES
INDICATOR LAMP OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Remove and inspect the indicator bulb in question. Replace the indicator bulb and socket as necessary. Turn the ignition on. Observe the indicator in question during the bulb check. Did the indicator illuminate? Yes → Clear DTC and verify proper operation. 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:

ABS MESSAGE NOT RECEIVED BY MIC

When Monitored and Set Condition:

ABS MESSAGE NOT RECEIVED BY MIC

When Monitored: Monitored during ignition on.

Set Condition: The Instrument Cluster detects no ABS messages received for 6 seconds.

POSSIBLE CAUSES
NO RESPONSE - PCI BUS - ABS
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to I/D or communicate with the ABS Module. Is there a response from the ABS Module? Yes → Go To 2 No → Refer to symptom *NO RESPONSE FROM CAB CONTROLLER in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase the DTC from Instrument Cluster. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this 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:
ACM MESSAGE NOT RECEIVED BY MIC

When Monitored and Set Condition:

ACM MESSAGE NOT RECEIVED BY MIC

When Monitored: Monitored during ignition on.

Set Condition: No ACM messages received for 6 seconds.

POSSIBLE CAUSES
NO RESPONSE - PCI BUS - ACM
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to I/D or communicate with the ACM. Is there a response from the ACM Module? Yes → Go To 2 No → Refer to symptom *NO RESPONSE FROM ACM in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase the DTC from Instrument Cluster. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this 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:
BCM MESSAGES NOT RECEIVED BY MIC

When Monitored and Set Condition:

BCM MESSAGES NOT RECEIVED BY MIC

When Monitored: Monitored during ignition on.

Set Condition: No BCM messages received for 6 seconds.

POSSIBLE CAUSES
NO RESPONSE - PCI BUS - BCM
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to I/D or communicate with the BCM. Is there a response from the Body Control Module? Yes → Go To 2 No → Refer to symptom *BUS +/- SIGNALS OPEN FROM BCM in the COMMUNICATION category Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase the DTC from Instrument Cluster. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this 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 Techinical Service Bulletins (TSB) that may apply. Visually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
CHECKSUM FAILURE

When Monitored and Set Condition:

CHECKSUM FAILURE

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster detects EEPROM failure during the internal self check.

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
EATX MESSAGE STATUS

POSSIBLE CAUSES
INTERMITTENT CONDITION
NO RESPONSE - PCI BUS - EATX
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to I/D or communicate with the EATX. Is there a response from the Transmission Control Module? Yes → Go To 2 No → Refer to symptom *NO RESPONSE FROM TRANSMISSION CONTROL MODULE in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this 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:
NO PCI BUS COMMUNICATION

POSSIBLE CAUSES
NO RESPONSE - PCI BUS
INTERMITTENT CONDITION
NO RESPONSE - PCI BUS - INSTRUMENT CLUSTER
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. **NOTE: When the Instrument Cluster detects no PCI Bus, the VF will display "no bus".** With the DRBIII®, attempt to communicate with other modules on the PCI Bus. Was the DRBIII® able to communicate with other modules? 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. Does the DRBIII® display MIC PRESENT on the BUS? Yes → Go To 3 No → Refer to symptom "No Response from Instrument Cluster in the Communication" category. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this 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:

PCM MESSAGE NOT RECEIVED BY MIC

When Monitored and Set Condition:

PCM MESSAGE NOT RECEIVED BY MIC

When Monitored: With the ignition on.

Set Condition: The Instrument Cluster detects no PCM bus messages received for 6 seconds.

POSSIBLE CAUSES
NO RESPONSE - PCI BUS - PCM
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, select Body Controller and system test. Does the DRB display PCM active on the bus? Yes → Go To 2 No → Refer to symptom *NO RESPONSE FROM PCM (PCI BUS) in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase the DTC from Instrument Cluster. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this DTC reset? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The conditionis not present at this time. Monitor DRBIII® parameters while wiggling the related wire harness. Refer to any Technical Service Bulletins (TSB) that may apply. Wisually inspect the related wiring harness and connector terminals. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
SKIM MESSAGE NOT RECEIVED BY MIC

When Monitored and Set Condition:

SKIM MESSAGE NOT RECEIVED BY MIC

When Monitored: Monitored during ignition on.

Set Condition: No SKIM messages received for 6 seconds.

POSSIBLE CAUSES
NO RESPONSE - PCI BUS - SKIM
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, select THEFT ALARM, then SKIM. Is there a response from the SKIM Module? Yes → Go To 2 No → Refer to symptom BUS +/- SIGNALS OPEN FROM SKIM in the COMMUNICATIONS category. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase the DTC from Instrument Cluster. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this 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:
*AIRBAG INDICATOR NOT OPERATING PROPERLY

POSSIBLE CAUSES
ACM DTC PRESENT
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition from the Lock to the Run position. This will start the Airbag bulb check. Did the Airbag indicator illuminate? Yes → Go To 2 No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, read DTCs. Are there any Airbag or Instrument Cluster DTCs present? Yes → Refer to symptom list for problems related to Airbag or Instrument Cluster. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
*ALL GAUGES INOPERATIVE

POSSIBLE CAUSES
FUSED B(+) CIRCUIT SHORT TO GROUND
FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORT TO GROUND
GROUND CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure there is PCI Bus Communication with the Instrument Cluster, PCM and BCM before proceeding with this test.** Turn the ignition off. Remove and inspect the Junction Block Fuse #17. If the fuse is open, replace with proper rated fuse. Turn the ignition on and wait approximately 1 minute. Turn the ignition off. Remove and inspect the Junction Block Fuse #17. Is the fuse open? Yes → Go To 2 No → Go To 3	All
2	Turn the ignition off. Remove the Junction Block Fuse #17 Disconnect the Instrument Cluster harness connector. Measure the resistance between ground and the Fused B(+) circuit. Is the resistance below 100 ohms? Yes → Repair the fused B(+) circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Remove and inspect the Junction Block Fuse #22. If the fuse is open, replace with proper rated fuse. Turn the ignition on and wait approximately 1 minute. Turn the ignition off. Remove and inspect the Junction Block Fuse #22. Is the fuse open? Yes → Go To 4 No → Go To 5	All

*ALL GAUGES INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Turn the ignition off. Disconnect the Instrument Cluster harness connector. Measure the resistance between ground and the Fused Ignition Switch Output circuit. Is the resistance below 100 ohms? Yes → Repair the Fused Ignition Switch Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Turn all interior and exterior lights off. Disconnect the Instrument Cluster harness connector. Close all vehicle doors. Measure the resistance of both Instrument Cluster Ground circuits. Was the resistance in either ground circuit above 5.0 ohms? Yes → Repair the Instrument Cluster Ground 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:
*BRAKE INDICATOR INOPERATIVE

POSSIBLE CAUSES
BRAKE FLUID LEVEL SWITCH
PARK BRAKE SWITCH
RED BRAKE WARNING INDICATOR DRIVER CIRCUIT OPEN
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any Brake, MIC, or Communication DTCs before proceeding with this test.** Is the BRAKE indicator only inoperative with the Park Brake engaged? Yes → Go To 2 No → Replace the Brake Fluid Level Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Park Brake Switch harness connector. Connect a jumper wire between the Red Brake Warning Indicator Driver circuit and ground. Turn the ignition on. Observe the BRAKE indicator. Did the BRAKE indicator illuminate? Yes → Replace the Park Brake 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 Park Brake Switch harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance of the Red Brake Warning Indicator Driver circuit. Is the resistance above 5.0 ohms? Yes → Repair the Red Brake Warning Indicator Driver 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:
*BRAKE WARNING INDICATOR ALWAYS ON

POSSIBLE CAUSES
DTC PRESENT
RED BRAKE WARNING INDICATOR SWITCH
RED BRAKE WARNING INDICATOR DRIVER CIRCUIT SHORT TO GROUND
PARK BRAKE SWITCH
PARK BRAKE - RED BRAKE WARNING INDICATOR DRIVER CIRCUIT SHORT TO GROUND
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the Brake Fluid Level is properly filled and the Brake Fluid Level Switch harness connector is properly connected.** With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 15 seconds. With the DRBIII®, read DTCs. Does the DRBIII® display any Brake or MIC Indicator DTCs? Yes → Refer to symptom list for problems related to BRAKE FLUID LEVEL SWITCH CIRCUIT or BRAKE LAMP DTCs. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Brake Fluid Level Switch harness connector. Measure the resistance of the Red Brake Warning Indicator Switch between pin 1 and pin 2. Is the resistance below 100 ohms? Yes → Replace the Red Brake Warning Indicator (Fluid Level) 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 Red Brake Warning Indicator (Fluid Level) Switch harness connector. Disconnect the CAB harness connector. Measure the resistance between ground and the Red Brake Warning Indicator Driver circuit. Is the resistance below 5.0 ohms? Yes → Repair the Red Brake Warning Indicator Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

*BRAKE WARNING INDICATOR ALWAYS ON — Continued

TEST	ACTION	APPLICABILITY
4	**NOTE: Ensure that the Brake Fluid Level Switch and Instrument Cluster harness connectors are properly connected.** Disconnect the Park Brake Switch harness connector. With the DRBIII® in Inputs/Outputs, read the Park Brake Switch state. Does the DRBIII® display ″Open″? Yes → Replace the Park Brake Switch in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Park Brake Switch harness connector. Disconnect the Instrument Cluster harness connector. Measure the resistance between ground and the Park Brake Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Park Brake - Red Brake Warning Indicator 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:

***CHECK ENGINE INDICATOR NOT OPERATING PROPERLY**

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition from the Lock to the Run position. This will start the MIL indicator bulb check. Did the Check Engine indicator illuminate for approximately 4 seconds and then go out? Yes → Go To 2 No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	Using the DRB read ENGINE DTC's. Are there any PCM DTC's present? Yes → Refer to symptom list for problems related to DRIVEABILITY. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

*CHECK GAUGES INDICATOR INOPERATIVE

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition from the Lock to the Run position. This will start the MIL bulb check. Did the Check Engine indicator illuminate for approximately 4 seconds and then go out? No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 2	All
2	Ensure that the engine temperature, oil pressure, and battery voltage are operating properly before proceeding with this test. With the DRBIII®, read ENGINE DTC's. Are there any PCM DTC's present? Yes → Refer to symptom list for problems related to DRIVEABILITY. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

*COOLANT LEVEL INDICATOR INOPERATIVE - DIESEL ONLY

POSSIBLE CAUSES
COOLANT LEVEL SENSOR
GROUND CIRCUIT OPEN
COOLANT LEVEL SWITCH SENSE CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Coolant Level Sensor harness connector. **Note: Check connectors - Clean/repair as necessary.** Turn the ignition on. With the DRB enter Body, Body Computer, then Sensors. Connect a jumper wire between the Coolant Level Switch Sense circuit and the Ground circuit. With the DRB observe the Coolant Level Sw voltage. Does the DRB display voltage at 0.0 volt? Yes → Replace the Coolant Level Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Coolant Level Sensor harness connector. **Note: Check connectors - Clean/repair as necessary.** Measure the resistance between ground and the Sensor Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Coolant Level Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition off. Disconnect the Coolant Level Sensor harness connector. Disconnect the BCM C2 harness connector. **Note: Check connectors - Clean/repair as necessary.** Measure the resistance of the Coolant Level Switch Sense circuit between the Coolant Level Sensor harness connector and the BCM C2 harness connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Coolant Level Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*CRUISE ON INDICATOR NOT OPERATING PROPERLY

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, read engine DTC's. Are there any PCM DTC's present? Yes → Refer to the Driveability category for the related symptom(s) involving the Speed Control System. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Ensure there is communication with the Instrument Cluster, PCM and the ABS modules before proceeding with this test. Perform the Instrument Cluster Self Test. The self test can be performed with the DRBIII® or manually using the following procedure: Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. **NOTE: The Cruise indicator in the PRNDL should illuminate for approximately 5 seconds during the self test.** Did the Cruise indicator illuminate for approximately 3 to 6 seconds? Yes → Test Complete. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*FUEL GAUGE NOT OPERATING PROPERLY

POSSIBLE CAUSES
INSTRUMENT CLUSTER
FUEL LEVEL SENSOR

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any PCM or Communication DTCs before proceeding with this test.** Perform the Instrument Cluster Self Test. The self test can be performed with the DRBIII® or manually using the following procedure: Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. Observe the Fuel gauge during the self test. The Fuel gauge should position the indicator needle at the following calibration points: Empty Stop Empty 1/2 Full Full Stop Did the Fuel gauge position at the proper calibration points? Yes → Refer to the Service Information for problems related to the Fuel Sending Unit. 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:
*HIGH BEAM INDICATOR INOPERATIVE

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the Exterior High Beam Headlamps operate properly before proceeding with this test.** **NOTE: Ensure that there is communication between the Instrument Cluster and the BCM before proceeding with this test.** Perform the Instrument Cluster Self Test. The self test can be performed with the DRBIII®, or manually using the following procedure: Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. Observe the High Beam indicator during the Self Test. Did the High Beam indicator illuminate for approximately 4 seconds and then turn off? Yes → Test Complete. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*INSTRUMENT CLUSTER DIMMING INOPERATIVE

POSSIBLE CAUSES
DTC PRESENT
ILLUMINATION BULB OR SOCKET
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure there is communication with the Instrument Cluster and the BCM before proceeding with this test.** With the DRBIII®, read BCM DTCs. Does the DRBIII® display any DTCs? Yes → Refer to symptom list for problems related to the Interior Lighting category. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Remove the Instrument Cluster. Remove and check any inoperative illumination bulbs and sockets. Do the bulbs and sockets check okay? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Replace the illumination bulb or socket as necessary in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*LOW COOLANT INDICATOR ALWAYS ON - DIESEL ONLY

POSSIBLE CAUSES
COOLANT LEVEL SENSOR
COOLANT LEVEL SENSE CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the cooling system is correctly filled and operating properly before proceeding with this test.** Disconnect the Coolant Level Switch harness connector. Turn the ignition on. With the DRBIII® in Body Controls, read the Coolant Level SW voltage. Does the DRBIII® display voltage above 4.8 ? Yes → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Coolant Level Sensor harness connector. **Note: Check connectors - Clean/repair as necessary.** Turn the ignition on. With the DRBIII®, read the Coolant Level Sw voltage. Does the DRBIII® display voltage above 4.8 ? Yes → Replace the Coolant Level Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Coolant Level Sensor harness connector. Disconnect the Body Control Module C2 harness connector. **Note: Check connectors - Clean/repair as necessary.** Measure the resistance between ground and the Coolant Level Switch Sense circuit. Is the resistance below 100.0 ohms? Yes → Repair the Coolant Level 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

Symptom:

*LOW FUEL INDICATOR INOPERATIVE

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: The Low Fuel indicator is activated by the MIC using fuel data received from the PCM and Fuel Gauge needle position.** **NOTE: Ensure that MIC and PCM communications and the Fuel Gauge operate properly before proceeding with this test.** Perform the Instrument Cluster Self Test. The self test can be performed with the DRBIII® or manually using the following procedure: Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. Observe the Low Fuel indicator during the Self Test. Did the Low Fuel indicator illuminate for approximately 4 seconds and then turn off? Yes → Test Complete. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***O/D OFF INDICATOR INOPERATIVE**

POSSIBLE CAUSES
MIC SELF TEST
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	Perform the Instrument Cluster Self Test. The self test can be performed with the DRBIII® or manually using the following procedure: Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. Observe the O/D OFF indicator during the Self Test. Did the O/D OFF indicator illuminate for approximately 4 seconds and then turn off? No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. Yes → Refer to Transmission Diagnostic information for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*OIL PRESSURE GAUGE NOT OPERATING PROPERLY

POSSIBLE CAUSES
DTC PRESENT
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: With the DRBIII®, read Powertrain DTC's. If any Oil Pressure Sensor Volts codes are present, refer to symptom list for problems related to Driveability.** Perform the Instrument Cluster Self Test. The self test can be performed with the DRBIII® or manually using the following procedure: Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. The Oil Pressure Gauge should position the indicator needle at the following calibration points: 40 Psi 60 Psi 80 Psi LOW Psi Observe the Oil Pressure Gauge during the self test. Did the Oil Pressure Gauge operate correctly during the self test? Yes → Refer to Driveability Diagnostic information for the related symptom(s). 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:
*SKIM INDICATOR INOPERATIVE

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any SKIM or Communication DTCs before proceeding with this test.** Turn the ignition from the Off position to the Run position and observe the bulb check. Did the Skim indicator illuminate briefly and then turn off? No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. Yes → Test Complete.	All

Symptom:
*SPEEDOMETER NOT OPERATING PROPERLY

POSSIBLE CAUSES
ABS TIRE PROGRAMMING
SPEEDOMETER INPUT - PROBLEM
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose any PCM or Communication DTCs before proceeding with this test.** **NOTE: Ensure that the ABS module is programmed with the correct tire size.** Perform the Instrument Cluster Self Test using the DRBIII®, or manually using the following procedure: Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. The Speedometer should position the indicator needle at the following calibration points: 0 MPH 20 MPH (25 MPH - UK) (40 Km/H) 55 MPH (50 MPH - UK) (80 Km/H) 75 MPH (75 MPH - UK) (120 Km/H) 110 MPH (110 MPH - UK) (230 Km/H) (200 Km/H AUS/JAPAN) Did the Speedometer operate correctly during the self test? Yes → Go To 2 No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, verify that the ABS Tire Size is correctly programmed. Is the Tire Size programmed correctly? Yes → Refer to Powertrain Diagnostic information for the releated symptom(s). Perform BODY VERIFICATION TEST - VER 1. No → Using the Diagnostic (Transmission, or Chassis)/Service Manual Information as a guide, program the correct tire size and then verify that the Speedometer is working. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*TACHOMETER NOT OPERATING PROPERLY

POSSIBLE CAUSES
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any PCM or Communication DTCs before proceeding with this test.** Perform the Instrument Cluster Self Test. The self test can be performed using the DRBIII® or manually using the following procedure: Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. Observe the Tachometer during the self test. The Tachometer should position the indicator needle at the following calibration points: 0 RPM 800 RPM 3000 RPM (2500 RPM Diesel) 7000 RPM (6000 RPM Diesel) Did the Tachometer position at the proper calibration points? Yes → 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. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*TEMPERATURE GAUGE INOPERATIVE

POSSIBLE CAUSES
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the cooling system operates properly before proceeding with this test.** **NOTE: Diagnose and repair any PCM, MIC, BCM, or Communication DTCs before proceeding with this test.** Perform the Instrument Cluster self test. The self test can be performed manually or with using the DRBIII®. Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. Observe the Temperature gauge during the self test. The Temperature gauge should position the indicator needle at the following calibration points: 40°C (100°F) 100°C (210°F) 122°C (250°F) Temp High Temp Critical Did the Temperature gauge indicate the proper calibration points? Yes → 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. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*TRANS OVER TEMP INDICATOR INOPERATIVE

POSSIBLE CAUSES
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any Transmission, PCM, or Communication DTCs before proceeding with this test.** Perform the Instrument Cluster Self Test. The self test can be performed with the DRBIII® or manually using the following procedure: Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. Observe the Trans Over Temp indicator during the self test. Did the Trans Temp indicator illuminate for approximately 4 seconds then turn off? Yes → Test Complete. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*VOLTMETER INOPERATIVE

POSSIBLE CAUSES
INTERMITTENT CONDITION
INSTRUMENT CLUSTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any Charging System faults or PCM DTCs before proceeding with this test.** **NOTE: Ensure that there is communication with the Instrument Cluster and the PCM before proceeding with this test.** Perform the Instrument Cluster Self Test. The self test can be performed manually or using the DRBIII®. Turn the ignition off. Press and hold the Trip Reset button. Turn the ignition on. Observe the Voltmeter during the self test. The Voltmeter should position the indicator needle at the following calibration points: 9 Volts 14 Volts 16 Volts Did the Voltmeter position the indicator needle at the proper calibration points? Yes → 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. No → Replace the Instrument Cluster in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*WATER IN FUEL INDICATOR PROBLEMS - DIESEL ONLY

POSSIBLE CAUSES
INSTRUMENT CLUSTER
POWERTRAIN FAULT CONDITION

TEST	ACTION	APPLICABILITY
1	Turn the ignition from the Off position to the Run position. Observe the Water In Fuel indicator during the bulb check. Did the Water In Fuel indicator illuminate briefly and then turn off? Yes → Refer to the Powertrain Diagnostic information for the related symptom(s). 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:
DIM SW SHORT TO GROUND

When Monitored and Set Condition:

DIM SW SHORT TO GROUND

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: The voltage of the Panel Lamps Dimmer Signal circuit has gone below 0.3 volts for 5 seconds.

POSSIBLE CAUSES
LEFT MULTIFUNCTION SWITCH SHORTED
PANEL LAMPS DIMMER SIGNAL CIRCUIT SHORT TO GROUND
HEADLAMP SWITCH RETURN CIRCUIT SHORT TO GROUND
BCM

TEST	ACTION	APPLICABILITY
1	Disconnect the Left Multifunction switch connector. Turn ignition on. With the DRBIII® in Sensors, read the Panel Lamp voltage. Is the voltage below 4.0 volts? Yes → Go To 2 No → Replace the Left Multifunction switch. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the Left Multi-function switch connector. Disconnect the Body Control Module C1 connector. Measure the resistance of the Panel Lamps Dimmer Signal circuit to a known good ground. Is the resistance below 1000 (1K)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 ignition off. Disconnect the Left Multi-function switch connector. Disconnect the Body Control Module C1 connector. Measure the resistance of the Headlamp Switch Return circuit to a known good ground. Is the resistance below 1000 (1K)ohms? Yes → Repair the Headlamp Switch Return circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All

DIM SW SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
4	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DIMMER SWITCH OPEN CIRCUIT

When Monitored and Set Condition:

DIMMER SWITCH OPEN CIRCUIT

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: Any time the voltage on the Panel Lamps Dimmer Signal circuit exceeds 4.8 volts for 5 seconds.

POSSIBLE CAUSES
PANEL LAMP DIMMER SWITCH
PANEL LAMPS DIMMER SIGNAL CIRCUIT OPEN
HEADLAMP SWITCH RETURN OPEN
BCM

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Disconnect the Left Multifunction switch connector. Connect a jumper wire between Panel Lamp Dimmer Signal circuit and Headlamp Switch Return. Turn the ignition on. With the DRBIII® in Sensors, read the Panel Lamps voltage. Does the DRBIII® display Panel Lamp voltage below 0.5 volts ? Yes → Replace the Left Multifunction switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn ignition off. Disconnect the Left Multi-function switch connector. Disconnect the Body Control Module C1 connector. Using an ohmmeter measure the Panel Lamps Dimmer Signal circuit from the BCM C1 connector to the left multi-function switch connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Panel Lamps Dimmer Signal circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the Left Multi-function switch connector. Disconnect the Body Control Module C1 connector. Using an ohmmeter measure the Headlamp Switch Return circuit from BCM to Left Multi-function. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open headlamp switch return circuit. Perform BODY VERIFICATION TEST - VER 1.	All

DIMMER SWITCH OPEN CIRCUIT — Continued

TEST	ACTION	APPLICABILITY
4	If there are no possible causes remaining, view repair Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LAMP FADE FAILURE SHORT TO BATTERY

When Monitored and Set Condition:

LAMP FADE FAILURE SHORT TO BATTERY

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: The BCM has detected a short to battery on either the Courtesy Lamp Driver circuit or the Courtesy Lamp Control circuit for 5 seconds.

POSSIBLE CAUSES
SHORTED COURTESY LAMP BULB
COURTESY LAMP CONTROL CIRCUIT SHORTED TO BATTERY
COURTESY LAMP DRIVER CIRCUIT SHORTED TO BATTERY
BCM, COURTESY LAMP CIRCUIT

TEST	ACTION	APPLICABILITY
1	**Note: Repeat this test for each of the following bulbs before proceeding to the next test: Instrument Panel Courtesy (2), Rear Reading (2), Front Overhead (2), and Liftgate.** Turn ignition off. Remove one of the bulbs listed in the previous pop up message. Note: after this test leave the bulb out. Turn ignition on. Using the DRB erase all BCM DTC's. Using the DRB read BCM DTC's. Is the ″Lamp Fade Failure Short to battery″ DTC present? Yes → Go To 2 No → Replace bulb, and reinstall all other bulbs removed during testing. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Remove fuse # 8 from the Junction Block. Disconnect the BCM C1 connector. Turn ignition on. Measure the voltage of the Courtesy Lamp Control circuit in the BCM C1 connector. Is there any voltage? Yes → Repair the Courtesy Lamp Control circuit for a short to battery and reinstall all bulbs removed during testing. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

LAMP FADE FAILURE SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect Fuse # 8. Disconnect the Junction Block C1 Connector. Turn ignition on. Measure the voltage of the Courtesy Lamp Driver circuit in the Junction Block C1 connector (cav 16). Is there any voltage? Yes → Repair the Courtesy Lamp Driver circuit for a short to battery and reinstall all bulbs removed during testing. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module (BCM) and reinstall all bulbs removed durning testing. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
LOAD SHED FAILURE SHORT TO BATTERY

When Monitored and Set Condition:

LOAD SHED FAILURE SHORT TO BATTERY

When Monitored: Ignition in RUN and IOD fuse/connector installed

Set Condition: The BCM has detected a short to battery on the Interior Load Shed circuit for 5 seconds

POSSIBLE CAUSES
SHORTED GLOVE BOX LAMP BULB
INTERIOR LAMP LOAD SHED CONTROL SHORT TO BATTERY (COURTESY)
INTERIOR LAMP LOAD SHED CONTROL SHORT TO BATTERY (GLOVE BOX)
BCM, INTERIOR LAMP LOAD SHED CONTROL

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Remove the Glove Box lamp bulb. Turn ignition on. Using the DRB erase all BCM DTC's. Using the DRB read BCM DTC's. Is the ″Load Shed Failure Short to battery″ DTC present? Yes → Go To 2 No → Replace bulb. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Ensure the Glove Box is closed with the Lamp switch in the off position. Disconnect the BCM C1 connector. Turn ignition on. Measure the voltage of the Interior Lamp Load Shed Control circuit in the C1 connector. Is there any voltage? Yes → Repair the Interior Lamp Load Shed Control circuit for a short to battery. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

LOAD SHED FAILURE SHORT TO BATTERY — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Ensure all of the Overhead, Rear Reading and Vanity Lamp Switches are in the off position. Disconnect the Junction Block C-1 connector. Turn ignition on. Measure the voltage of the Interior Lamp Load Shed Control circuit in the J/B C1 connector. Is there any voltage? Yes → Repair the Interior Lamp Load Shed Control circuit for a short to battery. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module (BCM). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
PANEL LAMP DRIVER FAILURE

When Monitored and Set Condition:

PANEL LAMP DRIVER FAILURE

When Monitored: Ignition in RUN and IOD fuse/connector installed.

Set Condition: This condition is set if the panel lamp driver that illuminates the I/P shuts down from an over temp condition for at least 5 seconds.

POSSIBLE CAUSES
DRIVER HEATED SEAT SWITCH SHORTED TO GROUND
PASSENGER HEATED SEAT SWITCH SHORTED TO GROUND
HVAC CONTROL PANEL SHORTED TO GROUND
PRNDL ILLUMINATION SHORTED TO GROUND
ASH RECEIVER BULB OR SOCKET SHORTED TO GROUND
RADIO SHORTED TO GROUND
PANEL LAMPS DRIVER CIRCUIT SHORTED TO GROUND (HVAC)
PANEL LAMPS DRIVER CIRCUIT SHORTED TO GROUND (PRNDL)
PANEL LAMPS DRIVER CIRCUIT SHORTED TO GROUND (RADIO)
PANEL LAMPS DRIVER CIRCUIT SHORTED TO GROUND (ASH RECEIVER)
PANEL LAMPS DRIVER CIRCUIT SHORTED TO GROUND (HEATED SEATS)
BCM, PANEL LAMP DRIVER FAILURE

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Disconnect the Drivers Heated Seat Switch. Turn ignition on. Erase Body Diagnostic Trouble Codes. Wait 5 seconds then read BCM DTC's. Is the ″Panel Lamps Driver″ DTC present? Yes → Go To 2 No → Replace the drivers heated seat switch. Perform BODY VERIFICATION TEST - VER 1.	All

PANEL LAMP DRIVER FAILURE — Continued

TEST	ACTION	APPLICABILITY
2	Turn ignition off. Disconnect the Passengers Heated Seat Switch. Turn ignition on. Erase Body Diagnostic Trouble Codes. Wait 5 seconds then read BCM DTC's. Is the "Panel Lamps Driver" DTC present? Yes → Go To 3 No → Replace the Passenger Heated Seat Switch. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the appropriate HVAC Control panel connector. C-1 for manual or C-2 for automatic system. Turn ignition on. Erase Body Diagnostic Trouble Codes. Wait 5 seconds then read BCM DTC's. Is the "Panel Lamps Driver" DTC present? Yes → Go To 4 No → Replace the HVAC Control panel assemble. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the PRNDL/Transfer Case Illumination connector. Turn ignition on. Erase Body Diagnostic Trouble Codes. Wait 5 seconds then read BCM DTC's. Is the "Panel Lamps Driver" DTC present? Yes → Go To 5 No → Repair or replace the shorted PRNDL/Transfer Case Illumination. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn ignition off. Disconnect the ash receiver. Turn ignition on. Erase Body Diagnostic Trouble Codes. Wait 5 seconds then read BCM DTC's. Is the "Panel Lamps Driver" DTC present? Yes → Go To 6 No → Repair the ash receiver bulb or socket for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn ignition off. Disconnect the radio C1 connector. Turn ignition on. Erase Body Diagnostic Trouble Codes. Wait 5 seconds then read BCM DTC's. Is the "Panel Lamps Driver" DTC present? Yes → Go To 7 No → Repair or replace the Radio. Perform BODY VERIFICATION TEST - VER 1.	All

PANEL LAMP DRIVER FAILURE — Continued

TEST	ACTION	APPLICABILITY
7	Turn ignition off. Disconnect the appropriate HVAC Control panel connector. C-1 for manual or C-2 for automatic system. Disconnect the BCM (Body Control Module) C1 connector. Measure the resistance of the Panel Lamps Driver circuit in the BCM C1 connector (cav. 10). Is the resistance below 5.0 ohms? Yes → Repair the Panel Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Turn ignition off. Disconnect the PRNDL/Transfer Case Illumination connector. Disconnect the BCM (Body Control Module) C1 connector. Measure the resistance of the Panel Lamps Driver circuit in the BCM C1 connector (cav. 9). Is the resistance below 5.0 ohms? Yes → Repair the Panel Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Turn ignition off. Disconnect the radio C1 connector. Disconnect the BCM (Body Control Module) C1 connector. Measure the resistance of the Panel Lamps Driver circuit in the BCM C1 connector (cav. 13). Is the resistance below 5.0 ohms? Yes → Repair the Panel Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 10	All
10	Turn ignition off. Disconnect the ash receiver lamp. Disconnect the BCM (Body Control Module) C1 connector. Measure the resistance of the Panel Lamps Driver circuit in the BCM C1 connector (cav. 8). Is the resistance below 5.0 ohms? Yes → Repair the Panel Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	Turn ignition off. Disconnect the driver and passenger heated seat switches. Disconnect the BCM (Body Control Module) C1 connector. Measure the resistance of the Panel Lamps Driver circuit in the BCM C1 connector (cav. 12). Is the resistance below 5.0 ohms? Yes → Repair the Panel Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 12	All

PANEL LAMP DRIVER FAILURE — Continued

TEST	ACTION	APPLICABILITY
12	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*ALL COURTESY LAMPS INOPERATIVE

POSSIBLE CAUSES
FUSE #8 BLOWN CIRCUIT NOT SHORTED
FUSED B+ CIRCUIT OPEN
FUSED B+ CIRCUIT SHORTED TO GROUND
BCM

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Remove and inspect fuse #8. Is the fuse blown? Yes → Go To 2 No → Go To 3	All
2	Turn ignition off. Remove fuse #8 from the Junction Block. Measure the resistance of the Fused B+ circuit (upper cavity of fuse #8) to a known good ground. Is the resistance below 5.0 ohms? Yes → Repair the Fused B+ circuit for a short to ground and replace the blown fuse. Perform BODY VERIFICATION TEST - VER 1. No → Replace blown fuse #8. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Remove fuse #8 from the Junction Block. Remove the driver's side rear seat overhead reading lamp lens cover. Measure the resistance of the Fused B+ circuit between Fuse #8 (top cavity) and the Rear Passenger's overhead reading lamp (Fused B+ side). Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Fused B+ circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace BCM (Body Control Module). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ASH TRAY LAMP INOPERATIVE

POSSIBLE CAUSES
BCM DTC
ASH RECEIVER BULB OPEN
OPEN GROUND CIRCUIT
PANEL LAMPS DRIVER CIRCUIT OPEN
BCM

TEST	ACTION	APPLICABILITY
1	Read Body Diagnostic Trouble Codes. Is there a Park Lamp Relay Circuit Shorted Lo/Open DTC? Yes → Refer to symptom Park Lamp Relay Circuit Shorted Lo/Open in the Exterior Lighting. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove and inspect the Ash Receiver bulb. Is the bulb OK? Yes → Go To 3 No → Replace the Ash Receiver bulb. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the Ash Receiver connector. Measure the resistance of the Ground circuit in the Ash Receiver connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the Ash Receiver connector. Disconnect the BCM C1 connector. Measure the resistance of the Panel Lamps Driver circuit between the Ash Receiver connector and the BCM C1 connector (cav. #8). Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Panel Lamps Driver circuit. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the BCM. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*COURTESY LAMPS INOPERATIVE (EXCEPT FRONT DOORS)

POSSIBLE CAUSES
BULBS
OPEN FUSED B(+)
COURTESY LAMP CONTROL CIRCUIT OPEN
BCM, COURTESY LAMP

TEST	ACTION	APPLICABILITY
1	Remove and check inoperative bulbs. Are the bulbs OK? Yes → Go To 2 No → Replace the bulbs. Perform BODY VERIFICATION TEST - VER 1.	All
2	Measure the voltage of the Fused B(+) circuit to the Lamp. Is the voltage above 10.0 volts? Yes → Go To 3 No → Repair the open Fused B(+) circuit back to splice. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the BCM C1 connector. Gain access to an inoperative bulb. Measure the Courtesy Lamp Control circuit from the BCM C1 connector to the bulb connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Courtesy Lamp Control circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module (BCM). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***COURTESY LAMPS INOPERATIVE FROM DOME LAMP SWITCH ONLY**

POSSIBLE CAUSES
DTC PRESENT
LEFT MULTI FUNCTION SWITCH DIMMER OPEN
BCM DIMMER INOPORATIVE

TEST	ACTION	APPLICABILITY
1	Turn ignition on. Using the DRBIII®, read body DTCs. Are there any DTCs present? Yes → Select the appropriate DTC from the symptom list and perform repair as needed. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn ignition off. Disconnect the Left Multi Function Switch Connector. Connect an ohmmeter between the Panel Lamps Dimmer Signal circuit and the Headlamp Switch Return circuit in the Left Multi-Funtion Switch. Observe the ohmmeter while rotating the dimmer on the Left Multi-Function Switch. Did the resistance vary between approximately 60 and 7900 (7.9K) ohms? Yes → Go To 3 No → Replace the Left Multi Function Switch. Perform BODY VERIFICATION TEST - VER 1.	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:

***COURTESY LAMPS INOPERATIVE FROM DRIVERS FRONT DOOR ONLY**

POSSIBLE CAUSES
OPEN GROUND WIRE
OPEN DRIVER DOOR AJAR SWITCH SENSE
DRIVER DOOR AJAR SWITCH
DRIVER DOOR MODULE (AJAR SWITCH OPEN)
BODY CONTROL MODULE - DRIVER DOOR AJAR OPEN

TEST	ACTION	APPLICABILITY
1	Open the Drivers door. With the DRB III select: Body Door Modules Input Output Read the Drv Door Ajar Sw state. Does the DRB III Show: CLOSED? Yes → Go To 2 No → Go To 3	All
2	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Driver Door Lock Motor/Ajar switch connector Measure the resistance of the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open ground wire to the door ajar switch connector. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Driver Door Module C1 connector. Disconnect the Door Lock Motor/Ajar Switch connector. Measure the resistance of the Driver Door Ajar Switch Sense circuit between the door lock motor/ajar switch connector and the DDM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Driver Door Ajar Switch Sense wire. Perform BODY VERIFICATION TEST - VER 1.	All

*COURTESY LAMPS INOPERATIVE FROM DRIVERS FRONT DOOR ONLY — Continued

TEST	ACTION	APPLICABILITY
5	Remove the inner door trim panel. Disconnect the Driver Door Module C1 connector. Ensure the door is left open during this test. Measure the resistance of the Driver Door Ajar Switch Sense circuit in the DDM C1 connector to ground. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Replace the Driver Door Lock Motor/Ajar Switch Assy. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***COURTESY LAMPS INOPERATIVE FROM LEFT REAR DOOR ONLY**

POSSIBLE CAUSES
OPEN DOOR AJAR SWITCH SENSE (LEFT REAR)
OPEN GROUND WIRE
LEFT REAR DOOR AJAR SWITCH
BODY CONTROL MODULE (AJAR SWITCH OPEN)

TEST	ACTION	APPLICABILITY
1	Open the Left Rear door. With the DRB III select: Body Computer Input/Output Read the Left Rear Door Ajar SW state. Does the DRBIII Show: ″CLOSED″? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the inner door trim panel. Disconnect the Junction Block C1 connector. Disconnect the Left Rear Door Lock Motor/Ajar Switch connector. Measure the resistance of the Door Ajar Switch Sense LR circuit between the door lock motor/ajar switch connector and the Junction Block C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Door Ajar Switch Sense wire (Left Rear). Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Driver Rear Door Lock Motor/Ajar switch connector Measure the resistance of the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open ground wire to the door ajar switch connector. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the inner door trim panel. Disconnect the Junction Block ″C1″ connector. Ensure the door is left open during this test. Measure the resistance of the Door Ajar Switch Sense (LR) circuit in the Junction Block ″C1″ connector to ground. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Replace the Door Lock Motor/Ajar Switch Assy. Perform BODY VERIFICATION TEST - VER 1.	All

*COURTESY LAMPS INOPERATIVE FROM LEFT REAR DOOR ONLY — Continued

TEST	ACTION	APPLICABILITY
5	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*COURTESY LAMPS INOPERATIVE FROM LIFTGATE

POSSIBLE CAUSES
BCM, LAMPS DISABLED
CARGO LAMP
COURTESY LAMP DISABLE
OPEN GROUND WIRE
OPEN LIFTGATE AJAR SWITCH SENSE
OPEN LIFTGATE AJAR SWITCH
BODY CONTROL MODULE (LIFTGATE AJAR SWITCH OPEN)

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs Outputs read the Lift Gate Lmp Disable state while depressing the cargo lamp lens switch on and off. Did the disable switch toggle? Yes → Go To 2 No → Go To 7	All
2	With the DRB III select: Body Computer Input/Output Read the Liftgate Sw state with the Liftgate open. Does the DRBIII Show: CLOSED? Yes → If there are no possible causes remaining, replace the BCM. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect either the right or left side Liftgate Ajar Switch connector. Measure the resistance of the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open ground wire to the ajar switch connector. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Junction Block C1 connector. Disconnect either the right or left side Liftgate Ajar Switch. Measure the resistance of the Liftgate Flip-up Ajar Switch Sense circuit between the disconnected Flip-up Ajar Switch connector and the Junction Block C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Liftgate Ajar Switch Sense wire. Perform BODY VERIFICATION TEST - VER 1.	All

*COURTESY LAMPS INOPERATIVE FROM LIFTGATE — Continued

TEST	ACTION	APPLICABILITY
5	Disconnect the suspect faulty right or left Liftgate ajar switch connector. Ensure the latch is in the unlatched position for the particular switch. Using an ohmmeter measure the resistance of the Ajar Switch. Is the resistance below 2.0 ohms? Yes → Go To 6 No → Replace the Liftgate Ajar Switch Assy. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
7	At the Cargo Lamp connector backprobe and measure the voltage of the liftgate courtesy lamp disable circuit with switch in both positions. Is the voltage below 0.5 volt in either position? Yes → If there are no possible causes remaining, replace the BCM. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Disconnect the cargo lamp connector. Measure the voltage of the liftgate courtesy lamp disable circuit. Is the voltage above 2.0 volts? Yes → Repair the courtesy lamp disable circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Cargo Lamp assemble. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***COURTESY LAMPS INOPERATIVE FROM LIFTGATE FLIP-UP GLASS ONLY**

POSSIBLE CAUSES
OPEN GROUND WIRE
OPEN LIFTGATE AJAR SWITCH SENSE
BCM FLIP-UP AJAR SWITCH OPEN
OPEN LIFTGATE FLIP-UP AJAR SWITCH

TEST	ACTION	APPLICABILITY
1	With the DRB III select: Body Computer Input/Output Read the Liftglass Sw state with the Liftgate flip-up glass open. Does the DRBIII Show: CLOSED? Yes → Go To 2 No → Go To 3	All
2	If there are no potential causes remaining, replace the Body Control Module. View repair options. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Liftgate Flip-up Ajar Switch connector Measure the resistance of the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open ground wire to the ajar switch connector. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Junction Block C1 connector. Disconnect a Liftgate Flip-up Ajar Switch. Measure the resistance of the Liftgate Flip-up Ajar Switch Sense circuit between the disconnected Flip-up Ajar Switch connector and the Junction Block C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Liftgate Ajar Switch Sense wire. Perform BODY VERIFICATION TEST - VER 1.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Liftgate Flip-Up Ajar Switch Assy. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***COURTESY LAMPS INOPERATIVE FROM PASSENGER FRONT DOOR ONLY**

POSSIBLE CAUSES
OPEN GROUND WIRE
OPEN PASSENGER DOOR AJAR SWITCH SENSE WIRE
PASSENGER DOOR AJAR SWITCH
BCM COURTESY LAMPS INOPERATIVE FROM PASSENGER FRONT DOOR ONLY
PASSENGER DOOR MODULE (AJAR SWITCH OPEN)

TEST	ACTION	APPLICABILITY
1	Open the passenger door. With the DRB III select: Body Door Modules Input/Output Read the Pass Door Ajar Sw state. Does the DRBIII Show: CLOSED? Yes → Replace the BCM. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Passenger Door Lock Motor/Ajar switch connector Measure the resistance of the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open ground wire to the door ajar switch connector. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Passenger Door Module C1 connector. Disconnect the Door Lock Motor/Ajar Switch connector. Measure the resistance of the Passenger Door Ajar Switch Sense circuit between the door lock motor/ajar switch connector and the PDM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Passenger Door Ajar Switch Sense wire. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Passenger Door Module ″C1″ connector. Ensure the door is left open during this test. Measure the resistance of the Passenger Door Ajar Switch Sense circuit in the PDM C1 connector to ground. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Replace the Passenger Door Lock Motor/Ajar Switch Assy. Perform BODY VERIFICATION TEST - VER 1.	All

*COURTESY LAMPS INOPERATIVE FROM PASSENGER FRONT DOOR ONLY — Continued

TEST	ACTION	APPLICABILITY
5	If there are no possible causes remaining, view repair. Repair Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***COURTESY LAMPS INOPERATIVE FROM RIGHT REAR DOOR ONLY**

POSSIBLE CAUSES
OPEN GROUND WIRE
OPEN DOOR AJAR SWITCH SENSE (RR)
BODY CONTROL MODULE (AJAR SWITCH OPEN)
RIGHT REAR DOOR AJAR SWITCH
BCM RIGHT REAR DOOR FAILURE

TEST	ACTION	APPLICABILITY
1	Open the Right Rear door. With the DRB III select: Body Body Controlller Input/Output Read the Right Rear Door Ajar Sw state. Does the DRBIII Show: CLOSED? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Passenger Rear Door Lock Motor/Ajar switch connector Measure the resistance of the ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open ground wire to the door ajar switch connector. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Body Control Module C1 connector. Disconnect the Passenger Rear Door Lock Motor/Ajar Switch connector. Measure the resistance of the Door Ajar Switch Sense (Right Rear) circuit between the door lock motor/ajar switch connector and the Body Control Module C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Door Ajar Switch Sense wire (RR). Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Body Control Module C1 connector. Ensure that the door is open during this test. Measure the resistance of the Door Ajar Switch Sense (Right Rear) circuit in the Body Control Module C1 connector to ground. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Replace the Door Lock Motor/Ajar Switch Assy. Perform BODY VERIFICATION TEST - VER 1.	All

*COURTESY LAMPS INOPERATIVE FROM RIGHT REAR DOOR ONLY — Continued

TEST	ACTION	APPLICABILITY
5	If there are no possible causes remaining, view ″Repair″. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***COURTESY LAMPS ON AT ALL TIMES (EXCEPT BOTH FRONT DOOR COURTESY LAMPS IF EQUIP)**

POSSIBLE CAUSES
JUNCTION BLOCK
BCM, COURTESY LAMPS STAY ON
COURTESY LAMP DRIVER CIRCUIT SHORTED TO GROUND

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Ensure the courtesy lamp switch is in the off position. Remove the Body Control Module from the Junction Block. Did the courtesy lamps turn off? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn ignition off. Ensure the courtesy lamp switch is in the off position. Disconnect the Junction Block C-1 connector. Measure the Courtesy Lamp Driver circuit from the Junction Block C1 connector cavity 16 to ground. Is the resistance below 5.0 ohms? Yes → Repair the Courtesy Lamp Driver circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Junction Block Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*DRIVER DOOR COURTESY LAMP INOPERATIVE

POSSIBLE CAUSES
BULB
OPEN COURTESY LAMP DRIVER CIRCUIT
OPEN COURTESY LAMP GROUND CIRCUIT
DRIVER DOOR MODULE COURTESY LAMP

TEST	ACTION	APPLICABILITY
1	Remove and inspect the courtesy lamp bulb. Is the Courtesy Lamp bulb open? Yes → Replace the bulb. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the Driver's Door Courtesy Lamp Bulb. Disconnect the Driver Door Module C-2 connector Measure the Courtesy Lamp Driver circuit from the bulb connector to the Driver Door Module C-2 connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Courtesy Lamp Driver circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the Driver's Door Courtesy Lamp Bulb. Disconnect the Driver Door Module C-2 connector Measure the Courtesy Lamp Ground circuit from the bulb connector to the Driver Door Module C-2 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Courtesy Lamp Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	View repair options. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*GLOVE BOX LAMP INOPERATIVE

POSSIBLE CAUSES
GLOVE BOX BULB
OPEN FUSED B+ CIRCUIT
GLOVE BOX SWITCH
OPEN GLOVE BOX LAMP DRIVER CIRCUIT
BCM

TEST	ACTION	APPLICABILITY
1	Remove and inspect the Glove Box Bulb. Is the bulb OK? Yes → Go To 2 No → Replace the Glove Box Bulb. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the glove box lamp harness connector. Measure the voltage of the Fused B+ circuit. Is the voltage above 10.5 volts? Yes → Go To 3 No → Repair the open Fused B+ circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the glove box lamp harness connector. Disconnect the BCM C1 connector. Measure the resistance of the Glove Box Lamp Driver circuit between the Glove Box Lamp harness connector (cav. 2) and the BCM C1 connector (cav. 23). Is the resistance above 5.0 ohms? Yes → Go To 4 No → Repair the open Glove Box Lamp Driver circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the glove box lamp harness connector. Connect a test light between cavities 1 and 2 of the Glove Box Lamp harness. Did the test light illuminate? Yes → Replace the Glove Box Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	View repair options Repair Replace the BCM (Body Control Module). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*HEATED SEAT SWITCH ILLUMINATION LAMP INOPERATIVE

POSSIBLE CAUSES
DRIVERS HEATED SEAT SWITCH BULB OPEN
PASSENGER HEATED SEAT SWITCH BULB OPEN
OPEN GROUND CIRCUIT (DRIVERS SIDE)
OPEN GROUND CIRCUIT (PASSENGER SIDE)
PANEL LAMPS DRIVER CIRCUIT OPEN (PASSENGER SIDE)
PANEL LAMPS DRIVER CIRCUIT OPEN (DRIVERS SIDE)
BCM

TEST	ACTION	APPLICABILITY
1	Remove and inspect the Drivers Heated Seat Switch bulb. Is the bulb OK? Yes → Go To 2 No → Replace the Drivers Heated Seat Switch bulb. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove and inspect the Passenger Heated Seat Switch bulb. Is the bulb OK? Yes → Go To 3 No → Replace the Passenger Heated Seat Switch bulb. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the Drivers Heated Seat Switch connector. Measure the resistance of the Ground circuit in the Drivers Heated Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the Passenger Heated Seat Switch connector. Measure the resistance of the Ground circuit in the Passenger Heated Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All

*HEATED SEAT SWITCH ILLUMINATION LAMP INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
5	Turn ignition off. Disconnect the Passenger Heated Seat Switch connector. Disconnect the BCM C1 connector. Measure the resistance of the Panel Lamps Driver circuit between the Passenger Heated Seat Switch connector and the BCM C1 connector (cav. #12). Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the open Panel Lamps Driver circuit. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn ignition off. Disconnect the Drivers Heated Seat Switch connector. Disconnect the BCM C1 connector. Measure the resistance of the Panel Lamps Driver circuit between the Drivers Heated Seat Switch connector and the BCM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the open Panel Lamps Driver circuit. Perform BODY VERIFICATION TEST - VER 1.	All
7	View repair options. Repair Replace the BCM. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*HVAC CONTROL ILLUMINATION LAMPS INOPERATIVE

POSSIBLE CAUSES
HVAC CONTROL ILLUMINATION INOPERATIVE
CONTROL HEAD OPEN GROUND CIRCUIT
PANEL LAMPS DRIVER CIRCUIT OPEN
BCM (HVAC ILUMINATION)

TEST	ACTION	APPLICABILITY
1	Disconnect the appropriate HVAC Control panel connector. C-1 for manual or C-2 for automatic system. Connect a test light between the HVAC ground circuit and Panel Lamps Driver circuit in the HVAC connector(s). Turn on the panel lamps and observe the test light. Did the test light illuminate? Yes → Replace the Heater-A/C Control Panel Assembly. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn ignition off. Disconnect the HVAC connectors. Measure the resistance of the Ground circuit in the HVAC C1 or C2 (see connector pinout to determine which connector). Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open HVAC Ground Circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the HVAC connectors. Disconnect the BCM C1 connector. Measure the resistance of the Panel Lamps Driver circuit between the HVAC C1 or C2 connector (refer to connector pinout to determine which connector) and the BCM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open in the Panel Lamps Driver circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	View repair options. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*I/P COURTESY LAMPS INOP

POSSIBLE CAUSES
BCM I/P COURTESY LAMPS INOP
BULBS OPEN
OPEN FUSED B(+)
COURTESY LAMP CONTROL CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Remove and check inoperative bulbs. Are the bulbs OK? Yes → Go To 2 No → Replace the bulbs. Perform BODY VERIFICATION TEST - VER 1.	All
2	Measure the voltage of the Fused B(+) circuit to the Lamp. Is the voltage above 10.0 volts? Yes → Go To 3 No → Repair the open Fused B(+) circuit back to splice. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the BCM C1 connector. Gain access to an inoperative bulb. Measure the Courtesy Lamp Control circuit from the BCM C1 connector to the bulb connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open Courtesy Lamp Control circuit. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***LIFTGATE COURTESY LAMP DISABLE FEATURE INOPERATIVE**

POSSIBLE CAUSES
OPEN FUSED B(+)
OPEN LIFTGATE COURTESY DISABLE CIRCUIT
LIFTGATE COURTESY DISABLE SWITCH
BCM COURTESY DISABLE

TEST	ACTION	APPLICABILITY
1	Disconnect the Cargo Lamp connector. Measure the voltage of the Fused B(+) circuit at the Cargo Lamp connector. Is the voltage above 10.0 volts? Yes → Go To 2 No → Repair the open Fused B(+) circuit to the Cargo Lamp connector. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Cargo Lamp connector. Disconnect the Junction Block C1 connector. Measure the resistance of the Liftgate Courtesy Disable circuit between the Cargo Lamp connector and the Junction Block C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open ″Liftgate Courtesy Disable″ wire. Perform BODY VERIFICATION TEST - VER 1.	All
3	Gain access to the Cargo Lamp connector but do not disconnect. Using a voltmeter backprobe the Liftgate Courtesy Disable circuit at the Cargo Lamp connector while cycling the Disable Switch on and off. Does the voltage toggle from approximatly 10.0 to 0.0 volts? Yes → Go To 4 No → Replace the Liftgate (Cargo) Lamp assemble. Perform BODY VERIFICATION TEST - VER 1.	All
4	View repair options. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***OVERHEAD, REAR AND LIFTGATE LAMPS INOPERATIVE**

POSSIBLE CAUSES
BULBS
OPEN FUSED B(+)
COURTESY LAMP DRIVER CIRCUIT OPEN
BCM COURTESY LAMP DRIVER

TEST	ACTION	APPLICABILITY
1	Remove and check inoperative bulbs. Are the bulbs OK? Yes → Go To 2 No → Replace the bulbs. Perform BODY VERIFICATION TEST - VER 1.	All
2	Measure the voltage of the Fused B(+) circuit to the Lamp. Is the voltage above 10.0 volts? Yes → Go To 3 No → Repair the open Fused B(+) circuit back to splice. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the Junction Block C1 connector. Gain access to an inoperative bulb. Measure the Courtesy Lamp Driver circuit from the Junction Block C1 connector cavity 16 to the bulb connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Courtesy Lamp Driver circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the Dome Lamp Switch to the ON position. Disconnect Fuse # 8 from the Junction Block. While backprobing, measure the resistance of the Courtesy Lamp Driver circuit at the Body Control Module C-1 connector cavity # 8. Is the resistance below 5.0 ohms? Yes → Test Complete. No → Replace the Body Control Module (BCM). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*PASSENGER DOOR COURTESY LAMP INOPERATIVE

POSSIBLE CAUSES
BULB
OPEN COURTESY LAMP DRIVER CIRCUIT
OPEN COURTESY LAMP GROUND CIRCUIT
PASSENGER DOOR MODULE COURTESY LAMP

TEST	ACTION	APPLICABILITY
1	Remove and inspect the courtesy lamp bulb. Is the Courtesy Lamp bulb open? Yes → Replace the bulb. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the Passenger Door Courtesy Lamp Bulb. Disconnect the Passenger Door Module C-2 connector Measure the Courtesy Lamp Driver circuit from the bulb connector to the Passenger Door Module C-2 connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Courtesy Lamp Driver circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the Passenger's Door Courtesy Lamp Bulb. Disconnect the Passenger Door Module C-2 connector Measure the Courtesy Lamp Ground circuit from the bulb connector to the Passenger Door Module C-2 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Courtesy Lamp Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	View repair options. Repair Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*PRNDL/T-CASE ILLUMINATION LAMPS INOPERATIVE

POSSIBLE CAUSES
PRNDL OPEN GROUND CONNECTION
PANEL LAMPS DRIVER CKT OPEN
PRNDL ILLUMINATION
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the PRNDL/Transfer Case Illumination connector. Connect a test light between the ground circuit and the Panel Lamps Driver circuit in the PRNDL/Transfer Case Illumination connector. Turn on the panel lamps and observe the test light. Did the test light illuminate? Yes → Replace the PRNDL/Transfer Case Illumination assembly. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn ignition off. Disconnect the PRNDL/Transfer Case Illumination connector. Measure the resistance of the Ground circuit in the PRNDL connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the PRNDL/Transfer Case Illumination connector. Disconnect the BCM C1 connector. Measure the resistance of the Panel Lamps Driver circuit between the PRNDL connector and the BCM C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open in the Panel Lamps Driver Circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	View repair options. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*RADIO ILLUMINATION LAMPS INOPERATIVE

POSSIBLE CAUSES
RADIO GROUND CIRCUIT OPEN
BCM (RADIO ILLUMINATION)
PANEL LAMPS DRIVER CKT OPEN
RADIO ILLUMINATION

TEST	ACTION	APPLICABILITY
1	Disconnect the Radio C1 connector. Connect a test light between the Radio ground connection and Panel Lamps Driver circuit in the Radio C1 connector. Turn on the panel lamps and observe the test light. Did the test light illuminate? Yes → Repair or replace the Radio. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Radio ground wire. Measure the resistance between ground and the radio ground wire. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Replace or repair the radio ground strap. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Disconnect the Radio C1 connector. Disconnect the BCM C1 connector. Measure the resistance of the Panel Lamps Driver circuit between the Radio C1 connector and the BCM C1 connector (cav. #13). Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open in the Panel Lamps Driver Circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	View repair options. Repair Replace the BCM. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*READING & VANITY LAMPS INOPERATIVE

POSSIBLE CAUSES
BULBS
COURTESY LAMP DRIVER CIRCUIT OPEN
BCM, COURTESY LAMP DRIVER

TEST	ACTION	APPLICABILITY
1	Remove and check inoperative bulbs. Are the bulbs OK? Yes → Go To 2 No → Replace the bulbs. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn ignition off. Disconnect the Junction Block C1 connector. Gain access to an inoperative bulb. Measure the Courtesy Lamp Driver circuit from the Junction Block C1 connector to the bulb connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Courtesy Lamp Driver circuit or Switch. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the Dome Lamp Switch to the ON position. Disconnect Fuse # 8 from the Junction Block. While backprobing, measure the resistance of the Courtesy Lamp Driver circuit at the Body Control Module C-1 connector cavity # 8. Is the resistance below 5.0 ohms? Yes → Test Complete. No → Replace the defective Body Control Module (BCM). Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
FRONT RISER SENSOR OUT OF RANGE HIGH

When Monitored and Set Condition:

FRONT RISER SENSOR OUT OF RANGE HIGH

When Monitored: Igntion on.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value higher than the Memory Seat Module has stored in EEPROM.

POSSIBLE CAUSES
SEAT SENSOR GROUND WIRE OPEN
FRONT RISER SENSOR SIGNAL SHORT TO MOTOR
SEAT SENSOR 5 VOLT SUPPLY SHORT TO BATTERY
FRONT RISER POSITION SIGNAL CKT SHORT TO VOLTAGE
FRONT RISER SENSOR HIGH
MEMORY SEAT MODULE INTERNAL GROUND OPEN
MEMORY SEAT MODULE FRONT RISER HIGH

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Disconnect the Driver Power Seat Front Riser Sensor connector. Measure the resistance of the Seat Position Sensor Ground circuit at the driver power seat front riser connector. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Go To 7	All
2	Ensure all seat and sensor connectors are connected and front riser motor is operational. With the DRB III select: Body Memory Seat Sensors Monitor the Front Riser Position sensor while operating the seat front riser to both limits. Did the voltage ever go above 8.0 volts ONLY when the motor was in operation? Yes → Replace the Seat Track Assembly. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All

FRONT RISER SENSOR OUT OF RANGE HIGH — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Power Seat Front Riser Sensor connector. Disconnect the Seat Module C1 connector. Turn ignition on. Measure the voltage between the Front Riser Position Signal circuit and ground. Is the voltage above 0.2 volts? No → Go To 4 Yes → Repair the Front Riser Position Signal circuit for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
4	Disconnect the Seat Front Riser Position Sensor connector. Measure the voltage between the Seat Sensor 5 volt supply circuit and ground. Is the voltage above 5.5 volts? Yes → Repair the seat sensor 5 volt supply ckt for a short to battery. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 5	All
5	Turn ignition off. Disconnect the Driver Power Seat Front Riser Sensor connector. Ensure the Memory Seat Module is fully connected before proceeding. Turn ignition on. With the DRB III® in Memory Seat Sensors. Read the Front Riser Position Sensor voltage Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Front Riser Sensor connector. Measure the resistance of the Seat Position Sensor Ground wire between the Seat Module connector and the sensor connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Sensor Ground Wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
FRONT RISER SENSOR OUT OF RANGE LOW

When Monitored and Set Condition:

FRONT RISER SENSOR OUT OF RANGE LOW

When Monitored: Ignition on.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value lower than the Memory Seat Module has stored in EEPROM.

POSSIBLE CAUSES
SEAT SENSOR 5 VOLT SUPPLY SHORT TO GROUND
FRONT RISER SENSOR (LOW)
SEAT SENSOR 5 VOLT SUPPLY OPEN
FRONT RISER POSITION SIGNAL CIRCUIT SHORT TO GROUND
FRONT RISER POSITION SIGNAL CIRCUIT OPEN
MEMORY SEAT MODULE INTERNAL 5 VOLT LOW
MEMORY SEAT MODULE INTERNAL SENSE LOW

TEST	ACTION	APPLICABILITY
1	Ensure the Memory Seat Module is fully connected before proceeding. Disconnect the Driver Power Seat Front Riser Sensor connector. Turn ignition on. Measure the voltage of the Seat Sensor 5 Volt Supply circuit. Is the voltage above 4.5 volts? Yes → Go To 2 No → Go To 6	All
2	Turn ignition off. Disconnect the Driver Power Seat Front Riser Sensor connector. Connect a jumper wire between Seat Sensor 5 Volt Supply and Front Riser Position Signal circuits. Ensure the Memory Seat Module is fully connected before proceeding. With the DRBIII® select: Body, Memory Seat and Sensors. Turn ignition on. Read the Front Riser Position Sensor voltage Is the voltage above 4.5 volts? Yes → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All

FRONT RISER SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Front Riser Sensor connector. Measure the resistance of the Front Riser Position Signal circuit to ground. Is the resistance below 1000 (1 K) ohms? Yes → Repair the Front Riser Position Signal Circuit for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All
4	Turn ignition off. Disconnect the Driver Power Seat Front Riser Sensor connector. Disconnect the Seat Module C1 connector. Measure the resistance of the Front Riser Position Signal circuit between the Sensor connector and the Seat Module C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Front Riser Position Signal circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	Turn ignition off. Disconnect the Seat Module C1 connector. Measure the resistance of the Seat Sensor 5 Volt Supply circuit to body ground. Is the resistance below 1000 (1 K) ohms? Yes → Repair the Seat Sensor 5 Volt Supply for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 7	All
7	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Front Riser Sensor connector. Measure the resistance of the Seat Sensor 5 Volt Supply circuit between the Front Riser Sensor connector and the Seat Module C1 connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Sensor 5 Volt Supply circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
HORIZONTAL SENSOR OUT OF RANGE HIGH

When Monitored and Set Condition:

HORIZONTAL SENSOR OUT OF RANGE HIGH

When Monitored: Ignition on.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value higher than the Memory Heated Seat/Mirror Module has stored in EEPROM.

POSSIBLE CAUSES
SEAT SENSOR GROUND WIRE OPEN
SEAT HORIZONTAL POSITION SIGNAL SHORT TO MOTOR
SEAT SENSOR 5 VOLT SUPPLY SHORT TO BATTERY
CHECKING SEAT HORIZONTAL POSITION SIGNAL SHORT TO VOLTAGE
HORIZONTAL POSITION SENSOR HIGH
MEMORY SEAT MODULE INTERNAL GROUND OPEN
MEMORY SEAT MODULE INTERNAL HIGH

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Disconnect the Driver Power Seat Horizontal Position Sensor connector Measure the resistance of the Seat Position Sensor Ground circuit to body ground.. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Go To 7	All
2	Ensure all seat and sensor connectors are connected and front Horizontal motor is operational. With the DRB III select: Body, Memory Seat, and Sensors. Monitor the Horizontal Position sensor while operating the seat horizontally 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 VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All
3	Disconnect the Driver Power Seat Horizontal Position Sensor connector Turn ignition on. Measure the voltage between the Seat Sensor 5 volt supply circuit and ground. Is the voltage above 5.5 volts? Yes → Repair the seat sensor 5 volt supply ckt for a short to battery. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All

HORIZONTAL SENSOR OUT OF RANGE HIGH — Continued

TEST	ACTION	APPLICABILITY
4	Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Horizontal Position Sensor connector Turn ignition on. Measure the voltage between Seat Horizontal Position Signal circuit and ground. Is there any voltage on the Seat Horizontal Position Signal circuit? No → Go To 5 Yes → Repair the Horizontal Position Signal ckt for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	Turn ignition off. Disconnect the Driver Power Seat Horizontal Position Sensor connector Ensure the Memory Seat Module is fully connected before proceeding. Turn ignition on. With the DRBIII® select: Body, Memory Seat and Sensors. Read the Horizontal Position Sensor voltage Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	Turn ignition off. Disconnect the Driver Power Seat Horizontal Position Sensor connector Disconnect the Seat Module C1 connector. Measure the resistance of the Seat Position Sensor Ground wire between the Seat Module connector and the sensor connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Sensor Ground Wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
HORIZONTAL SENSOR OUT OF RANGE LOW

When Monitored and Set Condition:

HORIZONTAL SENSOR OUT OF RANGE LOW

When Monitored: Ignition on.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value lower than the Memory Heated Seat/Mirror Module has stored in EEPROM.

POSSIBLE CAUSES
SEAT SENSOR 5 V SUPPLY SHT GND
HORIZONTAL SENSOR (LOW)
SEAT SENSOR 5 VOLT SUPPLY OPEN
HORIZONTAL POS SIGNAL CKT SHORT TO GROUND
SEAT HORIZONTAL POSITION SIGNAL CKT OPEN
MEMORY SEAT MODULE INTERNAL 5 VOLT SUPPLY
MEMORY SEAT MODULE INTERNAL LOW

TEST	ACTION	APPLICABILITY
1	Ensure the Memory Seat Module is fully connected before proceeding. Disconnect the Driver Power Seat Horizontal Sensor connector. Turn ignition on. Measure the voltage of the Seat Sensor 5 Volt Supply circuit. Is the voltage above 4.5 volts? Yes → Go To 2 No → Go To 6	All
2	Turn ignition off. Disconnect the Driver Power Seat Horizontal Sensor connector. Connect a jumper wire between Seat Sensor 5 Volt Supply and Seat Horizontal Position Signal circuits. Ensure the Memory Seat Module is fully connected before proceeding. With the DRB III select: Body Memory Seat Sensors. Turn ignition on. Read the Horizontal Position Sensor voltage Is the voltage above 4.5 volts? Yes → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All

HORIZONTAL SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Horizontal Sensor connector. Measure the resistance of the Seat Horizontal Position Signal circuit to ground. Is the resistance below 1000 (1 K) ohms? Yes → Repair the Seat Horizontal Position Signal Ckt for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All
4	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Horizontal Sensor connector. Measure the resistance of the Seat Horizontal Position Signal circuit between the Sensor connector and the Seat Module connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Seat Horizontal Position Signal circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	Disconnect the Seat Module C1 connector. Turn ignition off. Measure the resistance of the Seat Sensor 5 Volt Supply circuit to ground. Is the resistance below 1000 (1 K) ohms? Yes → Repair the Seat Sensor 5 Volt Supply for a short to Ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 7	All
7	Disconnect the Driver Power Seat Horizontal Position Sensor connector Disconnect the Seat Module C1 connector. Turn ignition off. Measure the resistance of the Seat Sensor 5 Volt Supply circuit between the Sensor connector and the Module connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Sensor 5 Volt Supply circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

REAR RISER SENSOR OUT OF RANGE HIGH

When Monitored and Set Condition:

REAR RISER SENSOR OUT OF RANGE HIGH

When Monitored: Ignition on.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value higher than the Memory Heated Seat/Mirror Module has stored in EEPROM.

POSSIBLE CAUSES
REAR RISER POSITION SIGNAL SHORT TO MOTOR
SEAT SENSOR GROUND WIRE OPEN
SEAT SENSOR 5 VOLT SUPPLY SHORT TO BATTERY
CHECKING REAR RISER POS SIG SHORT TO VOLTAGE
REAR RISER SENSOR (HIGH)
MEMORY SEAT MODULE - INTERNAL SHORT HIGH
MEMORY SEAT MODULE INTERNAL GROUND OPEN

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Disconnect the Driver Power Seat Rear Riser Sensor connector. Measure the resistance of the Seat Position Sensor Ground circuit at the driver power seat rear riser connector. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Go To 7	All
2	Ensure all seat and sensor connectors are connected and front riser motor is operational. With the DRB III select: Body Memory Seat Sensors Monitor the Rear Riser Position 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 VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All
3	Disconnect the Driver Power Seat Rear Riser Sensor connector. Turn ignition on. Measure the voltage between the Seat Sensor 5 volt supply circuit and ground. Is the voltage above 5.5 volts? Yes → Repair the seat sensor 5 volt supply ckt for a short to battery. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All

REAR RISER SENSOR OUT OF RANGE HIGH — Continued

TEST	ACTION	APPLICABILITY
4	Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Rear Riser Sensor connector. Turn ignition on. Measure the voltage between Rear Riser Position Signal circuit and ground. Is there any voltage on the Rear Riser Position Signal circuit? No → Go To 5 Yes → Repair the Rear Riser Position Signal circuit for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	Turn ignition off. Disconnect the Driver Power Seat Rear Riser Sensor connector. Ensure the Memory Seat Module is fully connected before proceeding. Turn ignition on. With the DRB III select: Body Memory Seat Sensors Read the Rear Riser Position Sensor voltage Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Rear Riser Sensor connector. Measure the resistance of the Seat Position Sensor Ground wire between the Seat Module connector and the sensor connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Position Sensor Ground Wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

REAR RISER SENSOR OUT OF RANGE LOW

When Monitored and Set Condition:

REAR RISER SENSOR OUT OF RANGE LOW

When Monitored: Ignition on.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value lower than the Memory Heated Seat/Mirror Module has stored in EEPROM.

POSSIBLE CAUSES
SEAT SENSOR 5 V SUPPLY SHORT TO GROUND
REAR RISER SENSOR (LOW)
SEAT SENSOR 5 VOLT SUPPLY OPEN
REAR RISER POS SIGNAL CKT SHORT TO GROUND
REAR RISER POSITION SIGNAL CKT OPEN
MEMORY SEAT MODULE INTERNAL 5 VOLT LOW
MEMORY SEAT MODULE INTERNAL LOW

TEST	ACTION	APPLICABILITY
1	Ensure the Memory Seat Module is fully connected before proceeding. Disconnect the Driver Power Seat Rear Riser Sensor connector. Turn ignition on. Measure the voltage of the Seat Sensor 5 Volt Supply circuit. Is the voltage above 4.5 volts? Yes → Go To 2 No → Go To 6	All
2	Turn ignition off. Disconnect the Driver Power Seat Rear Riser Sensor connector. Connect a jumper wire between Seat Sensor 5 Volt Supply and Rear Riser Position Signal circuits. Ensure the Memory Seat Module is fully connected before proceeding. With the DRB III select: Body Memory Seat Sensors Turn ignition on. Read the Rear Riser Position Sensor voltage Is the voltage above 4.5 volts? Yes → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All

REAR RISER SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Rear Riser Sensor connector. Measure the resistance of the Rear Riser Position Signal circuit to ground. Is the resistance below 1000 (1 K) ohms? Yes → Repair the Rear Riser Position Signal Ckt for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All
4	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Rear Riser Sensor connector. Measure the resistance of the Rear Riser Position Signal circuit between the Sensor connector and the Module connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Rear Riser Position Signal circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	Turn ignition off. Disconnect the Seat Module C1 connector. Measure the resistance of the Seat Sensor 5 Volt Supply circuit to ground. Is the resistance below 1000 (1 K) ohms? Yes → Repair the Seat Sensor 5 Volt Supply for a short to Ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 7	All
7	Disconnect the Driver Power Seat Rear Riser Sensor connector. Disconnect the Seat Module C1 connector. Turn ignition off. Measure the resistance of the Seat Sensor 5 Volt Supply circuit between the Sensor connector and the Module connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Sensor 5 Volt Supply circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
RECLINER SENSOR OUT OF RANGE HIGH

When Monitored and Set Condition:

RECLINER SENSOR OUT OF RANGE HIGH

When Monitored: Ignition on.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value higher than the Memory Heated Seat/Mirror Module has stored in EEPROM.

POSSIBLE CAUSES
SEAT SENSOR GROUND WIRE OPEN
RECLINER POSITION SIGNAL SHORT TO MOTOR
SEAT SENSOR 5 VOLT SUPPLY SHORT TO BATTERY
RECLINER POSITION SIGNAL SHORT TO VOLTAGE
RECLINER POSITION SENSOR HIGH
MEMORY SEAT MODULE INTERNAL GROUND OPEN
MEMORY SEAT MODULE INTERNAL HIGH

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Disconnect the Driver Power Seat Recliner Sensor connector. Measure the resistance of the Seat Position Sensor Ground circuit to body ground. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Go To 7	All
2	Ensure all seat and sensor connectors are connected and recliner motor is operational. With the DRB III select: Body Memory Seat Sensors Monitor the Recliner Position sensor while operating the seat Recliner 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 VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All
3	Disconnect the Driver Power Seat Recliner Sensor connector. Turn ignition on. Measure the voltage between the Seat Sensor 5 volt supply circuit and ground. Is the voltage above 5.5 volts? Yes → Repair the seat sensor 5 volt supply ckt for a short to battery. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All

RECLINER SENSOR OUT OF RANGE HIGH — Continued

TEST	ACTION	APPLICABILITY
4	Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Recliner Sensor connector. Turn ignition on. Measure the voltage between Recliner Position Signal circuit and ground. Is there any voltage on the Recliner Position Signal circuit? No → Go To 5 Yes → Repair the Recliner Position Signal ckt for a short to voltage. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	Turn ignition off. Disconnect the Driver Power Seat Recliner Position Sensor connector Ensure the Memory Seat Module is fully connected before proceeding. Turn ignition on. With the DRB III select: Body Memory Seat Sensors Read the Recliner Position Sensor voltage Is the voltage above 0.2 volts? Yes → Go To 6 No → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Recliner Sensor connector. Measure the resistance of the Seat Position Sensor Ground wire between the MSM connector and the sensor connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Position Sensor Ground Wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

RECLINER SENSOR OUT OF RANGE LOW

When Monitored and Set Condition:

RECLINER SENSOR OUT OF RANGE LOW

When Monitored: Ignition on.

Set Condition: This condition is immediately set when the seat motor potentiometer feeds a value lower than the Memory Heated Seat/Mirror Module has stored in EEPROM.

POSSIBLE CAUSES
SEAT SENSOR 5 V SUPPLY SHORT TO GROUND
RECLINER POSITION SENSOR (LOW)
SEAT SENSOR 5 VOLT SUPPLY OPEN
RECLINER POSITION SIGNAL CKT SHORT TO GROUND
RECLINER POSITION SIGNAL CKT OPEN
MEMORY SEAT MODULE INTERNAL 5 VOLT LOW
MEMORY SEAT MODULE INTERNAL (LOW)

TEST	ACTION	APPLICABILITY
1	Ensure the Memory Seat Module is fully connected before proceeding. Disconnect the Driver Power Seat Recliner Sensor connector. Turn ignition on. Measure the voltage of the Seat Sensor 5 Volt Supply circuit. Is the voltage above 4.5 volts? Yes → Go To 2 No → Go To 6	All
2	Turn ignition off. Disconnect the Driver Power Seat Recliner Sensor connector. Connect a jumper wire between Seat Sensor 5 Volt Supply and Recliner Position Signal circuits. Ensure the Memory Seat Module is fully connected before proceeding. With the DRB III select: Body Memory Seat Sensors Turn ignition on. Read the Recliner Position Sensor voltage Is the voltage above 4.5 volts? Yes → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 3	All

RECLINER SENSOR OUT OF RANGE LOW — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Recliner Sensor connector. Measure the resistance of the Recliner Position Signal circuit to ground. Is the resistance below 1000 (1 K) ohms? Yes → Repair the Recliner Position Signal Ckt for a short to ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 4	All
4	Turn ignition off. Disconnect the Seat Module C1 connector. Disconnect the Recliner Position Sensor connector. Measure the resistance of the Recliner Position Signal circuit between the Sensor connector and the Module connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the open Recliner Position Signal circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	Turn ignition off. Disconnect the Seat Module C1 connector. Measure the resistance of the Seat Sensor 5 Volt Supply circuit to ground. Is the resistance below 1000 (1 K) ohms? Yes → Repair the Seat Sensor 5 Volt Supply for a short to Ground. Perform VERIFICATION TEST -MEMORY SYSTEM. No → Go To 7	All
7	Disconnect the Recliner Position Sensor connector. Disconnect the Seat Module C1 connector. Turn ignition off. Measure the resistance of the Seat Sensor 5 Volt Supply circuit between the Sensor connector and the Module connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Sensor 5 Volt Supply circuit. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

***DRIVER SEAT FRONT RISER MOVEMENT INOPERATIVE**

POSSIBLE CAUSES
SEAT FRONT UP DRIVER WIRE OPEN
SEAT FRONT DOWN DRIVER WIRE OPEN
SEAT FRONT DOWN SWITCH SENSE WIRE OPEN
DRIVER FRONT RISER MOTOR INOPERATIVE
DRIVER POWER SEAT SWITCH
MSM FRONT RISER MOTOR OUTPUT
MSM FRONT RISER SWITCH INPUT OPEN
SEAT FRONT UP SWITCH SENSE WIRE OPEN

TEST	ACTION	APPLICABILITY
1	Using the DRB III select: Body Memory Seat Module Actuators Actuate the Front Riser Motor up and then down. Did the Front Riser Motor operate in both directions? Yes → Go To 2 No → Go To 6	All
2	Turn ignition off. Refer to service information to remove the seat and gain access to the connectors. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Switch connector. Measure the resistance of the Seat Front Down Switch Sense circuit between the MSM connector and the Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Seat Front Down Switch Sense wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
3	Turn ignition off. Refer to service information to remove the seat and gain access to the connectors. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Switch connector. Measure the resistance of the Seat Front Up Switch Sense circuit between the MSM connector and the Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Seat Front Up Switch Sense wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*DRIVER SEAT FRONT RISER MOVEMENT INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Ensure the Driver Power Seat Switch Is fully connected. Disconnect the Seat Module C1 connector. Connect a test light between the Seat Front Up Switch Sense circuit and the Seat Front Down Switch Sense circuit in the Seat Module connector. Move the Front Riser Switch to the UP and then the DOWN positions and observe the test light. Did the test light illuminate when the switch was moved in BOTH directions? Yes → Go To 5 No → Replace the Driver Power Seat Switch Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	Refer to service information to remove the seat and gain access to the connectors. Disconnect the Seat Module C2 connector. Disconnect the driver power seat front riser motor connector. Measure the resistance of the Seat Front Up Driver circuit between the Seat Module connector and the seat front riser motor connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the Seat Front Up Driver wire for an open. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	Turn ignition off. Refer to service information to remove the seat and gain access to the connectors. Disconnect the Seat Module C2 connector. Disconnect the driver power seat front riser motor connector. Measure the resistance of the Seat Front Down Driver circuit between the MSM connector and the seat front riser motor connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the Seat Front Down Driver wire for an open. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	Refer to service information to remove the seat and gain access to the connectors. Disconnect the Seat Module C2 connector. Ensure the Front Riser Motor connector is connected at this time. Connect a jumper wire from the Seat Front Up Driver circuit to the Ground circuit in the Seat Module C2 connector. Connect a jumper wire to the Seat Front Down Driver circuit and momentarily touch it to the Fused B(+) circuit. Reverse the Ground and Fused B(+) jumper wires momentarily to run the motor in the opposite direction. Did the Front Riser Motor run in both directions? Yes → Go To 9 No → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*DRIVER SEAT FRONT RISER MOVEMENT INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
9	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

***DRIVER SEAT HORIZONTAL MOVEMENT INOPERATIVE**

POSSIBLE CAUSES
SEAT HORIZONTAL FORWARD DRIVER WIRE OPEN
SEAT HORIZONTAL FORWARD SWITCH SENSE WIRE OPEN
SEAT HORIZONTAL REARWARD DRIVER WIRE OPEN
SEAT HORIZONTAL REARWARD SWITCH SENSE WIRE OPEN
DRIVER HORIZONTAL MOTOR INOPERATIVE
DRIVER POWER SEAT SWITCH
MSM HORIZONTAL MOTOR OUTPUT OPEN
MSM HORIZONTAL SWITCH INPUT OPEN

TEST	ACTION	APPLICABILITY
1	Using the DRB III select: Body Memory Seat Module Actuators Actuate the Horizontal Motor Forward and then Rearward. Did the Horizontal Motor operate in both directions? Yes → Go To 2 No → Go To 6	All
2	Turn ignition off. Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Switch connector. Measure the resistance of the Seat Horizontal Forward Switch Sense circuit between the Seat Module connector and the Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Seat Horizontal Forward Switch Sense wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
3	Turn ignition off. Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Switch connector. Measure the resistance of the Seat Horizontal Rearward Switch Sense circuit between the Seat Module connector and the Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Seat Horizontal Rearward Switch Sense wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*DRIVER SEAT HORIZONTAL MOVEMENT INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Ensure the Driver Power Seat Switch Is fully connected. Disconnect the Seat Module C1 connector. Connect a test light between the Seat Horizontal Forward Switch Sense circuit and the Seat Horizontal Rearward Switch Sense circuit in the Seat Module connector. Move the Seat Horizontal Switch to the Forward and then the Rearward positions and observe the test light. Did the test light illuminate when the switch was moved in both directions. Yes → Go To 5 No → Replace the Driver Power Seat Switch Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	Refer to service information to remove the seat and gain access to the connectors. Disconnect the Seat Module C2 connector. Disconnect the driver power Seat Horizontal Motor connector. Measure the resistance of the Seat Horizontal Forward Driver circuit between the Seat Module connector and the seat horizontal motor connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the open Seat Horizontal Forward Driver wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	Turn ignition off. Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C2 connector. Disconnect the driver power seat horizontal motor connector. Measure the resistance of the Seat Horizontal Rearward Driver circuit between the Seat Module connector and the seat horizontal motor connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Horizontal Rearward Driver wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	Refer to service information to remove the seat and gain access to the connectors. Disconnect the Seat Module C2 connector. Ensure the Seat Horizontal Motor connector is connected at this time. Connect a jumper wire from the Seat Horizontal Forward Driver circuit to the Ground circuit in the Seat Module C2 connector. Connect a jumper wire to the Seat Horizontal Rearward Driver circuit and momentarily touch it to the Fused B(+) circuit. Reverse the Ground and Fused B(+) jumper wires momentarily to run the motor in the opposite direction. Did the Seat Horizontal Motor run in both directions. Yes → Go To 9 No → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*DRIVER SEAT HORIZONTAL MOVEMENT INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
9	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

***DRIVER SEAT REAR RISER MOVEMENT INOPERATIVE**

POSSIBLE CAUSES
SEAT REAR DOWN DRIVER WIRE OPEN
SEAT REAR DOWN SWITCH SENSE WIRE OPEN
SEAT REAR UP DRIVER WIRE OPEN
SEAT REAR UP SWITCH SENSE WIRE OPEN
DRIVER POWER SEAT SWITCH DEFECTIVE
DRIVER REAR RISER MOTOR INOPERATIVE
MSM REAR RISER MOTOR OUTPUT OPEN
MSM REAR RISER SWITCH INPUT OPEN

TEST	ACTION	APPLICABILITY
1	Using the DRB III select: Body Memory Seat Module Actuators Actuate the Rear Riser Motor Up and then Down. Did the Rear Riser Motor operate in both directions? Yes → Go To 2 No → Go To 6	All
2	Turn ignition off. Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Switch connector. Measure the resistance of the Seat Rear Down Switch Sense circuit between the Seat Module connector and the Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Seat Rear Down Switch Sense wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
3	Turn ignition off. Raise the Driver Seat as high as possible to gain access to the connectors. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Switch connector. Measure the resistance of the Seat Rear Up Switch Sense circuit between the Seat Module connector and the Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Seat Rear Up Switch Sense wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*DRIVER SEAT REAR RISER MOVEMENT INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Ensure the Driver Power Seat Switch Is fully connected. Disconnect the Seat Module C1 connector. Connect a test light between the Seat Rear Up Switch Sense circuit and the Seat Rear Down Switch Sense circuit in the seat module connector. Move the Seat Rear Riser Switch to the Up and then the Down positions and observe the test light. Did the test light illuminate when the switch was moved in BOTH directions. Yes → Go To 5 No → Replace the Driver Power Seat Switch Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	Turn ignition off. Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C2 connector. Disconnect the driver power seat rear riser motor connector. Measure the resistance of the Seat Rear Down Driver circuit between the Seat Module connector and the seat front riser motor connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the open Seat Rear Down Driver wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C2 connector. Disconnect the driver power seat rear riser motor connector. Measure the resistance of the Seat Rear Up Driver circuit between the Seat Module connector and the seat rear riser motor connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Rear Up Driver wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C2 connector. Ensure the Seat Horizontal Motor connector is connected at this time. Connect a jumper wire from the Seat Rear Up Driver circuit to the Ground circuit in the Seat Module C2 connector. Connect a jumper wire to the Seat Rear Down Driver circuit and momentarily touch it to the Fused B(+) circuit. Reverse the Ground and Fused B(+) jumper wires momentarily to run the motor in the opposite direction. Did the Seat Rear Riser Motor run in both directions. Yes → Go To 9 No → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*DRIVER SEAT REAR RISER MOVEMENT INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
9	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:

***DRIVER SEAT RECLINER MOVEMENT INOPERATIVE**

POSSIBLE CAUSES
SEAT RECLINER DOWN DRIVER WIRE OPEN
SEAT RECLINER DOWN SWITCH SENSE WIRE OPEN
SEAT RECLINER UP DRIVER WIRE OPEN
SEAT RECLINER UP SWITCH SENSE WIRE OPEN
DRIVER POWER SEAT SWITCH
DRIVER RECLINER MOTOR INOPERATIVE
MSM RECLINER MOTOR OUTPUT OPEN
MSM RECLINER SWITCH INPUT OPEN

TEST	ACTION	APPLICABILITY
1	Using the DRB III select: Body Memory Seat Module Actuators Actuate the Recliner Motor Up and then Down. Did the Recliner Motor operate in both directions? Yes → Go To 2 No → Go To 6	All
2	Turn ignition off. Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Switch connector. Measure the resistance of the Seat Recliner Down Switch Sense circuit between the MSM connector and the Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Seat Recliner Down Switch Sense wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
3	Turn ignition off. Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C1 connector. Disconnect the Driver Power Seat Switch connector. Measure the resistance of the Seat Recliner Up Switch Sense circuit between the Seat Module connector and the Seat Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Seat Recliner Up Switch Sense wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*DRIVER SEAT RECLINER MOVEMENT INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	Ensure the Driver Power Seat Switch Is fully connected. Disconnect the Seat Module C1 connector. Connect a test light between the Seat Recliner Up Switch Sense circuit and the Seat Recliner Down Switch Sense circuit in the Seat Module connector. Move the Seat Recliner Switch to the Up and then the Down positions and observe the test light. Did the test light illuminate when the switch was moved in BOTH directions. Yes → Go To 5 No → Replace the Driver Power Seat Switch Perform VERIFICATION TEST -MEMORY SYSTEM.	All
5	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
6	Turn ignition off. Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C2 connector. Disconnect the driver power Seat Recliner Motor connector. Measure the resistance of the Seat Recliner Down Driver circuit between the Seat Module connector and the seat recliner motor connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the open Seat Recliner Down Driver wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
7	Turn ignition off. Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C2 connector. Disconnect the driver power Seat Recliner Motor connector. Measure the resistance of the Seat Recliner Up Driver circuit between the Seat Module connector and the seat recliner motor connector. Is the resistance below 5.0 ohms? Yes → Go To 8 No → Repair the open Seat Recliner Up Driver wire. Perform VERIFICATION TEST -MEMORY SYSTEM.	All
8	Refer to service information for seat removal to gain access to the connectors. Disconnect the Seat Module C2 connector. Ensure the Seat Horizontal Motor connector is connected at this time. Connect a jumper wire from the Seat Recliner Up Driver circuit to the Ground circuit in the Seat Module C2 connector. Connect a jumper wire to the Seat Recliner Down Driver ckt and momentarily touch it to the Fused B(+) ckt. Reverse the Ground and Fused B(+) jumper wires momentarily to run the motor in the opposite direction. Did the Seat Recliner Motor run in both directions. Yes → Go To 9 No → Replace the Seat Track Assy. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

*DRIVER SEAT RECLINER MOVEMENT INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
9	If there are no possible causes remaining, view repair. Repair Replace the Memory Seat Module. Perform VERIFICATION TEST -MEMORY SYSTEM.	All

Symptom:
AMBIENT TEMPERATURE SENSOR CIRCUIT OPEN

When Monitored and Set Condition:

AMBIENT TEMPERATURE SENSOR CIRCUIT OPEN

When Monitored: With the ignition on.

Set Condition: The BCM detects the Ambient Temperature Sensor Signal circuit voltage is above 4.8 volts for 5 seconds or more. Customer complaint: EVIC temperature display is -40°C (-40°F).

POSSIBLE CAUSES
AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO VOLTAGE
AMBIENT TEMPERATURE SENSOR
AMBIENT TEMPERATURE SENSOR RETURN CIRCUIT OPEN
AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Disconnect the Ambient Temperature Sensor harness connector. Connect a jumper wire between the sensor signal and sensor ground circuits. Close all vehicle doors. Turn the ignition on. With the DRBIII® in Sensors, read the Outside Temperature voltage. Is the voltage below 0.5 volts? Yes → Replace the Ambient Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Disconnect the BCM C2 harness connector. Measure the voltage between the Ambient Temperature Sensor Signal circuit and ground. Is there any voltage present? Yes → Repair the Ambient Temperature Sensor Signal circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

AMBIENT TEMPERATURE SENSOR CIRCUIT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Disconnect the BCM C2 harness connector. Measure the resistance of the Ambient Temperature Sensor Return circuit between the BCM C2 harness connector and the Sensor harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Ambient Temperature Sensor Return circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the ignition off. Disconnect the BCM C2 harness connector. Disconnect the Ambient Temperature Sensor harness connector. Measure the resistance of the Ambient Temperature Sensor Signal circuit between the BCM C2 harness connector and the Sensor harness connector. Is the resistance above 5.0 ohms? Yes → Repair the Ambient Temperature Sensor Signal 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:
AMBIENT TEMPERATURE SENSOR CIRCUIT SHORT

When Monitored and Set Condition:

AMBIENT TEMPERATURE SENSOR CIRCUIT SHORT

When Monitored: With the ignition on.

Set Condition: The BCM detects that the Ambient Temperature Sensor signal circuit voltage is below 0.3 volts for 5 seconds or Customer complaint: EVIC temperature display is 54°C (130°F).

POSSIBLE CAUSES
AMBIENT TEMPERATURE SENSOR
AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO GROUND
AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO SENSOR RETURN CIRCUIT
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Close all vehicle doors. Turn the ignition on. Observe the EVIC display. Does the EVIC display -40° F (-40°C)? Yes → Replace the Ambient Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the BCM C2 harness connector. Disconnect the Ambient Temperature Sensor harness connector. Measure the resistance between ground and the Ambient Temperature Sensor Signal circuit. Is the resistance below 5.0 ohms? Yes → Repair the Ambient 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 — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Disconnect the BCM C2 harness connector. Measure the resistance between the Ambient Temperature Sensor Signal circuit and Ambient Temperature Sensor Return circuit. Is the resistance below 5.0 ohms? Yes → Repair the Ambient Temperature Sensor Signal circuit for a short to the Sensor Return circuit. 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:
BUS MESSAGES MISSING

When Monitored and Set Condition:

BUS MESSAGES MISSING

When Monitored: While the EVIC is performing a series of tests on the microprocessor, compass coil, and internal circuitry.

Set Condition: This code will set during the self test if the EVIC does not receive PCI Bus messages from the BCM, MIC, or PCM.

POSSIBLE CAUSES
NO RESPONSE - PCI BUS - BCM
NO RESPONSE - PCI BUS - PCM
NO REPONSE - PCI BUS - MIC
ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, attempt to communicate with the BCM. Was the DRBIII® able to I/D or communicate with the BCM? Yes → Go To 2 No → Refer to COMMUNICATION category for the related symptom. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the ignition on. With the DRBIII®, select Body Controller, then System Test. Does the DRBIII® display PCM Active on the Bus? Yes → Go To 3 No → Refer to COMMUNICATION category for the related symptom. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn the ignition on. With the DRBIII®, select Electro/Mechanical Instrument Cluster. Is there a response from the Instrument Cluster? Yes → Replace and program the Electronic Vehicle Information Center in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained. Perform BODY VERIFICATION TEST - VER 1. No → Refer to COMMUNICATION category for the related symptom. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

COMPASS TEST FAILURE

POSSIBLE CAUSES
ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	Perform the EVIC self test. Turn the ignition off. Depress and hold the RESET and C/T buttons while turning the ignition on. **NOTE: This test may also be performed using the DRBIII®.** Does the EVIC or DRBIII® display ″FAILED SELF TEST″? Yes → Replace the EVIC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
COOLANT LEVEL SWITCH CIRCUIT OPEN - GAS ONLY

When Monitored and Set Condition:

COOLANT LEVEL SWITCH CIRCUIT OPEN - GAS ONLY

When Monitored: With the ignition on.

Set Condition: The BCM detects the Coolant Level Sensor Signal voltage is above 4.8 volts for 5 seconds or more.

POSSIBLE CAUSES
COOLANT LEVEL SENSOR
COOLANT LEVEL SENSOR GROUND CIRCUIT OPEN
COOLANT LEVEL SENSE CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Coolant Level Sensor harness connector. Turn the ignition on. With the DRBIII, read the Coolant Level Sensor status. Connect a jumper wire between the Coolant Level Sense circuit and the Ground circuit. With the DRBIII, monitor the Coolant Level Sensor voltage. Does the DRBIII display 0.0 volts? Yes → Replace the Coolant Level Sensor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Coolant Level Sensor harness connector. Measure the resistance between ground and the Coolant Level Sensor Ground circuit. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the Coolant Level Sensor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

COOLANT LEVEL SWITCH CIRCUIT OPEN - GAS ONLY — Continued

TEST	ACTION	APPLICABILITY
3	Turn the ignition off. Disconnect the Coolant Level Sensor harness connector. Disconnect the BCM C2 harness connector. Measure the resistance of the Coolant Level Sense circuit between the Coolant Level Sensor harness connector and the BCM C2 harness connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Coolant Level Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
DEMAGNETIZE COMPASS

POSSIBLE CAUSES
DEMAGNETIZE COMPASS

TEST	ACTION	APPLICABILITY
1	**NOTE: A blank compass display indicates that vehicle demagnetizing is required.** **NOTE: After demagnetizing, the vehicle will enter Auto Fast-Cal when the ignition is turned on.** **NOTE: Ensure that the correct compass variance is stored in the compass memory. See ″Setting Compass Variance″ in the Service Information.** Refer to the Service Information for the Demagnetizing Procedure. View repair for Verification Test. Repair When the Demagnetizing Procedure is complete perform the Verification Test. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
EVIC INTERNAL FAILURE

When Monitored and Set Condition:

EVIC INTERNAL FAILURE

When Monitored: When a SELF TEST command is received from the DRBIII, the EVIC performs a series of tests on the microprocessor, compass coil, and internal circuitry.

Set Condition: This code will be set during the self test if the EVIC detects a problem the microprocessor, compass coil, or internal circuitry.

POSSIBLE CAUSES
ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	Perform the EVIC Self Test. Turn the ignition off. Press and hold the C/T button and the RESET button. Turn the ignition on. **NOTE: The EVIC Self Test can also be performed using the DRBIII®.** Turn the ignition on. With the DRBIII®, select body, VIC, System Test, then Self Test. Observe the EVIC display following the Self Test. When the trouble code EVIC INTERNAL FAILURE is displayed, View repair. If there are no possible causes remaining, view repair. Repair Replace and program the Electronic Vehicle Information Center in accordance with the service information. If the vehicle is equipped with TPM, the EVIC must be retrained. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
NO BCM MESSAGES RECEIVED

POSSIBLE CAUSES
DTC PRESENT
NO RESPONSE - PCI BUS - BCM
ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this 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 on. With the DRBIII®, attempt to I/D or communicate with the BCM. Was the DRBIII® able to communicate with the BCM? Yes → Replace the EVIC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the COMMUNICATION category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
NO PCM MESSAGES RECEIVED

POSSIBLE CAUSES
DTC PRESENT
NO RESPONSE - PCI BUS - PCM
ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase DTCs. Cycle the ignition and wait approximately 1 minute. With the DRBIII®, read DTCs. Did this 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 on. With the DRBIII®, enter Body Computer, System Tests, then PCM Monitor. Does the DRBIII® display PCM Active on the Bus? Yes → Replace the EVIC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained. Perform BODY VERIFICATION TEST - VER 1. No → Refer to the COMMUNICATION category and perform the appropriate symptom. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

SET COMPASS VARIANCE AS PER SERVICE INFORMATION

POSSIBLE CAUSES
SET COMPASS VARIANCE

TEST	ACTION	APPLICABILITY
1	Refer to the Service Information for the Compass Variance procedure. View repair for the Verification Test. Repair When the Compass Variance procedure is complete perform the Verification Test. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
WASHER FLUID SWITCH FAILURE

POSSIBLE CAUSES
WASHER FLUID LEVEL SWITCH
WASHER FLUID LEVEL SWITCH GROUND CIRCUIT OPEN
WASHER FLUID LEVEL SWITCH SENSE CIRCUIT OPEN
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Disconnect the Washer Fluid Level Switch harness connector. Measure the resistance of the Washer Fluid Level Switch between pin 1 and pin 2. Does the resistance measure greater than 3000 ohms? Yes → Replace the Washer Fluid Level Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Washer Fluid Level Switch harness connector. Measure the resistance between ground and the Washer Fluid Level Switch Ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Washer Fluid Level Switch Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Washer Fluid Level Switch harness connector. Disconnect the BCM C2 harness connector. Measure the resistance of the Washer Fluid Switch Sense circuit between the Switch connector and the BCM connector. Is the resistance below 5.0 ohms? Yes → Replace the Body Control Module in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Washer Fluid Level Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

***AVERAGE FUEL ECONOMY INACCURATE OR WRONG**
***DISTANCE TO EMPTY INACCURATE OR WRONG**
***DISTANCE TO SERVICE INACCURATE OR WRONG**
***ELAPSED IGNITION ON TIME INACCURATE OR WRONG**
***TRIP ODOMETER INACCURATE OR WRONG**

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be *AVERAGE FUEL ECONOMY INACCURATE OR WRONG.

POSSIBLE CAUSES
BODY CONTROL MODULE
ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any BCM, PCM, or Communication DTCs before proceeding with this test.** **NOTE: Verify the following for proper operation: Fuel Injector Pulse Rate, Speed Signal input, Fuel Level input, correct Tire size and inflation.** Perform the EVIC Self Test. The self test can be performed with the DRBIII® or manually using the following procedure: Turn the ignition off. Press and hold the RESET and C/T buttons. Turn the ignition on. Continue to hold both buttons until the software version is displayed, then release the buttons. Observe the EVIC display when the self test is complete. Did the EVIC display ″FAILED SELF TEST″? Yes → Replace the EVIC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained. 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:
*EVIC DIMMING INOPERATIVE

POSSIBLE CAUSES
ILLUMINATION BULB OR SOCKET
ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any BCM, EVIC, or Communication DTCs before proceeding with this test.** Turn the ignition off. Remove and inspect the illumination bulb(s) that is inoperative. Is there a problem with the bulb or socket? Yes → Replace the illumination bulb(s) or socket(s) as necessary. Perform BODY VERIFICATION TEST - VER 1. No → Replace the EVIC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*EVIC INOPERATIVE

POSSIBLE CAUSES
FUSED B(+) CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT OPEN
GROUND CIRCUIT OPEN
ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any BCM, PCM, or COMMUNICATION DTCs before proceeding.** Turn the ignition off. Disconnect the Overhead Console harness connector. Measure the voltage between the Fused B+ circuit and ground. Is the voltage above 10.5 volts? 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 Overhead Console harness connector. Turn the ignition on. Measure the voltage between the Fused Ignition Switch Output circuit and ground. Is the voltage below 10.5 volts? Yes → Repair the Fused Ignition Switch Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Overhead Console harness connector. Measure the resistance between ground and the EVIC ground circuit. Is the resistance above 5.0 ohms? Yes → Repair the Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1. No → Replace the EVIC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*LOW COOLANT WARNING ALWAYS ON - GAS ONLY

POSSIBLE CAUSES
COOLANT LEVEL
COOLANT LEVEL SWITCH SHORTED
COOLANT LEVEL SWITCH SENSE CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure that the cooling system operates properly before proceeding with this test.** **NOTE: Diagnose and repair any BCM, EVIC, PCM, or Communication DTCs before proceeding with this test.** Inspect the coolant fluid level. Is the coolant filled to the proper level and the cooling system operating properly? Yes → Go To 2 No → Repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All
2	Disconnect the Coolant Level Switch harness connector. Turn the ignition on. With the DRBIII®, read the ″Coolant Level Sw″ voltage. Does the DRBIII® display voltage above 4.5? Yes → Replace the Coolant Level Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Disconnect the Coolant Level Sensor harness connector. Disconnect the Body Control Module C2 harness connector. Measure the resistance of the Coolant Level Switch Sense circuit between the Coolant Level Switch connector and ground. Is the resistance below 5.0 ohms? Yes → Repair the Coolant Level 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

Symptom:

*LOW WASHER FLUID MESSAGE ALWAYS ON

POSSIBLE CAUSES
WASHER FLUID LEVEL SWITCH
WASHER FLUID LEVEL SWITCH SENSE CIRCUIT SHORT TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any BCM or Communication DTCs before proceeding with this test.** Turn the ignition off. Disconnect the Washer Fluid Level Switch harness connector. Turn the ignition on. With the DRBIII select the Body, Body Computer, and then Sensors. With the DRBIII®, read the Washer Fluid Level Switch voltage. Is the Washer Fluid Level Switch voltage above 5.0 volts? Yes → Replace the Washer Fluid Level Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition off. Disconnect the Washer Fluid Level Switch harness connector. Disconnect the BCM C2 harness connector. Measure the resistance between ground and the Washer Fluid Level Switch Sense circuit. Is the resistance below 5.0 ohms? Yes → Repair the Washer Fluid Level 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

Symptom:
*TEMPERATURE DISPLAY INACCURATE OR INOPERATIVE

POSSIBLE CAUSES
AMBIENT TEMPERATURE SENSOR
ELECTRONIC VEHICLE INFORMATION CENTER

TEST	ACTION	APPLICABILITY
1	**NOTE: Diagnose and repair any BCM, EVIC, PCM, or Communication DTCs before proceeding with this test.** **NOTE: The Ambient Temperature Sensor is hardwired to the BCM. Ambient temperature information is transmitted to the EVIC via the PCI Bus.** Turn the ignition off. Disconnect the Ambient Temperature Sensor harness connector. Measure the resistance of the Ambient Temperature Sensor using the following temperature/resistance values: 10°C (50°F) Sensor Resistance = 17.99 - 21.81 Kilohms 20°C (68°F) Sensor Resistance = 11.37 - 13.61 Kilohms 25°C (77°F) Sensor Resistance = 9.12 - 10.88 Kilohms 30°C (86°F) Sensor Resistance = 7.37 - 8.75 Kilohms 40°C (104°F) Sensor Resistance = 4.90 - 5.75 Kilohms 50°C (122°F) Sensor Resistance = 3.33 - 3.88 Kilohms Is the Ambient Temperature Sensor resistance measurement within the min/max specifications? Yes → Go To 2 No → Replace the Ambient Temperature Sensor. Perform BODY VERIFICATION TEST - VER 1.	All
2	Perform the EVIC self test. Turn the ignition off. Press and hold the C/T and Reset buttons. Turn the ignition on. **NOTE: The self test can also be performed using the DRBIII®.** Observe the EVIC display at the conclusion of the self test. Does the EVIC display ″Passed Self Test″? Yes → Test Complete. No → Replace the EVIC in accordance with the Service Information. If the vehicle is equipped with TPM, the EVIC must be retrained. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***ALL DOORS (EXCEPT DRIVER) FAIL TO LOCK/UNLOCK**

POSSIBLE CAUSES
OPEN DOOR LOCK DRIVER WIRE
OPEN DOOR UNLOCK DRIVER WIRE
PDM - LOCK/UNLOCK OPEN

TEST	ACTION	APPLICABILITY
1	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 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 open Door Lock Driver wire. 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 → Go To 3 No → Repair the open Door Unlock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All
3	If there are no possible causes remaining, view Repair. Repair 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 WIRE 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 of the Door Lock Driver Ckt to body ground. Is the resistance below 20 ohms? Yes → Repair the Door Lock Driver Wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	If there are no possible causes remaining, view ″Repair″. Repair Replace the Passenger Door Module Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ALL DOORS (EXCEPT DRIVER) FAILS TO UNLOCK

POSSIBLE CAUSES
DOOR UNLOCK DRIVER WIRE SHORT TO GND
PDM DEFECTIVE 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 of the Door Unlock Driver ckt to body ground. 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 → Go To 2	All
2	If there are no possible causes remaining, view Repair. Repair Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*ALL LOCKS INOPERATIVE FROM DRIVER DOOR MODULE

POSSIBLE CAUSES
DDM BUS COMMUNICATON CHECK
DDM - LOCKS INOPERATIVE

TEST	ACTION	APPLICABILITY
1	With the DRBIII, select ″Body″, ″Door Modules″ Does the DRBIII display ″Part No.″ and ″Version No.″ of the Driver Door Module? Yes → Go To 2 No → Refer to symptom *BUS +/- SIGNALS OPEN FROM DRIVER DOOR MODULE in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.	All
2	If there are no possible causes remaining, view Repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***ALL LOCKS INOPERATIVE FROM PASSENGER DOOR MODULE**

POSSIBLE CAUSES
PDM BUS COMMUNICATION CHECK
PDM DEFECTIVE LOCKS INOP

TEST	ACTION	APPLICABILITY
1	With the DRBIII, select ″Body″, ″Door Modules″ Does the DRBIII Display the ″Part No.″ and ″Version No.″ of the Passenger Door Module? Yes → Go To 2 No → Refer to symptom BUS +/- SIGNALS OPEN FROM PASSENGER DOOR MODULE in the COMMUNICATION category. Perform BODY VERIFICATION TEST - VER 1.	All
2	If there are no possible causes remaining, view Repair. Repair Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*AUTOMATIC 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 DRB, 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 → Go To 3	All
3	If there are no possible causes remaining, view Repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*DOORS LOCK WITH KEY IN IGNITION & FRONT DOOR OPEN

POSSIBLE CAUSES
DRIVER DOOR AJAR SWITCH STATUS INCORRECT
KEY-IN IGNITION SWITCH GROUND CIRCUIT OPEN
KEY-IN IGNITION SWITCH SENSE CIRCUIT OPEN
IGNITION SWITCH OPEN
BCM - DOOR LOCK INHIBIT OPEN
BODY CONTROL MODULE - KEY-IN IGNITION OPEN

TEST	ACTION	APPLICABILITY
1	**Note: Ensure that the Key is still in the Ignition Switch.** With the DRB, read the Key-In Ignition status. Does the DRB show KEY-IN IGN: CLOSED ? No → Go To 2 Yes → Go To 6	All
2	Turn the ignition off. Disconnect the Ignition Switch C2 connector. Turn all lights off. Measure the resistance of the Ground circuit in the ignition switch ″C2″ connector. Is the resistance below 5.0 ohms ? Yes → Go To 3 No → Repair the open ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Ignition Switch ″C2″ connector. Disconnect the Body Control Module ″C1″ connector. Measure the resistance of the Key-In Ignition Switch Sense circuit between the ignition switch ″C2″ connector and the BCM ″C1″ connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Key-In Ignition Switch Sense Circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Ignition Switch ″C2″ connector. Connect a jumper between the Key-In Ignition Switch Sense and Ground Circuits in the Ignition Switch ″C2″ Connector. With the DRB, read the Key-In Ignition status. Does the DRB show KEY-IN IGN: CLOSED ? Yes → Replace the Ignition Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All

*DOORS LOCK WITH KEY IN IGNITION & FRONT DOOR OPEN — Continued

TEST	ACTION	APPLICABILITY
5	If there are no possible causes remaining, view Repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All
6	Open the Drivers door. With the DRB III select: ″Body″, ″Door Modules″, ″Input/Output″ Read the ″Drv Door Ajar Sw″ state. Does the DRB III Show: ″CLOSED″? Yes → Go To 7 No → Refer to symptom DRIVER DOOR AJAR CIRCUIT OPEN in the DOOR AJAR category. Perform BODY VERIFICATION TEST - VER 1.	All
7	If there are no possible causes remaining, view Repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***DRIVER DOOR FAILS TO LOCK**

POSSIBLE CAUSES
DRIVER DOOR LOCK DRIVER SHORT TO GND
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 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 → Go To 2	All
2	If there are no possible causes remaining, view Repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*DRIVER DOOR FAILS TO LOCK & 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 to gain access to the Driver Door Module. Disconnect the Driver Door Module ″C1″ connector. Ensure the drivers window is down and the door lock is LOCKED. Connect a jumper wire between the Door Lock Driver ckt and the Ground ckt in the ″C1″ connector. Connect a jumper wire to the Driver Door Unlock Driver ckt and momentarilly touch it to the Fused B(+) ckt 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 to 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 open Driver Door Unlock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the inner door trim panel to 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 → Go To 4 No → Repair the open Driver Door Lock Driver Wire. Perform BODY VERIFICATION TEST - VER 1.	All
4	If there are no possible causes remaining, view repair. Repair Replace the Door Lock Motor. 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 of the Driver Door UNLOCK Driver circuit in the driver door module ″C1″ connector to body ground. 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 → Go To 2	All
2	If there are no possible causes remaining, view Repair. Repair Replace the Driver Door Module Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*LEFT REAR DOOR FAILS TO LOCK & 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 to gain access to the Door Lock Motor/Ajar Switch connector. Disconnect the Left Rear 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 left rear door lock motor/ajar connector. With the DRB III actuate the ″Pas Lock Relay″ and then the ″Pas 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 to 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 → Go To 3 No → Repair the open Door Lock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the inner door trim panel to 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 Unlock Driver circuit between the PDM connector and the door lock motor connector. Is the resistance below 5.0 ohms? Yes → Test Complete. No → Repair the open Door Unlock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*LIFTGATE LOCK FAILS TO LOCK/UNLOCK

POSSIBLE CAUSES
OPEN LIFTGATE LOCK MOTOR
OPEN DOOR LOCK DRIVER WIRE
OPEN DOOR UNLOCK DRIVER WIRE

TEST	ACTION	APPLICABILITY
1	Remove the liftgate inner door trim panel to gain access to the Liftgate Lock Motor connector. Disconnect the Liftgate Lock Motor connector. **Note: 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 liftgate lock motor connector. With the DRB III actuate the ″Pas Lock Relay″ and then the ″Pas Unlock Relay″ and observe the test light. Did the test light illuminate when the lock was actuated in both directions? Yes → Replace the Liftgate Lock 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 Lock Motor connector. Disconnect the Liftgate Lock Motor connector. Disconnect the Passenger Door Module ″C1″ connector. Measure the resistance of the Door Lock Driver ckt between the PDM connector and the liftgate lock motor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Door Lock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the liftgate inner door trim panel to gain access to the Liftgate Lock Motor connector. Disconnect the Liftgate Lock Motor connector. Disconnect the Passenger Door Module ″C1″ connector. Measure the resistance of the Door Unlock Driver ckt between the PDM connector and the liftgate lock motor connector. Is the resistance below 5.0 ohms? Yes → Test Complete. No → Repair the open Door Unlock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*PASSENGER DOOR FAILS TO LOCK & 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 to gain access to the Door Lock Motor/Ajar Switch connector. Disconnect the Door Lock Motor/Ajar Switch connector. **Note: 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 passenger door lock motor/ajar connector. With the DRB III actuate the ″Pas Lock Relay″ and then the ″Pas 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 to 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 connector and the door lock motor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Door Lock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the inner door trim panel to 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 Unlock Driver circuit between the PDM connector and the door lock motor connector. Is the resistance below 5.0 ohms? Yes → Test Complete. No → Repair the open Door Unlock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***REMOTE KEYLESS ENTRY INOPERATIVE**

POSSIBLE CAUSES
TEST TRANSMITTER WITH TESTER
RKE TRANSMITTER BATTERY VOLTAGE LOW
RKE TRANSMITTER NOT PROGRAMMED
RKE TRANSMITTER NOT PROGRAMMED
RKE TRANSMITTER DEFECTIVE
PASSENGER DOOR MODULE DEFECTIVE RKE INOP
PASSENGER DOOR MODULE

TEST	ACTION	APPLICABILITY
1	Do you have access to the Miller Special Tool ″9001 RF DETECTOR″? No → Go To 2 Yes → Go To 5	All
2	Remove the batteries from the transmitter. Using a voltmeter, test the Batteries. Is the voltage above 3.0 volts in each battery? Yes → Go To 3 No → Replace the Batteries. Perform BODY VERIFICATION TEST - VER 1.	All
3	With the DRBIII® select BODY, DOOR MODULES, MISCELLANEOUS, then PROGRAM RKE. Follow instructions on the screen. Exit PROGRAM RKE. Try the Door Locks using the Transmitter. Did the Door Locks respond properly to the Transmitter commands ? Yes → Repair complete. Using the DRBIII® program all other Transmitters used with this Vehicle. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Secure a known good Transmitter. Using the DRBIII® select BODY, DOOR MODULES, MISCELLANEOUS then PROGRAM RKE. Follow the instructions on the DRBIII® screen. Exit PROGRAM RKE. 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 Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. **Note: When repairs are complete ensure all transmitters used with this vehicle are programmed**	All

*REMOTE KEYLESS ENTRY INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
5	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 6 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
6	With the DRBIII®, select BODY, DOOR MODULES, MISCELLANEOUS, then PROGRAM RKE. Follow the instructions on the screen. Exit PROGRAM RKE. Operate 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 Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1. **NOTE: When repairs are complete, ensure all transmitters used with the vehicle have been programmed.**	All

Symptom:

*RIGHT REAR DOOR FAILS TO LOCK & 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 to gain access to the Door Lock Motor/Ajar Switch connector. Disconnect the Right Rear 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 right rear door lock motor/ajar connector. With the DRB III actuate the ″Pas Lock Relay″ and then the ″Pas Unlock Relay″ and observe the test light. Did the test light illuminate when the lock was actuated in both directions? Yes → Replace the Right Rear Door Lock Motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Remove the inner door trim panel to gain access to the Door Lock Motor/Ajar Switch connector. Disconnect the Right Rear 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 connector and the door lock motor connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Door Lock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the inner door trim panel to 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 Unlock Driver circuit between the PDM connector and the right rear door lock motor connector. Is the resistance below 5.0 ohms? Yes → Test Complete. No → Repair the open Door Unlock Driver wire. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***RKE INOPERATIVE - JAPAN ONLY**

POSSIBLE CAUSES
GROUND CIRCUIT OPEN
FUSED B(+) CIRCUIT OPEN
DIAGNOSTIC OUT CIRCUIT SHORT TO GROUND
DIAGNOSTIC OUT CIRCUIT OPEN
DRIVER DOOR MODULE - RKE INOPERATIVE
REMOTE KEYLESS ENTRY MODULE - OPEN

TEST	ACTION	APPLICABILITY
1	Remove the driver door trim panel. Disconnect the Remote Keyless Entry module (located near the DDM). Key off. Turn all lights off. Measure the resistance between ground and the Ground circuit. Is the resistance below 10.0 ohms? Yes → Go To 2 No → Repair the open Ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
2	Remove the driver door trim panel. Disconnect the Remote Keyless Entry module (located near the DDM). Measure the voltage between Fused B(+) circuit and ground. Is the voltage above 10.0 volts? Yes → Go To 3 No → Repair the open Fused B(+) circuit. Perform BODY VERIFICATION TEST - VER 1.	All
3	Remove the driver door trim panel. Disconnect the Remote Keyless Entry module (located near the DDM). Disconnect the Driver Door Module ″C1″ connector. Measure the resistance between ground and the Diagnostic Out circuits (cavities 5 & 6). Is the resistance below 1000.0 (1K) ohms? Yes → Repair the Diagnostic Out circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Remove the driver door trim panel. Disconnect the Remote Keyless Entry module (located near the DDM). Disconnect the Driver Door Module ″C1″ connector. Measure the resistance of the Diagnostic Out circuit between the RKE module connector (cavities 5 & 6) and the DDM connector (cavity 8). Is the resistance below 5.0 ohms at all terminals? Yes → Go To 5 No → Repair the open Diagnostic Out circuit. Perform BODY VERIFICATION TEST - VER 1.	All

*RKE INOPERATIVE - JAPAN ONLY — Continued

TEST	ACTION	APPLICABILITY
5	Remove the driver door trim panel. Disconnect the Remote Keyless Entry module (located near the DDM). Measure the voltage of the Diagnostic Out circuit in the RKE connector. Is the voltage between 4.8 and 5.2 vol6ts? Yes → Go To 6 No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view repair. Repair Replace the Remote Keyless Entry Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***RKE TRANSMITTER POOR RANGE - JAPAN ONLY**

POSSIBLE CAUSES
ANTENNA SIGNAL CIRCUIT OPEN
REMOTE KEYLESS ENTRY MODULE - POOR RANGE

TEST	ACTION	APPLICABILITY
1	Remove the driver door trim panel. Disconnect the Remote Keyless Entry module (located near the DDM). Measure the resistance of the Antenna Signal circuit between caities 1 & 2. Is the resistance below 1.0 ohm? Yes → Go To 2 No → Repair the open Antenna Signal circuit. Perform BODY VERIFICATION TEST - VER 1.	All
2	If there are no possible causes remaining, view repair. Repair Replace the Remote Keyless Entry Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*DRIVER MEMORY MIRROR INOPERATIVE

POSSIBLE CAUSES
DRIVER MIRROR SENSOR GROUND WIRE OPEN
DRIVER DOOR MODULE - SENSOR GROUND OPEN
DRIVER MIRROR SENSOR GROUND SHORTED TO MIRROR VERTICAL POSITION SIGNAL
DRIVER MIRROR SENSOR GROUND SHORTED TO MIRROR HORIZONTAL POSITION SIGNAL
DRIVER DOOR MODULE - MEMORY MIRROR OPEN
DRIVER MIRROR HORIZONTAL POSITION SIGNAL SHORT TO GROUND
DRIVER MIRROR VERTICAL POSITION SIGNAL SHORT TO GROUND
DRIVER MIRROR HORIZONTAL POSITION SIGNAL WIRE OPEN
DRIVER MIRROR VERTICAL POSITION SIGNAL WIRE OPEN
DRIVER POWER MIRROR - MEMORY OPEN
DRIVER DOOR MODULE - MEMORY CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	**Note: The following list of items should be checked before continuing with any power mirror tests.** Ensure door ajar switches are working properly before proceeding. Ensure there is communication with the DDM and the BCM before proceeding. Ensure the mirror directional switches are working properly before proceeding. If not, replace the DDM. Ensure the mirror select switch is working properly before proceeding. If not, replace the DDM. Ensure driver mirror is operational from the DDM. If not, refer to SERVICE INFORMATION. If all items are operational, continue. Continue Go To 2	All
2	With the DRBIII® read the Drv Mirror Horiz Volts. Operate the mirror from left to right and observe the DRB. Does the voltage vary from approximately 1.0 to 4.0 volts? Yes → Go To 3 No → Go To 5	All
3	With the DRBIII® read the Drv Mirror Vert Volts. Operate the mirror from down to up and observe the DRB. Does the voltage vary from approximately 1.0 to 4.0 volts? Yes → Go To 4 No → Go To 5	All

*DRIVER MEMORY MIRROR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
4	If there are no possible causes remaining, view repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Driver Power Mirror connector. Disconnect the DDM C2 connector. Measure the resistance of the Mirror Sensor Ground wire between the Driver Power Mirror connector and the DDM C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the open Mirror Sensor Ground wire. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Driver Power Mirror connector. Ensure the DDM C2 connector is connected at this time. Turn ignition off. Turn all lights off. Measure the resistance between ground and the Mirror Sensor Ground circuit in the Driver Power Mirror connector.. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
7	Disconnect the Driver Power Mirror connector. Measure the voltage between Mirror Horizontal Position Signal circuit and ground. Is the voltage approximately 5.0 volts? Yes → Go To 8 No → Go To 10	All
8	Disconnect the Driver Power Mirror connector. Measure the voltage between Mirror Vertical Position Signal circuit and ground. Is the voltage approximately 5.0 volts? Yes → Go To 9 No → Go To 10	All
9	If there are no possible causes remaining, view repair. Repair Replace the Driver Power Mirror. Perform BODY VERIFICATION TEST - VER 1.	All
10	Disconnect the DDM C2 connector. Disconnect the Driver Power Mirror connector. Measure the resistance between the Mirror Sensor Ground circuit and the Mirror Vertical Position Signal circuit in the DDM C2 connector. Is the resistance below 1000.0 ohms? Yes → Repair the Mirror Sensor Ground wire for a short to the Mirror Vertical Position Signal wire. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All

*DRIVER MEMORY MIRROR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
11	Disconnect the DDM C2 connector. Disconnect the Driver Power Mirror connector. Measure the resistance between the Mirror Sensor Ground circuit and the Mirror Horizontal Position Signal circuit in the DDM C2 connector. Is the resistance below 1000.0 ohms? Yes → Repair the Mirror Sensor Ground wire for a short to the Mirror Horizontal Position Signal wire. Perform BODY VERIFICATION TEST - VER 1. No → Go To 12	All
12	Disconnect the DDM C2 connector. Disconnect the Driver Power Mirror connector. Measure the resistance between ground and the Mirror Horizontal Position Signal circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Mirror Horizontal Position Signal wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 13	All
13	Disconnect the DDM C2 connector. Disconnect the Driver Power Mirror connector. Measure the resistance between ground and the Mirror Vertical Position Signal circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Mirror Vertical Position Signal wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 14	All
14	Disconnect the DDM C2 connector. Disconnect the Driver Power Mirror connector. Measure the resistance of the Mirror Horizontal Position Signal circuit between the DDM C2 connector and the Driver Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Go To 15 No → Repair the open Mirror Horizontal Position Signal wire. Perform BODY VERIFICATION TEST - VER 1.	All
15	Disconnect the DDM C2 connector. Disconnect the Driver Power Mirror connector. Measure the resistance of the Mirror Vertical Position Signal circuit between the DDM C2 connector and the Driver Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Go To 16 No → Repair the open Mirror Vertical Position Signal wire. Perform BODY VERIFICATION TEST - VER 1.	All
16	If there are no possible causes remaining, view repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***FOLDING POWER MIRROR INOPERATIVE**

POSSIBLE CAUSES
FOLDING MIRROR TEST
DRIVER POWER MIRROR - FOLDING MIRROR OPEN
PASSENGER FOLDAWAY MIRROR OPEN
POWER FOLDING MIRROR FEED WIRE OPEN
POWER FOLDING MIRROR FEED WIRE SHORTED TO GROUND
POWER FOLDING MIRROR RETURN WIRE OPEN
POWER FOLDING MIRROR RETURN WIRE SHORTED TO GROUND
DRIVER DOOR MODULE - FOLDING MIRROR OPEN
PASSENGER DOOR MODULE - FOLDAWAY MIRROR OPEN
BOTH FOLDING MIRRORS INOPERATIVE
DRIVER POWER MIRROR - SHORT TO GROUND
PASSENGER POWER MIRROR - SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	**Note: The following list of items should be checked before continuing with any power mirror tests.** Ensure door ajar switches are working properly before proceeding. If not OK, refer to symptom list for problems related to INTERIOR LIGHTING. Ensure there is communication with the DDM and the BCM before proceeding. If not OK, refer to symptom list for problems related to COMMUNICATION. Ensure the mirror directional switches are working properly before proceeding. If not, replace the DDM. Ensure the mirror select switch is working properly before proceeding. If not, replace the DDM. If all items are operational, continue. Continue Go To 2	All

*FOLDING POWER MIRROR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
2	Ensure all doors are closed. Remove the key from the ignition switch. Operate the mirrors from the power foldaway switch and observe both mirrors. What did you observe. Neither mirror folded or opened. Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1. Driver mirror failed to fold or open. Go To 3 Passenger mirror failed to fold or open. Go To 11 Both mirrors folded and opened. Mirrors are operating properly at this time. Check for intermittent failure from doors and foldaway switches. Perform BODY VERIFICATION TEST - VER 1.	All
3	Key off. Disconnect the Driver Door Module C2 connector. Measure the resistance between ground and the Power Folding Mirror Feed circuit in the DDM C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Go To 7	All
4	Key off. Disconnect the Passenger Door Module C2 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance between ground and the Power Folding Mirror Feed wire in the PDM ″C2″ connector. Is the resistance below 5.0 ohms? Yes → Repair the Power Folding Mirror Feed wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Key off. Disconnect the Passenger Door Module C2 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance between ground and the Power Folding Mirror Return wire in the PDM C2 connector. Is the resistance below 5.0 ohms? Yes → Repair the Power Folding Mirror Return 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 Driver Power Mirror. Perform BODY VERIFICATION TEST - VER 1.	All

*FOLDING POWER MIRROR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
7	Ensure the DDM C2 connector is connected at this time. Disconnect the Driver Power Mirror connector. Connect a 12-volt test light between the Power Folding Mirror Feed and the Power Folding Mirror Return circuits in the Driver Power Mirror connector. With the DRBIII® actuate Drv Foldaway In then the Drv Foldaway Out relays. Did the test light illuminate when the relays were activated in BOTH directions? Yes → Replace the Driver Foldaway Mirror. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Key off. Disconnect the Passenger Door Module C2 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Power Folding Mirror Feed wire between the PDM C2 connector and the Passenger Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the open Power Folding Mirror Feed wire. Perform BODY VERIFICATION TEST - VER 1.	All
9	Key off. Disconnect the Passenger Door Module C2 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Power Folding Mirror Return wire between the PDM C2 connector and the Driver Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the open Power Folding Mirror Return wire. Perform BODY VERIFICATION TEST - VER 1.	All
10	If there are no possible causes remaining, view repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
11	Key off. Disconnect the Passenger Door Module C2 connector. Measure the resistance between ground and the Power Folding Mirror Feed circuit in the PDM C2 connector. Is the resistance below 5.0 ohms? Yes → Go To 12 No → Go To 15	All
12	Key off. Disconnect the Passenger Door Module C2 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance between ground and the Power Folding Mirror Feed wire in the PDM ″C2″ connector. Is the resistance below 5.0 ohms? Yes → Repair the Power Folding Mirror Feed wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 13	All

*FOLDING POWER MIRROR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
13	Key off. Disconnect the Passenger Door Module C2 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance between ground and the Power Folding Mirror Return wire in the PDM C2 connector. Is the resistance below 5.0 ohms? Yes → Repair the Power Folding Mirror Return wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 14	All
14	If there are no possible causes remaining, view repair. Repair Replace the Passenger Power Mirror. Perform BODY VERIFICATION TEST - VER 1.	All
15	Ensure the PDM C2 connector is connected at this time. Disconnect the Passenger Power Mirror connector. Connect a 12-volt test light between the Power Folding Mirror Feed and the Power Folding Mirror Return circuits in the Passenger Power Mirror connector. With the DRBIII®, actuate ″Pas Foldaway In″ then the ″Pas Foldaway Out″ relays. Did the test light illuminate when the relays were activated in BOTH directions? Yes → Replace the Passenger Door Foldaway Mirror. Perform BODY VERIFICATION TEST - VER 1. No → Go To 16	All
16	Key off. Disconnect the Passenger Door Module C2 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Power Folding Mirror Feed wire between the PDM C2 connector and the Passenger Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Go To 17 No → Repair the open Power Folding Mirror Feed wire. Perform BODY VERIFICATION TEST - VER 1.	All
17	Key off. Disconnect the Passenger Door Module C2 connector. Disconnect the Passenger Power Mirror connector. Measure the resistance of the Power Folding Mirror Return wire between the PDM C2 connector and the Driver Power Mirror connector. Is the resistance below 5.0 ohms? Yes → Go To 18 No → Repair the open Power Folding Mirror Return wire. Perform BODY VERIFICATION TEST - VER 1.	All
18	If there are no possible causes remaining, view repair. Repair Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***ALL POWER WINDOWS INOPERATIVE**

POSSIBLE CAUSES
MODULE RESPONSE
DRIVER DOOR MODULE - WINDOWS INOPERATIVE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the DOOR MODULE status. Is the DRBIII able to access Both Door Modules? No → Refer to the COMMUNICATION category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1. Yes → Replace the Driver Door Module.. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***DRIVER REAR WINDOW INOPERATIVE FROM BOTH SWITCHES**

POSSIBLE CAUSES
REAR WINDOW SWITCH OPEN
DRIVER REAR WINDOW DRIVER DOWN WIRE OPEN
DRIVER REAR WINDOW DRIVER UP WIRE OPEN
DRIVER REAR WINDOW DRIVER UP WIRE SHORT TO GROUND
DRIVER REAR WINDOW DRIVER DOWN WIRE SHORT TO GROUND
WINDOW DRIVER DOWN WIRE OPEN
WINDOW DRIVER DOWN WIRE SHORT TO GROUND
WINDOW DRIVER UP WIRE OPEN
WINDOW DRIVER UP WIRE SHORT TO GROUND
REAR WINDOW MOTOR OPEN
DRIVER DOOR MODULE - OUTPUT OPEN

TEST	ACTION	APPLICABILITY
1	Remove the Rear Door Trim Panel. Disconnect the rear window switch connector. Turn the ignition on. Using a 12-volt Test Light connected to ground, check the Driver Rear Window Driver Up and Down circuits. Did the test light illuminate brightly on both circuits? Yes → Go To 2 No → Go To 8	All
2	Remove the Rear Door Trim Panel. Disconnect the Driver Rear Power Window Switch connector. Turn the ignition on. **Warning: Keep the window area clear as the window SHOULD move up and down in this test.** Connect a jumper wire from the Window Driver Down terminal in the switch connector to ground. Connect a jumper wire from the Window Driver Up terminal in the switch connector and momentarily connect it to the Rear Window Driver Up terminal in the switch connector. Reverse the Jumper wires to run the motor in the opposite direction. Did the Window Motor operate in both directions? Yes → Replace the Rear Window Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

*DRIVER REAR WINDOW INOPERATIVE FROM BOTH SWITCHES — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Rear Door Trim Panel. Disconnect the Driver Rear Window Switch connector. Disconnect the Driver Rear Power Window Motor connector. Measure the resistance of the Window Driver Down circuit between the window switch connector and the window motor connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Window Driver Down wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the Rear Door Trim Panel. Disconnect the Driver Rear Window Switch connector. Disconnect the Driver Rear Power Window Motor connector. Measure the resistance of the Window Driver Down circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Window Driver Down wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the Driver Rear Window Switch connector. Disconnect the Driver Rear Power Window Motor connector. Measure the resistance of the Window Driver Up circuit between the window switch connector and the window motor connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Window Driver Up wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Driver Rear Window Switch connector. Disconnect the Driver Rear Power Window Motor connector. Measure the resistance of the Window Driver Up circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Window Driver Up Wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Rear Window Motor. Perform BODY VERIFICATION TEST - VER 1.	All
8	Disconnect the Driver Door Module ″C1″ connector. Disconnect the Driver Rear Window Switch connector. Measure the resistance of the Driver Rear Window Driver Down circuit between the DDM connector and the Window Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the Driver Rear Window Driver Down wire for an open.. Perform BODY VERIFICATION TEST - VER 1.	All

*DRIVER REAR WINDOW INOPERATIVE FROM BOTH SWITCHES — Continued

TEST	ACTION	APPLICABILITY
9	Disconnect the Driver Door Module ″C1″ connector. Disconnect the Driver Rear Widow Switch connector. Measure the resistance of the Driver Rear Window Driver Up circuit between the DDM connector and the Window Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the Driver Rear Window Driver Up wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Disconnect the Driver Door Module ″C1″ connector. Disconnect the Driver Rear Window Switch connector. Measure the resistance of the Driver Rear Window Driver Up circuit to ground.. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Rear Window Driver Up wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	Disconnect the Driver Door Module ″C1″ connector. Disconnect the Driver Rear Window Switch connector. Measure the resistance of the Driver Rear Window Driver Down circuit to ground.. Is the resistance below 1000.0 ohms? Yes → Repair the Driver Rear Window Driver Down wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 12	All
12	If there are no possible causes remaining, view repair. Repair Replace the Driver Door Module (output open) Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

*DRIVER REAR WINDOW INOPERATIVE FROM DDM

POSSIBLE CAUSES
DRIVER DOOR MODULE - DRIVER REAR WINDOW INOPERATIVE

TEST	ACTION	APPLICABILITY
1	This test assumes that the driver rear window IS operational from the driver rear door switch. Ensure the driver rear window is operational from the driver rear door switch. If is not, refer to symptom list for problems related to DRIVER REAR WINDOW INOPERATIVE FROM BOTH SWITCHES. If there are no possible causes remaining, view repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***DRIVER REAR WINDOW INOPERATIVE FROM REAR SWITCH**

POSSIBLE CAUSES
OPEN GROUND CIRCUIT
SWITCH DEFECTIVE

TEST	ACTION	APPLICABILITY
1	**Note Ensure the Window Lock out Switch on the DDM is operating properly before proceeding.** Remove the Rear Door Trim Panel. Disconnect the Power Window Switch connector. Measure the resistance of the Ground circuit to ground. Is the resistance below 5.0 ohms? Yes → Replace the Power Window Switch. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***DRIVER WINDOW INOPERATIVE**

POSSIBLE CAUSES
DRIVER DOOR MODULE - OPEN SWITCH
DRIVER DOOR MODULE - OUTPUT OPEN
MOTOR CIRCUIT CHECK
DRIVER WINDOW DRIVER UP WIRE OPEN
DRIVER WINDOW DRIVER UP SHORTED TO GROUND
DRIVER WINDOW DRIVER DOWN WIRE OPEN
DRIVER WINDOW DRIVER UP SHORTED TO VOLTAGE
DRIVER WINDOW DRIVER DOWN SHORTED TO GROUND
DRIVER WINDOW DRIVER DOWN SHORTED TO VOLTAGE
MOTOR DEFECTIVE OPEN
MOTOR DEFECTIVE SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	Connect the DRBIII and select: ″Body″, ″Door Modules″, ″Actuators″ With the DRBIII actuate the ″DRV F WIN UP RLY″ and then the ″DRV F WIN DN RLY″.. Did the window operate up and down? Yes → Replace the Driver Door Module (switch input open) Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Driver Door Module ″C1″ connector. **Warning: Keep the window area clear as the window SHOULD move up and down in this test.** Connect a jumper wire from the Driver Window Driver Down terminal to the ground terminal. Connect a jumper wire from the Driver Window Driver Up terminal and momentarily connect it to the Fused B(+) terminal. Reverse the Jumper wires to run the motor in the opposite direction. Did the window motor operate up and down? Yes → Replace the Driver Door Module (output open). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

*DRIVER WINDOW INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Driver Door Module ″C1″ connector. Turn ignition off. Measure and record the total resistance of the motor ckt between the Driver Window Driver Up ckt and the Driver Window Driver Down ckt in the DDM ″C1″ connector (should be under 5.0 ohms). Measure and record the resistance of the Driver Window Driver Down ckt to ground in the DDM ″C1″ connector (should be infinite). Turn ignition on. Measure and record the voltage of the Driver Window Driver Down ckt to ground in the DDM ″C1″ connector (should be zero). What were your readings Total resistance above 5.0 ohms Go To 4 Resistance to gnd less than 1000 ohms Go To 7 Voltage above 0.02 volts Go To 10 None of the above Check and repair any reasons for the window regulator to bind. If the mechanism is OK, replace the power window motor. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the driver door module ″C1″ connector. Disconnect the driver power window motor connector. Measure the resistance of the Driver Window Driver Up circuit between the DDM connector and the window motor connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Driver Window Driver up wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the driver door module ″C1″ connector. Disconnect the driver power window motor connector. Measure the resistance of the Driver Window Driver Down circuit between the DDM connector and the window motor connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Driver Window Driver down wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view Repair. Repair Replace the power window motor. Perform BODY VERIFICATION TEST - VER 1.	All

*DRIVER WINDOW INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
7	Disconnect the driver door module ″C1″ connector. Disconnect the driver power window motor connector. Measure the resistance of the Driver Window Driver Up circuit to ground. Is the resistance below 100.0 ohms? Yes → Repair the Driver Window Driver up wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Disconnect the driver door module ″C1″ connector. Disconnect the driver power window motor connector. Measure the resistance of the Driver Window Driver Down ckt to ground. Is the resistance below 100.0 ohms? Yes → Repair the Driver Window Driver Down wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	If there are no possible causes remaining, view Repair. Repair Replace the Power Window Motor (internal short) Perform BODY VERIFICATION TEST - VER 1.	All
10	Disconnect the driver door module ″C1″ connector. Disconnect the driver power window motor connector. Measure the voltage of the Driver Window Driver Up ckt to ground. Is there ANY voltage on the Driver Window Driver Up wire? Yes → Repair the Driver Window Driver Up wire for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	Disconnect the driver door module ″C1″ connector. Disconnect the driver power window motor connector. Measure the voltage of the Driver Window Driver Down ckt to ground. Is there ANY voltage on the Driver Window Driver Down wire? Yes → Repair the Driver Window Driver Down wire for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

***PASSENGER REAR WINDOW INOPERATIVE FROM BOTH SWITCHES**

POSSIBLE CAUSES
REAR WINDOW SWITCH OPEN
PASSENGER REAR WINDOW DRIVER DOWN WIRE OPEN
PASSENGER REAR WINDOW DRIVER UP WIRE OPEN
PASSENGER REAR WINDOW DRIVER UP WIRE SHORT TO GROUND
PASSENGER REAR WINDOW DRIVER DOWN WIRE SHORT TO GROUND
WINDOW DRIVER DOWN WIRE OPEN
WINDOW DRIVER DOWN WIRE SHORT TO GROUND
WINDOW DRIVER UP WIRE OPEN
WINDOW DRIVER UP WIRE SHORT TO GROUND
REAR WINDOW MOTOR OPEN
PASSENGER DOOR MODULE - OUTPUT OPEN

TEST	ACTION	APPLICABILITY
1	Remove the Rear Door Trim Panel. Disconnect the rear window switch connector. Turn the ignition on. Using a 12-volt Test Light connected to ground, check the Passenger Rear Window Driver Up and Down circuits. Did the test light illuminate brightly on both circuits? Yes → Go To 2 No → Go To 8	All
2	Remove the Rear Door Trim Panel. Disconnect the Passenger Rear Power Window Switch connector. Turn the ignition on. **Warning: Keep the window area clear as the window SHOULD move up and down in this test.** Connect a jumper wire from the Window Driver Down terminal in the switch connector to ground. Connect a jumper wire from the Window Driver Up terminal in the switch connector and momentarily connect it to the Rear Window Driver Up terminal in the switch connector. Reverse the Jumper wires to run the motor in the opposite direction. Did the Window Motor operate in both directions? Yes → Replace the Rear Window Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

*PASSENGER REAR WINDOW INOPERATIVE FROM BOTH SWITCHES — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Rear Door Trim Panel. Disconnect the Passenger Rear Window Switch connector. Disconnect the Driver Rear Power Window Motor connector. Measure the resistance of the Window Driver Down circuit between the window switch connector and the window motor connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Window Driver Down wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Remove the Rear Door Trim Panel. Disconnect the Passenger Rear Window Switch connector. Disconnect the Passenger Rear Power Window Motor connector. Measure the resistance of the Window Driver Down circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Window Driver Down Wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the Passenger Rear Window Switch connector. Disconnect the Passenger Rear Power Window Motor connector. Measure the resistance of the Window Driver Up circuit between the window switch connector and the window motor connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Window Driver Up wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Passenger Rear Window Switch connector. Disconnect the Passenger Rear Power Window Motor connector. Measure the resistance of the Window Driver Up circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Window Driver Up Wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All
7	If there are no possible causes remaining, view repair. Repair Replace the Rear Window Motor. Perform BODY VERIFICATION TEST - VER 1.	All
8	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Rear Window Switch connector. Measure the resistance of the Passenger Rear Window Driver Down circuit between the PDM connector and the Window Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 9 No → Repair the open Passenger Rear Window Driver Down wire. Perform BODY VERIFICATION TEST - VER 1.	All

*PASSENGER REAR WINDOW INOPERATIVE FROM BOTH SWITCHES — Continued

TEST	ACTION	APPLICABILITY
9	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Rear Widow Switch connector. Measure the resistance of the Passenger Rear Window Driver Up circuit between the PDM connector and the Window Switch connector. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the Passenger Rear Window Driver Up wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
10	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Rear Window Switch connector. Measure the resistance of the Passenger Rear Window Driver Up circuit to ground.. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Rear Window Driver Up wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Rear Window Switch connector. Measure the resistance of the Passenger Rear Window Driver Down circuit to ground.. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Rear Window Driver Down wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 12	All
12	If there are no possible causes remaining, view repair. Repair Replace the Passenger Door Module (output open) Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***PASSENGER REAR WINDOW INOPERATIVE FROM DDM**

POSSIBLE CAUSES
DRIVER DOOR MODULE - PASSENGER REAR WINDOW INOPERATIVE

TEST	ACTION	APPLICABILITY
1	This test assumes that the passenger rear window IS operational from the passenger window switches. If it is not, Refer to symptom list for problems related to Passenger Rear Window Inoperative from Both Switches. If there are no possible causes remaining, view Repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***PASSENGER REAR WINDOW INOPERATIVE FROM REAR SWITCH**

POSSIBLE CAUSES
OPEN GROUND CIRCUIT
SWITCH DEFECTIVE

TEST	ACTION	APPLICABILITY
1	**Note Ensure the Window Lock out Switch on the DDM is operating properly before proceeding.** Remove the Rear Door Trim Panel. Disconnect the Power Window Switch connector. Turn the ignition off. Turn all lights off. Measure the resistance of the Ground circuit to ground. Is the resistance below 5.0 ohms? Yes → Replace the Power Window Switch. Perform BODY VERIFICATION TEST - VER 1. No → Repair the open ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***PASSENGER WINDOW INOPERATIVE FROM BOTH SWITCHES**

POSSIBLE CAUSES
PASSENGER DOOR MODULE - OPEN SWITCH
PASSENGER DOOR MODULE - OUTPUT OPEN
PASSENGER MOTOR CIRCUIT CHECK
PASSENGER WINDOW DRIVER DOWN WIRE OPEN
PASSENGER WINDOW DRIVER UP WIRE OPEN
PASSENGER WINDOW DRIVER DOWN SHORTED TO GROUND
PASSENGER WINDOW DRIVER UP SHORTED TO GROUND
PASSENGER WINDOW DRIVER DOWN SHORTED TO VOLTAGE
PASSENGER WINDOW DRIVER UP SHORTED TO VOLTAGE
WINDOW MOTOR OPEN
WINDOW MOTOR SHORT TO GROUND

TEST	ACTION	APPLICABILITY
1	**NOTE: Ensure there is communication with the Passenger and Driver Door Modules before proceeding.** Connect the DRBIII and select: ″Body″ ″Door Modules″ ″Actuators″ With the DRBIII actuate the ″PASS F WIN UP RLY″ and then the ″PASS F WIN DN RLY″.. Did the window operate up and down? Yes → Replace the Passenger Door Module (switch input open) Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Disconnect the Passenger Door Module ″C1″ connector. **Warning: Keep the window area clear as the window SHOULD move up and down in this test.** Connect a jumper wire from the Passenger Window Driver Down terminal to the ground terminal . Connect a jumper wire from the Passenger Window Driver Up terminal and momentarily connect it to the Fused B(+) terminal. Reverse the Jumper wires to run the motor in the oposite direction. Did the window motor operate up and down? Yes → Replace the Passenger Door Module (output open). Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

*PASSENGER WINDOW INOPERATIVE FROM BOTH SWITCHES — Continued

TEST	ACTION	APPLICABILITY
3	Disconnect the Passenger Door Module ″C1″ connector. Turn ignition off. Measure and record the total resistance of the motor circuit between the Passenger Window Driver Up circuit and the Passenger Window Driver Down circuit in the PDM ″C1″ connector (should be under 5.0 ohms). Measure and record the resistance of the Passenger Window Driver Down circuit to ground in the PDM ″C1″ connector (should be infinite). Turn ignition on. Measure and record the voltage of the Passenger Window Driver Down circuit to ground in the PDM ″C1″ connector (should be zero). What were your readings Total resistance above 5.0 ohms Go To 4 Resistance to gnd less than 1000 ohms Go To 7 Voltage above 0.02 volts Go To 10 None of the above Check and repair any reasons for the window regulator to bind. If the mechanism is OK, replace the power window motor. Perform BODY VERIFICATION TEST - VER 1.	All
4	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Power Window Motor connector. Measure the resistance of the Passenger Window Driver Down circuit between the PDM connector and the window motor connector. Is the resistance below 5.0 ohms? Yes → Go To 5 No → Repair the Passenger Window Driver Down wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
5	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Power Window Motor connector. Measure the resistance of the Passenger Window Driver Up circuit between the PDM connector and the window motor connector. Is the resistance below 5.0 ohms? Yes → Go To 6 No → Repair the Passenger Window Driver Up wire for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	If there are no possible causes remaining, view Repair. Repair Replace the Power Window Motor. Perform BODY VERIFICATION TEST - VER 1.	All

*PASSENGER WINDOW INOPERATIVE FROM BOTH SWITCHES — Continued

TEST	ACTION	APPLICABILITY
7	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Power Window Motor connector. Measure the resistance of the Passenger Window Driver Down circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Window Driver Down wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Power Window Motor connector. Measure the resistance of the Passenger Window Driver Up circuit to ground. Is the resistance below 1000.0 ohms? Yes → Repair the Passenger Window Driver Up wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	If there are no possible causes remaining, view Repair. Repair Replace the Power Window Motor (internal short) Perform BODY VERIFICATION TEST - VER 1.	All
10	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Power Window Motor connector. Measure the voltage of the Passenger Window Driver Down circuit to ground. Is there ANY voltage on the Passenger Window Driver Down wire? Yes → Repair the Passenger Window Driver Down wire for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All
11	Disconnect the Passenger Door Module ″C1″ connector. Disconnect the Passenger Power Window Motor connector. Measure the voltage of the Passenger Window Driver Up circuit to ground. Is there ANY voltage on the Passenger Window Driver Up wire? Yes → Repair the Passenger Window Driver Up wire for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

***PASSENGER WINDOW INOPERATIVE FROM DDM**

POSSIBLE CAUSES
DRIVER DOOR MODULE - PASSENGER WINDOW INOPERABLE

TEST	ACTION	APPLICABILITY
1	This test assumes that the passenger window IS operational from the passenger door module. If it is not, refer to the symptom Passenger Window Inoperative from Both Switches in the Power Window category. If there are no possible causes remaining, view Repair. Repair Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***PASSENGER WINDOW INOPERATIVE FROM PDM**

POSSIBLE CAUSES
PASSENGER DOOR MODULE - SWITCH FAILURE

TEST	ACTION	APPLICABILITY
1	**Note Ensure the Window Lock out Switch on the DDM is operating properly before proceeding.** This test assumes that the passenger window IS operational from the Driver Door Module. If it is not, refer to symptom Passenger Window Inoperative from Both Switches in the Power Window category. If there are no possible causes remaining, view Repair. Repair Replace the Passenger Door Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
ACCESSORY (SUNROOF) DELAY RELAY SHORTED HI

When Monitored and Set Condition:

ACCESSORY (SUNROOF) DELAY RELAY SHORTED HI

When Monitored: Igniton in ″RUN″ and IOD fuse/connector installed.

Set Condition: The BCM is trying to activate the sunroof (accy) delay relay. The fault is set when the BCM tries to pull this input low and excessive current is sinked into the BCM.

POSSIBLE CAUSES
SUNROOF DELAY RELAY COIL
SUNROOF DELAY RELAY CONTROL CIRCUIT SHORT TO BATTERY
SUNROOF SECTION OF BCM

TEST	ACTION	APPLICABILITY
1	Turn the ignition off. Lower the Junction Block and remove the Sunroof Delay Relay. Measure the resistance of the relay coil across terminals 1 and 2 or (85 and 86) of the relay. What resistance did you measure? Below 65.0 ohms Replace the Sunroof Delay Relay. Perform BODY VERIFICATION TEST - VER 1. Between 65 and 90 ohms Go To 2	All
2	Turn the ignition off. Lower the Junction Block and remove the Sunroof Delay Relay. Remove the Body Control Module from the Junction Block. Turn ignition on. Measure the voltage of the Sunroof Delay Relay Control circuit at the Junction Block BCM connector. Is there any voltage present? Yes → Replace the Junction Block. 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:
*SUNROOF DELAY INOPERATIVE

POSSIBLE CAUSES
SUNROOF SECTION OF BCM
REFER TO MOTOR INOP

TEST	ACTION	APPLICABILITY
1	The sunroof will be operational for approximately 45 seconds after the ignition has been turned off. If either front door is opened, power to the sunroof will be immediately removed. Ensure that both front doors are closed. Turn ignition on. Open and close the sunroof. What happened while opening and closing the sunroof? Opened and closed normally Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. Failed to open Refer to symptom list for problems related to SUNROOF MOTOR INOPERATIVE. Failed to close Refer to symptom list for problems related to SUNROOF MOTOR INOPERATIVE.	All

Symptom:

***SUNROOF MOTOR INOPERATIVE**

POSSIBLE CAUSES
CHECK DTC
OPEN RELAY CONTACT
SUNROOF DELAY RELAY COIL
SUNROOF SWITCH GROUND CIRCUIT OPEN
BLOWN FUSE #25
FUSE #25 DEFECTIVE
JUNCTION BLOCK DEFECTIVE
SUNROOF DELAY RELAY CONTROL J/B OPEN
SUNROOF OPEN SWITCH OPEN
SUNROOF DELAY RELAY OUTPUT SHORTED TO GROUND
SUNROOF VENT SWITCH OPEN
SUNROOF MOTOR B+ WIRE SHORT TO GROUND
SUNROOF MOTOR B- WIRE SHORT TO GROUND
SUNROOF GROUND CIRCUIT OPEN
SUNROOF MOTOR SHORT TO GROUND
″OPEN″ POWER SUNROOF OPEN CIRCUIT
OPEN POWER SUNROOF VENT CIRCUIT
OPEN SUNROOF DELAY RELAY OUTPUT CIRCUIT
BODY CONTROL MODULE - OPEN RELAY CONTROL
SUNROOF ASSEMBLY MODULE OR MOTOR OPEN
SUNROOF CONTROL MODULE - SHORT TO GROUND
SUNROOF CONTROL MODULE OPEN

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read Body Computer DTC's. Does the DRBIII® display ″Accessory Delay Relay Shorted Hi″ Yes → Refer to symptom list for problems related to ACCESSORY DELAY RELAY SHORTED HI. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All

*SUNROOF MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition off. Lower the Junction Block and remove the Sunroof Delay Relay. Measure the resistance of the relay coil across terminals 1 & 2 or 85 & 86. What resistance did you measure? Below 65.0 ohms Replace the Sunroof Delay Relay. Perform BODY VERIFICATION TEST - VER 1. Between 65 and 85 ohms Go To 3 Greater than 85 ohms Replace the Sunroof Delay Relay. Perform BODY VERIFICATION TEST - VER 1.	All
3	Turn ignition off. Lower the Junction Block and remove the Sunroof Delay Relay. Measure the voltage of the Fused B(+) circuit in the Sunroof (accessory) Delay Relay cavity #30 and cavity #85 to ground. Is the voltage above 10.5 volts in both cavities? Yes → Go To 4 No → Go To 16	All
4	Lower the Junction Block and remove the Sunroof Delay Relay. Connect a test light between the Fused B(+) ckt and the Sunroof Delay Relay Control ckt (cavities 85 & 86) in the relay connector. Turn the ignition to the ″Run″ position and observe the test light.. Does the test light illuminate when ignition is in the ″On″ position? Yes → Go To 5 No → Go To 14	All
5	Turn the ignition off. Remove the Sunroof Delay Relay Connect a jumper wire between the Fused B(+) ckt and the Sunroof Delay Relay Output ckt (cavities 30 & 87) in the relay connector. Turn the ignition on and operate the sunroof. Did the sunroof motor operate? Yes → Replace the Sunroof Delay Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the ignition off. Turn all lights off. Gain access to the sunroof switch and disconnect the connector. Measure the resistance of the ground circuit at the sunroof switch connector. Is the resistance below 5.0 ohms? Yes → Go To 7 No → Repair the sunroof switch ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*SUNROOF MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Gain access to the sunroof switch and disconnect the connector. Connect an ohmmeter between the power sunroof open circuit and the ground circuit on the sunroof switch. When pressing the ″open″ button on the sunroof switch does the meter read less than 5.0 ohms? Yes → Go To 8 No → Replace the Sunroof Switch. Perform BODY VERIFICATION TEST - VER 1.	All
8	Turn the ignition off. Gain access to the sunroof switch and disconnect the connector. Connect an ohmmeter between the power sunroof vent/close circuit and the ground circuit on the sunroof switch. When pressing the ″vent/close″ button on the sunroof switch does the meter read less than 5.0 ohms? Yes → Go To 9 No → Replace the Sunroof Switch. Perform BODY VERIFICATION TEST - VER 1.	All
9	Turn the ignition off. Turn all lights off. Gain access to the power sunroof assembly and disconnect the Sunroof Control Module connector (necessary to lower the overhead console, remove the ″A″ pillar trim, sunvisors, assist handles and sunroof pinch welt). Measure the resistance of the ground circuit in the Sunroof Control Module connector. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the power sunroof assembly open ground circuit. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the ignition off. Gain access to the power sunroof assembly and disconnect the Sunroof Control Module connector (necessary to lower the overhead console, remove the ″A″ pillar trim, sunvisors, assist handles and sunroof pinch welt). Gain access to the sunroof switch and disconnect the connector. Measure the resistance of the Power Sunroof Open circuit between the Sunroof Control Module and the Sunroof Switch. Is the resistance below 5.0 ohms? Yes → Go To 11 No → Repair the Power Sunroof Open circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All

*SUNROOF MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
11	Turn the ignition off. Gain access to the power sunroof assembly and disconnect the Sunroof Control Module connector (necessary to lower the overhead console, remove the ″A″ pillar trim, sunvisors, assist handles and sunroof pinch welt). Gain access to the Sunroof Switch and disconnect the connector. Measure the resistance of the Power Sunroof Vent circuit between the Sunroof Control Module and the Sunroof Switch. Is the resistance below 5.0 ohms? Yes → Go To 12 No → Repair the Power Sunroof Vent circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
12	Turn the ignition off. Lower the Junction Block and remove the Sunroof Delay Relay. Gain access to the power sunroof assembly and disconnect the Sunroof Control Module connector (necessary to lower the overhead console, remove the ″A″ pillar trim, sunvisors, assist handles and sunroof pinch welt). Measure the resistance of the sunroof delay relay output circuit between the power sunroof control module connector and the sunroof delay relay cavity 87. Is the resistance below 5.0 ohms? Yes → Go To 13 No → Repair the Sunroof Delay Relay Output circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
13	Remove the headliner as per instructions in ″Service Information″. Disconnect the Sunroof Control Module connector. Momentarily apply Fused 12 volts to the Sunroof Motor B+ circuit and ground the Sunroof Motor B- circuit in the Module connector (the motor should run). Reverse the polarity by switching the power and ground (the motor should run in the opposite direction). Did the glass move in both directions? Yes → Run the motor until the Sunroof is fully closed and replace the Sunroof Control Module Perform BODY VERIFICATION TEST - VER 1. No → Replace the Sunroof Motor. Perform BODY VERIFICATION TEST - VER 1.	All
14	Turn ignition off. Remove the Body Control Module. Lower the Junction Block and remove the Sunroof Delay Relay. Measure the resistance of the Sunroof Delay Relay Control circuit between the Junction Block BCM connector and the Sunroof Delay Relay cavity #86. Is the resistance below 5.0 ohms? Yes → Go To 15 No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1.	All
15	If there are no possible causes remaining, view Repair. Repair Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

*SUNROOF MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
16	Turn ignition off. Remove and inspect the Junction Block Fuse #25. Is the fuse open? No → Replace the Junction Block. Perform BODY VERIFICATION TEST - VER 1. Yes → Go To 17	All
17	Replace the juction block fuse #25 with a known good fuse. Turn ignition on and operate the sunroof. Turn the ignition off. Remove and inspect the Junction Block Fuse #25. Is the fuse blown? Yes → Go To 18 No → Replacing the open fuse has corrected the problem. Test complete. Perform BODY VERIFICATION TEST - VER 1.	All
18	Turn ignition off. Remove the Sunroof (accessory) Delay Relay. Remove the Junction Block Fuse #25. Measure the resistance of the Sunroof (accessory) Delay Relay cavity #30 in the Junction Block to ground. Is the resistance below 5.0 ohms? Yes → Replace the defective Junction Block. Perform BODY VERIFICATION TEST - VER 1. No → Go To 19	All
19	Turn the ignition off. Lower the Junction Block and remove the Sunroof Delay Relay. Gain access to the power sunroof assembly and disconnect the Sunroof Control Module connector (necessary to lower the overhead console, remove the ″A″ pillar trim, sun visors, assist handles and sunroof pinch welt). Measure the resistance of the sunroof delay relay output circuit at the Sunroof Control Module connector to ground. Is the resistance below 1000 ohms? Yes → Repair the Sunroof Delay Relay Output circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 20	All
20	Remove the headliner as per instructions in ″Service Information″. Disconnect the sunroof motor 2-way connector. Disconnect the Sunroof Control Module connector Measure the resistance between ground and the Sunroof Motor B+ circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Sunroof Motor B+ wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 21	All

*SUNROOF MOTOR INOPERATIVE — Continued

TEST	ACTION	APPLICABILITY
21	Remove the headliner as per instructions in ″Service Information″. Disconnect the Sunroof Motor 2-way connector. Disconnect the Sunroof Control Module connector Measure the resistance between ground and the Sunroof Motor B- circuit. Is the resistance below 1000.0 ohms? Yes → Repair the Sunroof Motor B- wire for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 22	All
22	Remove the headliner as per instructions in ″Service Information″. Disconnect the Sunroof Control Module connector. Ensure the Sunroof Motor connector is connected before proceeding. Measure the resistance between ground and the Sunroof Motor B+ circuit. Is the resistance below 100.0 ohms Yes → Replace the Sunroof Motor. Perform BODY VERIFICATION TEST - VER 1. No → Go To 23	All
23	If there are no possible causes remaining, view repair. Repair Replace the Sunroof Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

LF SENSOR BATTERY LOW
LF TIRE PRESSURE SENSOR FAILURE
LR SENSOR BATTERY LOW
LR TIRE PRESSURE SENSOR FAILURE
RF SENSOR BATTERY LOW
RF TIRE PRESSURE SENSOR FAILURE
RR SENSOR BATTERY LOW
RR TIRE PRESSURE SENSOR FAILURE
SPARE TIRE PRESSURE SENSOR FAILURE
SPARE TIRE SENSOR BATTERY LOW

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be LF SENSOR BATTERY LOW.

When Monitored and Set Condition:

LF SENSOR BATTERY LOW

When Monitored: Key ON.

Set Condition: When the EVIC detects a low battery condition from the LF Sensor/ Transmitter.

LF TIRE PRESSURE SENSOR FAILURE

When Monitored: Key ON.

Set Condition: When the EVIC detects a no-transmit condition from the LF Sensor/ Transmitter.

LR SENSOR BATTERY LOW

When Monitored: Key ON.

Set Condition: When the EVIC detects a low battery condition from the LR Sensor/ Transmitter.

LR TIRE PRESSURE SENSOR FAILURE

When Monitored: Key ON.

Set Condition: When the EVIC detects a no-transmit condition from the LR Sensor/ Transmitter.

RF SENSOR BATTERY LOW

When Monitored: Key ON.

Set Condition: When the EVIC detects a low battery condition from the RF Sensor/ Transmitter.

LF SENSOR BATTERY LOW — Continued

RF TIRE PRESSURE SENSOR FAILURE

When Monitored: Key ON.

Set Condition: When the EVIC detects a no-transmit condition from the RF Sensor/Transmitter.

RR SENSOR BATTERY LOW

When Monitored: Key ON.

Set Condition: When the EVIC detects a low battery condition from the RR Sensor/Transmitter.

RR TIRE PRESSURE SENSOR FAILURE

When Monitored: Key ON.

Set Condition: When the EVIC detects a no-transmit condition from the RR Sensor/Transmitter.

SPARE TIRE PRESSURE SENSOR FAILURE

When Monitored: Key ON.

Set Condition: When the EVIC detects a no-transmit condition from the Spare Tire Sensor/Transmitter.

SPARE TIRE SENSOR BATTERY LOW

When Monitored: Key ON.

Set Condition: When the EVIC detects a low battery condition from the Spare Tire Sensor/Transmitter.

POSSIBLE CAUSES
EVIC INTERNAL FAULT
SENSOR/TRANSMITTER INTERNAL FAULT

TEST	ACTION	APPLICABILITY
1	Using the procedure in the System Description, retrain the EVIC With the DRBIII®, record and erase DTC's. Drive the vehicle for 10 minutes over 25 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. No → Go To 2	All

LF SENSOR BATTERY LOW — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition on. Observe the EVIC display. Does the EVIC display TIRE SENSORS BAD/MISSING? Yes → Replace the EVIC in accordance with the Service Information. Perform TIRE PRESSURE VERIFICATION TEST. No → Test Complete.	All

Symptom List:

BCM MESSAGE NOT RECEIVED (EXPORT ONLY)
PRE-ARM TIMEOUT FAILURE (EXPORT ONLY)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be BCM MESSAGE NOT RECEIVED (EXPORT ONLY).

When Monitored and Set Condition:

BCM MESSAGE NOT RECEIVED (EXPORT ONLY)

When Monitored: Whenever the ITM sends bus messages to the BCM.

Set Condition: If the ITM does not receive status messages from the BCM.

PRE-ARM TIMEOUT FAILURE (EXPORT ONLY)

When Monitored: During the VTSS pre-arm process.

Set Condition: If the ITM does not receive arm message from the BCM after sixty seconds.

POSSIBLE CAUSES
INTERMITTENT CONDITION
ITM COMMUNICATION WITH THE BCM
INTRUSION TRANSCEIVER MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRB, enter Body Computer. Was the DRB able to I/D or communicate with the Body Computer? Yes → Go To 2 No → Refer to the Communication category for the related symptom(s). Perform BODY VERIFICATION TEST - VER 1.	All

BCM MESSAGE NOT RECEIVED (EXPORT ONLY) — Continued

TEST	ACTION	APPLICABILITY
2	With the DRB, erase ITM DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRB, read Intrusion Transceiver Module DTC's. Did this DTC reset? Yes → Replace the Intrusion Transceiver Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this symptom is currently not present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

HORN RELAY CIRCUIT SHORTED HI

POSSIBLE CAUSES
HORN RELAY - INTERNAL SHORT TO VOLTAGE
HORN RELAY CONTROL CIRCUIT SHORT TO VOLTAGE
BCM - HORN RELAY CONTROL SHORT TO VOLTAGE

TEST	ACTION	APPLICABILITY
1	Substitute the Horn Relay with a good relay. With the DRBIII®, record and erase DTC's. Press the horn pad several times. With the DRBIII®, read DTCs. Did the Horn Relay Ckt Shorted Hi trouble code reset? Yes → Go To 2 No → Replace the original Horn Relay. Perform VTSS VERIFICATION TEST - 1A.	All
2	Turn the ignition off. Remove the Horn Relay from the Power Distribution Center. Remove the Body Control Module from the Junction Block. Turn the ignition on. Measure the voltage between the Horn Relay Control circuit and ground. Is the voltage above 1.0 volt? Yes → Repair the Horn Relay Control circuit for a short to voltage. Perform VTSS VERIFICATION TEST - 1A. No → Replace the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom List:

ITM - EEPROM FAILURE (EXPORT ONLY)
LOOPBACK FAILURE (EXPORT ONLY)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be ITM - EEPROM FAILURE (EXPORT ONLY).

When Monitored and Set Condition:

ITM - EEPROM FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed and during change of the VTSS state.

Set Condition: If the EEPROM erase/write does not correctly complete the operation.

LOOPBACK FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed, pre-armed or reset.

Set Condition: If an internal ITM bus test performed fails.

POSSIBLE CAUSES
INTERMITTENT CONDITION
INTRUSION TRANSCEIVER MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRBIII®, read Intrusion Transceiver Module DTC's. Does the DRBIII® display the same DTC? Yes → Replace the Intrusion Transceiver Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this symptom is currently not present. Test complete. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
ITM - TRANSDUCER FAILURE (EXPORT ONLY)

When Monitored and Set Condition:

ITM - TRANSDUCER FAILURE (EXPORT ONLY)

When Monitored: Continuously during VTSS pre-arm mode.

Set Condition: The ITM sends a test ultrasonic signal during the pre-arm process. If the test signal is not correctly received, the code will be set.

POSSIBLE CAUSES
BLOCKED INTRUSION TRANSCEIVER MODULE SENSORS
INTERMITTENT CONDITION
INTRUSION TRANSCEIVER MODULE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRBIII®, read Intrusion Transceiver Module DTC's. Does the DRBIII® display: ITM Transducer Failure? Yes → Go To 2 No → The condition that caused this symptom is currently not present. Test complete. Perform BODY VERIFICATION TEST - VER 1.	All
2	Inspect the louvers of the Intrusion Transceiver Module for blockage from dust or debris. Were there any problems found? Yes → Clean as necessary. Perform VTSS VERIFICATION TEST - 1A. No → Replace the Intrusion Transceiver Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
ITM - VIN MISMATCH (EXPORT ONLY)

When Monitored and Set Condition:

ITM - VIN MISMATCH (EXPORT ONLY)

When Monitored: While the ITM is being disarmed.

Set Condition: If the ITM stored VIN does not match with the BCM.

POSSIBLE CAUSES
INTRUSION TRANSCEIVER MODULE
BODY CONTROL MODULE
CHECK VIN IN BCM AND ITM WITH VIN IN PCM

TEST	ACTION	APPLICABILITY
1	**NOTE: Do not attempt to use either an ITM and/or a Siren from another vehicle.** With the DRBIII® display and record the VIN in the Intrusion Transceiver Module. With the DRBIII® select Body Computer. Display and record the VIN in the BCM. With the DRBIII® select Engine. Display and record the VIN in the PCM. Does the VIN in the ITM and the VIN in the BCM match the VIN in the PCM? Yes → Go To 2 No → Replace the Module(s) with the incorrect VIN. Perform BODY VERIFICATION TEST - VER 1.	All
2	With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS using the RKE and turn the ignition on. With the DRBIII®, read Intrusion Transceiver Module DTC's. Does the DRBIII® display: ITM VIN Mismatch? Yes → Replace the Intrusion Transceiver Module. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this symptom is currently not present. Test complete. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

NO SERIAL COMMUNICATION (EXPORT ONLY)
SIREN COMMUNICATION FAILURE (EXPORT ONLY)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be NO SERIAL COMMUNICATION (EXPORT ONLY).

When Monitored and Set Condition:

NO SERIAL COMMUNICATION (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the Intrusion Transceiver Module does not receive messages from the Siren.

SIREN COMMUNICATION FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the Siren does not receive messages from the Intrusion Transceiver Module.

POSSIBLE CAUSES
INTERMITTENT CONDITION
OPEN FUSED B+ CIRCUIT
SIREN SIGNAL CONTROL CIRCUIT OPEN
SIREN SIGNAL CONTROL CIRCUIT SHORT TO GROUND
INTRUSION TRANSCEIVER MODULE
OPEN GROUND CIRCUIT
VTSS SIREN

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. Does the DRBIII® display the same DTC? 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. Look for any chafed, pierced, pinched or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All

NO SERIAL COMMUNICATION (EXPORT ONLY) — Continued

TEST	ACTION	APPLICABILITY
2	Gain access to the VTSS Siren. Disconnect the Siren connector. Measure the voltage of the Fused B(+) circuit in the Siren connector. 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	Disconnect the Siren 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 VTSS VERIFICATION TEST - 1A.	All
4	Use the DRBIII® and set up as follows: Use the 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. Select DRBIII® Standalone. Select lab scope. Select Live. 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 Siren connector. Connect the black lead to the chassis ground. Connect the red lead to the Siren Signal Control circuit in the Siren connector. Start the engine and hold the engine RPM's above 600. Observe the voltage displayed on the DRBIII® Lab Scope. Is there a voltage square wave present 1 to 2 seconds? Yes → Replace the VTSS Siren. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Disconnect the Siren harness connector. Disconnect the Intrusion Transceiver Module harness connector. Measure the resistance between ground and the Siren Signal Control circuit. Is the resistance above 5.0 ohms? Yes → Go To 6 No → Repair the Siren Signal Control circuit for a short to ground. Perform VTSS VERIFICATION TEST - 1A.	All

NO SERIAL COMMUNICATION (EXPORT ONLY) — Continued

TEST	ACTION	APPLICABILITY
6	Disconnect the Siren harness connector. Disconnect the Intrusion Transceiver Module harness connector. Measure the resistance of the Siren Signal Control circuit between the Intrusion Transceiver Module and the Siren connector. Is the resistance below 5.0 ohms? Yes → Replace the Intrusion Transceiver Module. Perform BODY VERIFICATION TEST - VER 1. No → Repair the Siren Signal Control circuit for an open. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:
PCM MESSAGE NOT RECEIVED (EXPORT ONLY)

When Monitored and Set Condition:

PCM MESSAGE NOT RECEIVED (EXPORT ONLY)

When Monitored: With the ignition on.

Set Condition: The ITM does not receive PCI bus messages from the PCM for 12 seconds.

POSSIBLE CAUSES
PCM MESSAGE 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 DRB enter System Tests then PCM Monitor. Does the DRB display: PCM is active on BUS? Yes → With the DRB, erase ITM DTCs. Cycle the ignition switch, wait 1 minute then recheck for ITM DTCs. If DTC resets, replace the Intrusion Transceiver Module in accordance with the service information. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the ignition on. With the DRB, attempt to communicate with the PCM. Was the DRB 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 Negative Battery Cable. Disconnect the PCM C3 harness connector. Disconnect the DRBIII® from the Data Link connector. Measure the resistance of the PCI Bus circuit between the Data Link connector and the PCM connector. Is the resistance below 5.0 ohms? Yes → Replace 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:
SIREN BATTERY HAS BEEN TAMPERED (EXPORT ONLY)

When Monitored and Set Condition:

SIREN BATTERY HAS BEEN TAMPERED (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the siren detects the loss of vehicle battery voltage.

POSSIBLE CAUSES
INTERMITTENT CONDITION
HARNESS TAMPERING
INTRUSION TRANSCEIVER MODULE

TEST	ACTION	APPLICABILITY
1	Inspect the wiring harness to the siren for any signs of tampering or damage. Were there any problems found? Yes → Repair wiring as necessary. Perform VTSS VERIFICATION TEST - 1A. No → Go To 2	All
2	With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRBIII®, read Intrusion Transceiver Module DTC's. Does the DRBIII® display: Siren Battery Has Been Tampered? Yes → Replace the Siren in accordance with the Service Information. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this symptom is currently not present. Inspect the related wiring harness for a possible intermittent condition. Look for any chafed, pierced or partially broken wires. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom List:

SIREN EEPROM FAILURE (EXPORT ONLY)
SIREN INTERNAL BATTERY (EXPORT ONLY)
SIREN ROM FAILURE (EXPORT ONLY)

Test Note: All symptoms listed above are diagnosed using the same tests. The title for the tests will be SIREN EEPROM FAILURE (EXPORT ONLY).

When Monitored and Set Condition:

SIREN EEPROM FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the checksum of the EEPROM does not calculate to the correct value.

SIREN INTERNAL BATTERY (EXPORT ONLY)

When Monitored: Continuously with engine rpm over 600.

Set Condition: When the internal battery within the siren does not charge as expected, the ITM sets this code.

SIREN ROM FAILURE (EXPORT ONLY)

When Monitored: Continuously while the VTSS is armed.

Set Condition: If the checksum of the ROM does not calculate to the correct value.

POSSIBLE CAUSES
INTERMITTENT CONDITION
SIREN

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, erase the current Intrusion Transceiver Module DTC's. Turn the ignition off. Arm the VTSS and wait 1 minute. Disarm the VTSS and turn the ignition on. With the DRBIII®, read Intrusion Transceiver Module DTC's. Does the DRBIII® display the same DTC? Yes → Replace the Siren. Perform BODY VERIFICATION TEST - VER 1. No → The condition that caused this symptom is currently not present. Test complete. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
*ALARM TRIPS ON ITS OWN

POSSIBLE CAUSES
LAST VTSS CAUSE
HOOD AJAR SWITCH (EXPORT ONLY)
INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Inputs/Outputs, read the Last Alarm Caused 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	Is this an export vehicle equipped with a hood ajar switch? Yes → Go To 3 No → Go To 4	All
3	Remove the ignition key (but keep in hand). Lock the vehicle and close all the doors, liftgate and hood. Allow the VTSS to arm. Lightly tap on hood near ajar switch to simulate wind and noise vibration. Did the VTSS trip to the alarming state? Yes → Replace the hood ajar switch. Perform VTSS VERIFICATION TEST - 1A. No → Go To 4	All
4	**NOTE: The condition that caused the alarm is not present at this time. The following list may help in indentifying 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:

***DRIVERS DOOR KEY FAILS TO DISARM VTSS**

POSSIBLE CAUSES
DRIVER DOOR MODULE RESET
RESET DOOR MODULE
OPEN GROUND CIRCUIT
DRIVER CYLINDER LOCK SWITCH SENSE CIRCUIT SHORTED TO GROUND
OPEN DRIVER CYLINDER LOCK SWITCH SENSE CIRCUIT
DRIVER CYLINDER LOCK SWITCH

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in VTSS, Sensor Display, read the Driver Key Cylinder Sw voltage. Rotate the Key in the Door Key Cylinder from the normal position to the unlock position. Does the Driver Key Cylinder Sw voltage change from 5.0 to 1.6 volts? Yes → Go To 2 No → Go To 3	All
2	Reset the DDM by removing and reinstalling the JB POWER Fuse #12 in the Power Distribution Center. Attempt to disarm the VTSS using the Door Key. Can the VTSS now be disarmed using the Door Key? Yes → Resetting the Driver Door Module has corrected the problem. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Driver Door Module. Perform BODY VERIFICATION TEST - VER 1.	All
3	Disconnect the Driver Cylinder Lock Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Driver Cylinder Lock Switch Ground circuit. Does the test light illuminate? Yes → Go To 4 No → Repair the Driver Cylinder Lock Switch Ground circuit for an open. Perform VTSS VERIFICATION TEST - 1A.	All
4	Disconnect the Driver Door Module C1 harness connector. Disconnect the Driver Cylinder Lock Switch harness connector. Using a 12-volt Test Light connected to 12-volts, check the Driver Cylinder Lock Switch Sense circuit. Does the test light illuminate? Yes → Repair the Driver Door Cylinder Lock Switch Sense circuit for a short to ground. Perform VTSS VERIFICATION TEST - 1A. No → Go To 5	All

*DRIVERS DOOR KEY FAILS TO DISARM VTSS — Continued

TEST	ACTION	APPLICABILITY
5	Disconnect the Driver Door Module C1 harness connector. Disconnect the Driver Cylinder Lock Switch harness connector. Measure the resistance of the Sense circuit. Is the resistance below 5.0 ohms? Yes → Replace the Driver Cylinder Lock Switch in accordance with the Service Information. Perform VTSS VERIFICATION TEST - 1A. No → Repair the Driver Cylinder Lock Switch Sense circuit for an open. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***HAZARD LAMPS FAIL TO FLASH WITH ALARM TRIPPED**

POSSIBLE CAUSES
VERIFY HAZARD OPERATION
BCM -- HAZARDS INOPERATIVE WITH VTSS ALARM TRIPPED
JUNCTION BLOCK

TEST	ACTION	APPLICABILITY
1	Turn the Hazard Lamps on. Do the Hazard Lamps operate properly? Yes → Go To 2 No → Check and diagnose related Body Control Module Diagnostic Trouble Codes. If no DTCs are present, refer to the Service Information. Perform VTSS VERIFICATION TEST - 1A.	All
2	Remove the BCM from the Junction Block. Connect a jumper wire between cavity 10 of the Junction Block and ground. Do the hazard lamps operate? Yes → Replace the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Replace the Junction Block in accordance with the Service Information. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***HEADLAMPS FAIL TO FLASH WITH ALARM TRIPPED (IF ENABLED)**

POSSIBLE CAUSES
VERIFY LOW BEAM OPERATION
BCM -- HEADLAMPS FAIL TO FLASH WHEN VTSS IS IN ALARM

TEST	ACTION	APPLICABILITY
1	Turn the Low Beam Headlamps on. Do the Low Beam Headlamps operate properly? Yes → Replace the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Refer to the Exterior Lighting symptom list and also check for related Body Control Module Diagnostic Trouble Codes. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***HORN FAILS TO SOUND WITH ALARM TRIPPED**

POSSIBLE CAUSES
CHECK HORN OPERATION
JUNCTION BLOCK - OPEN HORN RELAY CONTROL CIRCUIT
BODY CONTROL MODULE-OPEN HORN RELAY CONTROL CIRCUIT

TEST	ACTION	APPLICABILITY
1	Push the Horn Button on the Steering Wheel. Does the Horn operate properly? Yes → Go To 2 No → Check for and diagnose related Body Control Module Diagnostic Trouble Codes. If there are no DTCs present, refer to the Service Information to diagnose the horn system. Perform VTSS VERIFICATION TEST - 1A.	All
2	Remove the BCM from the junction block. Using a 12-volt test light connected to 12-volts, probe the Horn Relay Control circuit at the J/B side of the Junction Block-to-Body Control Module connector. While monitoring the test light, press the horn button on the steering wheel. Did the test light illuminate when the horn button was pressed? Yes → Replace the Body Contol Module. Perform VTSS VERIFICATION TEST - 1A. No → Replace the Junction Block in accordance with the Service Information. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***INTRUSION TRANSCEIVER MODULE SENSITIVITY (EXPORT ONLY)**

POSSIBLE CAUSES
INTERIOR TYPE SELECTED IN ITM

TEST	ACTION	APPLICABILITY
1	With the DRBIII® in Miscellaneous, check the Current Status of the Interior Type. Is the Interior Type selected correct? Yes → Test Complete. No → Program the correct interior type. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

***THEFT ALARM WILL NOT ARM**

POSSIBLE CAUSES
CHECK THE VTSS STATUS
CHECK FOR DTCS AND VTSS ARMING INHIBITORS
BODY CONTROL MODULE - NO ALARM OUTPUT

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, 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	Make sure the liftgate, liftgate flip-up, hood and all doors are closed. Remove the key from the ignition. With the DRBIII®, read the active DTC's, ajar switch states, and the key-in-ignition switch state. Does the DRBIII® display any closed switches or VTSS related DTCs? Yes → Refer to the Symptom List and diagnose the appropriate symptom in the CHIME, DOOR AJAR or VTSS category. Perform VTSS VERIFICATION TEST - 1A. No → Replace the Body Control Module. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***VTSS DOES NOT TRIP FROM DRIVERS DOOR**

POSSIBLE CAUSES
BCM-NO VTSS TRIP FROM DRVR DOOR
CHECK DRBIII® FOR DRIVER DOOR AJAR RESPONSE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the DRVR DOOR AJAR SW status. Open the driver door. Does the DRBIII® display CLOSED? Yes → Replace 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 HOOD (IF EQUIPPED)**

POSSIBLE CAUSES
CHECK DRBIII® FOR HOOD AJAR RESPONSE
BCM-NO VTSS TRIP FROM HOOD

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the HOOD AJAR SW status. Open the hood. Does the DRBIII® display CLOSED? Yes → Replace the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Refer to symptom HOOD 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 LR DOOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the LR DOOR AJAR SW status. Open the left rear door. Does the DRBIII® display CLOSED? Yes → Replace 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 LIFTGATE**

POSSIBLE CAUSES
CHECK DRBIII® FOR LIFTGATE SW RESPONSE
BCM-NO VTSS TRIP FROM LIFTGATE

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the LIFTGATE SW status. Open the liftgate. Does the DRBIII® display CLOSED? Yes → Replace the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Refer to symptom LIFTGATE AJAR CKT OPEN in the DOOR AJAR category. Perform VTSS VERIFICATION TEST - 1A.	All

Symptom:

***VTSS DOES NOT TRIP FROM LIFTGATE FLIP-UP GLASS ONLY**

POSSIBLE CAUSES
CHECK DRBIII® FOR LIFTGATE FLIP-UP RESPONSE
BCM-NO VTSS TRIP FROM LIFTGATE FLIP-UP GLASS

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the LIFTGLASS SW status. Open the liftgate flip-up glass. Does the DRBIII® display CLOSED? Yes → Replace the Body Control Module. Perform VTSS VERIFICATION TEST - 1A. No → Refer to symptom Lftgate Flip-Up Ajar Circuit 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	With the DRBIII®, read the PASS DOOR AJAR SW status. Open the passenger door. Does the DRBIII® display CLOSED? Yes → Replace 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 RR DOOR

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read the RR DOOR AJAR SW status. Open the right rear door. Does the DRBIII® display CLOSED? Yes → Replace 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 VTSS INDICATOR FUSED B(+) SUPPLY
OPEN VTSS LED
VTSS INDICATOR DRIVER CIRCUIT OPEN
BODY CONTROL MODULE--OPEN INTERNAL VTSS DRIVER

TEST	ACTION	APPLICABILITY
1	Disconnect the Automatic Headlamp Light Sensor/VTSS LED harness connector. Measure the voltage of the Fused B+ circuit. Is the voltage above 10.0 volts? Yes → Go To 2 No → Repair the VTSS Fused B+ circuit for an open. Perform VTSS VERIFICATION TEST - 1A.	All
2	Disconnect the Automatic Headlamp Light Sensor VTSS/LED harness connector. Using a 12-volt test light connected to 12-volts, check the VTSS Indicator Driver circuit. Turn the ignition on. With the DRB in Vehicle Theft, actuate the VTSS Indicator lamp. Does the test light illuminate when the VTSS Indicator lamp is actuated? Yes → Replace the Automatic Headlamp Light Sensor/VTSS LED assembly. Perform VTSS VERIFICATION TEST - 1A. No → Go To 3	All
3	Disconnect the Automatic Headlamp Light Sensor/ VTSS LED harness connector. Disconnect the BCM C1 harness connector. Measure the resistance of the VTSS Indicator Driver circuit. Is the resistance below 5.0 ohms? Yes → Replace 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:
RAIN SENSOR FAULT

When Monitored and Set Condition:

RAIN SENSOR FAULT

When Monitored: Ignition on.

Set Condition: When the BCM detects a fault from the Rain Sensor Module.

POSSIBLE CAUSES
INTERMITTENT CONDITION
MULTIFUNCTION SWITCH
RAIN SENSOR MODULE
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, clear all BCM DTC's. Turn the right side multifunction switch to the AUTO position. With the DRBIII®, read the DTC information. Does the DRBIII® read: Rain Sensor Fault? 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 side Multifunction Switch harness connector. Turn the ignition on. With the DRBIII®, select Body, Body Control Module and read the Multifunction Switch voltage. Does the DRBIII® display voltage above 4.75 volts? Yes → Replace the right side Multifunction Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition on. Turn the right side multifunction switch to the AUTO position. Using a spray bottle, spray water on the RSM area of the windshield. Using the DRBIII® monitor the wipe commands to the BCM from the RSM. Were any wipe commands transmitted to the BCM from the RSM? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Rain Sensor Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

WASHER FLUID SENSOR FAILURE

When Monitored and Set Condition:

WASHER FLUID SENSOR FAILURE

When Monitored: Ignition key in run position.

Set Condition: If the resistance of the washer fluid level sensor input to the BCM is high causing the voltage to be above 4.8 volts for 5 seconds or more.

POSSIBLE CAUSES
VERIFYING ACTIVE DTC - WASHER FLUID SENSOR FAILURE
WASHER FLUID LEVEL SWITCH CIRCUIT VERIFICATION

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII, Erase BCM DTC's Turn ignition off then turn ignition on. Turn the wiper switch to each intermittent position, then low and high speed positions, then push the washer switch. Wait 5 minutes before reading the BCM DTC. With the DRBIII read BCM DTC's. Does the DRB show ″WASHER FLUID SENSOR FAILURE″? Yes → Go To 2 No → Test Complete, code not present at this time.	All
2	With the DRBIII, access BCM Sensors. Turn ignition on. Read the Washer Fluid level switch voltage. Is the Washer Fluid Level Switch voltage above 4.8 volts? Yes → Test Complete. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

WIPER HIGH/LOW RELAY OUTPUT OPEN

POSSIBLE CAUSES
FUSED IGNITION SWITCH OUTPUT RUN/ACC CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORTED TO GROUND
FUSED IGNITION SWITCH OUTPUT RUN/ACC CIRCUIT SHORTED TO GROUND
COMMON CIRCUIT SHORTED TO GROUND
HIGH SPEED OUTPUT SHORTED TO GROUND
LOW SPEED OUTPUT SHORTED TO GROUND
WIPER HIGH/LOW RELAY CONTROL CIRCUIT OPEN
WIPER HIGH/LOW RELAY CONTROL CIRCUIT SHORTED TO GROUND
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn the Ignition Off. Remove the Wiper High/Low Relay. Disconnect the BCM C1 Connector. **NOTE: Check connectors - Clean/repair as necessary.** Connect a jumper wire to the Wiper High/Low Relay Control circuit between the Body Control Module C1 connector and ground. Using a ohmmeter, measure the Wiper High/Low Relay Control circuit between the Wiper High/Low Relay cavity 85 of the Power Distribution Center and ground. Is the resistance below 5.0 ohms? Yes → Go To 2 No → Repair the open Wiper High/Low Relay Control circuit. Perform BODY VERIFICATION TEST - VER 1.	All
2	Turn the Ignition Off. Disconnect the Wiper High/Low Relay. Disconnect the BCM C1 Connector. **NOTE: Check connectors - Clean/repair as necessary.** Using a ohmmeter, measure the Wiper High/Low Relay Control circuit between the Wiper High/Low Relay cavity 85 of the Power Distribution Center and ground. Is the resistance below 5.0 ohms? Yes → Repair the Wiper High/Low Relay Control circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

WIPER HIGH/LOW RELAY OUTPUT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn the Ignition Off. Remove the Junction Block C1 Circuit Breaker. Disconnect the Wiper High/Low Relay. **NOTE: Check connectors - Clean/repair as necessary.** Using an ohmmeter, measure the Fused Ignition Switch Output circuit between the High/Low Relay (Cavity 86) and ground. Is the resistance below 10.0 ohms? Yes → Repair the Fused Ignition Switch Output Run/ACC circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Remove the Wiper High/Low Relay. Remove the Junction Block C1 Circuit Breaker. **NOTE: Check connectors - Clean / repair as necessary.** Connect a jumper wire between the Junction Block C2-9 Fused Ignition Switch Output Run/ACC and ground. Using an Ohmmeter, measure the Fused Ignition Switch Output Run/ACC circuit from the Wiper High/Low Relay connector (cavity 86) and ground. Is the resistance below 5.0 Ohms? Yes → Go To 5 No → Repair the open Fused Ignition Switch Output Run/ACC circuit. Perform BODY VERIFICATION TEST - VER 1.	All
5	Turn the Ignition Off. Remove the Wiper High/Low and On/Off Relays. **NOTE: Check connectors - Clean/repair as necessary.** Measure the resistance of the Wiper Relay Common circuit between the High/Low Relay (cavity 30) and ground. Is the resistance below 10.0 ohms? No → Go To 6 Yes → Repair the Wiper Relay Common circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All
6	Turn the Ignition Off. Remove the Wiper High/Low Relay. Disconnect the Wiper Motor connector. **NOTE: Check connectors - Clean/repair as necessary.** Using an ohmmeter, measure the Low Speed Output circuit at the High/Low Relay (cavity 87A). Is the resistance below 10.0 ohms? Yes → Repair the Low Speed Output circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 7	All

WIPER HIGH/LOW RELAY OUTPUT OPEN — Continued

TEST	ACTION	APPLICABILITY
7	Turn the Ignition Off. Disconnect the Wiper High/Low Relay. Disconnect the Wiper Motor connector. **NOTE: Check connectors - Clean/repair as necessary.** Using an ohmmeter, measure the High Speed Output circuit at the High/Low Relay (cavity 87). Is the resistance below 10.0 ohms? Yes → Repair the High Speed Output circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Turn the Ignition Off. Disconnect the Wiper Motor connector. Disconnect the Junction Block C1 Circuit Breaker. **NOTE: Check connectors - Clean/repair as necessary.** Using an ohmmeter, measure the Fused Ignition Switch Output Run/ACC circuit between the Wiper Motor Connector and ground. Is the resistance below 5.0 ohms? Yes → Repair the Fused Ignition Switch Output Run/ACC circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Turn the Ignition Off. Disconnect the Wiper High/Low Relay. **NOTE: Check connectors - Clean/repair as necessary.** Connect a test light between cavity 85 and 86 of the Wiper High/Low Relay in the Power Distribution Center. Turn the Ignition On (Engine Off). With the DRBIII actuate the Wiper Relay. Does the test light pulse on and off with the DRBIII actuating the wiper relay? Yes → Test Complete. No → Replace the Body Control Module,shorted low/open. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:
WIPER HIGH/LOW RELAY SHORTED HIGH

POSSIBLE CAUSES
WIPER HIGH/LOW RELAY COIL SHORTED
WIPER HIGH/LOW RELAY CONTROL CIRCUIT SHORTED TO BATTERY
BODY CONTROL MODULE

TEST	ACTION	APPLICABILITY
1	Turn ignition off. Remove the High/Low Relay. **NOTE: Check connectors - Clean / repair as necessary.** Using an ohmmeter, measure between terminals #85 and #86 of the Wiper High/Low Relay. Is the resistance below 50 ohms? Yes → Replace the Wiper High/Low Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 2	All
2	Turn the Ignition Off. Remove the Wiper High/Low Relay. Disconnect the BCM C1 Connector. **NOTE: Check connectors - Clean/repair as necessary.** Turn the Ignition On (Engine Off). Using a voltmeter, measure the Wiper High/Low Relay Control circuit at the BCM C1 Connector. Is the voltage above 1.0 volts? Yes → Repair the Wiper High/Low Relay Control circuit shorted to battery. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the Ignition Off. Disconnect the Wiper High/Low Relay. **Note: Check connectors - Clean/repair as necessary.** Connect a voltmeter between cavity 85 of the High/Low Relay and chassis ground. Turn ignition on. Is the voltage above 1.0 volts? Yes → Replace the Body Control Module. Wiper High/Low Relay Control circuit shorted to battery. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:
WIPER ON/OFF RELAY SHORTED HIGH

When Monitored and Set Condition:

WIPER ON/OFF RELAY SHORTED HIGH

When Monitored: The ignition must be in the run position and battery voltage supplied to the BCM on the Fused B(+) circuit.

Set Condition: If the BCM detects high current on the wiper on/off relay control circuit the code will set.

POSSIBLE CAUSES
VERIFYING ACTIVE DTC - WIPER ON/OFF RELAY CONTROL CIRCUIT SHORTED HIGH
WIPER ON/OFF RELAY COIL SHORTED
WIPER ON/OFF RELAY CONTROL CIRCUIT SHORTED TO BATTERY
BCM DEFECTIVE - WIPER ON/OFF RELAY

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII, Erase BCM DTC's Turn ignition off then turn ignition on. Turn the wiper switch to each intermittent position, then low and high speed positions. With the DRBIII read BCM DTC's. Does the DRB show "WIPER ON/OFF RELAY SHORTED HIGH"? Yes → Go To 2 No → Test Complete, code not present at this time.	All
2	Turn ignition off. Remove the On/Off Relay. **Note: Check connectors - Clean / repair as necessary.** Using an ohmmeter, measure between terminals #85 and #86 of the Wiper On/Off Relay. Is the resistance below 50 ohms? Yes → Replace the Wiper ON/Off Relay. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

WIPER ON/OFF RELAY SHORTED HIGH — Continued

TEST	ACTION	APPLICABILITY
3	Turn the Ignition Off. Remove the Wiper On/Off Relay. Disconnect the BCM C1 Connector. **Note: Check connectors - Clean/repair as necessary.** Turn the Ignition On (Engine Off). Using a voltmeter, measure the Wiper On/Off Relay Control circuit at the BCM C1 Connector. Is the voltage above 1.0 volts? Yes → Repair the Wiper On/Off Relay Control circuit shorted to battery. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the Ignition Off. Disconnect the Wiper On/Off Relay. **Note: Check connectors - Clean/repair as necessary.** Connect a voltmeter between cavity 85 of the On/Off Relay and chassis ground. Turn ignition on. Is the voltage above 1.0 volts? Yes → Replace the Body Control Module. Wiper On/Off Relay Control circuit shorted to battery. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

WIPER ON/OFF RELAY SHORTED LOW/OPEN CIRCUIT

When Monitored and Set Condition:

WIPER ON/OFF RELAY SHORTED LOW/OPEN CIRCUIT

When Monitored: The ignition must be in the run position and battery voltage supplied to the BCM on the Fused B(+) circuit.

Set Condition: If the BCM cannot sense any voltage on the wiper on/off relay control circuit.

POSSIBLE CAUSES
JUNCTION BLOCK CIRCUIT BREAKER C1 OPEN
VERIFYING ACTIVE DTC - WIPER ON/OFF RELAY CONTROL CIRCUIT SHORTED LOW/OPEN
FUSED IGNITION SWITCH OUTPUT RUN/ACC CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT CIRCUIT SHORTED TO GROUND
FUSED IGNITION SWITCH OUTPUT RUN/ACC CIRCUIT SHORTED TO GROUND
COMMON CIRCUIT SHORTED TO GROUND
HIGH SPEED OUTPUT SHORTED TO GROUND
LOW SPEED OUTPUT SHORTED TO GROUND
WIPER ON/OFF RELAY CONTROL CIRCUIT OPEN
WIPER ON/OFF RELAY CONTROL CIRCUIT SHORTED TO GROUND
BCM DEFECTIVE- WIPER ON/OFF RELAY CIRCUIT SHORTED LOW/OPEN

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII, Erase BCM DTC's Turn ignition off then turn ignition on. Turn the wiper switch to each intermittent position, then low and high speed positions. With the DRBIII read BCM DTC's. Does the DRB show ″WIPER ON/OFF RELAY OUTPUT SHORTED LOW/OPEN″? Yes → Go To 2 No → Test Complete, code not present at this time.	All
2	Disconnect the Junction Block Circuit Breaker C1. **Note: Check connectors - Clean/repair as necessary.** Install a known good circuit breaker in place of the Junction Block C1 Circuit Breaker. Does the system now operate correctly? Yes → Replace the Junction Block Circuit Breaker C1. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

WIPER ON/OFF RELAY SHORTED LOW/OPEN CIRCUIT — Continued

TEST	ACTION	APPLICABILITY
3	Remove the Wiper On/Off Relay. Remove the Junction Block C1 Circuit Breaker. **Note: Check connectors - Clean / repair as necessary.** Connect a jumper wire between the Junction Block C2-9 Fused Ignition Switch Output Run/ACC and ground. Using an Ohmmeter, measure the Fused Ignition Switch Output Run/ACC circuit from the Wiper On/Off Relay connector (cavity 86) and ground. Is the resistance below 5.0 Ohms? Yes → Go To 4 No → Repair the open Fused Ignition Switch Output Run/ACC circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the Ignition Off. Remove the Junction Block C1 Circuit Breaker. Disconnect the Wiper On/Off Relay. **Note: Check connectors - Clean/repair as necessary.** Using an ohmmeter, measure the Fused Ignition Switch Output circuit between the On/Off Relay (Cavity 86) and ground. Is the resistance below 10.0 ohms? Yes → Repair the Fused Ignition Switch Output Run/ACC circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the Ignition Off. Disconnect the Wiper Motor connector. Disconnect the Junction Block C1 Circuit Breaker. **Note: Check connectors - Clean/repair as necessary.** Using an ohmmeter, measure the Fused Ignition Switch Output Run/ACC circuit between the Wiper Motor Connector and ground. Is the resistance below 5.0 ohms? Yes → Repair the Fused Ignition Switch Output Run/ACC circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 6	All
6	Turn the Ignition Off. Remove the Wiper High/Low and On/Off Relays. **Note: Check connectors - Clean/repair as necessary.** Measure the resistance of the Wiper Relay Common circuit between the High/Low Relay (cavity 30) and ground. Is the resistance below 10.0 ohms? No → Go To 7 Yes → Repair the Wiper Relay Common circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1.	All

WIPER ON/OFF RELAY SHORTED LOW/OPEN CIRCUIT — Continued

TEST	ACTION	APPLICABILITY
7	Turn the Ignition Off. Disconnect the Wiper High/Low Relay. Disconnect the Wiper Motor connector. **Note: Check connectors - Clean/repair as necessary.** Using an ohmmeter, measure the High Speed Output circuit at the High/Low Relay (cavity 87). Is the resistance below 10.0 ohms? Yes → Repair the High Speed Output circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 8	All
8	Turn the Ignition Off. Remove the Wiper High/Low Relay. Disconnect the Wiper Motor connector. **Note: Check connectors - Clean/repair as necessary.** Using an ohmmeter, measure the Low Speed Output circuit at the High/Low Relay (cavity 87A). Is the resistance below 10.0 ohms? Yes → Repair the Low Speed Output circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 9	All
9	Turn the Ignition Off. Remove the Wiper On/Off Relay. Disconnect the BCM C1 Connector. **Note: Check connectors - Clean/repair as necessary.** Connect a jumper wire to the Wiper On/Off Relay Control circuit between the Body Control Module C1 connector and ground. Using a ohmmeter, measure the Wiper On/Off Relay Control circuit between the Wiper On/Off Relay cavity 85 of the Power Distribution Center and ground. Is the resistance below 5.0 ohms? Yes → Go To 10 No → Repair the open Wiper On/Off Relay Control circuit. Perform BODY VERIFICATION TEST - VER 1.	All
10	Turn the Ignition Off. Disconnect the Wiper On/Off Relay. Disconnect the BCM C1 Connector. **Note: Check connectors - Clean/repair as necessary.** Using a ohmmeter, measure the Wiper On/Off Relay Control circuit between the Wiper On/Off Relay cavity 85 of the Power Distribution Center and ground. Is the resistance below 5.0 ohms? Yes → Repair the Wiper On/Off Relay Control circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 11	All

WIPER ON/OFF RELAY SHORTED LOW/OPEN CIRCUIT — Continued

TEST	ACTION	APPLICABILITY
11	Turn the Ignition Off. Disconnect the Wiper On/Off Relay. **Note: Check connectors - Clean/repair as necessary.** Connect a test light between cavity 85 and 86 of the Wiper On/Off Relay in the Power Distribution Center. Turn the Ignition On (Engine Off). With the DRBIII actuate the Wiper Relay. Does the test light pulse on and off with the DRBIII actuating the wiper relay? Yes → Test Complete. No → Replace the Body Control Module,shorted low/open. Perform BODY VERIFICATION TEST - VER 1. **Note: Stop the Wiper Motor actuation.**	All

Symptom:
WIPER PARK SWITCH FAILURE

When Monitored and Set Condition:

WIPER PARK SWITCH FAILURE

When Monitored: The ignition must be in the run position and battery voltage supplied to the BCM on the Fused B(+) circuit.

Set Condition: The code will set if the BCM does not detect a low to high voltage transition on the Wiper Park Switch Sense circuit within 8 seconds after energizing the wiper relay On/Off relay.

POSSIBLE CAUSES
WIPER PARK SWITCH OPERATION
WIPER PARK SWITCH SENSE CIRCUIT SHORT TO VOLTAGE
WIPER PARK SWITCH SENSE CIRCUIT OPEN
WIPER PARK SWITCH SENSE CIRCUIT SHORT TO GROUND
GROUND CIRCUIT OPEN
FUSED IGNITION SWITCH OUTPUT RUN/ACC CIRCUIT OPEN
WIPER MOTOR OPERATION
BCM

TEST	ACTION	APPLICABILITY
1	Turn the ignition on. With the DRBIII®, erase BCM DTC's. Cycle the ignition off and then on. Turn the windshield wiper switch to each intermittent position, then low and high speed positions. Turn the windshield wiper switch to the Low Speed position. With the DRBIII®, read BCM DTC's. Does the DRB display WIPER PARK SWITCH FAILURE? Yes → Go To 2 No → At this time the condition to set the code is not present. Inspect the related wiring harness and connectors, repair as necessary. Perform BODY VERIFICATION TEST - VER 1.	All

WIPER PARK SWITCH FAILURE — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition off. Disconnect the Windshield Wiper Motor harness connector. Disconnect the Junction Block C2 harness connector. Turn the ignition on. Measure the voltage of the Wiper Park Switch Sense circuit in the Windshield Wiper Motor harness connector. Is there any voltage present? Yes → Repair the Wiper Park Switch Sense circuit for a short to voltage. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All
3	Turn the ignition off. Disconnect the Windshield Wiper Motor harness connector. Disconnect the Junction Block C2 harness connector. Measure the resistance of the Wiper Park Switch Sense circuit between the Junction Block C2 harness connector and the Wiper Motor harness connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the Wiper Park Switch Sense circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn the ignition off. Disconnect the Windshield Wiper Motor harness connector. Disconnect the Junction Block C2 harness connector. Measure the resistance between ground and the Wiper Park Switch Sense circuit in the Junction Block C2 harness connector. Is the resistance below 100.0 ohms? Yes → Repair the Wiper Park Switch Sense circuit for a short to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the ignition off. Disconnect the Windshield Wiper Motor harness connector. **NOTE: Ensure the ignition switch, all lights and accessories are turned off.** Using a 12-volt test light connected to 12-volts, probe the Ground circuit in the Windshield Wiper Motor harness connector. Does the test light illuminate brightly? Yes → Go To 6 No → Repair the Wiper Motor Ground circuit for an open. Perform BODY VERIFICATION TEST - VER 1.	All
6	Disconnect the Wiper Motor connector. Turn ignition on. Using a voltmeter measure the Fused Ignition Switch Output Run/ACC circuit at the Wiper Motor connector. Is the voltage above 10 volts? Yes → Go To 7 No → Repair the open Fused Ignition Switch Output Run/ACC circuit. Perform BODY VERIFICATION TEST - VER 1.	All

WIPER PARK SWITCH FAILURE — Continued

TEST	ACTION	APPLICABILITY
7	Turn the ignition off. Disconnect the Windshield Wiper Motor harness connector. Turn the ignition on. With the DRBIII® in Inputs/Outputs, read the wiper park switch state. Connect one end of a jumper wire to the wiper park switch sense circuit at the windshield wiper motor harness connector. While observing the DRBIII®, connect the other end of the jumper wire to ground for several seconds, then disconnect the jumper wire from ground. Did the wiper park switch input change state when connected to ground then disconnected from ground? Yes → Replace the Wiper Motor. Perform BODY VERIFICATION TEST - VER 1. No → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1.	All

Symptom:

WIPER SWITCH MUX CKT OPEN

When Monitored and Set Condition:

WIPER SWITCH MUX CKT OPEN

When Monitored: The ignition must be in the run position and battery voltage supplied to the BCM on the Fused B(+) circuit.

Set Condition: If the voltage on the wiper switch MUX circuit is above 4.8 volts for more than 5 seconds the code will set.

POSSIBLE CAUSES
VERIFYING ACTIVE DTC - WIPER SWITCH MUX CIRCUIT OPEN
WIPER SWITCH RETURN CIRCUIT OPEN
WINDSHIELD WIPER SWITCH MUX CIRCUIT OPEN
RIGHT MULTI - FUNCTION SWITCH DEFECTIVE, WINDSHIELD WIPER SWITCH MUX CKT OPEN
BCM DEFECTIVE - WIPER MUX CIRCUIT OPEN

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII, Erase BCM DTC's Turn ignition off then turn ignition on. Turn the wiper switch to each intermittent position, then low and high speed positions. With the DRBIII read BCM DTC's. Does the DRB show ″WIPER SWITCH MUX CIRCUIT OPEN″? Yes → Go To 2 No → Test Complete, code not present at this time.	All
2	Turn ignition off. Disconnect the Right Multi - Function Switch connector. Disconnect the BCM C2 connector. Using an ohmmeter, Measure the resistance of the Wiper Switch Return circuit between the BCM C2 connector and the Right Multi - Function connector. Is the resistance below 5.0 ohms? Yes → Go To 3 No → Repair the open Windshield Wiper Switch Return circuit. Perform BODY VERIFICATION TEST - VER 1.	All

WIPER SWITCH MUX CKT OPEN — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Right Multi - Function Switch connector. Disconnect the BCM C2 connector. Using an ohmmeter, Measure the resistance of the Windshield Wiper Switch MUX circuit between the BCM C2 connector and the Right Multi - Function connector. Is the resistance below 5.0 ohms? Yes → Go To 4 No → Repair the open Windshield Wiper Switch MUX circuit. Perform BODY VERIFICATION TEST - VER 1.	All
4	Turn ignition off. Disconnect the Right Multi - Function Switch Connector. Turn the Windshield Wiper Switch to the ″OFF″ position. Connect an ohmmeter between the Right Multi - Function Switch terminals #7 and #8. Observe the ohmmeter while turning the Windshield Wiper Switch from the ″ OFF″ position to the ″High speed″ position. Is the resistance below 40.0 ohms in any position Yes → Replace the Right Multi - Function Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 5	All
5	Turn the Ignition Off. With a jumper, back probe a jumper wire between the Wiper Switch Return Circuit and the Windshield Wiper Switch MUX circuit at the BCM C2 connector. Turn Ignition on. With the DRBIII, read the WIPER MODE SW VOLTS sensor. Does the DRBIII show the sensor volts above 4.8 volts? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Symptom:

WIPER SWITCH MUX CKT SHORT TO GROUND

When Monitored and Set Condition:

WIPER SWITCH MUX CKT SHORT TO GROUND

When Monitored: The ignition must be in the run position and battery voltage supplied to the BCM on the Fused B(+) circuit.

Set Condition: If the voltage on the wiper switch MUX circuit drops below 0.3 volts for more than 5 seconds the code will set.

POSSIBLE CAUSES
VERIFYING ACTIVE DTC - WIPER SWITCH MUX CIRCUIT SHORTED TO GROUND
WINDSHIELD WIPER SWITCH MUX CIRCUIT SHORTED TO GROUND
RIGHT MULTI - FUNCTION SWITCH DEFECTIVE, WIPER MUX CIRCUIT SHORTED TO GROUND
BCM DEFECTIVE - WIPER MUX CIRCUIT SHORTED TO GROUND

TEST	ACTION	APPLICABILITY
1	Turn ignition on. With the DRBIII, Erase BCM DTC's Turn ignition off then turn ignition on. Turn the wiper switch to each intermittent position, then low and high speed positions. With the DRBIII read BCM DTC's. Does the DRB show ″WIPER SWITCH MUX CIRCUIT SHORTED TO GROUND″? Yes → Go To 2 No → Test Complete, code not present at this time.	All
2	Turn ignition off. Disconnect the Right Multi - Function Switch connector. Disconnect the BCM C2 connector. Using an ohmmeter, Measure the resistance of the Windshield Wiper Switch MUX circuit between the BCM C2 connector and ground. Is the resistance below 5.0 ohms? Yes → Repair the Windshield Wiper Switch MUX circuit shorted to ground. Perform BODY VERIFICATION TEST - VER 1. No → Go To 3	All

WIPER SWITCH MUX CKT SHORT TO GROUND — Continued

TEST	ACTION	APPLICABILITY
3	Turn ignition off. Disconnect the Right Multi - Function Switch Connector. Turn the Windshield Wiper Switch to the ″OFF″ position. Using an ohmmeter, measure between the Windshield Wiper Switch MUX circuit and the Wiper Switch Return circuit of the Right Multi - Function Switch. Observe the ohmmeter while turning the Windshield Wiper Switch from the ″ OFF″ position to the ″High speed″ position. Is the resistance below 40.0 ohms in any position. Yes → Replace the Right Multi - Function Switch. Perform BODY VERIFICATION TEST - VER 1. No → Go To 4	All
4	Turn the Ignition Off. Disconnect the BCM C2 connector. Turn Ignition on. With the DRBIII, read the ″WIPER MODE SW VOLTS″ sensor. Does the DRBIII show the sensor volts below 0.3 volts? Yes → Replace the Body Control Module. Perform BODY VERIFICATION TEST - VER 1. No → Test Complete.	All

Verification Tests

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 two pedal positions if equipped with memory function. 2. Activate the Adjustable Pedals through the full range of movement. 3. Verify that the Adjustable Pedals system is disabled with the vehicle in Reverse. 4. Verify that the Adjustable Pedals system is disabled with Speed Control activated. 5. With the DRBIII®, erase DTCs. 6. 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

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: 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 before turning 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 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 SKIM or PCM/ECM was replaced, refer to the service information for proper programming procedures.** 3. If the Body Control Module was replaced, turn the ignition on for 15 seconds before attempting to start (to learn VIN). 4. If the vehicle is equipped with VTSS, use the DRBIII® and enable VTSS. 5. Program other options as necessary. 6. (Export only) If the Intrusion Transceiver Module (ITM) was replaced, use the DRBIII® to enable the ITM and Program Interior type. 7. (Export only) If the Siren was replaced perform the DRBIII® Siren Replacement procedure. 8. If the Passenger Door Module was replaced, use the DRBIII® and program all RKE transmitters used with this vehicle. 9. If any repairs were made to AZC HVAC System, turn ignition on, set AZC to automatic mode, turn ignition off, remove IOD fuse from PDC, wait several seconds and reinstall IOD fuse, turn ignition on, do not touch AZC controls for at least one minute. 10. Ensure all accessories are turned off and the battery is fully charged. 11. With the DRBIII®, record and erase all DTC's from ALL modules. Start and run the engine for 2 minutes. Operate all functions of the system that caused the original concern. 12. 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 condition still present? Yes → Repair is not complete, refer to the appropriate symptom. No → Repair is complete.	All

POWERTRAIN VERIFICATION TEST VER - 1	APPLICABILITY
1. Inspect the vehicle to ensure that all engine components are properly installed and connected. Reassemble and reconnect components as necessary. 2. Inspect the engine oil for contamination. If oil contamination is suspected, change the oil and filter. 3. If the PCM was not replaced skip steps 4 through 6 and continue the verification. 4. If the PCM was replaced the correct VIN and mileage must be programmed or a DTC will set in the ABS and Air Bag modules. In addition, if the vehicle is equipped with Sentry Key Immobilizer Module (SKIM), Secret Key data must be updated to enable start. 5. For ABS and Air Bag systems: Enter correct VIN and Mileage in PCM. Erase codes in ABS and Air Bag modules. 6. For SKIM theft alarm: Connect DRBIII® to data link conn. Go to Theft Alarm, SKIM, Misc. and place SKIM in secured access mode, by using the appropriate PIN code for this vehicle. Select Update the Secret Key data. Data will be transferred from SKIM to PCM 7. Attempt to start the engine. Is the vehicle still unable to start or are there any DTCs or symptoms remaining? Yes → Check for any related Technical Service Bulletins and/or refer to the appropriate Symptoms list (Diagnostic Procedure). No → Repair is complete.	All

Verification Tests — Continued

POWERTRAIN VERIFICATION TEST VER - 2	APPLICABILITY
1. Inspect the vehicle to ensure that all engine components are properly installed and connected. Reassemble and reconnect components as necessary. 2. If this verification procedure is being performed after a NO TROUBLE CODE repair, perform steps 3 and 4. 3. Check to see if the initial symptom still exists. If there are no trouble codes or the symptom no longer exists, the repair was successful and testing is complete. 4. If the initial or another symptom exists, the repair is not complete. Check all technical service bulletins or flash updates and return to Symptoms if necessary. 5. If this verification procedure is being performed after a DTC repair, perform steps 6 through 13. 6. Connect the DRBIII® to the data link connector. Using the DRBIII® erase any diagnostic trouble codes and reset all values. 7. If the PCM was not replaced, skip steps 8 through 10 and continue with the verification. 8. If the PCM was replaced the correct VIN and mileage must be programmed or a DTC will set in the ABS and Air Bag modules. In addition, if the vehicle is equipped with Sentry Key Immobilizer System (SKIS), Secret Key data must be updated to enable start. 9. For ABS and Air Bag systems: Enter correct VIN and Mileage in PCM. Erase codes in ABS and Air Bag modules. 10. For SKIM theft alarm: Connect DRBIII® to data link conn. Go to Theft Alarm, SKIM, Misc. and place SKIM in secured access mode, by using the appropriate PIN code for this vehicle. Select Update the Secret Key data. Data will be transferred from SKIM to PCM 11. Road test the vehicle. If the test is for an A/C DTC, ensure it is operating during the following test. 12. Drive the vehicle for at least 5 minutes at or around 64 Kmh (40 mph). Ensure the transmission shifts through all gears. At some point stop the vehicle and turn off the engine for at least 10 seconds. 13. With the DRBIII®, read DTCs. Are there any DTC(s) present? Yes → Check for any related Technical Service Bulletins and/or refer to the appropriate Symptom list (Diagnostic Procedure). No → Repair is complete.	All

Verification Tests — Continued

ROAD TEST VERIFICATION - VER-2	APPLICABILITY
1. Inspect the vehicle to ensure that all engine components are properly installed and connected. Reassemble and reconnect components as necessary. 2. If this verification procedure is being performed after a non-DTC test, perform steps 3 and 4. 3. Check to see if the initial symptom still exists. If there are no trouble codes and the symptom no longer exists, the repair was successful and testing is now complete. 4. If the initial or another symptom exists, the repair is not complete. Check all pertinent Technical Service Bulletins (TSBs) and return to the Symptom List if necessary. 5. For previously read DTCs that have not been dealt with, return to the Symptom List and follow the diagnostic path for that DTC; otherwise, continue. 6. If the Engine Control Module (ECM) has not been changed, perform steps 7 and 8, otherwise, continue with step 9. 7. With the DRB III®, erase all diagnostic trouble codes (DTCs), then disconnect the DRB III®. 8. Turn the ignition off for at least 10 seconds. 9. If equipped with a Transfer Case Position Switch, perform step 10, otherwise, continue with step 11. 10. With the ignition switch on, place the Transfer Case Shift Lever in each gear position, stopping for 15 seconds in each position. 11. Ensure no DTCs remain by performing steps 12 through 15. 12. Road test the vehicle. For some of the road test, go at least 64 km/h (40 MPH). If this test is for an A/C Relay Control Circuit, drive the vehicle for at least 5 minutes with the A/C on. 13. At some point, stop the vehicle and turn the engine off for at least 10 seconds, then restart the engine and continue. 14. Upon completion of the road test, turn the engine off and check for DTCs with the DRB III®. 15. If the repaired DTC has set again, the repair is not complete. Check for any pertinent Technical Service Bulletins (TSBs) and return to the Symptom List. If there are no DTCs, the repair was successful and is now complete. Are any DTCs or symptoms remaining? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

SKIS VERIFICATION	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 SKIM will only allow 3 consecutive attempts to enter the correct PIN. If 3 consecutive incorrect PINs are entered, the SKIM will Lock Out the DRB 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, select Theft Alarm, SKIM and Miscellaneous. Then, select the desired procedure and follow the steps that will be displayed. 6. If the SKIM has been replaced, ensure all of the vehicle ignition keys are programmed to the new SKIM. **7. NOTE: Prior to returning vehicle to the customer, perform a module scan to be sure that all DTCs are erased. Erase any DTCs that are found.** 8. With the DRB, erase all DTCs. Perform 5 ignition key cycles leaving the key on for at least 90 seconds per cycle. 9. With the DRB, read the SKIM DTCs. Are there any SKIM DTCs? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

Verification Tests — Continued

TIRE PRESSURE VERIFICATION TEST	APPLICABILITY
1. Scroll to the blank display by pressing the STEP button. 2. Press and hold the EVIC RESET button for five seconds (EVIC will beep). 3. The EVIC will clear the TPM sensor signal counters. 4. The vehicle icon will be displayed with transmission counters at each corner. (Same display as for pressures but with counters in place of pressures.) 5. Drive the vehicle at speeds above 40 km/h (25 mph) for 10 minutes. 6. The counters will increase by one each time a sensor signal is received by the EVIC, approximately one per minute from each wheel except the spare. 7. The test will continue until any EVIC button is pressed or until the ignition is turned to OFF. Can the EVIC be trained and do the counters show Sensor/Transmitter receptions? Yes → Repair is complete. No → Refer to Diagnosing System Faults in the Description and Operation for this system.	All

TRANSMISSION VERIFICATION TEST VER - 1	APPLICABILITY
1. Inspect the vehicle to ensure that all engine and transmission components are properly installed and connected. Reassemble and reconnect components as necessary. 2. If any existing diagnostic trouble codes have not been repaired, go to Symptom List and follow path specified. 3. Connect a DRBIII® to the data link connector. 4. Ensure the fuel tank has at least a quarter tank of fuel. Turn off all accessories. 5. Start and run the engine until the transmission temperature is above 43°C (110°F). 6. Check the transmission fluid level per the Service Information. Adjust if necessary. 7. Road test the vehicle. Make 15 to 20 1-2, 2-3 and 3-4 up shifts. Perform these shifts from a standing start to 72 km/h (45 MPH) with a constant throttle opening of 20-25%. 8. Below 40 km/h (25 MPH), make 5 to 8 wide open throttle kick downs to 1st gear. Allow at least 5 seconds each in 2nd and 3rd between each kick down. 9. For a specific DTC, drive the vehicle in accordance with the Symptom's When Monitored and Set Conditions to verify the DTC repair. 10. If a DTC sets during the road test, return to the Symptom List and follow the path. If no DTC sets, the repair is complete. Are any DTCs or symptoms remaining? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

Verification Tests — Continued

VERIFICATION TEST -MEMORY SYSTEM	APPLICABILITY
1. Reconnect all previously disconnected components and connectors. 2. If any Memory/Heated Seat, or Driver's Door Module Trouble Codes are present, erase at this time. 3. If the Memory Seat Module was replaced, use the DRB III® and Reset Guard Bands. 4. 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. 5. Remove the Ignition Key and close all Doors to allow the Body Control Module to time out (30 seconds). 6. Verify that both Memory positions can be recalled from the RKE transmitter and the Memory Switch on the Driver's Door. 7. Turn the ignition 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. 8. 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

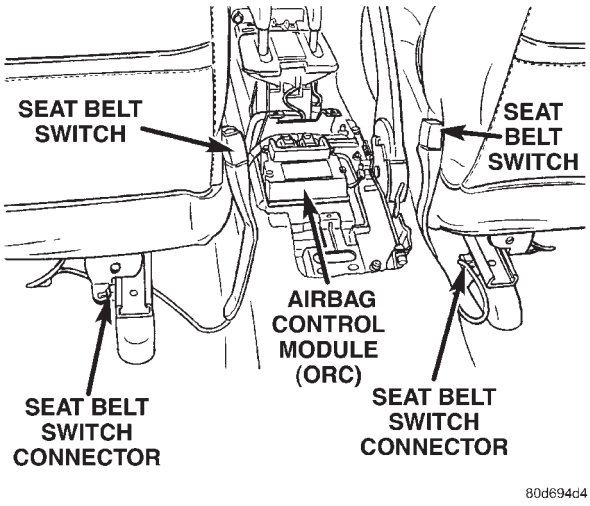
VTSS VERIFICATION TEST - 1A	APPLICABILITY
1. Ensure all doors, hood, liftgate and liftgate flip-up are closed. 2. Open the driver's door. 3. Remove the ignition key (but keep in hand). 4. Lower the driver door window and lock the doors with RKE transmitter. 5. Close the driver's door. 6. Observe the VTSS Indicator. 7. The VTSS Indicator will flash rapidly for approximately 15 seconds and then begin to flash slowly. The VTSS indicator not performing as described, indicates a system fault. Refer to symptom list for problems related to THEFT ALARM WILL NOT ARM. 8. Perform a system test on the VTSS by duplicating the original complaint. 9. Disarm the system and with the DRBIII®, read DTC's. 10. If the original complaint is corrected and there are no DTC's the repair is complete. 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

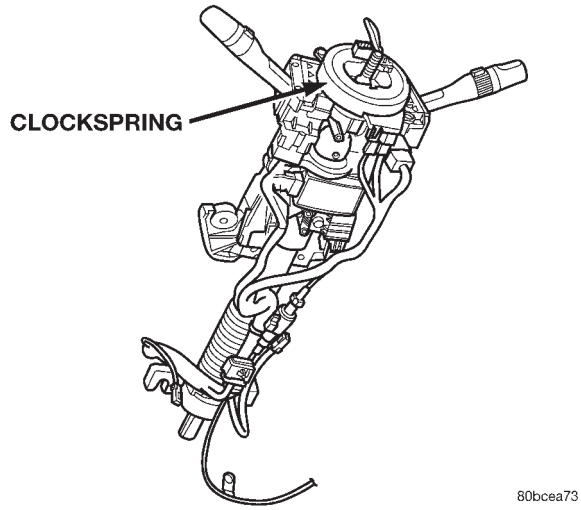
Verification Tests — Continued

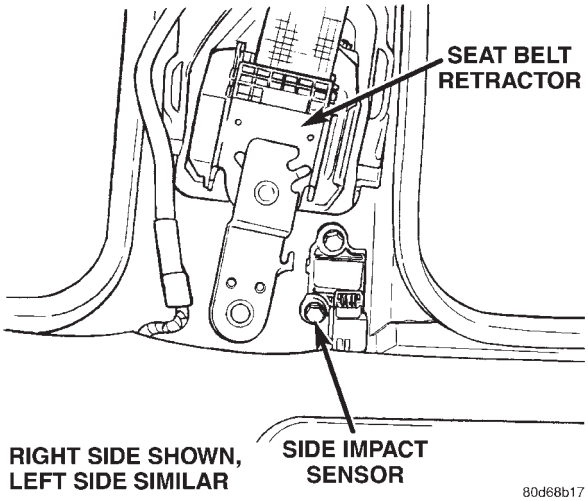
W5J400 TRANSMISSION VERIFICATION TEST - VER 1	APPLICABILITY
1. NOTE: If the TCM was replaced, use the DRBIII® to program the VIN information into the TCM 2. Reconnect any disconnected components. 3. Connect the DRBIII® to the Data Link Connector. 4. With the DRBIII®, erase ABS DTCs. 5. With the DRBIII®, erase ECM DTCs. 6. With the DRBIII®, erase Transmission DTCs. 7. With the DRBIII®, display Transmission Temperature. Start and run the engine until the Transmission Temperature is HOT, above 43° C (110° F). 8. Check the Transmission fluid and adjust if necessary. Refer to the Service Information for the proper Fluid Fill procedure. 9. Perform the ADAPTION PROCEDURE whenever the TCM and/or the Transmission has been replaced or major Transmission repairs have been performed. If none of these apply, proceed to ROAD TEST PROCEDURE. 10. ADAPTION PROCEDURE 11. With the DRBIII®, reset the Transmission adaptives. Resetting the adaptives will set the adaptives to factory settings. 12. Drive the Vehicle until the Transmission Temperature is in the specified range. **13. NOTE: Perform the Coast Down Adaptations first. The Transmission Temperature must be greater than 60° C (140° F) and less than 70° C (158° F). Failure to stay within these temperature ranges will void the procedure.** 14. Perform 4 to 5 Coast Downs from 5th to 4th gear and then 4th to 3rd gear. **15. NOTE: For Upshift adaption, the Transmission temperature must be greater than 60° C (140° F) and less than 100° C (212° F). Failure to stay within these temperature ranges will void this procedure.** 16. From a stop, moderately accelerate the vehicle and obtain all forward gear ranges while keeping the Engine RPM below 1800 RPM. Repeat this procedure 4 to 5 times. 17. Obtaining 5th gear may be difficult at 1800 RPM. Allow the transmission to shift into 5th gear at a higher RPM then lower the RPM to 1800 and perform manual shifts between 4th and 5th gears using the shift lever. 18. The TCM will store the adaptives every 10 minutes. After completion of the Adaption Procedure make sure the vehicle stays running for at least 10 minutes. To manually store the adaptives under 10 minutes, use the DRBIII® Store Adaptives procedure. 19. If the Shift Quality is not acceptable after performing the Adaption Procedure, repeat the Adaption Procedure. **20. NOTE: If internal repairs were performed and the shift quality is still poor after repeating the Adaption Procedure, it may be necessary to check the internal repair. Also check for any TSBs and/or Controller Flash updates that may apply.** 21. ROAD TEST PROCEDURE 22. Road test the vehicle. Make fifteen to twenty 1-2, 2-3, 3-4 and 4-5 upshifts. 23. Perform these shifts from a standing start to 72 km/h (45 MPH) with a constant throttle opening of 20 to 25 degrees. 24. With speeds below 40 km/h (25 MPH), make five to eight wide open throttle kickdowns to 1st gear. Allow at least 5 seconds each in 2nd and 3rd gear between each kickdown. 25. With the DRBIII®, perform the Transmission Solenoid Test. 26. With the DRBIII®, read Transmission DTCs. Were there any Diagnostic Trouble Codes set? Yes → Repair is not complete, refer to appropriate symptom. No → Repair is complete.	All

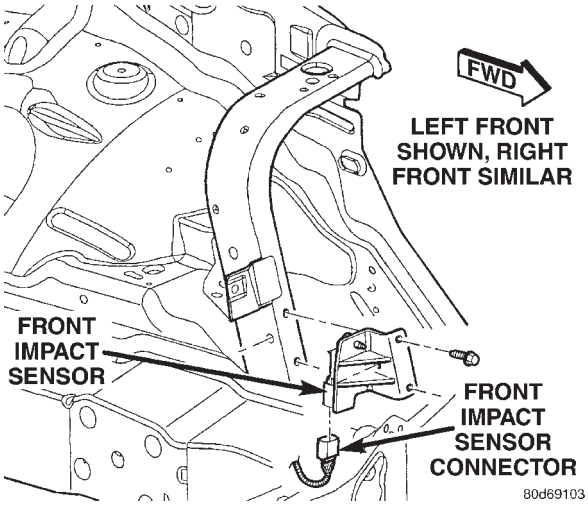
8.0 COMPONENT LOCATIONS

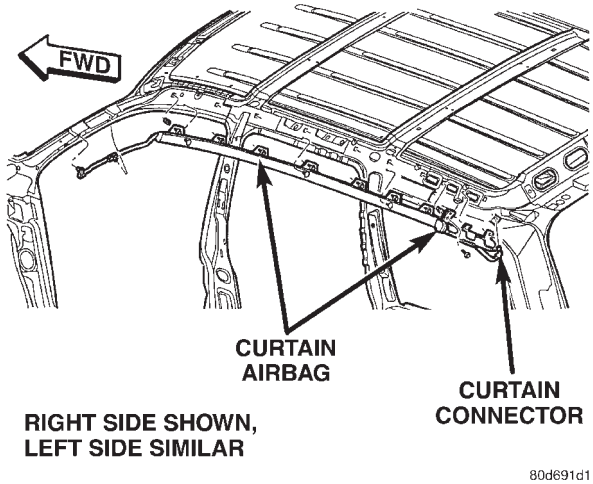
8.1 AIRBAG SYSTEM



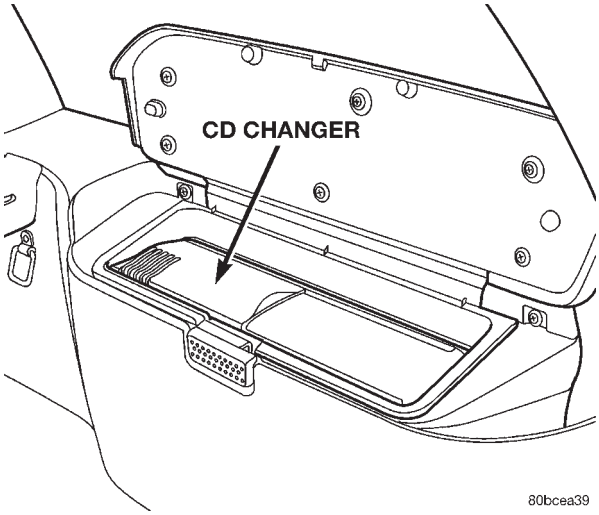








8.2 AUDIO SYSTEM



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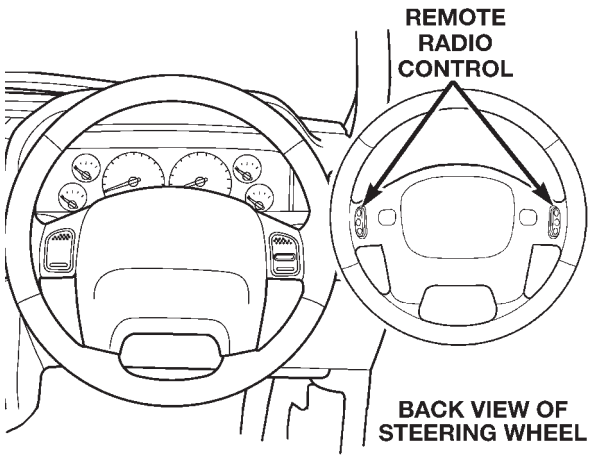

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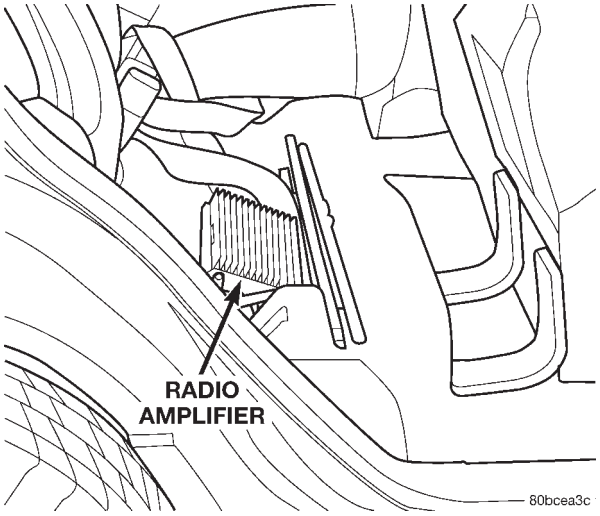

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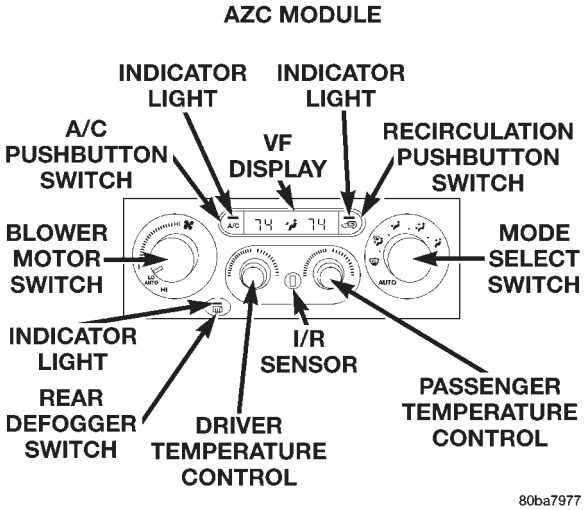
8.3 AUTOMATIC ZONE CONTROL (AZC)

8.3.1 AZC MODULE



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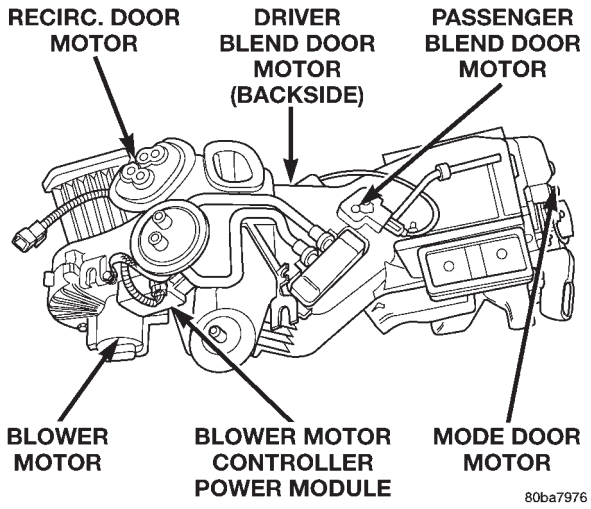
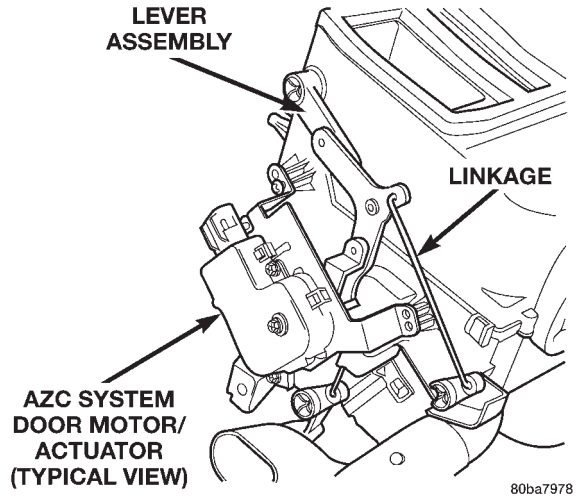
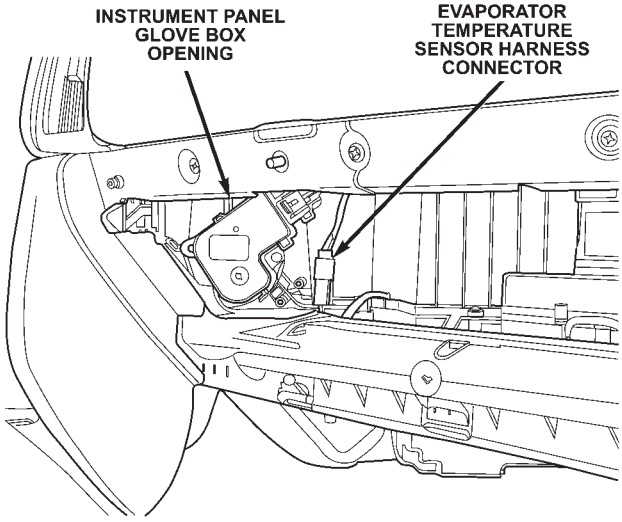
8.3.2 HVAC UNIT

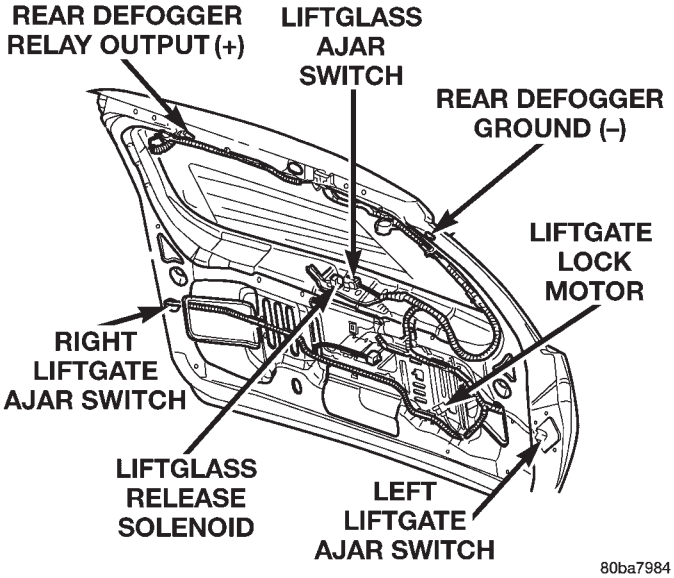




8.3.3 EVAPORATOR TEMPERATURE SENSOR

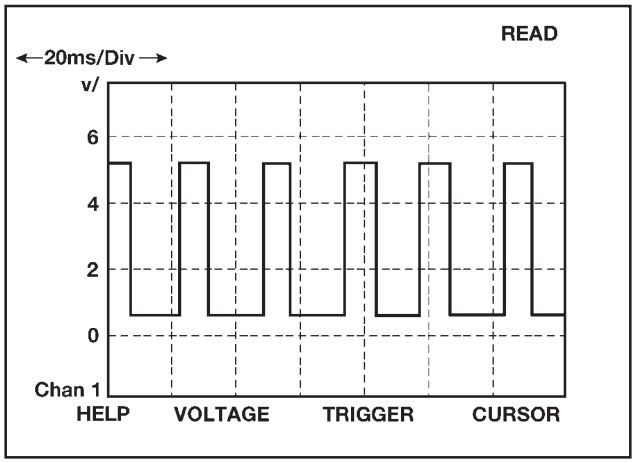


8.3.4 REAR WINDOW DEFOGGER



8.3 AUTOMATIC ZONE CONTROL (AZC) (Continued)

8.3.5 DRB III SCREEN, AZC MODULE BLOWER MOTOR CONTROLLER SIGNAL



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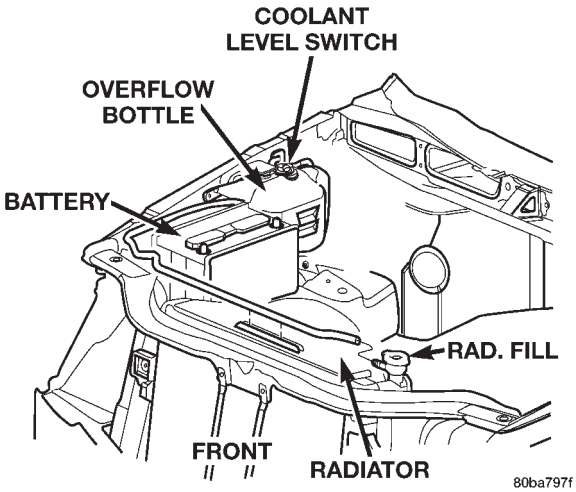
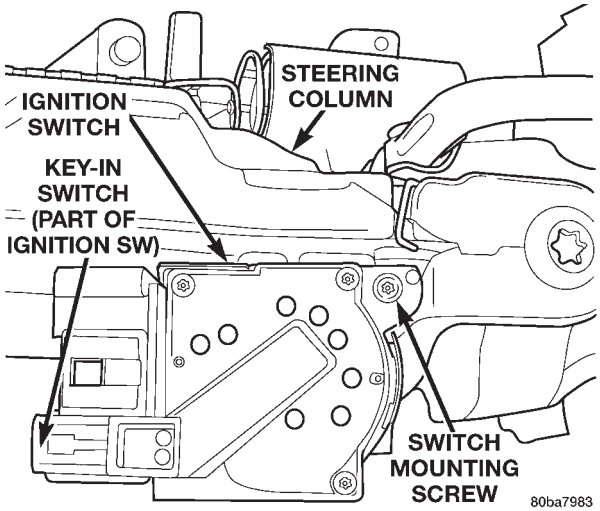
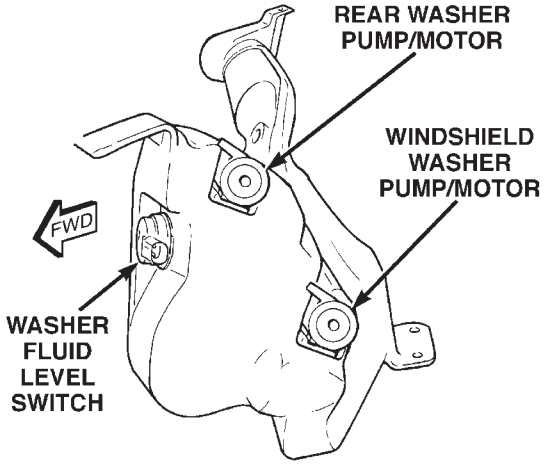
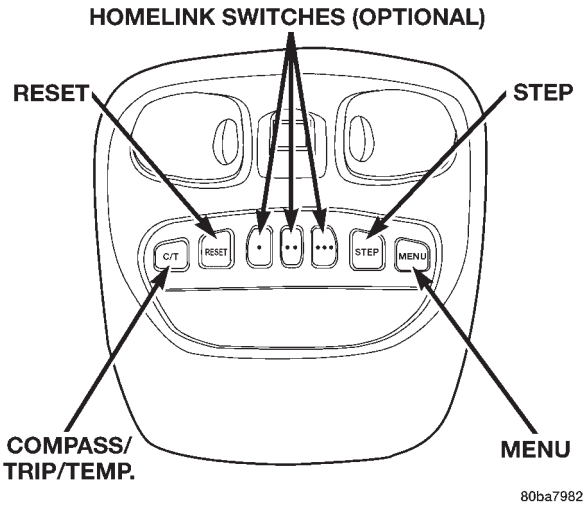
8.4 CHIME SYSTEM

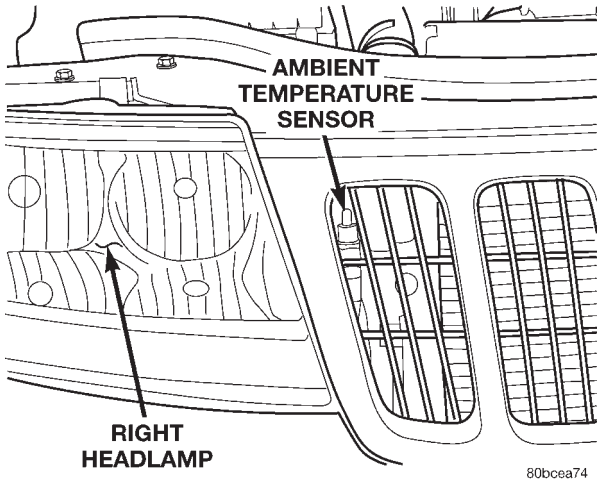




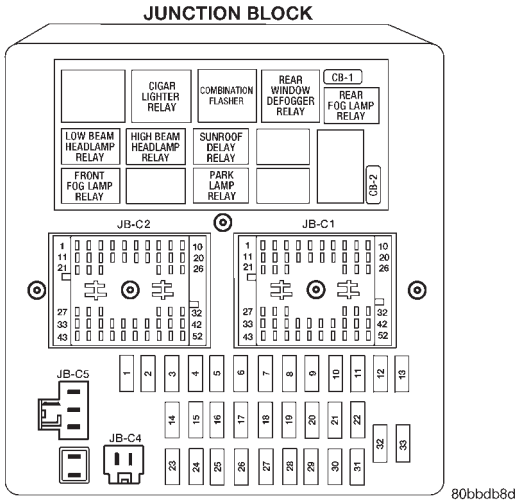


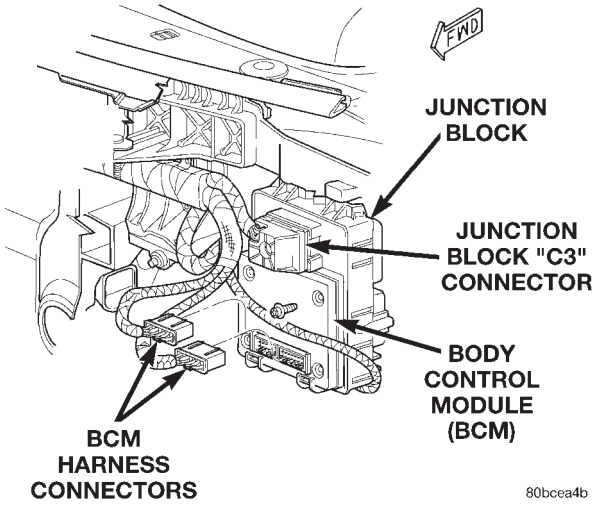
8.5 ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)

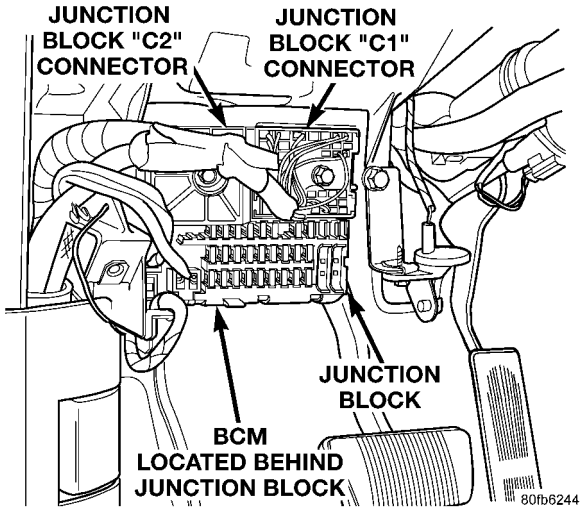




8.6 BODY CONTROL MODULE & JUNCTION BLOCK

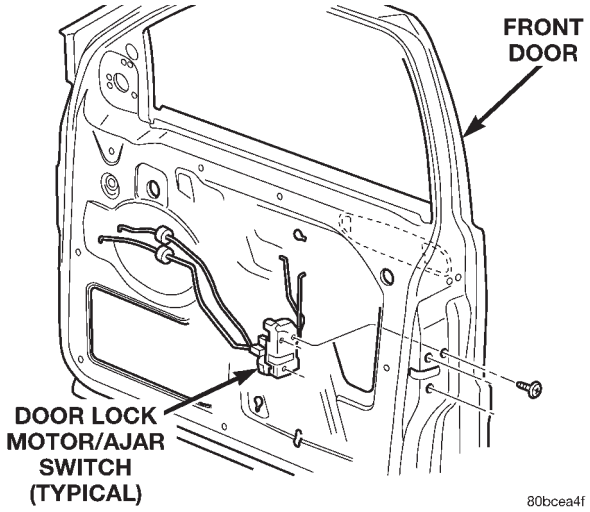




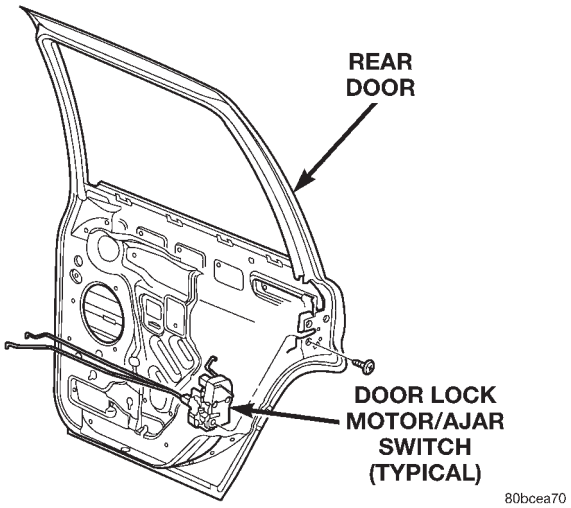


8.7 POWER DOOR LOCKS

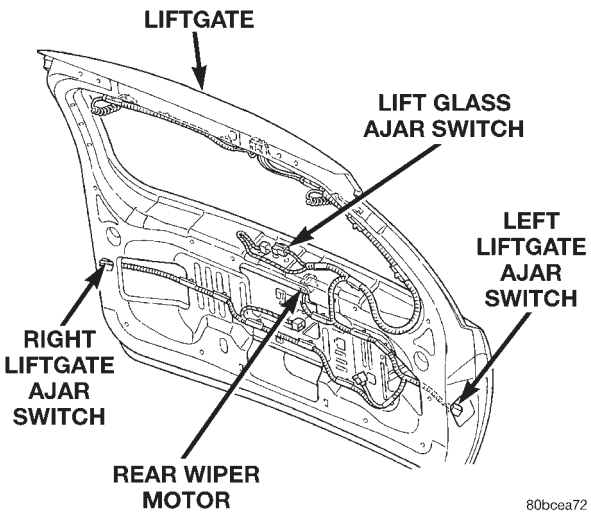
8.7.1 FRONT DOOR

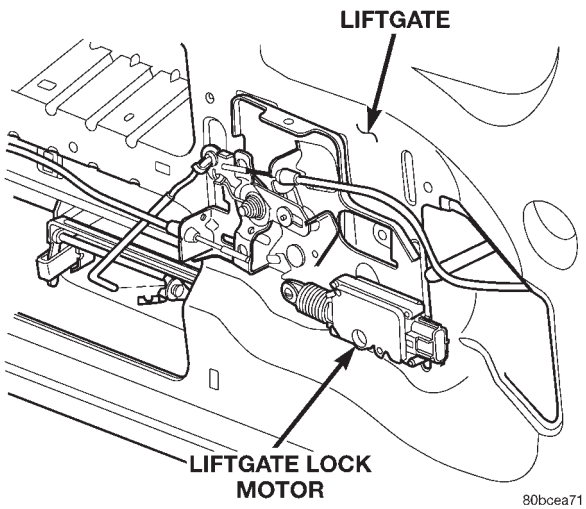


8.7.2 REAR DOOR

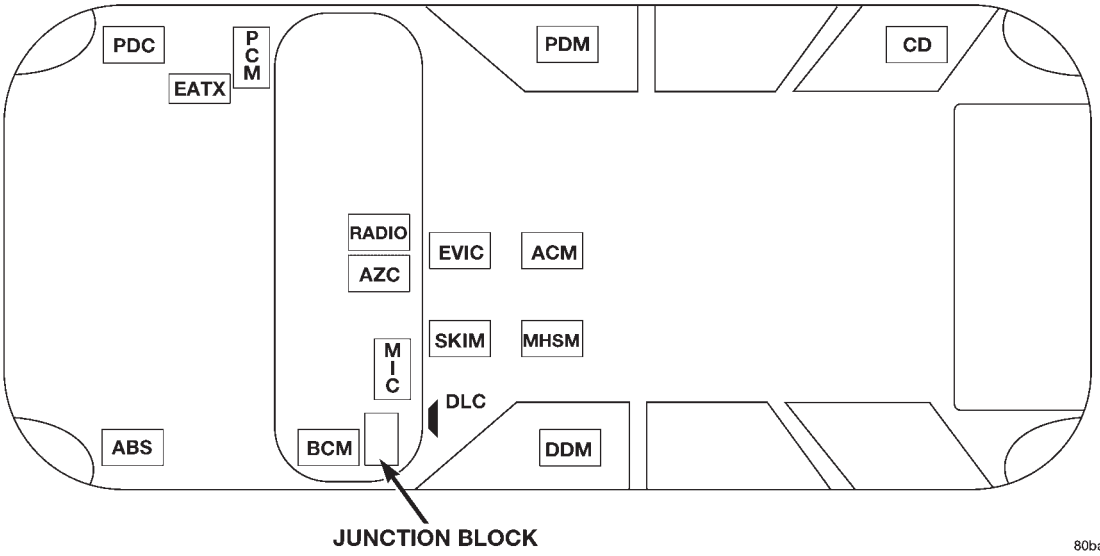


8.7.3 LIFTGATE





8.8 SYSTEM COMPONENT LOCATIONS



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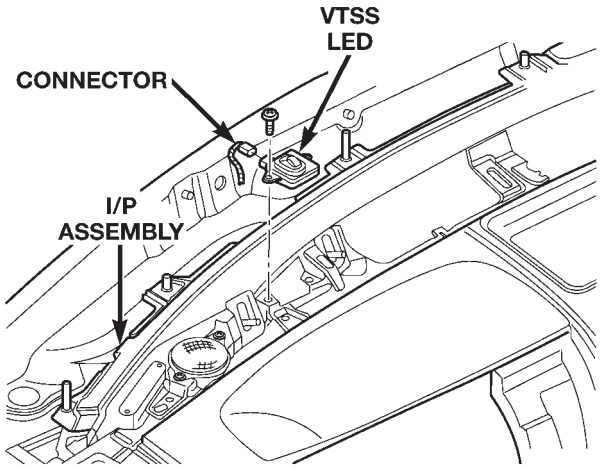
8.9 VEHICLE THEFT SECURITY SYSTEM (VTSS) & SKIS



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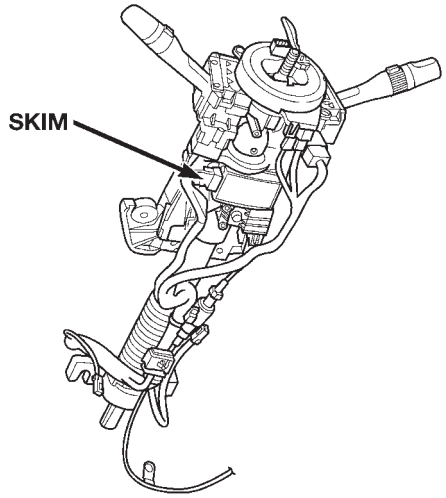

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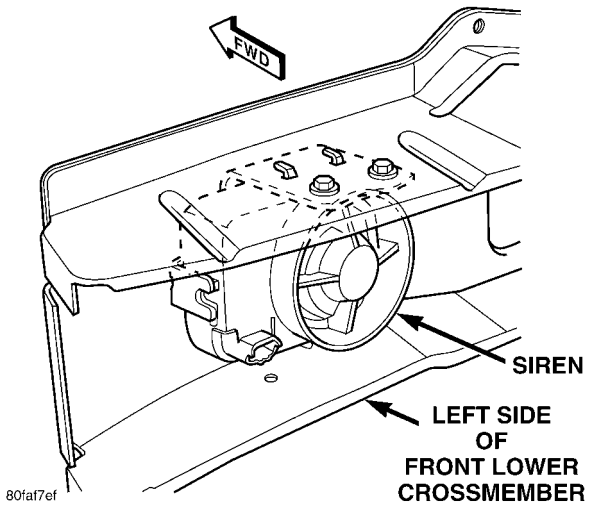
8.9.1 VTSS SIREN (EXPORT ONLY)



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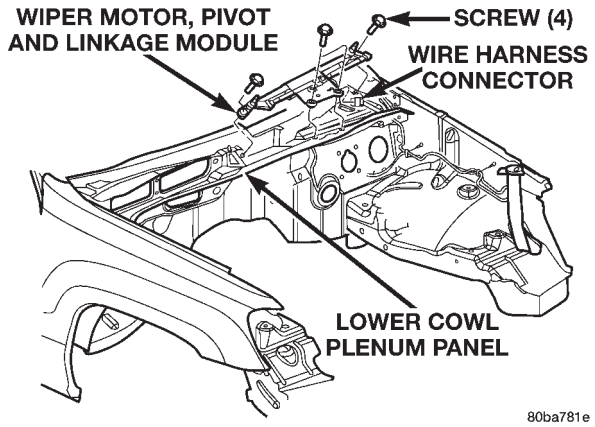
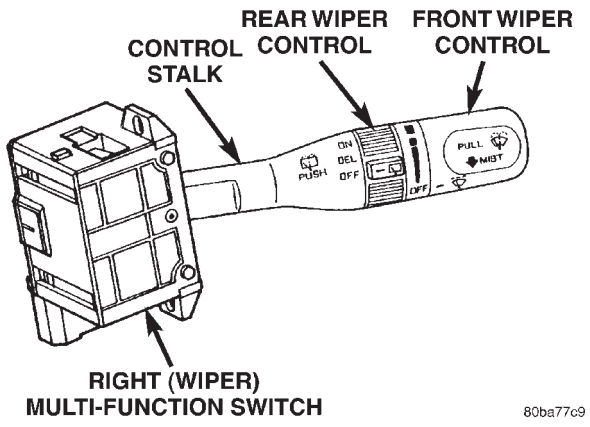
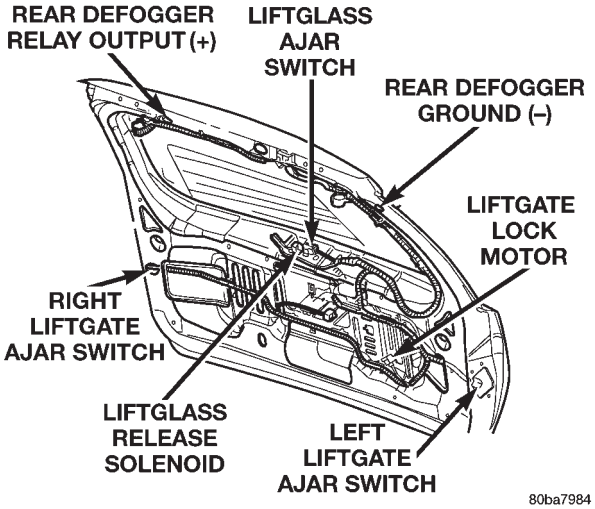
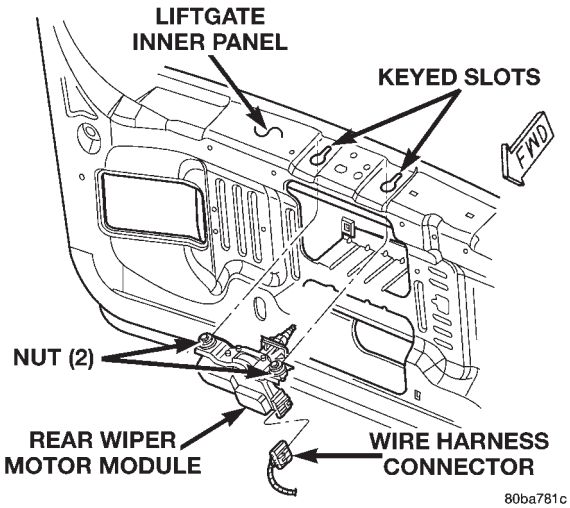
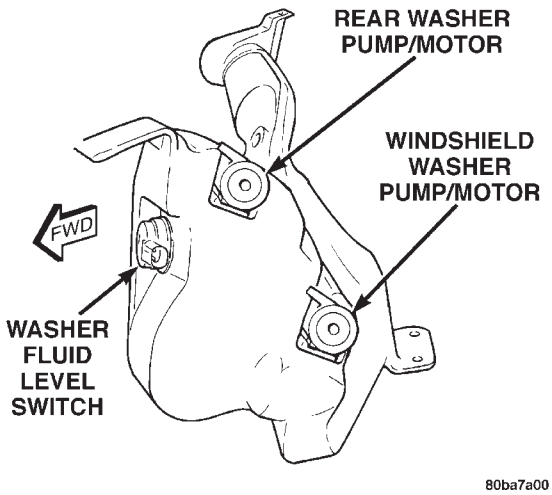
8.10 WIPER SYSTEM

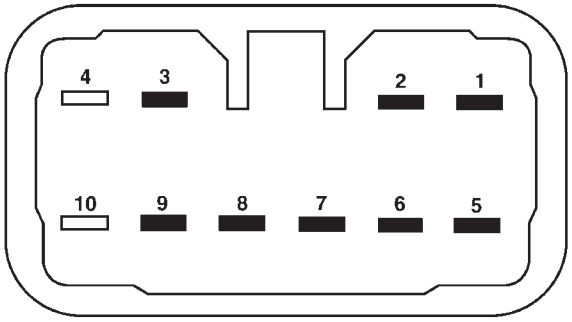












RIGHT (WIPER) MULTI-FUNCTION SWITCH			
FRONT WIPERS SWITCH TESTS			
SWITCH POSITION	**CONTINUITY BETWEEN**	**RESISTANCE BETWEEN**	**RESISTANCE RANGE (OHMS)**
Off	—	Pins 7 & 8	4286-4379
Intermittent Wipe Position 1	—	Pins 7 & 8	1445-1480
Intermittent Wipe Position 2	—	Pins 7 & 8	847- 870
Intermittent Wipe Position 3	—	Pins 7 & 8	556- 573
Intermittent Wipe Position 4	—	Pins 7 & 8	367- 380
Intermittent Wipe Position 5	—	Pins 7 & 8	218-229
Low Speed	—	Pins 7 & 8	99-106
High Speed	Pins 1 & 9	Pins 7 & 8	99-106
Mist	—	Pins 7 & 8	49-56
Wash	Pins 1 & 3	—	—

REAR WIPER SWITCH TESTS			
SWITCH POSITION	**CONTINUITY BETWEEN**	**RESISTANCE BETWEEN**	**RESISTANCE RANGE (OHMS)**
Off	—	—	—
Delay	Pins 1 & 6	—	—
On	Pins 1 & 5	—	—
Wash	Pins 1 & 5 & 6	—	—

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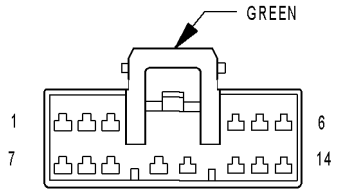
NOTES

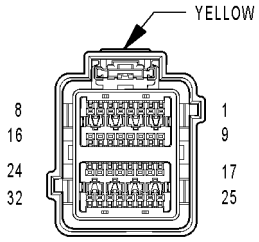
9.0 CONNECTOR PINOUTS



ADJUSTABLE PEDALS MODULE (EXCEPT EXPORT)

ADJUSTABLE PEDALS MODULE (EXCEPT EXPORT)

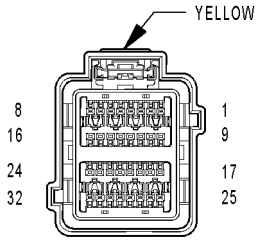
CAV	CIRCUIT	FUNCTION
1	Y151 20LG/BR	ADJUSTABLE PEDALS SWITCH SENSE (FORWARD)
2	Y152 20LG/OR	ADJUSTABLE PEDALS SWITCH SENSE (REARWARD)
3	Q110 16OR/VT	ADJUSTABLE PEDALS MOTOR (FORWARD)
4	F72 16RD/YL	FUSED B(+)
5	-	-
6	Q111 16OR/GY	ADJUSTABLE PEDALS MOTOR (REARWARD)
7	Q113 20OR/DB (MEMORY)	PEDAL POSITION SENSOR FEED
8	Q112 20OR/YL (MEMORY)	PEDAL POSITION SENSOR SENSE
9	Q114 20OR/TN (MEMORY)	PEDAL POSITION SENSOR RETURN
10	Z151 16BK	GROUND
11	Z155 20BK/OR	GROUND
12	L1 18WT/BR	BACK-UP LAMP FEED
13	D25 20VT/YL	PCI BUS
14	Y153 16DB/RD	ADJUSTABLE PEDALS SWITCH FEED



AIRBAG CONTROL MODULE C1 (ORC C1)

AIRBAG CONTROL MODULE C1 (ORC C1)

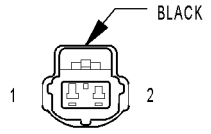
CAV	CIRCUIT	FUNCTION
1	R72 20LB/WT (SIDE AIR-BAGS)	PASSENGER CURTAIN SQUIB 1 LINE 2
2	R74 20LB/YL (SIDE AIR-BAGS)	PASSENGER CURTAIN SQUIB 1 LINE 1
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	R132 20LG/VT (SIDE AIR-BAGS)	PASSENGER SIDE IMPACT SENSOR SIGNAL
16	R134 20LB/BR (SIDE AIR-BAGS)	PASSENGER SIDE IMPACT SENSOR GROUND
17	R131 20LG/YL (SIDE AIR-BAGS)	DRIVER SIDE IMPACT SENSOR SIGNAL
18	R133 20LB/DG (SIDE AIR-BAGS)	DRIVER SIDE IMPACT SENSOR GROUND
19	-	-
20	-	-
21	-	-
22	-	-
23	R59 20LB	DRIVER SEAT BELT SWITCH GROUND
24	R57 20DG	DRIVER SEAT BELT SWITCH SENSE
25	R73 20LB/BR (SIDE AIR-BAGS)	DRIVER CURTAIN SQUIB 1 LINE 2
26	R75 20LB/OR (SIDE AIR-BAGS)	DRIVER CURTAIN SQUIB 1 LINE 1
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-



AIRBAG CONTROL MODULE C2 (ORC C2)

AIRBAG CONTROL MODULE C2 (ORC C2)

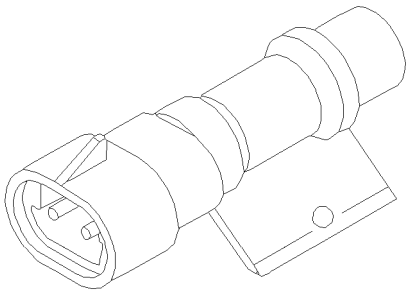
CAV	CIRCUIT	FUNCTION
1	R45 20DG/LB	DRIVER SQUIB 1 LINE 2
2	R43 20BK/LB	DRIVER SQUIB 1 LINE 1
3	R42 20BK/YL	PASSENGER SQUIB 1 LINE 1
4	R44 20DG/YL	PASSENGER SQUIB 1 LINE 2
5	-	-
6	-	-
7	-	-
8	-	-
9	R49 20LB	LEFT FRONT IMPACT SENSOR SIGNAL
10	R47 20DB/LB	LEFT FRONT IMPACT SENSOR GROUND
11	R46 20BR/LB	RIGHT FRONT IMPACT SENSOR GROUND
12	R48 20TN	RIGHT FRONT IMPACT SENSOR SIGNAL
13	-	-
14	-	-
15	-	-
16	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
17	Z6 20BK/PK	GROUND
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	D25 20YL/VT/OR	PCI BUS
24	F14 20LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
25	R63 20TN/LB	DRIVER SQUIB 2 LINE 2
26	R61 20OR/LB	DRIVER SQUIB 2 LINE 1
27	R62 20OR/YL	PASSENGER SQUIB 2 LINE 2
28	R64 20TN/YL	PASSENGER SQUIB 2 LINE 1
29	-	-
30	-	-
31	-	-
32	-	-



AMBIENT TEMPERATURE SENSOR

AMBIENT TEMPERATURE SENSOR

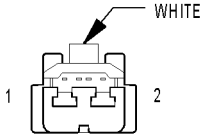
CAV	CIRCUIT	FUNCTION
1	G32 20BK/LB	SENSOR GROUND
2	G31 20VT/LG	AMBIENT TEMPERATURE SENSOR SIGNAL



AMBIENT
TEMPERATURE
SENSOR
(SENSOR SIDE)

AMBIENT TEMPERATURE SENSOR (SENSOR SIDE)

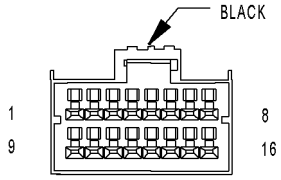
CAV	CIRCUIT	FUNCTION
1	-	AMBIENT TEMPERATURE SENSOR SIGNAL
2	-	SENSOR GROUND



ANTENNA
MODULE
(EXPORT)

ANTENNA MODULE (EXPORT)

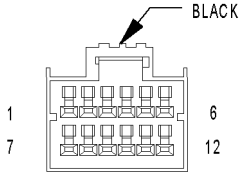
CAV	CIRCUIT	FUNCTION
1	X64 18BK/WT	ENABLE SIGNAL TO AMPLIFIER
2	-	-



AUTOMATIC
ZONE CONTROL
MODULE C1
(AZC)

AUTOMATIC ZONE CONTROL MODULE C1 (AZC)

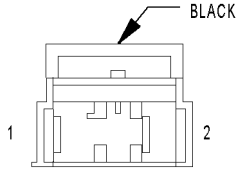
CAV	CIRCUIT	FUNCTION
1	C102 20TN/BK	MODE DOOR DRIVER (B)
2	-	-
3	C32 20GY/DB	RECIRCULATION DOOR DRIVER (A)
4	C100 20YL/DB	RECIRCULATION DOOR DRIVER (B)
5	-	-
6	C79 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
7	-	-
8	Z118 20BK	GROUND
9	C35 20DG/YL	MODE DOOR DRIVER (A)
10	C33 20DB/RD	DRIVER BLEND DOOR DRIVER (A)
11	-	-
12	-	-
13	-	-
14	C81 20LB/WT	REAR WINDOW DEFOGGER SWITCH SENSE
15	-	-
16	-	-



AUTOMATIC ZONE CONTROL MODULE C2 (AZC)

AUTOMATIC ZONE CONTROL MODULE C2 (AZC)

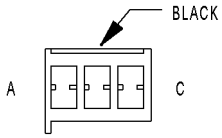
CAV	CIRCUIT	FUNCTION
1	-	-
2	C94 20WT/DG	PASSENGER BLEND DOOR DRIVER (A)
3	C95 20WT/BK	DRIVER BLEND DOOR DRIVER (B)
4	C96 20WT/DB	PASSENGER BLEND DOOR DRIVER (B)
5	-	-
6	E2 20OR	PANEL LAMPS DRIVER
7	C56 20RD/LG	BLOWER MOTOR CONTROL
8	D25 20YL/VT/DG	PCI BUS
9	C103 20DG	A/C SWITCH SIGNAL
10	-	-
11	F22 20WT/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
12	M1 20PK	FUSED B(+)



BLOWER MOTOR

BLOWER MOTOR

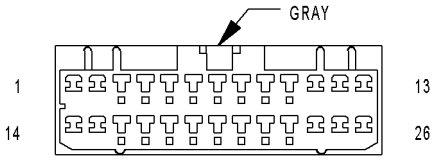
CAV	CIRCUIT	FUNCTION
1	C1 12DG	BLOWER MOTOR SUPPLY
2	C7 12BK/TN	BLOWER MOTOR HIGH DRIVER



BLOWER MOTOR CONTROLLER (AZC)

BLOWER MOTOR CONTROLLER (AZC)

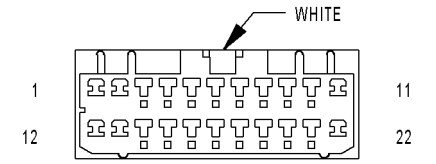
CAV	CIRCUIT	FUNCTION
A	Z118 12BK	GROUND
B	C56 20RD/LG	BLOWER MOTOR CONTROL
C	C1 12DG	BLOWER MOTOR SUPPLY



BODY
CONTROL
MODULE C1

BODY CONTROL MODULE C1

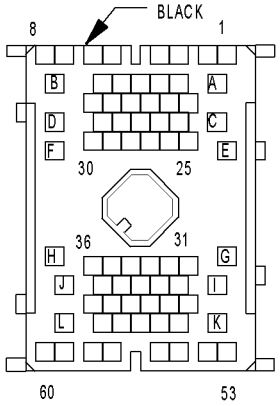
CAV	CIRCUIT	FUNCTION
1	Z132 20BK/OR	GROUND
2	G52 20YL	HEADLAMP SWITCH MUX
3	E19 20RD	PANEL LAMPS DIMMER SIGNAL
4	-	-
5	G70 20BR/TN (EXPORT)	HOOD AJAR SWITCH SENSE
6	G26 20LB	KEY-IN IGNITION SWITCH SENSE
7	G76 18TN/YL	RIGHT REAR DOOR AJAR SWITCH SENSE
8	E2 20OR	PANEL LAMPS DRIVER
9	E2 20OR	PANEL LAMPS DRIVER
10	E2 20OR	PANEL LAMPS DRIVER
11	-	-
12	E2 20OR	PANEL LAMPS DRIVER
13	E2 20OR	PANEL LAMPS DRIVER
14	Z132 20BK/OR	GROUND
15	D25 20YL/VT/WT	PCI BUS
16	L80 20WT/DG	HEADLAMP SWITCH RETURN
17	D19 20VT/OR	BODY CONTROL MODULE FLASH ENABLE
18	-	-
19	-	-
20	G69 20BK/OR	VTSS INDICATOR DRIVER
21	-	-
22	V14 20RD/VT	WIPER ON/OFF RELAY CONTROL
23	M20 20BR/OR	COURTESY LAMP LOAD SHED
24	M2 20YL	COURTESY LAMP DRIVER
25	Z234 20BK	GROUND
26	-	-



BODY
CONTROL
MODULE C2

BODY CONTROL MODULE C2

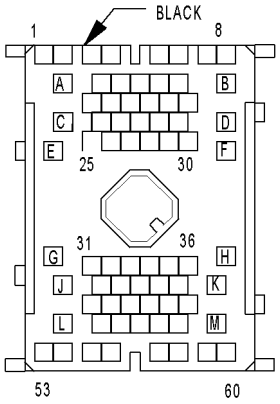
CAV	CIRCUIT	FUNCTION
1	C103 20DG	A/C SWITCH SIGNAL
2	V10 20BR	WASHER PUMP SWITCH SENSE
3	V48 20RD/GY	WIPER HIGH CONTROL
4	L40 20BR	HIGH BEAM SWITCH SENSE
5	V11 20BK/TN	WASHER FLUID SWITCH SENSE
6	P134 20TN/LG	PASSENGER SEAT HEATER SWITCH MUX
7	P133 20TN/DG	DRIVER SEAT HEATER SWITCH MUX
8	X20 20RD/YL	RADIO CONTROL MUX
9	G31 20VT/LG	AMBIENT TEMPERATURE SENSOR SIGNAL
10	L109 20WT	ULTRALIGHT SENSOR SIGNAL
11	V52 20DG/RD	WINDSHIELD WIPER SWITCH MUX
12	C81 20LB/WT	REAR WINDOW DEFOGGER SWITCH SENSE
13	-	-
14	-	-
15	L27 20WT/TN	FOG LAMP SWITCH SENSE
16	C201 20LB/YL	EVAPORATOR TEMPERATURE SENSOR SIGNAL
17	G18 20PK/BK	COOLANT LEVEL SWITCH SENSE
18	P132 20OR/BK	SEAT HEATER SWITCH SENSOR GROUND
19	X10 20RD/BK	RADIO CONTROL MUX RETURN
20	G32 20BK/LB	SENSOR GROUND
21	L110 20BK/YL	ULTRALIGHT SENSOR RETURN
22	V9 20WT/BK	WINDSHIELD WIPER SWITCH RETURN



C106
(LHD)
(DIESEL)

C106 (DIESEL)

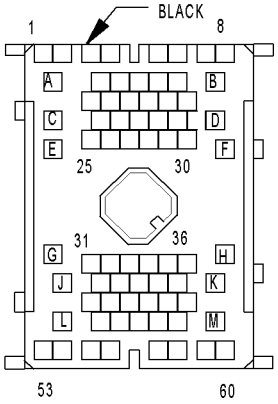
CAV	CIRCUIT
A	-
B	-
C	-
D	-
E	-
F	-
G	-
H	-
J	-
K	-
L	-
M	-
1	F15 20DB/WT
2	-
3	G31 20VT/LG
4	G32 20DB/OR (RHD)
4	G32 20BK/LB (LHD)
5	G18 20PK/BK
6	-
7	-
8	
9	-
10	Z231 18BK (RHD)
11	G9 18GY/BL (RHD)
11	K4 20BK/LB (LHD)
12	K6 18VT/WT (LHD)
13	-
14	-
15	-
16	K173 18LG
17	-
18	X2 18DG/RD
19	C18 18DB (LHD)
20	Y42 18OR/DB
21	-
22	-
23	-
24	-
25	B7 18WT
26	B6 18WT/DB
27	-
28	-
29	-
30	-
31	-
32	-
33	-
34	-
35	-
36	-
37	-
38	L13 18BR/YL
39	-
40	-
41	-
42	R46 20BR/LB
43	R48 20TN
44	-
45	-
46	-
47	-
48	-
49	-
50	-
51	-
52	-
53	L7 20BK/YL
54	L60 20TN
55	-
56	-
57	L39 20LB
58	-
59	L44 18VT/RD
60	L34 18RD/OR



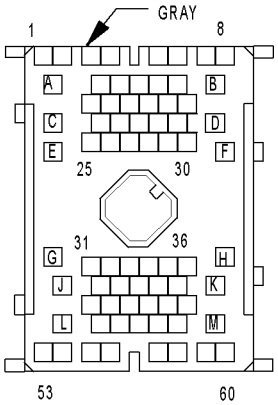
C106
(DIESEL)

C106 (DIESEL)

CAV	CIRCUIT
A	-
B	-
C	-
D	-
E	-
F	-
G	-
H	-
J	-
K	-
L	-
M	-
1	F15 18DB/WT
2	-
3	G31 20VT/LG
4	G32 20BK/LB
5	G18 20PK/BK
6	-
7	-
8	-
9	-
10	Z231 18BK (RHD)
11	G9 18GY/BK (RHD)
11	K4 18BK/LB (LHD)
12	K6 18VT/WT (LHD)
12	-
13	-
14	-
15	-
16	K173 18LG
17	-
18	X2 18DG/RD
19	C18 18DB (LHD)
20	Y42 18OR/DB
21	-
22	-
23	-
24	-
25	B7 18WT
26	B6 18WT/DG
27	-
28	-
29	-
30	-
31	-
32	-
33	-
34	-
35	-
36	-
37	-
38	L13 18BR/YL
39	-
40	-
41	-
42	R46 18BR/LB
43	R48 18TN
44	-
45	-
46	-
47	-
48	-
49	-
50	-
51	-
52	-
53	L7 20BK/YL
54	L60 20TN
55	-
56	-
57	L39 20LB
58	-
59	L44 18VT/RD
60	L34 18RD/OR



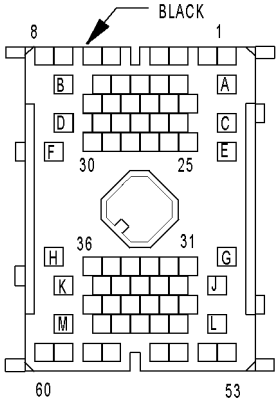
C106
(LHD GAS)



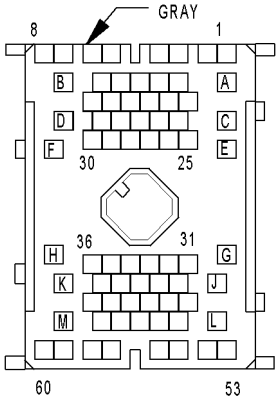
C106
(RHD GAS)

C106 (GAS)

CAV	CIRCUIT
A	A149 12RD/TN
B	Y180 16LG/RD
C	C1 12DG
D	
E	A10 12RD/DG
F	A1 12RD
G	A145 10WT/RD
H	A146 10OR/WT
J	A147 10RD/GY
K	A148 10PK/WT
L	A2 12PK/BK
M	A20 12RD/DG
1	A141 16DG/WT (LHD)
1	A141 16DG/BK (RHD)
2	F42 18DG/LG (RHD)
2	G18 18PK/BK (LHD)
3	V3 16BR/WT
4	V4 16RD/YL
5	V55 16TN/RD
6	V6 16DB
7	F22 20WT/TN (RHD)
7	F22 20WT/PK (LHD)
8	F12 18DB/WT
9	K52 18PK/BK (LHD)
10	Z231 18BK (RHD)
10	K29 18WT/PK (LHD)
11	K226 18LB/YL (LHD)
11	K512 18RD/YL (RHD)
12	K107 18OR/PK (EXCEPT EX-PORT)
13	K106 18WT/DG (EXCEPT EX-PORT)
14	C13 18DB/OR (RHD)
14	T41 18BK/WT (LHD)
15	V35 20LG/RD (RHD)
16	V36 20TN/RD (RHD)
17	G9 18GY/BK (RHD)
18	K25 18VT/LG (RHD)
19	K51 18DB/YL (RHD)
20	K125 18WT/DB (EXCEPT EX-PORT)
21	K125 18WT/DB (RHD)
22	K31 18BR (RHD)
23	-
24	-
25	B7 18WT
26	B6 18WT/DB
27	X3 20BK/RD
28	G32 20BK/LB
29	-
30	G31 20VT/LG
31	-
32	-
33	V30 20DB/RD
34	V16 20VT
35	V14 20RD/VT
36	-
37	F45 18YL/RD (4.7L RHD)
37	F45 20YL/RD (4.0L RHD)
38	L13 18BR/YL
39	-
40	Z306 20BK/LG
41	Z305 20BK/OR
42	R46 18BR/LB
43	R48 18TN
44	F991 20OR/DB
45	B22 18DG/YL (LHD)
46	-
47	-
48	D25 18VT/YL (EXCEPT 4.0L RHD)
49	D21 18PK (4.0L LHD/4.7L RHD)
49	D21 20PK (4.7L LHD)
50	D20 20LG (4.7L LHD)
50	D20 18LG (4.7L RHD)
51	D32 18LG (LHD)
52	T6 18OR/WT (LHD)
52	T41 18BK/WT (RHD)
53	L7 20BK/YL
54	L60 20TN
55	G18 20PK/BK (RHD)
55	V37 18RD/LG (LHD)
56	L1 18VT/BK
57	L39 20LB
58	K4 20BK/LB (RHD)
58	K4 18BK/LB (LHD)
59	L44 18VT/RD
60	L34 18RD/OR



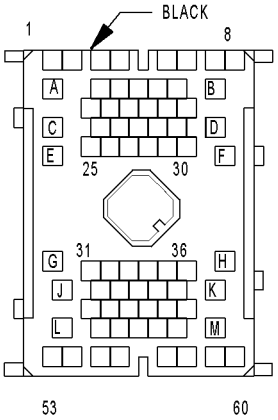
C106
(LHD GAS)



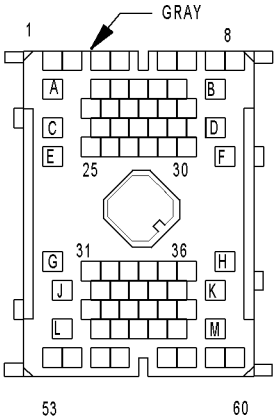
C106
(RHD GAS)

C106 (GAS)

CAV	CIRCUIT
A	A149 12RD/TN
B	Y180 16LG/RD
C	C1 12DG
D	-
E	A10 12RD/DG (LHD)
F	A1 12RD
G	A145 10WT/RD
H	A146 10OR/WT
J	A147 10RD/GY
K	A148 10PK/WT
L	A2 12PK/BK
M	A20 14RD/DB
E	A10 10RD/DG (RHD)
1	A141 16DG/BK
2	G18 20PK/BK (LHD)
2	F42 18DG/LG (RHD)
3	V3 16BR/WT
4	V4 16RD/YL
5	V55 16TN/RD
6	V6 16DB
7	F22 20WT/PK (LHD)
7	F22 18WT/TN (RHD)
8	F12 20DB/WT
9	K52 20PK/BK (LHD)
10	K29 20WT/PK (LHD)
10	Z231 18BK (RHD)
11	K512 18LB (RHD)
11	K226 20LB/YL (LHD)
12	K107 20OR/YL (EXCEPT EXPORT)
13	K106 20WT/DG (EXCEPT EXPORT)
14	T41 18BK/WT (LHD)
14	C13 20DB/OR (RHD)
15	V35 20LG/RD (RHD)
16	V36 20TN/RD (RHD)
17	G9 18GY/BK (RHD)
18	K25 18VT/LG (RHD)
19	K51 20DB/YL (RHD)
20	K125 18WT/DB (EXCEPT EXPORT)
21	K125 18WT/DB (RHD)
22	K31 18BR (RHD)
23	-
24	-
25	B7 18WT
26	B6 18WT/DB
27	X3 22BK/RD (RHD)
27	X3 22GY/OR (LHD)
28	G32 20DB/OR (RHD)
28	G32 20BK/LB (LHD)
29	-
30	G31 20VT/LG
31	-
32	V32 22OR/DG (LHD)
33	V30 22DB/RD
34	V16 22VT
35	V14 22RD/VT
36	-
37	F45 20YL/RD
38	L13 18BR/YL (EXPORT)
39	-
40	Z306 20BK/LG
41	Z305 20BK/OR
42	R46 20BR/LB
43	R48 20TN
44	F991 20OR/DB
45	B22 18DG/YL (LHD)
46	-
47	-
48	D25 18YL/VT
49	D21 20PK
50	D20 20LG
51	D32 20LG/DG (LHD)
52	T41 18BK/WT (RHD)
52	T6 18OR/BK (LHD)
53	L7 20BK/YL
54	L60 20TN
55	V37 22RD/LG (LHD)
55	G18 20PK/BK (RHD)
56	L1 18VT/BK
57	L39 20LB
58	K4 18BK/LB (LHD)
58	K4 20BK/LB (RHD)
59	L44 18VT/RD
60	L34 18RD/OR



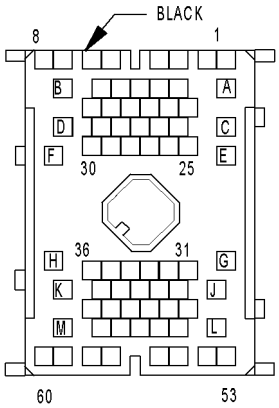
C107
(DIESEL LHD)



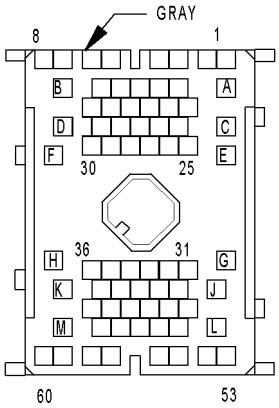
C107
(DIESEL RHD)

C107 (DIESEL)

CAV	CIRCUIT
A	-
B	Y180 16LG/RD
C	C1 12DG
D	A149 12RD/TN
E	-
F	A1 12RD
G	A145 10WT/RD
H	A146 10OR/WT
J	A147 10RD/GY
K	A148 10PK/WT
L	A2 12PK/BK
M	-
1	X2 18DG/RD
2	V11 20BK/TN
3	K4 18BK/LB
4	V37 18RD/LG
5	V55 16TN/RD
6	V6 16DB
7	V10 20BR
8	-
9	K226 18DB/WT
10	X3 20BK/RD
11	F15 18DB/WT
12	F45 18YL/RD
13	T41 18BK/WT
14	-
15	G70 20BR/TN
16	G9 18GY/BK (RHD)
17	Z231 18BK (RHD)
18	-
19	-
20	-
21	F991 20OR/DB
22	-
23	X75 18GY/LB
24	Y42 18OR/DB
25	B7 18WT
26	B6 18WT/DB
27	B4 18LG
28	B3 18LG/DB
29	B2 18YL
30	B1 18YL/DB
31	-
32	M1 18PK
33	F20 18DB/PK
34	L50 18WT/TN
35	R47 18DB/LB
36	T2 18TN/BK
37	Z305 20BK/OR
38	Z306 20BK/LG
39	R49 18LB
40	K29 18WT/PK
41	C18 18DB (LHD)
42	-
43	K6 18VT/WT (LHD)
44	-
45	V16 20WT
46	V14 20RD/VT
47	L13 18BR/YL
48	D25 18VT/YL
49	D21 18PK
50	K173 18LG
51	-
52	-
53	L7 18BK/YL
54	L61 20LG
55	L1 18VT/BK
56	V20 18BK/WT
57	L39 20LB
58	F22 18WT/PK
59	L43 18VT
60	L33 18LG/BR



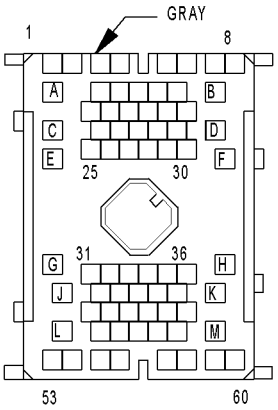
C107
(DIESEL LHD)



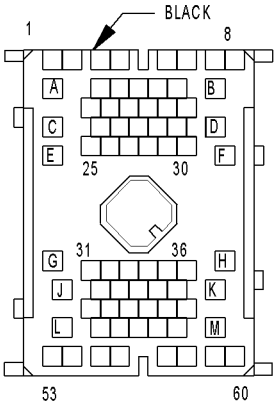
C107
(DIESEL RHD)

C107 (DIESEL)

CAV	CIRCUIT
A	-
B	Y180 16LG/RD
C	C1 12DG
D	A149 12RD/TN
E	-
F	A1 12RD
G	A145 10WT/RD
H	A146 10OR/WT
J	A147 10RD/GY
K	A148 10PK/WT
L	A2 12PK/BK
M	-
1	X2 18DG/RD
2	V11 20BK/TN
3	K4 20BK/LB
4	V37 22RD/LG (LHD)
4	V37 20RD/LG (RHD)
5	V55 16TN/RD
6	V6 16DB
7	V10 22BR (LHD)
7	V10 20BR (RHD)
8	-
9	K226 20LB/YL (RHD)
9	K226 18LB/YL (LHD)
10	X3 22GY/OR (LHD)
10	X3 22BK/RD (RHD)
11	F15 20DB/WT
12	F45 20YL/RD
13	T41 18BK/WT
14	-
15	G70 20BR/TN
16	G9 18GY/BK (RHD)
17	Z231 18BK (RHD)
18	-
19	-
20	-
21	F991 20OR/DB
22	-
23	X75 20GY/LG
24	Y42 18OR/DB
25	B7 18WT
26	B6 18WT/DB
27	B4 18LG
28	B3 18LG/DB
29	B2 18YL
30	B1 18YL/DB
31	-
32	M1 20PK/RD
33	F20 18DB/PK
34	L50 18WT/TN (RHD)
34	L50 18VT/TN (LHD)
35	R47 20DB/LB
36	T2 18TN/BK
37	Z305 20BK/OR
38	Z306 20BK/LG
39	R49 20LB
40	K29 18WT/PK
41	C18 20DB (LHD)
42	-
43	K6 18VT/WT (LHD)
44	-
45	V16 22VT
46	V14 22RD/VT
47	L13 18BR/YL
48	D25 18YL/VT
49	D21 20PK
50	K173 18LG
51	-
52	-
53	L7 20BK/YL
54	L61 20TN/LG
55	L1 18VT/BK
56	V20 18BK/WT (LHD)
56	V20 20BK/WT (RHD)
57	L39 20LB
58	F22 20WT/PK (LHD)
58	F22 18WT/TN (RHD)
59	L43 18VT
60	L33 18RD



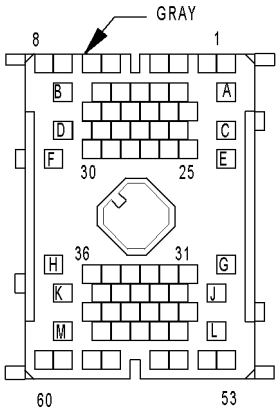
C107
(RHD)
(GAS)



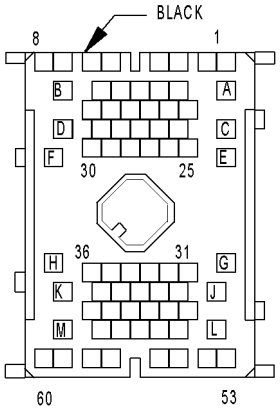
C107
(LHD)
(GAS)

C107 (GAS)

CAV	CIRCUIT
A	-
B	-
C	-
D	-
E	A10 12RD/DG
F	-
G	-
H	-
J	-
K	-
L	-
M	A20 12RD/DB
1	V37 18RD/LG (RHD)
2	V11 20BK/TN
3	V3 16BR/WT
4	V4 16RD/YL
5	V55 16TN/RD
6	V6 16DB
7	V10 20BR
8	F12 20DB/WT
9	K52 20PK/BK (LHD)
9	K226 18LB/YL (RHD)
10	L13 18BR/YL (EXPORT)
11	K512 18RD/YL (RHD)
12	K4 18BK/LB (RHD)
13	-
14	T6 18OR/WT (RHD)
15	G70 20BR/TN (EXPORT)
16	G9 18GY/BK (RHD)
17	Z231 18BK (RHD)
18	-
19	D32 18LG/BK (RHD)
20	-
21	-
22	-
23	X75 18GY/LG (EXPORT)
24	F42 18DG/LG (RHD)
25	B7 18WT
26	B6 18WT/DB
27	B4 18LG
28	B3 18LG/DB
29	B2 18YL
30	B1 18YL/DB
31	-
32	M1 18PK
33	F20 18DB/PK
34	L50 18WT/TN
35	R47 18DB/LB (LHD)
36	-
37	K51 18DB/YL (RHD)
38	K25 18VT/LG (RHD)
39	R49 18LB (LHD)
39	K31 18BR (RHD)
40	K29 18WT/PK (RHD)
41	K125 18WT/DB (RHD)
42	V32 18OR/DG (RHD)
43	R47 18DB/LB (RHD)
44	V35 18LG/RD (RHD)
45	B22 18DG/YL (LHD)
45	V36 18TN/RD (RHD)
46	C13 18DB/OR (RHD)
47	L13 18BR/YL (RHD)
48	D25 18DG/YL (LHD)
48	D25 18VT/YL (RHD)
49	D21 18PK (RHD)
50	R49 18LB (RHD)
51	-
52	-
53	L7 20BK/YL
54	L61 18TN/LG (LHD)
54	L61 20TN/LG (RHD)
55	-
56	V20 18BK/WT
57	L39 20LB
58	-
59	L43 18VT
60	L33 18RD



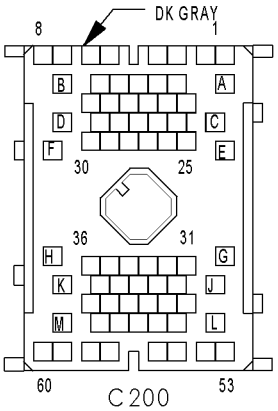
C107
(RHD)
(GAS)



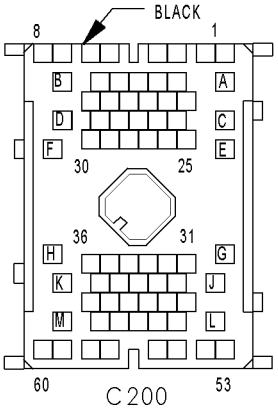
C107
(LHD)
(GAS)

C107 (GAS)

CAV	CIRCUIT
A	-
B	-
C	-
D	-
E	A10 12RD/LG (LHD)
F	-
G	-
H	-
J	-
K	-
L	-
M	A20 14RD/DB
E	A10 10RD/DG (RHD)
1	V37 20RD/LG (RHD)
2	V11 20BK/TN
3	V3 16BR/WT
4	V4 16RD/YL
5	V55 16TN/RD
6	V6 16DB
7	V10 22BR (LHD)
7	V1020BR (RHD)
8	F12 20DB/WT
9	K52 20PK/BK (LHD)
9	K226 20LB/YL (RHD)
10	L13 18BR/YL (EXPORT)
11	K512 18LB (RHD)
12	K4 20BK/LB (RHD)
13	-
14	T6 18OR/BK (RHD)
15	G70 20BR/TN (EXPORT)
16	G9 18GY/BK (RHD)
17	Z231 18BK (RHD)
18	-
19	D32 20LG/DG (RHD)
20	-
21	-
22	-
23	X75 20GY/LG (EXPORT)
24	F42 18DG/LG (RHD)
25	B7 18WT
26	B6 18WT/DB
27	B4 18LG
28	B3 18LG/DB
29	B2 18YL
30	B1 18YL/DB
31	-
32	M1 20PK/RD
33	F20 18DB/PK
34	L50 18WT/TN (RHD)
34	L50 18VT/TN (LHD)
35	R47 20DB/LB (LHD)
36	-
37	K51 18BR (RHD)
38	K25 18VT/LG (RHD)
39	K31 18BR (RHD)
39	R49 20DB (LHD)
40	K29 18WT/PK (RHD)
41	K125 18WT/DB (RHD)
42	V32 22OR/DG (RHD)
43	R47 20DB/LB (RHD)
44	V35 20LG/RD (RHD)
45	V36 20TN/RD (RHD)
45	B22 18DG/YL (LHD)
46	C13 20DB/OR (RHD)
47	L13 18BR/YL (RHD)
48	D25 18YL/VT
49	D21 20PK (RHD)
50	R49 20LB (RHD)
51	-
52	-
53	L7 20BK/YL
54	L61 20TN/LG
55	-
56	V20 18BK/WT (LHD)
56	V20 20BK/WT (RHD)
57	L39 20LB
58	-
59	L43 18VT
60	L33 18RD



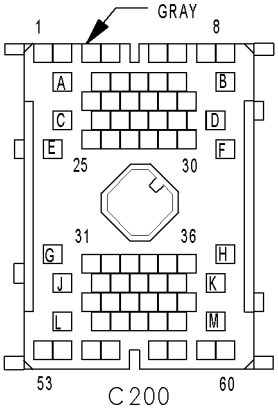
C200
(LHD)



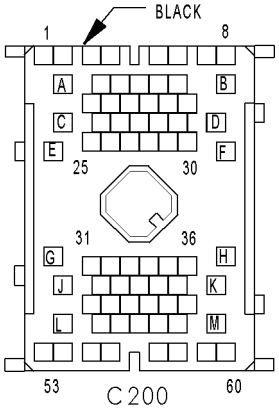
C200
(RHD)

C200

CAV	CIRCUIT
A	-
B	-
C	A1 12RD
D	-
E	-
F	-
G	A2 12PK/BK
H	C1 12DG
J	-
K	-
L	-
M	-
1	X56 18DB/PK (BASE)
1	X84 18OR/GY (EXCEPT BASE)
2	X86 18OR/RD (EXCEPT BASE)
2	X54 18VT (BASE)
3	X55 18BR/RD (BASE)
3	X81 18YL/BK (EXCEPT BASE)
4	X83 18YL/RD (EXCEPT BASE)
4	X53 18DG/OR (BASE)
5	X53 18DG/OR
6	X55 18BR/RD
7	X54 18VT
8	X56 18DB/PK
9	Y152 20LG/OR (EXCEPT BASE)
10	D20 20LG (GAS)
11	Y151 20LG/BR (EXCEPT EXPORT)
12	Y153 20DB/RD (EXCEPT EXPORT)
13	X40 20WT/RD (CD)
14	D25 20YL/VT
15	D25 20YL/VT
16	D32 20LG/BK (GAS)
17	T41 20WT/DG
18	Z4 20WT/BK (CD)
19	Z41 20WT/DG (CD)
20	T6 18OR/BK (GAS)
21	D21 20PK
22	K29 18DG/OR (GAS)
22	B30 18DG/OR (DIESEL)
23	X160 20YL (CD)
24	X112 20RD (CD)
25	-
26	-
27	G70 20BR/TN (EXPORT)
28	R47 20DB/LB
29	Z17 20BK (CD)
30	R49 20LB
31	G76 18TN/YL (LHD)
31	G76 20TN/YL (RHD)
32	T2 18TN/BK (DIESEL)
33	-
34	-
35	X51 18WT/DG
36	X57 18DG/WT
37	L7 18BK/YL (EXPORT)
38	L13 18BR/YL (EXPORT)
39	V10 22BR (LHD)
39	V10 20BR (RHD)
40	X52 18DB/WT
41	X58 18DB/OR
42	-
43	V13 18BR/LG
44	V14 22RD/VT
45	-
46	V20 18BK/WT (LHD)
46	V20 20BK/WT (RHD)
47	V22 18BR/YL
48	R46 20BR/LB
49	X64 18BR/WT
50	Z305 20BK/OR
51	Z306 20BK/LG
52	R48 20TN
53	G32 20DB/OR (RHD)
53	G32 20BK/LB (LHD)
54	G31 20VT/LG
55	Z9 16BK
56	V11 20BK/TN
57	G18 20PK/BK
58	V37 22RD/LG (LHD)
58	V37 20RD/LG (RHD)
59	K4 20BK/LB
60	-



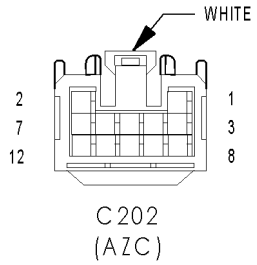
C200
(LHD)



C200
(RHD)

C200

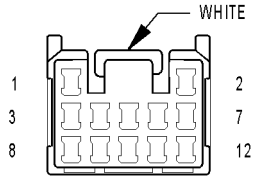
CAV	CIRCUIT
A	-
B	-
C	A1 12RD
D	-
E	-
F	-
G	A2 12PK/BK (RHD)
H	C1 12DG
J	-
K	-
L	-
M	-
1	X84 18OR/BK
2	X86 18OR/RD
3	X81 18YL/BK
4	X83 18YL/RD
5	X53 18DG/OR
6	X55 18BR/RD
7	X54 18VT
8	X56 18DB/PK
9	Y152 20LG/OR (EXCEPT EXPORT)
10	D20 20LG
11	Y151 20LG/BR (EXCEPT EXPORT)
12	Y153 20DB/RD (EXCEPT EXPORT)
13	X40 20WT/RD (PREMIUM RADIO)
14	D25 20YL/VT/GY
15	D25 20YL/VT/BR
16	D32 20LG/DG
17	T41 18BK/WT (DIESEL)
18	Z4 20WT/BK (PREMIUM RADIO)
19	X41 20WT/DG (PREMIUM RADIO)
20	T6 18OR/WT (GAS)
21	D21 20PK (GAS)
22	K29 18WT/PK (GAS)
22	B30 18DG/OR (DIESEL)
23	X160 20YL (PREMIUM RADIO)
24	X112 20RD (PREMIUM RADIO)
25	-
26	-
27	G70 20BR/TN (EXPORT)
28	R47 20DB/LB
29	Z17 20BK (PREMIUM RADIO)
30	R49 20LB
31	G76 18TN/YL
32	T2 20TN/BK (DIESEL)
33	-
34	-
35	X51 18WT/DG
36	X57 18DG/WT
37	L7 18BK/YL (EXPORT)
38	L13 20BR/YL (EXPORT)
39	V10 20BR
40	X52 18DB/WT
41	X58 18DB/OR
42	-
43	V13 18BR/LG
44	V14 20RD/VT
45	-
46	V20 18BK/WT
47	V22 18BR/YL
48	R46 20BR/LB
49	X64 18BR/WT
50	Z305 20BK/OR
51	Z306 20BK/LG
52	R48 20TN
53	G32 20BK/LB
54	G31 20VT/LG
55	Z9 16BK
56	V11 20BK/TN
57	G18 20PK/BK
58	V37 20RD/LG
59	K4 20BK/LB
60	-



C202
(AZC)

C202 (AZC)

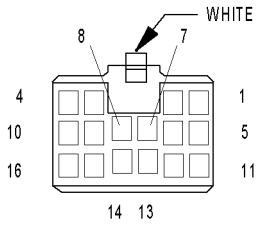
CAV	CIRCUIT
1	C32 20GY/DB (LHD)
1	C100 20YL/DB (RHD)
2	C32 20GY/DB (RHD)
2	C100 20YL/DB (LHD)
3	C33 20DB/RD (LHD)
3	C96 20WT/DB (RHD)
4	C94 20WT/DG (RHD)
4	C95 20WT/BK (LHD)
5	C94 20WT/DG (LHD)
5	C95 20WT/BK (RHD)
6	C33 20DB/RD (RHD)
6	C96 20WT/DB (LHD)
7	C102 20TN/BK (LHD)
7	C35 20DG/YL (RHD)
8	C102 20TN/BK (RHD)
8	C35 20DG/YL (LHD)
9	C56 20RD/LG
10	-
11	C201 20LB/YL
12	G32 20BK/LB



C202
(AZC)

C202 (AZC)

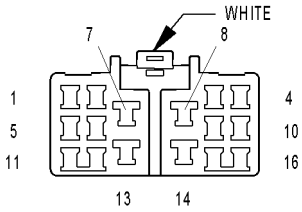
CAV	CIRCUIT
1	C32 20GY/DB (LHD)
1	C100 20YL/DB (RHD)
2	C32 20GY/DB (RHD)
2	C100 20YL/DB (LHD)
3	C33 20DB/RD (LHD)
3	C96 20WT/DB (RHD)
4	C94 20WT/DG (RHD)
4	C95 20WT/BK (LHD)
5	C94 20WT/DG (LHD)
5	C95 20WT/BK (RHD)
6	C33 20DB/RD (RHD)
6	C96 20WT/DB (LHD)
7	C102 20TN/BK (LHD)
7	C35 20DG/YL (RHD)
8	C102 20TN/BK (RHD)
8	C35 20DG/YL (LHD)
9	C56 20RD/LG
10	-
11	C201 20LB/YL
12	G32 20BK/LB



C202
(MTC)

C202 (MTC)

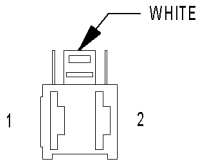
CAV	CIRCUIT
1	-
2	C101 20LB/YL
3	G32 20BK/LB
4	-
5	C67 20RD/LB
6	-
7	-
8	-
9	-
10	C6 14LB
11	Z132 20BK/OR
12	F22 20WT/PK
13	C7 12BK/TN
14	C1 12DG
15	C4 16TN
16	C5 16LG



C202
(MTC)

C202 (MTC)

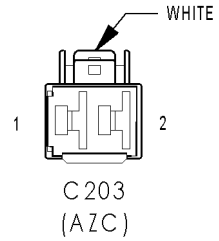
CAV	CIRCUIT
1	-
2	C201 20LB/YL
3	G32 20BK/LB
4	-
5	C67 20RD/LB
6	-
7	-
8	-
9	-
10	C6 14LB
11	Z132 20BK/OR
12	F22 20WT/PK
13	C7 12BK/TN
14	C1 12DG
15	C4 16TN
16	C5 16LG



C203
(AZC)

C203 (AZC)

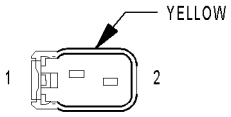
CAV	CIRCUIT
1	Z118 12BK
2	C1 12DG



C203
(AZC)

C203 (AZC)

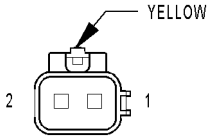
CAV	CIRCUIT
1	Z118 12BK
2	C1 12DG



C318

C318

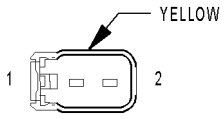
CAV	CIRCUIT
1	R73 20LB/BR
2	R75 20LB/OR



C318

C318

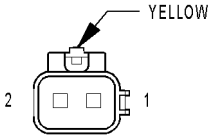
CAV	CIRCUIT
1	R73 20LB/BR
2	R75 20LB/OR



C319

C319

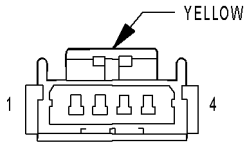
CAV	CIRCUIT
1	R72 20LB/WT
2	R74 20LB/YL



C319

C319

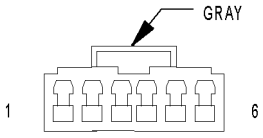
CAV	CIRCUIT
1	R72 20LB/WT
2	R74 20LB/YL



CLOCKSPRING C2

CLOCKSPRING C2

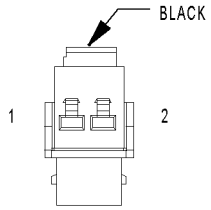
CAV	CIRCUIT	FUNCTION
1	R63 20TN/LB	DRIVER SQUIB 2 LINE 2
2	R61 20OR/LB	DRIVER SQUIB 2 LINE 1
3	R43 20BK/LB	DRIVER SQUIB 1 LINE 1
4	R45 20DG/LB	DRIVER SQUIB 1 LINE 2



CLOCKSPRING C3

CLOCKSPRING C3

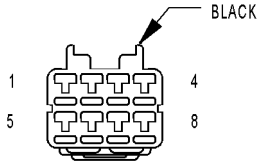
CAV	CIRCUIT	FUNCTION
1	X20 20RD/YL	RADIO CONTROL MUX
2	X10 20RD/BK	RADIO CONTROL MUX RETURN
3	X3 20GY/OR	HORN RELAY CONTROL
4	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL
5	K4 20BK/LB	SENSOR GROUND
6	-	-



CLOCKSPRING C4

CLOCKSPRING C4

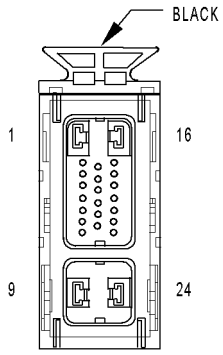
CAV	CIRCUIT	FUNCTION
1	X20 20RD/YL	RADIO CONTROL MUX
2	X10 20RD/BK	RADIO CONTROL MUX RETURN



COMPACT DISC CHANGER (PREMIUM RADIO)

COMPACT DISC CHANGER (PREMIUM RADIO)

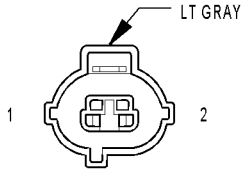
CAV	CIRCUIT	FUNCTION
1	X40 20WT/RD	AUDIO OUT RIGHT
2	C235 20WT/LB	SHIELD
3	D25 20YL/VT	PCI BUS
4	X112 20RD	IGNITION SWITCH OUTPUT (RUN-ACC)
5	X41 20WT/DG	AUDIO OUT LEFT
6	Z4 20WT/BK	GROUND
7	Z17 20BK	GROUND
8	X160 20YL	FUSED B(+)



CONTROLLER ANTILOCK BRAKE

CONTROLLER ANTILOCK BRAKE

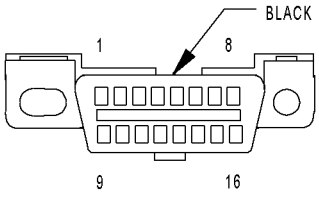
CAV	CIRCUIT	FUNCTION
1	Z101 12BK/OR	GROUND
2	B1 18YL/DB	RIGHT REAR WHEEL SPEED SENSOR SIGNAL
3	B2 18YL	RIGHT REAR WHEEL SPEED SENSOR 12 VOLT SUPPLY
4	-	-
5	D25 18VT/YL	PCI BUS
6	B6 18WT/DB	RIGHT FRONT WHEEL SPEED SENSOR SIGNAL
7	B7 18WT	RIGHT FRONT WHEEL SPEED SENSOR 12 VOLT SUPPLY
8	-	-
9	A20 12RD/DB	FUSED B(+)
10	F20 18DB/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
11	D52 18LG/WT (DIESEL)	CAN C BUS(+)
12	-	-
13	B22 18DG/YL	VEHICLE SPEED SIGNAL
14	D51 18DG/WT (DIESEL)	CAN C BUS(-)
15	-	-
16	Z102 12BK/OR	GROUND
17	G9 18GY/BK	RED BRAKE WARNING INDICATOR SWITCH SENSE
18	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
19	B3 18LG/DB	LEFT REAR WHEEL SPEED SENSOR SIGNAL
20	B4 18LG	LEFT REAR WHEEL SPEED SENSOR 12 VOLT SUPPLY
21	Z231 18BK	GROUND
22	B8 18RD/DB	LEFT FRONT WHEEL SPEED SENSOR SIGNAL
23	B9 18RD	LEFT FRONT WHEEL SPEED SENSOR 12 VOLT SUPPLY
24	A10 12RD/DG	FUSED B(+)



COOLANT LEVEL SENSOR

COOLANT LEVEL SENSOR

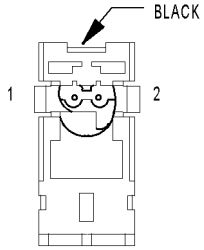
CAV	CIRCUIT	FUNCTION
1	G18 18PK/BK (LHD GAS)	COOLANT LEVEL SWITCH SENSE
1	G18 20PK/BK (EXCEPT LHD GAS)	COOLANT LEVEL SWITCH SENSE
2	Z307 20BK	GROUND



DATA LINK CONNECTOR

DATA LINK CONNECTOR

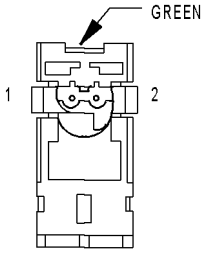
CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20YL/VT	PCI BUS
3	-	-
4	Z305 20BK/OR	GROUND
5	Z306 20BK/LG	GROUND
6	D32 20LG/DG	SCI RECEIVE
7	D21 20PK	SCI TRANSMIT
8	-	-
9	D19 20VT/OR	BODY CONTROL MODULE FLASH ENABLE
10	-	-
11	-	-
12	-	-
13	-	-
14	D20 20LG	SCI RECEIVE
15	-	-
16	F33 20PK/RD	FUSED B(+)



DRIVER AIRBAG SQUIB 1

DRIVER AIRBAG SQUIB 1

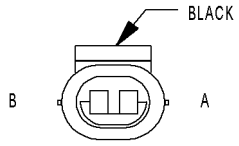
CAV	CIRCUIT	FUNCTION
1	R43 20BK	DRIVER SQUIB 1 LINE 1
2	R45 20BK	DRIVER SQUIB 1 LINE 2



DRIVER AIRBAG SQUIB 2

DRIVER AIRBAG SQUIB 2

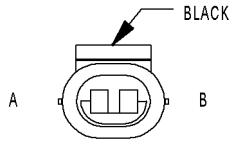
CAV	CIRCUIT	FUNCTION
1	R63 20TN/LB	DRIVER SQUIB 2 LINE 2
2	R61 20OR/LB	DRIVER SQUIB 2 LINE 1



DRIVER
BLEND DOOR
MOTOR/ACTUATOR
(LHD AZC)

DRIVER BLEND DOOR MOTOR/ACTUATOR (LHD AZC)

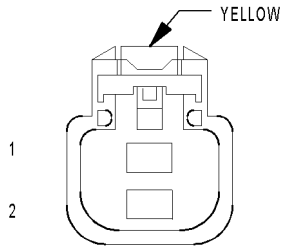
CAV	CIRCUIT	FUNCTION
A	C95 20WT/BK	DRIVER BLEND DOOR DRIVER (B)
B	C33 20DB/RD	DRIVER BLEND DOOR DRIVER (A)



DRIVER
BLEND DOOR MOTOR/
ACTUATOR
(RHD AZC)

DRIVER BLEND DOOR MOTOR/ACTUATOR (RHD AZC)

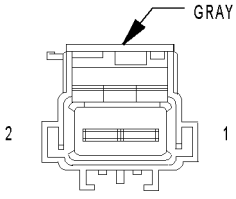
CAV	CIRCUIT	FUNCTION
B	C95 20WT/BK	DRIVER BLEND DOOR DRIVER (B)
A	C33 20DB/RD	DRIVER BLEND DOOR DRIVER (A)



DRIVER
CURTAIN
AIRBAG
SQUIB

DRIVER CURTAIN AIRBAG SQUIB

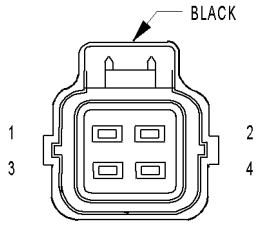
CAV	CIRCUIT	FUNCTION
1	R73 20LB/BR	DRIVER CURTAIN SQUIB 1 LINE 2
2	R75 20LB/OR	DRIVER CURTAIN SQUIB 1 LINE 1



DRIVER
CYLINDER
LOCK SWITCH

DRIVER CYLINDER LOCK SWITCH

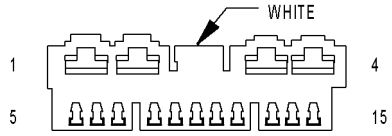
CAV	CIRCUIT	FUNCTION
1	G73 20LG/OR	DRIVER CYLINDER LOCK SWITCH SENSE
2	Z28 12BK (LHD)	GROUND
2	Z243 12BK (RHD)	GROUND



DRIVER DOOR LOCK MOTOR/ AJAR SWITCH

DRIVER DOOR LOCK MOTOR/AJAR SWITCH

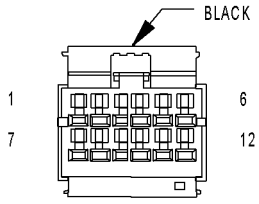
CAV	CIRCUIT	FUNCTION
1	G75 18TN/RD	DRIVER DOOR AJAR SWITCH SENSE
2	Z28 12BK (LHD)	GROUND
2	Z243 12BK (RHD)	GROUND
3	P34 18PK/BK	DRIVER DOOR UNLOCK DRIVER
4	P35 18OR/BK	DRIVER DOOR LOCK DRIVER



DRIVER DOOR MODULE C1

DRIVER DOOR MODULE C1

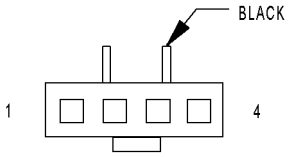
CAV	CIRCUIT	FUNCTION
1	A146 12OR/WT	FUSED B(+)
2	Q23 16RD/WT	DRIVER REAR WINDOW DRIVER (DOWN)
3	Q13 16DB	DRIVER REAR WINDOW DRIVER (UP)
4	Z28 12BK (LHD)	GROUND
4	Z234 12BK (RHD)	GROUND
5	P35 18OR/BK	DRIVER DOOR LOCK DRIVER
6	-	-
7	P34 18PK/BK	DRIVER DOOR UNLOCK DRIVER
8	D30 20VT/YL (JAPAN)	DIAGNOSTIC OUT
9	D25 20YL/VT	PCI BUS
10	G73 20LG/OR	DRIVER CYLINDER LOCK SWITCH SENSE
11	G75 18TN/RD	DRIVER DOOR AJAR SWITCH SENSE
12	E21 20OR/RD	DRIVER REAR DOOR SWITCH ILLUMINATION
13	Q11 16LB	DRIVER WINDOW DRIVER (UP)
14	-	-
15	Q21 16WT	DRIVER WINDOW DRIVER (DOWN)



DRIVER DOOR MODULE C2

DRIVER DOOR MODULE C2

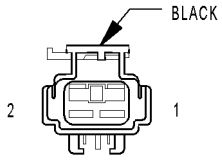
CAV	CIRCUIT	FUNCTION
1	P95 20OR	MIRROR HORIZONTAL DRIVER
2	C118 20BK/WT	MIRROR HEATER GROUND
3	P64 20VT	MIRROR VERTICAL POSITION SIGNAL
4	P69 20GY	MIRROR SENSOR GROUND
5	P65 20DG	MIRROR HORIZONTAL POSITION SIGNAL
6	C117 20BK	MIRROR HEATER 12 VOLT SUPPLY
7	P91 20WT	MIRROR COMMON DRIVER
8	P93 20RD	MIRROR VERTICAL DRIVER
9	M21 20PK/DG	COURTESY LAMP DRIVER
10	P110 20YL (EXPORT)	FOLDING MIRROR RETURN
11	P99 20DB (EXPORT)	FOLDING MIRROR FEED
12	L121 20BK/RD	COURTESY LAMP GROUND



DRIVER
DOOR
MODULE C3

DRIVER DOOR MODULE C3

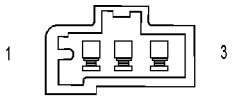
CAV	CIRCUIT	FUNCTION
1	BK	MEMORY SWITCH RETURN
2	BR	MEMORY SWITCH MUX
3	OR	MEMORY SET INDICATOR DRIVER
4	GY	SWITCH ILLUMINATION DRIVER



DRIVER FRONT
POWER
WINDOW MOTOR

DRIVER FRONT POWER WINDOW MOTOR

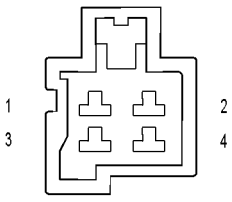
CAV	CIRCUIT	FUNCTION
1	Q21 16WT	DRIVER WINDOW DRIVER (DOWN)
2	Q11 16LB	DRIVER WINDOW DRIVER (UP)



DRIVER
HEATED SEAT
BACK
(HEATED SEAT/
PREMIUM I/III)

DRIVER HEATED SEAT BACK (HEATED SEAT/PREMIUM I/III)

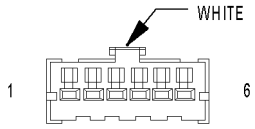
CAV	CIRCUIT	FUNCTION
1	P88 16BK/BR	HEATED SEAT DRIVER
2	Z6 16BK/YL	GROUND
3	-	-



DRIVER
HEATED SEAT
CUSHION
(PREMIUM I/III)

DRIVER HEATED SEAT CUSHION (PREMIUM I/III)

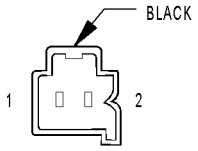
CAV	CIRCUIT	FUNCTION
1	P131 16BK/OR	DRIVER SEAT HEATER B(+) DRIVER
2	P88 16BK/BR	HEATED SEAT DRIVER
3	P135 20LB/BK	DRIVER SEAT TEMPERATURE SENSOR INPUT
4	P29 20BR/WT	SEAT SENSOR 5 VOLT SUPPLY



DRIVER
HEATED SEAT
SWITCH

DRIVER HEATED SEAT SWITCH

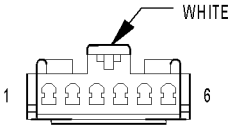
CAV	CIRCUIT	FUNCTION
1	P133 20TN/DG	DRIVER SEAT HEATER SWITCH MUX
2	E2 20OR	PANEL LAMPS DRIVER
3	F22 20WT/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
4	-	-
5	Z300 20BK	GROUND
6	P132 20OR/BK	SEAT HEATER SWITCH SENSOR GROUND



DRIVER
LUMBAR
MOTOR
(MIDLINE/PREMIUM)

DRIVER LUMBAR MOTOR (MIDLINE/PREMIUM)

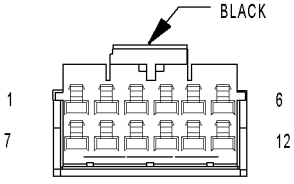
CAV	CIRCUIT	FUNCTION
1	P105 16LG/DB	LUMBAR FORWARD SWITCH SENSE
2	P104 16YL/RD	LUMBAR REARWARD SWITCH SENSE



DRIVER
LUMBAR
SWITCH
(MIDLINE/PREMIUM)

DRIVER LUMBAR SWITCH (MIDLINE/PREMIUM)

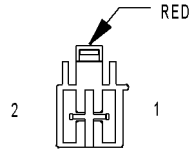
CAV	CIRCUIT	FUNCTION
1	-	-
2	Z243 16BK (LHD)	GROUND
2	Z238 16BK (RHD)	GROUND
3	P104 16YL/RD (LHD)	LUMBAR REARWARD SWITCH SENSE
3	P105 16LG/DB (RHD)	LUMBAR FORWARD SWITCH SENSE
4	P104 16YL/RD (RHD)	LUMBAR REARWARD SWITCH SENSE
4	P105 16LG/DB (LHD)	LUMBAR FORWARD SWITCH SENSE
5	Z243 16BK (LHD)	GROUND
5	Z238 16BK (RHD)	GROUND
6	F35 16RD	FUSED B(+)



DRIVER
POWER
MIRROR

DRIVER POWER MIRROR

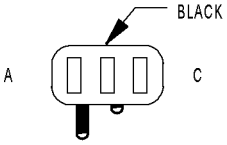
CAV	CIRCUIT	FUNCTION
1	C117 20BK	MIRROR HEATER 12 VOLT SUPPLY
2	P65 20DG	MIRROR HORIZONTAL POSITION SIGNAL
3	P69 20GY	MIRROR SENSOR GROUND
4	P64 20VT	MIRROR VERTICAL POSITION SIGNAL
5	C118 20BK/WT	MIRROR HEATER GROUND
6	P95 20OR	MIRROR HORIZONTAL DRIVER
7	P114 20YL/RD	AUTO DAY/NIGHT MIRROR (-)
8	P99 20DB (EXPORT)	FOLDING MIRROR FEED
9	P110 20YL (EXPORT)	FOLDING MIRROR RETURN
10	P112 20YL/WT	AUTO DAY/NIGHT MIRROR (+)
11	P93 20RD	MIRROR VERTICAL DRIVER
12	P91 20WT	MIRROR COMMON DRIVER



DRIVER POWER SEAT FRONT RISER MOTOR

DRIVER POWER SEAT FRONT RISER MOTOR

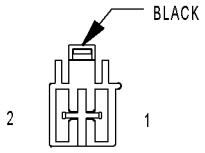
CAV	CIRCUIT	FUNCTION
1	P19 16YL/LG (EXCEPT PREMIUM II/III)	DRIVER SEAT FRONT UP DRIVER
1	P119 16YL/RD (PREMIUM II/III)	SEAT FRONT UP DRIVER
2	P21 16RD/LG (EXCEPT PREMIUM II/III)	DRIVER SEAT FRONT DOWN DRIVER
2	P121 16RD/GY (PREMIUM II/III)	SEAT FRONT DOWN DRIVER



DRIVER POWER SEAT FRONT RISER MOTOR SENSOR (PREMIUM II/III)

DRIVER POWER SEAT FRONT RISER MOTOR SENSOR (PREMIUM II/III)

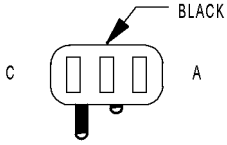
CAV	CIRCUIT	FUNCTION
A	P28 20BR/RD	SEAT POSITION SENSOR GROUND
B	P26 20BR	FRONT RISER POSITION SIGNAL
C	P29 20BR/WT	SEAT SENSOR 5 VOLT SUPPLY



DRIVER POWER SEAT HORIZONTAL MOTOR

DRIVER POWER SEAT HORIZONTAL MOTOR

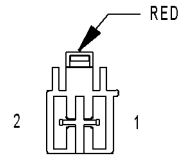
CAV	CIRCUIT	FUNCTION
1	P117 16RD/BR (PREMIUM II/III)	SEAT HORIZONTAL REARWARD DRIVER
1	P17 16RD/YL (EXCEPT PREMIUM II/III)	DRIVER SEAT HORIZONTAL REARWARD DRIVER
2	P115 16GY/LG (PREMIUM II/III)	SEAT HORIZONTAL FORWARD DRIVER
2	P15 16YL/LB (EXCEPT PREMIUM II/III)	DRIVER SEAT HORIZONTAL FORWARD DRIVER



DRIVER POWER SEAT HORIZONTAL MOTOR SENSOR (PREMIUM II/III)

DRIVER POWER SEAT HORIZONTAL MOTOR SENSOR (PREMIUM II/III)

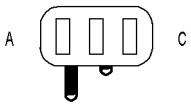
CAV	CIRCUIT	FUNCTION
A	P29 20BR/WT	SEAT SENSOR 5 VOLT SUPPLY
B	P25 20VT/RD	SEAT HORIZONTAL POSITION SIGNAL
C	P28 20BR/RD	SEAT POSITION SENSOR GROUND



DRIVER POWER SEAT REAR RISER MOTOR

DRIVER POWER SEAT REAR RISER MOTOR

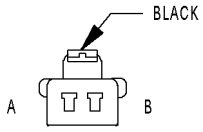
CAV	CIRCUIT	FUNCTION
1	P111 16YL/DB (PREMIUM II/III)	SEAT REAR UP DRIVER
1	P11 16YL/WT (EXCEPT PREMIUM II/III)	DRIVER SEAT REAR UP DRIVER
2	P113 16RD/BK (PREMIUM II/III)	SEAT REAR DOWN DRIVER
2	P13 16RD/WT (EXCEPT PREMIUM II/III)	DRIVER SEAT REAR DOWN DRIVER



DRIVER POWER SEAT REAR RISER MOTOR SENSOR (PREMIUM II/III)

DRIVER POWER SEAT REAR RISER MOTOR SENSOR (PREMIUM II/III)

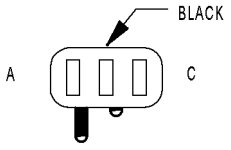
CAV	CIRCUIT	FUNCTION
A	P28 20BR/RD	SEAT POSITION SENSOR GROUND
B	P27 20LB/RD	REAR RISER POSITION SIGNAL
C	P29 20BR/WT	SEAT SENSOR 5 VOLT SUPPLY



DRIVER POWER SEAT RECLINER MOTOR

DRIVER POWER SEAT RECLINER MOTOR

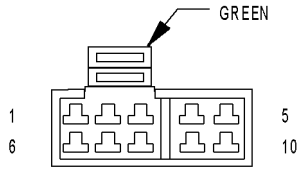
CAV	CIRCUIT	FUNCTION
A	P141 16GY/WT (PREMIUM II/III)	SEAT RECLINER DOWN DRIVER
A	P41 16GY/WT (EXCEPT PREMIUM II/III)	DRIVER SEAT RECLINER DOWN DRIVER
B	P143 16GY/LB (PREMIUM II/III)	SEAT RECLINER UP DRIVER
B	P43 16GY/LB (MIDLINE/ PREMIUM I)	DRIVER SEAT RECLINER UP DRIVER



DRIVER POWER SEAT RECLINER MOTOR SENSOR (PREMIUM II/III)

DRIVER POWER SEAT RECLINER MOTOR SENSOR (PREMIUM II/III)

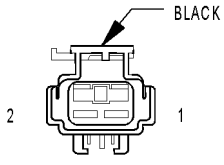
CAV	CIRCUIT	FUNCTION
A	P29 20BR/WT	SEAT SENSOR 5 VOLT SUPPLY
B	P47 20LB	RECLINER POSITION SIGNAL
C	P28 20BR/RD	SEAT POSITION SENSOR GROUND



DRIVER POWER SEAT SWITCH (MIDLINE/ PREMIUM)

DRIVER POWER SEAT SWITCH (MIDLINE/PREMIUM)

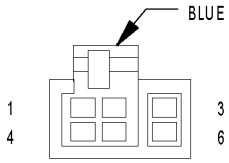
CAV	CIRCUIT	FUNCTION
1	Z238 16BK (RHD)	GROUND
1	Z243 16BK (LHD)	GROUND
2	P43 16GY/LB (MIDLINE/ PREMIUM I)	DRIVER SEAT RECLINER UP DRIVER
2	P43 20GY/LB (PREMIUM II/III)	RECLINER UP SWITCH SENSE
3	P17 16RD/YL (MIDLINE/ PREMIUM I)	DRIVER SEAT HORIZONTAL REARWARD DRIVER
3	P17 20RD/YL (PREMIUM II/III)	DRIVER SEAT HORIZONTAL REARWARD SWITCH SENSE
4	P41 16GY/WT (MIDLINE/ PREMIUM I)	DRIVER SEAT RECLINER DOWN DRIVER
4	P41 20GY/WT (PREMIUM II/III)	RECLINER DOWN SWITCH SENSE
5	F35 16RD (MIDLINE/ PREMIUM I)	FUSED B(+)
5	P9 20RD/LB (PREMIUM II/III)	SEAT SWITCH B(+) SUPPLY
6	P15 20YL/LB (PREMIUM II/III)	DRIVER SEAT HORIZONTAL FORWARD SWITCH SENSE
6	P15 16YL/LB (MIDLINE/ PREMIUM I)	DRIVER SEAT HORIZONTAL FORWARD DRIVER
7	P19 20YL/LG (PREMIUM II/III)	SEAT FRONT UP SWITCH SENSE
7	P19 16YL/LG (MIDLINE/ PREMIUM I)	SEAT FRONT UP SWITCH SENSE
7	P21 20RD/LG (RHD PREMIUM II/III)	SEAT FRONT DOWN SWITCH SENSE
8	P13 20RD/WT (RHD PREMIUM II/III)	SEAT REAR DOWN SWITCH SENSE
8	P11 20YL/WT (PREMIUM II/III)	SEAT REAR UP SWITCH SENSE
8	P11 16YL/WT (MIDLINE/ PREMIUM I)	DRIVER SEAT REAR UP DRIVER
9	P13 20RD/WT (PREMIUM II/III)	SEAT REAR DOWN SWITCH SENSE
9	P13 16RD/WT (MIDLINE/ PREMIUM I)	DRIVER SEAT REAR DOWN DRIVER
9	P11 20YL/WT (RHD PREMIUM II/III)	SEAT REAR UP SWITCH SENSE
10	P21 16RD/LG (MIDLINE/ PREMIUM I)	SEAT FRONT DOWN SWITCH SENSE
10	P21 20RD/LG (PREMIUM II/III)	SEAT FRONT DOWN SWITCH SENSE
10	P19 20YL/LG (RHD PREMIUM II/III)	SEAT FRONT UP SWITCH SENSE



DRIVER REAR POWER WINDOW MOTOR

DRIVER REAR POWER WINDOW MOTOR

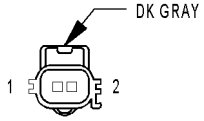
CAV	CIRCUIT	FUNCTION
1	Q124 16DG/WT	WINDOW DRIVER (DOWN)
2	Q114 16GY/WT	WINDOW DRIVER (UP)



DRIVER REAR POWER WINDOW SWITCH

DRIVER REAR POWER WINDOW SWITCH

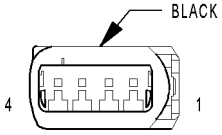
CAV	CIRCUIT	FUNCTION
1	Q14 16GY	DRIVER REAR WINDOW DRIVER (UP)
2	Q114 16GY/WT	WINDOW DRIVER (UP)
3	E21 20OR/RD	DRIVER REAR DOOR SWITCH ILLUMINATION
4	Q24 16DG	DRIVER REAR WINDOW DRIVER (DOWN)
5	Q124 16DG/WT	WINDOW DRIVER (DOWN)
6	Z1 16BK	GROUND



DRIVER SEAT BELT SWITCH

DRIVER SEAT BELT SWITCH

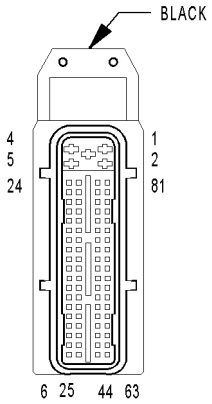
CAV	CIRCUIT	FUNCTION
1	R57 20DG	DRIVER SEAT BELT SWITCH SENSE
2	R59 20LB	DRIVER SEAT BELT SWITCH GROUND



DRIVER SIDE IMPACT SENSOR

DRIVER SIDE IMPACT SENSOR

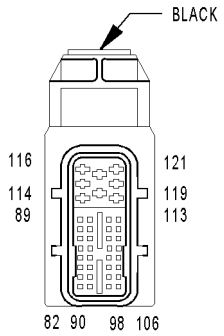
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	R133 20LB/DG	DRIVER SIDE IMPACT SENSOR GROUND
4	R131 20LG/YL	DRIVER SIDE IMPACT SENSOR SIGNAL



ENGINE CONTROL MODULE C1 (DIESEL)

ENGINE CONTROL MODULE C1 (DIESEL)

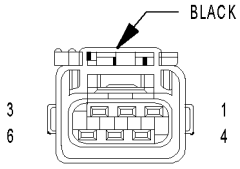
CAV	CIRCUIT	FUNCTION
1	Z108 14BK/DG	GROUND
2	Z108 14BK/DG	GROUND
3	K20 14DB	GENERATOR FIELD CONTROL
4	F142 14RD/DG	FUSED AUTO SHUTDOWN RELAY OUTPUT
5	F142 14RD/DG	FUSED AUTO SHUTDOWN RELAY OUTPUT
6	D52 18DG/WT	CAN C BUS(+)
7	D25 20VT/YL	PCI BUS
8	K944 20 BR/DG	CAMSHAFT POSITION SENSOR GROUND
9	K44 20YL/GY	CAMSHAFT POSITION SENSOR SIGNAL
10	-	-
11	Y53 20BK/YL	BOOST PRESSURE SENSOR SIGNAL
12	K155 20YL/WT	MASS AIR FLOW SENSOR SIGNAL
13	Y40 20DG/VT	FUEL PRESSURE SENSOR SIGNAL
14	K22 20RD/DB	ACCELERATOR PEDAL POSITION SENSOR 2 SIGNAL
15	K81 20DB/DG	ACCELERATOR PEDAL POSITION SENSOR 1 SIGNAL
16	Y100 20BR/GY	FUEL PRESSURE SENSOR GROUND
17	-	-
18	-	-
19	F300 20RD/BK	FUSED B(+)
20	Z11 20BK/WT	BATTERY SENSE (-)
21	K4 18BK/LB	SENSOR GROUND
22	F991 20RD/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
23	K6 18VT/WT	SENSOR REFERENCE VOLTAGE B
24	K3 20BK	CRANKSHAFT POSITION SENSOR SIGNAL 1
25	D51 18WT	CAN C BUS(-)
26	-	-
27	-	-
28	-	-
29	K77 20BR/WT	TRANSFER CASE POSITION SENSOR SIGNAL
30	G60 20BR/DB	ENGINE OIL PRESSURE SENSOR SIGNAL
31	-	-
32	K25 20VT/DG	BATTERY TEMPERATURE SENSOR SIGNAL
33	-	-
34	K255 20WT/DG	ACCELERATOR PEDAL POSITION SENSOR 1 GROUND
35	Y43 20WT/VT	ACCELERATOR PEDAL POSITION SENSOR 1 5-VOLT SUPPLY
36	C18 20DB	A/C PRESSURE SIGNAL
37	-	-
38	V37 20RD/DG	SPEED CONTROL SWITCH SIGNAL
39	K226 20DB/WT	FUEL LEVEL SENSOR SIGNAL
40	K2 20DG/RD	ENGINE COOLANT TEMPERATURE SENSOR SIGNAL
41	K21 20DG/WT	INTAKE AIR TEMPERATURE SENSOR SIGNAL
42	Y101 20BK	CRANKSHAFT POSITION SENSOR SHIELD
43	K924 20YL	CRANKSHAFT POSITION SENSOR SIGNAL 2
44	-	-
45	-	-
46	-	-
47	L50 20WT/DB	PRIMARY BRAKE SWITCH SIGNAL
48	K29 20WT/PK	SECONDARY BRAKE SWITCH SIGNAL
49	-	-
50	F855 18BR/YL	SENSOR REFERENCE VOLTAGE A
51	-	-
52	-	-
53	-	-
54	Z189 20BR	MASS AIR FLOW SENSOR GROUND
55	B22 20DG/YL	VEHICLE SPEED SENSOR SIGNAL
56	K225 18BK	ACCELERATOR PEDAL POSITION SENSOR 2 GROUND
57	-	-
58	K4 20BK/LB	WATER IN FUEL SENSOR GROUND
59	K900 18GY	INTAKE PORT SWIRL ACTUATOR SIGNAL
60	K7 20RD/WT	FUEL PRESSURE SENSOR 5 VOLT SUPPLY
61	K51 20DB/YL	AUTO SHUT DOWN RELAY CONTROL
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-
67	K173 20GY	HYDRAULIC RADIATOR FAN SOLENOID CONTROL
68	-	-
69	C13 20DB/RD	A/C COMPRESSOR CLUTCH RELAY CONTROL
70	-	-
71	-	-
72	K236 20GY/PK	GLOW PLUG RELAY NO. 2 CONTROL
73	-	-
74	T752 20DG/RD	ENGINE STARTER MOTOR RELAY CONTROL
75	K132 20BR/BK	VISCOUS/CABIN HEATER RELAY CONTROL
76	Y42 20RD/BL	WASTEGATE SOLENOID CONTROL
77	K152 20WT	GLOW PLUG RELAY NO. 1 CONTROL
78	-	-
79	-	-
80	K46 20DB/BK	FUEL PRESSURE SOLENOID CONTROL
81	K46 20DB/BK	FUEL PRESSURE SOLENOID CONTROL



ENGINE CONTROL MODULE C2 (DIESEL)

ENGINE CONTROL MODULE C2 (DIESEL)

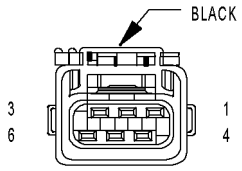
CAV	CIRCUIT	FUNCTION
100	-	-
101	-	-
102	-	-
103	-	-
104	-	-
105	-	-
106	-	-
107	-	-
108	-	-
109	-	-
110	-	-
111	-	-
112	T41 20BK/WT	PARK/NEUTRAL POSITION SWITCH SENSE (T41)
113	-	-
114	-	-
115	K14 14BK/YL	FUEL INJECTOR NO. 4 CONTROL
116	K63 14BK	COMMON INJECTOR DRIVER
117	-	-
118	K11 14BK/DB	FUEL INJECTOR NO. 1 CONTROL
119	K38 14BK/DG	FUEL INJECTOR NO. 5 CONTROL
120	K12 14BK/VT	FUEL INJECTOR NO. 2 CONTROL
121	K13 14BK/RD	FUEL INJECTOR NO. 3 CONTROL
82	D21 20PK	SCI TRANSMIT
83	-	-
84	-	-
85	-	-
86	-	-
87	-	-
88	-	-
89	K35 20GY/YL	EGR SOLENOID CONTROL
90	-	-
91	-	-
92	-	-
93	-	-
94	G123 20DG/WT	WATER IN FUEL SENSOR SIGNAL
95	-	-
96	-	-
97	-	-
98	-	-
99	-	-



FRONT WIPER MOTOR

FRONT WIPER MOTOR

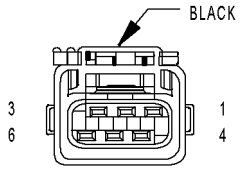
CAV	CIRCUIT	FUNCTION
1	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
2	V55 16TN/RD	WIPER PARK SWITCH SENSE
3	-	-
4	Z141 16BK	GROUND
5	V3 16BR/WT	WIPER HIGH/LOW RELAY LOW SPEED OUTPUT
6	V4 16RD/YL	WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT



FUEL PUMP MODULE (GAS)

FUEL PUMP MODULE (GAS)

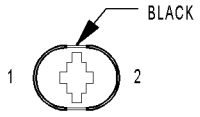
CAV	CIRCUIT	FUNCTION
1	A141 16DG/BK	FUEL PUMP RELAY OUTPUT
2	-	-
3	K226 20LB/YL	FUEL LEVEL SENSOR SIGNAL
4	K4 20BK/LB	SENSOR GROUND
5	-	-
6	Z150 16BK	GROUND



FUEL TANK MODULE (DIESEL)

FUEL TANK MODULE (DIESEL)

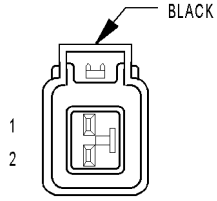
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	K226 20LB/YL	FUEL LEVEL SENSOR SIGNAL
4	K4 20BK/LB	SENSOR GROUND
5	-	-
6	-	-



HOOD AJAR SWITCH (EXPORT)

HOOD AJAR SWITCH (EXPORT)

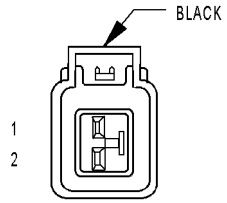
CAV	CIRCUIT	FUNCTION
1	G70 20BR/TN	HOOD AJAR SWITCH SENSE
2	Z161 20BK (GAS)	GROUND
2	Z141 20BK (DIESEL)	GROUND



HORN NO. 1

HORN NO. 1

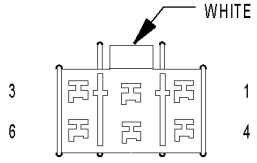
CAV	CIRCUIT	FUNCTION
1	Z307 18BK	GROUND
2	X2 18DG/RD	HORN RELAY OUTPUT



HORN NO. 2

HORN NO. 2

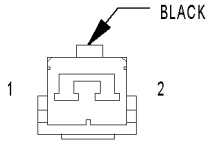
CAV	CIRCUIT	FUNCTION
1	Z307 18BK	GROUND
2	X2 18DG/RD	HORN RELAY OUTPUT



IGNITION SWITCH C1

IGNITION SWITCH C1

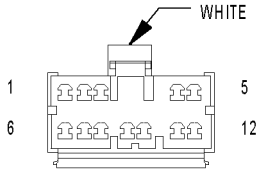
CAV	CIRCUIT	FUNCTION
1	A41 12YL	IGNITION SWITCH OUTPUT (START)
2	A2 12PK/BK	FUSED B(+)
3	A22 12BK/OR	IGNITION SWITCH OUTPUT (RUN)
4	A1 12RD	FUSED B(+)
5	A31 12RD/BK	IGNITION SWITCH OUTPUT (RUN-ACC)
6	A21 12DB	IGNITION SWITCH OUTPUT (RUN-START)



IGNITION SWITCH C2

IGNITION SWITCH C2

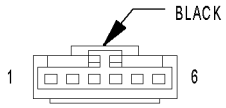
CAV	CIRCUIT	FUNCTION
1	G26 20LB	KEY-IN IGNITION SWITCH SENSE
2	Z234 20BK	GROUND



INSTRUMENT CLUSTER

INSTRUMENT CLUSTER

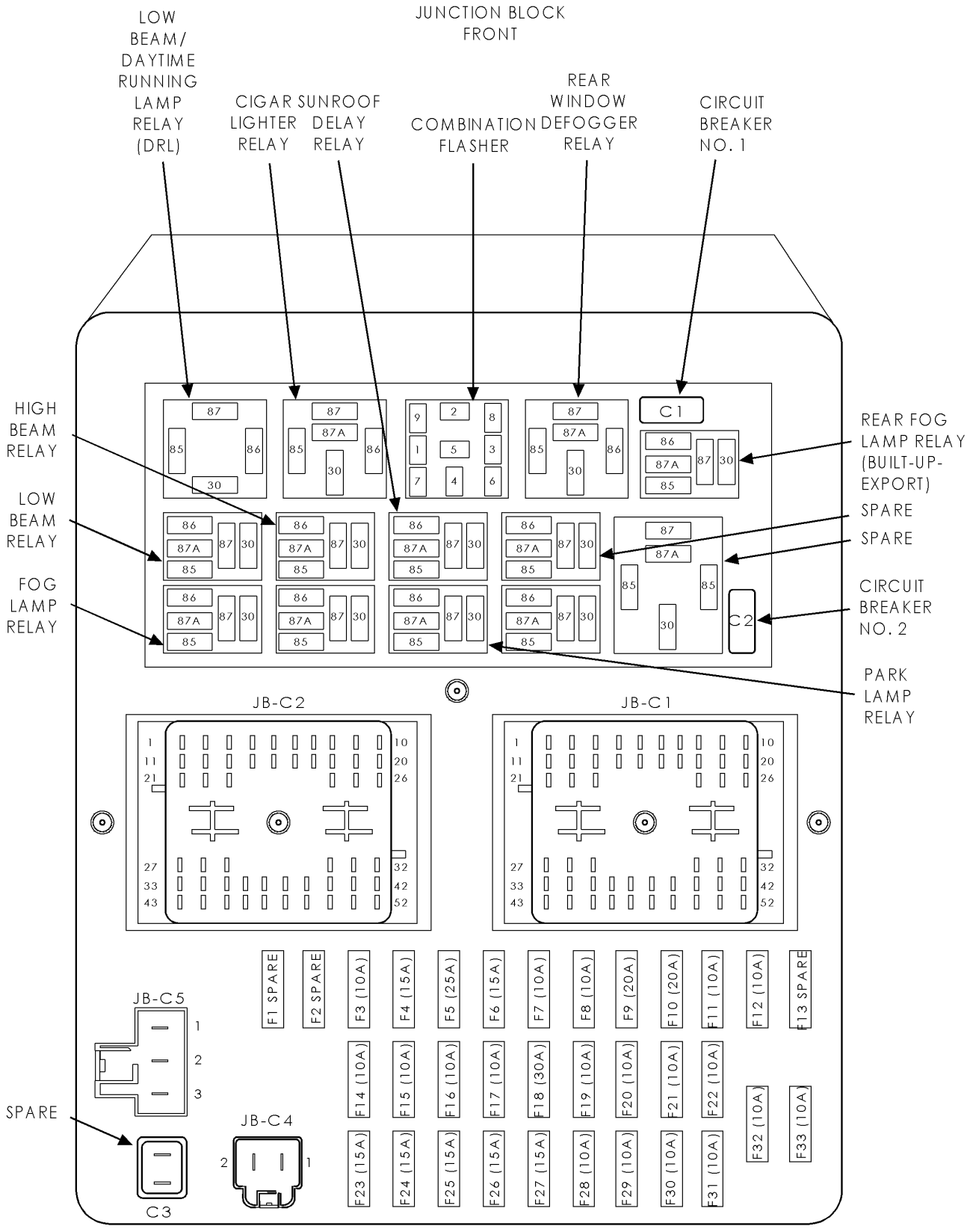
CAV	CIRCUIT	FUNCTION
1	L61 20TN/LG	LEFT TURN SIGNAL
2	L60 20TN	RIGHT TURN SIGNAL
3	-	-
4	-	-
5	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
6	F33 20PK/RD	FUSED B(+)
7	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
8	D19 20VT/OR	BODY CONTROL MODULE FLASH ENABLE
9	Z300 20BK	GROUND
10	D25 20YL/VT/RD	PCI BUS
11	Z132 20BK/OR	GROUND
12	-	-



INTRUSION TRANSCEIVER MODULE (EXPORT)

INTRUSION TRANSCEIVER MODULE (EXPORT)

CAV	CIRCUIT	FUNCTION
1	Z155 20BK	GROUND
2	-	-
3	X75 20GY/LG	SIREN SIGNAL CONTROL
4	-	-
5	D25 20YL/VT	PCI BUS
6	F70 20PK	FUSED B(+)


JUNCTION BLOCK FRONT
LOW BEAM/ DAYTIME RUNNING LAMP RELAY (DRL)
CIGAR LIGHTER RELAY
SUNROOF DELAY RELAY
COMBINATION FLASHER
REAR WINDOW DEFOGGER RELAY
CIRCUIT BREAKER NO. 1
HIGH BEAM RELAY
LOW BEAM RELAY
FOG LAMP RELAY
REAR FOG LAMP RELAY (BUILT-UP-EXPORT)
SPARE
SPARE
CIRCUIT BREAKER NO. 2
PARK LAMP RELAY
C1
C2
JB-C2
JB-C1
JB-C5
JB-C4
C3
SPARE
F1 SPARE
F2 SPARE
F3 (10A)
F4 (15A)
F5 (25A)
F6 (15A)
F7 (10A)
F8 (10A)
F9 (20A)
F10 (20A)
F11 (10A)
F12 (10A)
F13 SPARE
F14 (10A)
F15 (10A)
F16 (10A)
F17 (10A)
F18 (30A)
F19 (10A)
F20 (10A)
F21 (10A)
F22 (10A)
F32 (10A)
F33 (10A)
F23 (15A)
F24 (15A)
F25 (15A)
F26 (15A)
F27 (15A)
F28 (10A)
F29 (10A)
F30 (10A)
F31 (10A)

FUSES (JB)

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	-	-	-
2	-	-	-
3	10A	L33 18RD	FUSED HIGH BEAM RELAY OUTPUT
4	15A	INTERNAL	FUSED B(+)
5	25A	INTERNAL	FUSED B(+)
6	15A	INTERNAL	FUSED B(+)
7	10A	INTERNAL	FUSED B(+)
8	15A	INTERNAL	FUSED B(+)
9	20A	INTERNAL	FUSED B(+)
10	20A	F72 16RD/YL (EXCEPT EXPORT)	FUSED B(+)
11	10A	C15 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
12	10A	F991 20OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
13	-	-	-
14	10A	L43 18VT	FUSED LEFT LOW BEAM OUTPUT
15	10A	L44 18VT/RD	FUSED RIGHT LOW BEAM OUTPUT
16	10A	L34 18RD/OR	FUSED HIGH BEAM RELAY OUTPUT
17	10A	INTERNAL	FUSED B(+)
18	30A	F9 20RD/BK	FUSED B(+)
19	10A	F20 18DB/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
20	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN)
21	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
22	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
23	15A	F32 20PK/DB	FUSED B(+)
24	15A	INTERNAL	FUSED B(+)
25	15A	INTERNAL	FUSED B(+)
26	15A	F30 18RD	FUSED CIGAR LIGHTER RELAY OUTPUT
27	15A	INTERNAL (EXPORT)	FUSED B(+)
28	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
29	10A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
30	10A	X12 20WT/RD	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
31	10A	F45 20YL/RD	FUSED IGNITION SWITCH OUTPUT (START)
32	10A	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
33	10A	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN)

ACCESSORY DELAY RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	ACCESSORY DELAY RELAY CONTROL
87	Q30 16TN	ACCESSORY DELAY RELAY OUTPUT
87A	-	-

FOG LAMP RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FOG LAMP RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	FOG LAMP RELAY OUTPUT
87A	-	-

HIGH BEAM RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	HIGH BEAM RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	HIGH BEAM RELAY OUTPUT
87A	-	-

LOW BEAM RELAY

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	LOW BEAM RELAY CONTROL
87	INTERNAL	LOW BEAM RELAY OUTPUT
87A	-	-

PARK LAMP RELAY

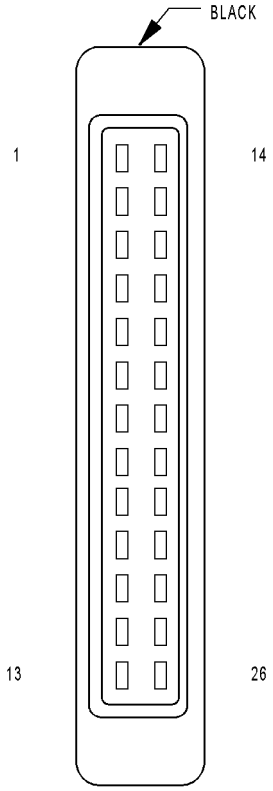
CAV	CIRCUIT	FUNCTION
30	INTERNAL	PARK LAMP RELAY OUTPUT
85	INTERNAL	FUSED B(+)
86	INTERNAL	PARK LAMP RELAY CONTROL
87	INTERNAL	FUSED B(+)
87A	INTERNAL	GROUND

REAR FOG LAMP RELAY (EXPORT)

CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	REAR FOG LAMP RELAY CONTROL
87	L95 18DG/YL	REAR FOG LAMP RELAY OUTPUT
87A	-	-

REAR WINDOW DEFOGGER RELAY

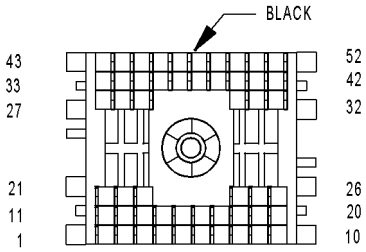
CAV	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	FUSED B(+)
86	INTERNAL	REAR WINDOW DEFOGGER RELAY CONTROL
87	INTERNAL	REAR WINDOW DEFOGGER RELAY OUTPUT
87A	-	-



JUNCTION BLOCK BODY CONTROL MODULE

JUNCTION BLOCK BODY CONTROL MODULE

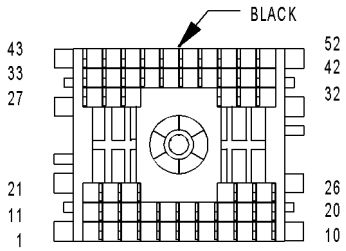
CAV	CIRCUIT	FUNCTION
1	L308	PARK LAMP RELAY CONTROL
2	L26	FOG LAMP RELAY CONTROL
3	Q29	ACCESSORY DELAY RELAY CONTROL
4	L307	LOW BEAM RELAY CONTROL
5	G5	FUSED IGNITION SWITCH OUTPUT (RUN-START)
6	X3	HORN RELAY CONTROL
7	V16	WIPER HIGH/LOW RELAY CONTROL
8	G80	LIFTGATE FLIP-UP AJAR SWITCH SENSE
9	L11	HIGH BEAM RELAY CONTROL
10	L91	HAZARD SWITCH SENSE
11	C80	REAR WINDOW DEFOGGER RELAY CONTROL
12	Z2	GROUND
13	L96 (EXPORT)	REAR FOG LAMP RELAY CONTROL
14	L7	PARK LAMP RELAY OUTPUT
15	Z1	GROUND
16	M2	COURTESY LAMP DRIVER
17	-	-
18	-	-
19	M20	COURTESY LAMP LOAD SHED
20	V55	WIPER PARK SWITCH SENSE
21	G78	LIFTGATE AJAR SWITCH SENSE
22	-	-
23	G77	LEFT REAR DOOR AJAR SWITCH SENSE
24	G73	LIFTGATE COURTESY DISABLE
25	V23	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
26	M1	FUSED B(+)



JUNCTION
BLOCK C1

JUNCTION BLOCK C1

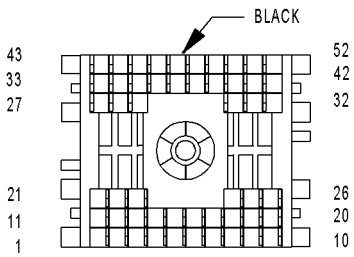
CAV	CIRCUIT	FUNCTION
1	Q30 16TN	ACCESSORY DELAY RELAY OUTPUT
2	L63 18DG/RD	LEFT TURN SIGNAL
3	-	-
4	-	-
5	L95 18DG/YL (EXPORT)	REAR FOG LAMP RELAY CONTROL
6	-	-
7	-	-
8	-	-
9	G73 20LG/OR	LIFTGATE COURTESY DISABLE
10	G77 20TN/OR	LEFT REAR DOOR AJAR SWITCH SENSE
11	L7 18BK/YL	PARK LAMP RELAY OUTPUT
12	-	-
13	-	-
14	-	-
15	F35 16RD (LHD)	FUSED B(+)
15	F35 16RD/LB (RHD)	FUSED B(+)
16	M2 20YL/DG (LHD)	COURTESY LAMP DRIVER
16	M2 18YL (RHD)	COURTESY LAMP DRIVER
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	F22 20WT/PK (RHD)	FUSED IGNITION SWITCH OUTPUT (RUN)
23	-	-
24	G80 20VT/YL	LIFTGATE FLIP-UP AJAR SWITCH SENSE
25	G78 20TN/BK	LIFTGATE AJAR SWITCH SENSE
26	M20 20YL/BK (LHD)	COURTESY LAMP LOAD SHED
26	M20 18YL/BK (RHD)	COURTESY LAMP LOAD SHED
27	-	-
28	-	-
29	-	-
30	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
31	-	-
32	M1 18PK/RD (RHD)	FUSED B(+)
33	-	-
34	-	-
35	F9 14RD/BK	FUSED B(+)
36	F70 18PK	FUSED B(+)
37	-	-
38	-	-
39	-	-
40	-	-
41	Y202 14RD/TN	CIGAR LIGHTER RELAY OUTPUT
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	C15 12BK/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
51	-	-
52	-	-



JUNCTION BLOCK C2 (LHD)

JUNCTION BLOCK C2 (LHD)

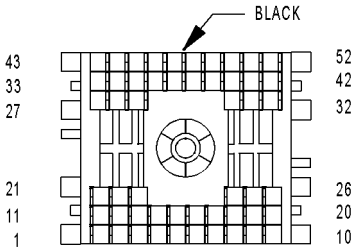
CAV	CIRCUIT	FUNCTION
1	X3 22GY/OR	HORN RELAY CONTROL
2	-	-
3	L39 20LB	FOG LAMP RELAY OUTPUT
4	-	-
5	L61 20TN/LG	LEFT TURN SIGNAL
6	-	-
7	-	-
8	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
9	V6 16DB (GAS)	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	L62 18BR/RD	RIGHT TURN SIGNAL
11	F991 20OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	L39 20LB	FOG LAMP RELAY OUTPUT
13	-	-
14	-	-
15	V16 22VT	WIPER HIGH/LOW RELAY CONTROL
16	-	-
17	-	-
18	-	-
19	-	-
20	L7 20BK/YL	PARK LAMP RELAY OUTPUT
21	L7 20BK/YL	PARK LAMP RELAY OUTPUT
22	-	-
23	-	-
24	F37 16RD/LB (EXCEPT BASE)	FUSED B(+)
25	F22 20WT/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
26	L60 20TN	RIGHT TURN SIGNAL
27	F45 20YL/RD	FUSED IGNITION SWITCH OUTPUT (START)
28	V55 16TN/RD	WIPER PARK SWITCH SENSE
29	-	-
30	-	-
31	F72 16RD/YL	FUSED B(+)
32	M1 20PK/RD	FUSED B(+)
33	V55 16TN/RD (GAS)	WIPER PARK SWITCH SENSE
34	-	-
35	-	-
36	A146 12OR/WT	FUSED B(+)
37	-	-
38	L34 18RD/OR	FUSED RIGHT HIGH BEAM OUTPUT
39	L43 18VT	FUSED LEFT LOW BEAM OUTPUT
40	-	-
41	-	-
42	F20 18DB/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
43	F12 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
44	-	-
45	A146 12OR/WT	FUSED B(+)
46	-	-
47	F32 20PK/DB	FUSED B(+)
48	-	-
49	L44 18VT/RD	FUSED RIGHT LOW BEAM OUTPUT
50	L33 18RD	FUSED LEFT HIGH BEAM OUTPUT
51	-	-
52	F60 14RD/WT (EXCEPT BASE)	FUSED B(+)



JUNCTION
BLOCK C2
(RHD)

JUNCTION BLOCK C2 (RHD)

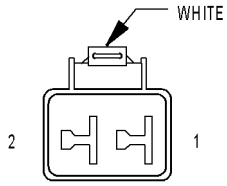
CAV	CIRCUIT	FUNCTION
1	X3 22BK/RD	HORN RELAY CONTROL
2	-	-
3	L39 20LB	FOG LAMP RELAY OUTPUT
4	-	-
5	L61 20TN/LG	LEFT TURN SIGNAL
6	-	-
7	-	-
8	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
9	V6 16DB (GAS)	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	L62 20BR/RD	RIGHT TURN SIGNAL
11	F991 20OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	L39 20LB	FOG LAMP RELAY OUTPUT
13	-	-
14	-	-
15	V16 22VT	WIPER HIGH/LOW RELAY CONTROL
16	-	-
17	-	-
18	-	-
19	-	-
20	L7 20BK/YL	PARK LAMP RELAY OUTPUT
21	L7 18BK/YL	PARK LAMP RELAY OUTPUT
22	-	-
23	-	-
24	F37 16RD/LB	FUSED B(+)
25	F22 18WT/TN	FUSED IGNITION SWITCH OUTPUT (RUN)
26	L60 20TN	RIGHT TURN SIGNAL
27	F45 20YL/RD	FUSED IGNITION SWITCH OUTPUT (START)
28	V55 16TN/RD	WIPER PARK SWITCH SENSE
29	-	-
30	-	-
31	-	-
32	M1 20PK/RD	FUSED B(+)
33	V55 16TN/RD (GAS)	WIPER PARK SWITCH SENSE
34	-	-
35	-	-
36	A146 12OR/WT	FUSED B(+)
37	-	-
38	L34 18RD/OR	FUSED RIGHT HIGH BEAM DRIVER OUTPUT
39	L43 18VT	FUSED LEFT LOW BEAM DRIVER OUTPUT
40	-	-
41	-	-
42	F20 18DB/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
43	F12 20DB/WT (GAS)	FUSED IGNITION SWITCH OUTPUT (RUN-START)
44	-	-
45	A146 12OR/WT	FUSED B(+)
46	-	-
47	F32 20PK/DB	FUSED B(+)
48	-	-
49	L44 18VT/RD	FUSED RIGHT LOW BEAM OUTPUT
50	L33 18RD	FUSED LEFT HIGH BEAM OUTPUT
51	-	-
52	F60 16RD/WT	FUSED B(+)



JUNCTION
BLOCK C3

JUNCTION BLOCK C3

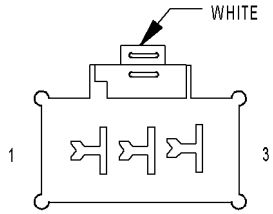
CAV	CIRCUIT	FUNCTION
1	F22 20WT/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
2	-	-
3	L60 20TN	RIGHT TURN SIGNAL
4	L302 20LB/YL	RIGHT TURN SWITCH SENSE
5	L61 20TN/LG	LEFT TURN SIGNAL
6	L91 20DB/PK	HAZARD SWITCH SENSE
7	-	-
8	L305 20LB/WT	LEFT TURN SWITCH SENSE
9	-	-
10	L309 20PK/LG	HIGH BEAM RELAY CONTROL
11	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
12	F22 20WT/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
13	-	-
14	F85 16VT/WT	FUSED B(+)
15	C79 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	A31 12RD/BK	IGNITION SWITCH OUTPUT (RUN-ACC)
25	F60 16RD/WT	FUSED B(+)
26	-	-
27	A41 12YL	IGNITION SWITCH OUTPUT (START)
28	F14 20LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
29	A22 12BK/OR	IGNITION SWITCH OUTPUT (RUN)
30	F991 18OR/DB (DIESEL)	FUSED IGNITION SWITCH OUTPUT (RUN-START)
31	Z234 20BK	GROUND
32	F33 20PK/RD	FUSED B(+)
33	X12 20WT/RD	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
34	M1 20PK	FUSED B(+)
35	M1 20PK (AZC)	FUSED B(+)
36	A21 12DB	IGNITION SWITCH OUTPUT (RUN-START)
37	-	-
38	F70 20PK/BK	FUSED B(+)
39	X3 20GY/OR	HORN RELAY CONTROL
40	F30 16RD	FUSED CIGAR LIGHTER RELAY OUTPUT
41	F33 20PK/RD	FUSED B(+)
42	-	-
43	V23 20BR/PK	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
44	M1 20PK	FUSED B(+)
45	Z132 20BK/OR	GROUND
46	-	-
47	-	-
48	F70 20PK/BK	FUSED B(+)
49	-	-
50	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
51	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
52	F12 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)



JUNCTION
BLOCK C4

JUNCTION BLOCK C4

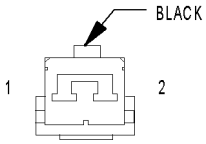
CAV	CIRCUIT	FUNCTION
1	A148 10PK/WT	FUSED B(+)
2	A148 10OR/WT	FUSED B(+)



JUNCTION
BLOCK C5

JUNCTION BLOCK C5

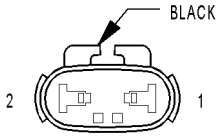
CAV	CIRCUIT	FUNCTION
1	A145 10WT/RD	FUSED B(+)
2	A149 12RD/TN	FUSED B(+)
3	A147 10RD/GY	FUSED B(+)



LEFT
COURTESY
LAMP

LEFT COURTESY LAMP

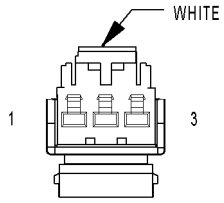
CAV	CIRCUIT	FUNCTION
1	F70 20PK/BK	FUSED B(+)
2	M2 20YL	COURTESY LAMP DRIVER



LEFT
FOG LAMP

LEFT FOG LAMP

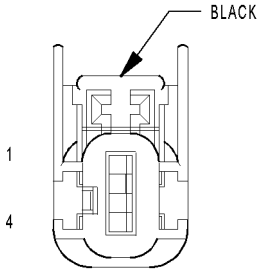
CAV	CIRCUIT	FUNCTION
1	L39 20LB	FOG LAMP RELAY OUTPUT
2	Z141 18BK (EXCEPT DIESEL/4.7L RHD)	GROUND
2	Z141 20BK (DIESEL/4.7L RHD)	GROUND



LEFT FRONT DOOR SPEAKER

LEFT FRONT DOOR SPEAKER

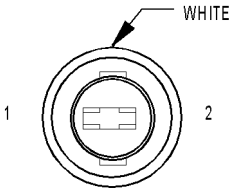
CAV	CIRCUIT	FUNCTION
1	X85 18LG/DG (LHD PREMIUM)	LEFT FRONT DOOR SPEAKER (-)
1	X85 18LB/BK (RHD PREMIUM)	LEFT FRONT DOOR SPEAKER (-)
1	X55 18LG/DG (BASE)	LEFT FRONT DOOR SPEAKER (-)
2	-	-
3	X87 18LG/RD (LHD PREMIUM)	LEFT FRONT DOOR SPEAKER (+)
3	X87 18LB/RD (RHD PREMIUM)	LEFT FRONT DOOR SPEAKER (+)
3	X53 18LG/RD (BASE)	LEFT FRONT DOOR SPEAKER (+)



LEFT FRONT IMPACT SENSOR

LEFT FRONT IMPACT SENSOR

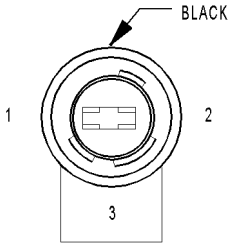
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	R47 18DB/LB	LEFT FRONT IMPACT SENSOR GROUND
4	R49 18LB	LEFT FRONT IMPACT SENSOR SIGNAL



LEFT FRONT PARK LAMP

LEFT FRONT PARK LAMP

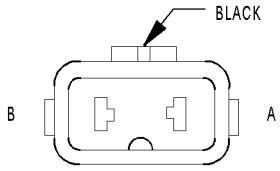
CAV	CIRCUIT	FUNCTION
1	Z141 18BK	GROUND
2	L7 20BK/PK	PARK LAMP RELAY OUTPUT



LEFT FRONT PARK/TURN SIGNAL LAMP (EXCEPT EXPORT)

LEFT FRONT PARK/TURN SIGNAL LAMP (EXCEPT EXPORT)

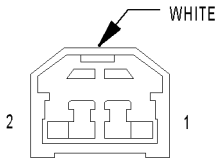
CAV	CIRCUIT	FUNCTION
1	L7 20BK/PK	PARK LAMP RELAY CONTROL
2	Z141 18BK	GROUND
3	L61 20TN/LG	LEFT TURN SIGNAL



LEFT HIGH BEAM HEADLAMP

LEFT HIGH BEAM HEADLAMP

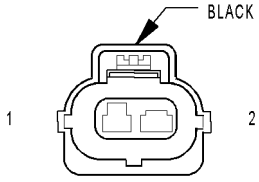
CAV	CIRCUIT	FUNCTION
A	Z141 18BK	GROUND
B	L33 18RD	FUSED LEFT HIGH BEAM OUTPUT



LEFT INSTRUMENT PANEL SPEAKER

LEFT INSTRUMENT PANEL SPEAKER

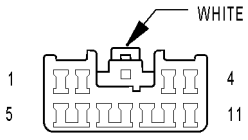
CAV	CIRCUIT	FUNCTION
1	X83 18YL/RD	LEFT INSTRUMENT PANEL SPEAKER (+)
2	X81 18YL/BK	LEFT INSTRUMENT PANEL SPEAKER (-)



LEFT LIFTGATE AJAR SWITCH

LEFT LIFTGATE AJAR SWITCH

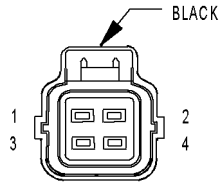
CAV	CIRCUIT	FUNCTION
1	Z309 20BK	GROUND
2	G78 20TN/BK	LIFTGATE AJAR SWITCH SENSE



LEFT MULTI-FUNCTION SWITCH

LEFT MULTI-FUNCTION SWITCH

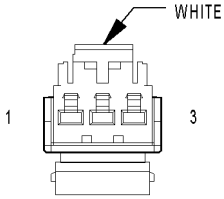
CAV	CIRCUIT	FUNCTION
1	L27 20WT/TN	FOG LAMP SWITCH SENSE
2	Z234 20BK	GROUND
3	-	-
4	L80 20WT/DG	HEADLAMP SWITCH RETURN
5	L309 20PK/LG	HIGH BEAM RELAY CONTROL
6	L40 20BR	HIGH BEAM SWITCH SENSE
7	L302 20LB/YL	RIGHT TURN SWITCH SENSE
8	L305 20LB/WT	LEFT TURN SWITCH SENSE
9	L91 20DB/PK	HAZARD SWITCH SENSE
10	E19 20RD	PANEL LAMPS DIMMER SIGNAL
11	G52 20YL	HEADLAMP SWITCH MUX



LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH

LEFT REAR DOOR LOCK MOTOR/AJAR SWITCH

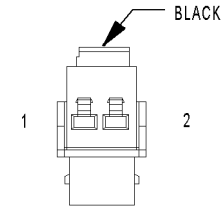
CAV	CIRCUIT	FUNCTION
1	G77 18TN/YL	LEFT REAR DOOR AJAR SWITCH SENSE
2	Z243 18BK (LHD)	GROUND
2	Z151 18BK (RHD)	
3	P36 18PK/VT	DOOR UNLOCK DRIVER
4	P35 18OR/VT	DOOR LOCK DRIVER



LEFT REAR DOOR SPEAKER

LEFT REAR DOOR SPEAKER

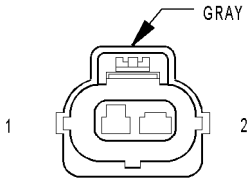
CAV	CIRCUIT	FUNCTION
1	X91 18WT/VT (PREMIUM)	LEFT REAR DOOR SPEAKER (+)
1	X51 18WT/VT (BASE)	LEFT REAR DOOR SPEAKER (+)
2	-	-
3	X93 18TN/DG (PREMIUM)	LEFT REAR DOOR SPEAKER (-)
3	X57 18TN/DG (BASE)	LEFT REAR DOOR SPEAKER (-)



LEFT REMOTE RADIO SWITCH

LEFT REMOTE RADIO SWITCH

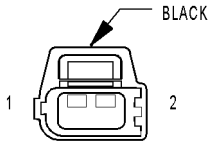
CAV	CIRCUIT	FUNCTION
1	X10 20RD/BK	RADIO CONTROL MUX RETURN
2	X20 20RD/YL	RADIO CONTROL MUX



LIFTGATE FLIP-UP AJAR SWITCH

LIFTGATE FLIP-UP AJAR SWITCH

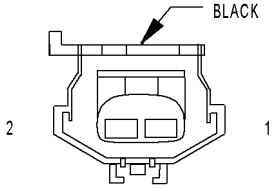
CAV	CIRCUIT	FUNCTION
1	Z309 18BK	GROUND
2	G80 20VT/YL	LIFTGATE FLIP-UP AJAR SWITCH SENSE



LIFTGATE
FLIP-UP
PUSH BUTTON
SWITCH

LIFTGATE FLIP-UP PUSH BUTTON SWITCH

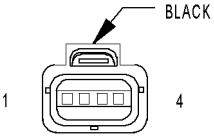
CAV	CIRCUIT	FUNCTION
1	P101 18OR/PK	LIFTGATE FLIP-UP SWITCH OUTPUT
2	F70 18PK	FUSED B(+)



LIFTGATE
FLIP-UP
RELEASE
SOLENOID

LIFTGATE FLIP-UP RELEASE SOLENOID

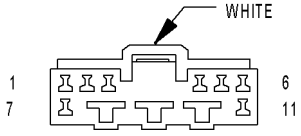
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	P100 18OR/BR	LIFTGATE GLASS LIMIT SWITCH OUTPUT



LIFTGATE
POWER LOCK
MOTOR

LIFTGATE POWER LOCK MOTOR

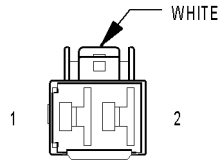
CAV	CIRCUIT	FUNCTION
1	P35 18OR/VT	DOOR LOCK DRIVER
2	P36 18PK/VT	DOOR UNLOCK DRIVER
3	P101 18OR/PK	LIFTGATE FLIP-UP SWITCH OUTPUT
4	P100 18OR/BR	LIFTGATE GLASS LIMIT SWITCH OUTPUT



MANUAL
TEMPERATURE
CONTROL C1
(MTC)

MANUAL TEMPERATURE CONTROL C1 (MTC)

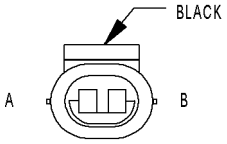
CAV	CIRCUIT	FUNCTION
1	C103 20DG	A/C SWITCH SIGNAL
2	Z123 20BK/OR	GROUND
3	C67 20RD/LB	BLEND AIR DOOR POSITION CONTROL
4	C79 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
5	C81 20LB/WT	REAR WINDOW DEFOGGER SWITCH SENSE
6	F22 20WT/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
7	E2 20OR	PANEL LAMPS DRIVER
8	C4 16TN	BLOWER MOTOR LOW DRIVER
9	C5 16LG	BLOWER MOTOR M1 DRIVER
10	C6 14LB	BLOWER MOTOR M2 DRIVER
11	-	-



MANUAL TEMPERATURE CONTROL C2 (MTC)

MANUAL TEMPERATURE CONTROL C2 (MTC)

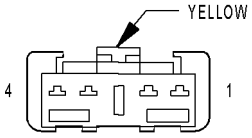
CAV	CIRCUIT	FUNCTION
1	Z118 12BK	GROUND
2	C7 12BK/TN	BLOWER MOTOR HIGH DRIVER



MODE DOOR MOTOR/ ACTUATOR (AZC)

MODE DOOR MOTOR/ACTUATOR (AZC)

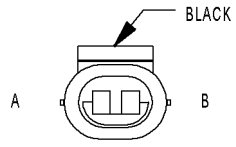
CAV	CIRCUIT	FUNCTION
A	C102 20TN/BK (LHD)	MODE DOOR DRIVER (B)
B	C35 20DG/YL (LHD)	MODE DOOR DRIVER (A)
A	C35 20DG/YL (RHD)	MODE DOOR DRIVER (A)
B	C102 20TN/BK (RHD)	MODE DOOR DRIVER (B)



PASSENGER AIRBAG

PASSENGER AIRBAG

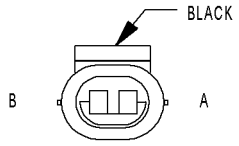
CAV	CIRCUIT	FUNCTION
1	R42 20BK/YL	PASSENGER SQUIB 1 LINE 1
2	R44 20DG/YL	PASSENGER SQUIB 1 LINE 2
3	R64 20TN/YL	PASSENGER SQUIB 2 LINE 1
4	R62 20OR/YL	PASSENGER SQUIB 2 LINE 2



PASSENGER BLEND DOOR MOTOR/ ACTUATOR (LHD AZC)

PASSENGER BLEND DOOR MOTOR/ACTUATOR (LHD AZC)

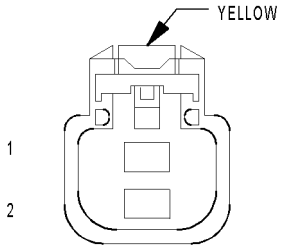
CAV	CIRCUIT	FUNCTION
B	C94 20WT/DG	PASSENGER BLEND DOOR DRIVER (A)
A	C96 20WT/DB	PASSENGER BLEND DOOR DRIVER (B)



PASSENGER BLEND DOOR MOTOR/ACTUATOR (RHD AZC)

PASSENGER BLEND DOOR MOTOR/ACTUATOR (RHD AZC)

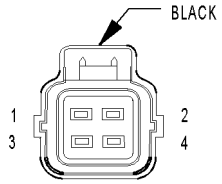
CAV	CIRCUIT	FUNCTION
B	C96 20WT/DB	PASSENGER BLEND DOOR DRIVER (B)
A	C94 20WT/DG	PASSENGER BLEND DOOR DRIVER (A)



PASSENGER CURTAIN AIRBAG SQUIB

PASSENGER CURTAIN AIRBAG SQUIB

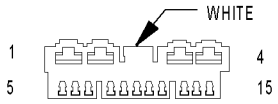
CAV	CIRCUIT	FUNCTION
1	R72 20LB/WT	PASSENGER CURTAIN SQUIB 1 LINE 2
2	R74 20LB/YL	PASSENGER CURTAIN SQUIB 1 LINE 1



PASSENGER DOOR LOCK MOTOR/ AJAR SWITCH

PASSENGER DOOR LOCK MOTOR/AJAR SWITCH

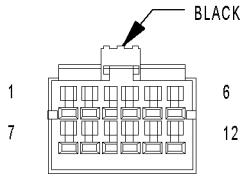
CAV	CIRCUIT	FUNCTION
1	G74 18TN/RD	PASSENGER DOOR AJAR SWITCH SENSE
2	Z28 12BK (LHD)	GROUND
2	Z243 12BK (RHD)	GROUND
3	P36 18PK/VT	DOOR UNLOCK DRIVER
4	P35 18OR/VT	DOOR LOCK DRIVER



PASSENGER DOOR MODULE C1

PASSENGER DOOR MODULE C1

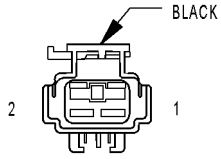
CAV	CIRCUIT	FUNCTION
1	A146 12OR/WT	FUSED B(+)
2	Q24 16DG	PASSENGER REAR WINDOW DRIVER (DOWN)
3	Q14 16GY	PASSENGER REAR WINDOW DRIVER (UP)
4	Z243 12BK (RHD)	GROUND
4	Z28 12BK (LHD)	GROUND
5	P35 18OR/VT	DOOR LOCK DRIVER
6	-	-
7	P36 18PK/VT	DOOR UNLOCK DRIVER
8	-	-
9	D25 20YL/VT	PCI BUS
10	-	-
11	G74 18TN/RD	PASSENGER DOOR AJAR SWITCH SENSE
12	E20 20OR/DB	PASSENGER REAR DOOR SWITCH ILLUMINATION
13	Q12 16BR	PASSENGER WINDOW DRIVER (UP)
14	-	-
15	Q22 16VT	PASSENGER WINDOW DRIVER (DOWN)



PASSENGER DOOR MODULE C2

PASSENGER DOOR MODULE C2

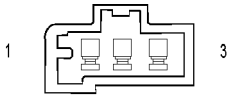
CAV	CIRCUIT	FUNCTION
1	P95 20OR	MIRROR HORIZONTAL DRIVER
2	C118 20BK/WT	MIRROR HEATER GROUND
3	P64 20VT	MIRROR VERTICAL POSITION SIGNAL
4	P69 20GY	MIRROR SENSOR GROUND
5	P65 20DG	MIRROR HORIZONTAL POSITION SIGNAL
6	C117 20BK	MIRROR HEATER 12 VOLT SUPPLY
7	P91 20WT	MIRROR COMMON DRIVER
8	P93 20RD	MIRROR VERTICAL DRIVER
9	M21 20PK/DG	COURTESY LAMP DRIVER
10	P110 20YL (EXPORT)	FOLDING MIRROR RETURN
11	P99 20DB (EXPORT)	FOLDING MIRROR FEED
12	L121 20BK/RD	COURTESY LAMP GROUND



PASSENGER FRONT POWER WINDOW MOTOR

PASSENGER FRONT POWER WINDOW MOTOR

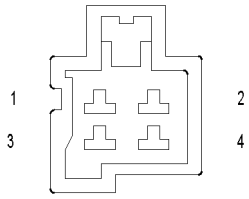
CAV	CIRCUIT	FUNCTION
1	Q22 16VT	PASSENGER WINDOW DRIVER (DOWN)
2	Q12 16BR	PASSENGER WINDOW DRIVER (UP)



PASSENGER HEATED SEAT BACK (PREMIUM I/III)

PASSENGER HEATED SEAT BACK (PREMIUM I/III)

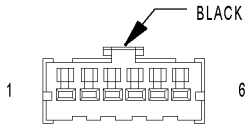
CAV	CIRCUIT	FUNCTION
1	P88 16BK/BR	HEATED SEAT DRIVER
2	Z5 16BK/VT	GROUND
3	-	-



PASSENGER HEATED SEAT CUSHION (PREMIUM I/III)

PASSENGER HEATED SEAT CUSHION (PREMIUM I/III)

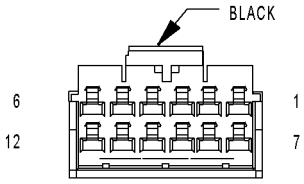
CAV	CIRCUIT	FUNCTION
1	P130 16DG/WT	PASSENGER SEAT HEATER B(+) DRIVER
2	P88 16BK/BR	HEATED SEAT DRIVER
3	P86 20DG/YL	PASSENGER SEAT TEMPERATURE SENSOR INPUT
4	P29 20BR/WT	SEAT SENSOR 5 VOLT SUPPLY



PASSENGER HEATED SEAT SWITCH

PASSENGER HEATED SEAT SWITCH

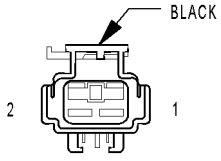
CAV	CIRCUIT	FUNCTION
1	P134 20TN/LG	PASSENGER SEAT HEATER SWITCH MUX
2	E2 20OR	PANEL LAMPS DRIVER
3	F22 20WT/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
4	-	-
5	Z300 20BK	GROUND
6	P132 20OR/BK	SEAT HEATER SWITCH SENSOR GROUND



PASSENGER POWER MIRROR

PASSENGER POWER MIRROR

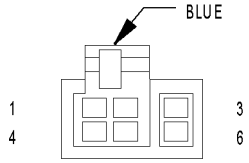
CAV	CIRCUIT	FUNCTION
1	C117 20BK	MIRROR HEATER 12 VOLT SUPPLY
2	P65 20DG	MIRROR HORIZONTAL POSITION SIGNAL
3	P69 20GY	MIRROR SENSOR GROUND
4	P64 20VT	MIRROR VERTICAL POSITION SIGNAL
5	C118 20BK/WT	MIRROR HEATER GROUND
6	P95 20OR	MIRROR HORIZONTAL DRIVER
7	-	-
8	P99 20DB (EXPORT)	FOLDING MIRROR FEED
9	P110 20YL (EXPORT)	FOLDING MIRROR RETURN
10	-	-
11	P93 20RD	MIRROR VERTICAL DRIVER
12	P91 20WT	MIRROR COMMON DRIVER



PASSENGER REAR POWER WINDOW MOTOR

PASSENGER REAR POWER WINDOW MOTOR

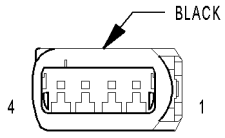
CAV	CIRCUIT	FUNCTION
1	Q124 16DG/WT	WINDOW DRIVER (DOWN)
2	Q114 16GY/WT	WINDOW DRIVER (UP)



PASSENGER REAR POWER WINDOW SWITCH

PASSENGER REAR POWER WINDOW SWITCH

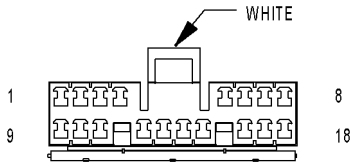
CAV	CIRCUIT	FUNCTION
1	Q14 16GY	PASSENGER REAR WINDOW DRIVER (UP)
2	Q114 16GY/WT	WINDOW DRIVER (UP)
3	E21 20OR/RD	PASSENGER REAR DOOR SWITCH ILLUMINATION
4	Q24 16DG	PASSENGER REAR WINDOW DRIVER (DOWN)
5	Q124 16DG/WT	WINDOW DRIVER (DOWN)
6	Z28 16BK (LHD)	GROUND
6	Z243 16BK (RHD)	GROUND



PASSENGER SIDE IMPACT SENSOR

PASSENGER SIDE IMPACT SENSOR

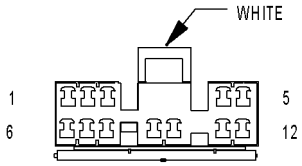
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	R134 20LB/BR	PASSENGER SIDE IMPACT SENSOR GROUND
4	R132 20LG/VT	PASSENGER SIDE IMPACT SENSOR SIGNAL



POWER AMPLIFIER C1 (PREMIUM RADIO)

POWER AMPLIFIER C1 (PREMIUM RADIO)

CAV	CIRCUIT	FUNCTION
1	D25 18YL/VT	PCI BUS
2	F60 16RD/WT	FUSED B(+)
3	Z9 16BK	GROUND
4	-	-
5	X58 18DB/OR	RIGHT REAR SPEAKER (-)
6	X57 18DG/WT	LEFT REAR SPEAKER (-)
7	X56 18DB/PK	RIGHT FRONT SPEAKER (-)
8	X55 18BR/RD	LEFT FRONT SPEAKER (-)
9	-	-
10	F60 16RD/WT	FUSED B(+)
11	Z9 16BK	GROUND
12	-	-
13	X64 18BR/WT	ENABLE SIGNAL TO AMPLIFIER
14	-	-
15	X52 18DB/WT	RIGHT REAR SPEAKER (+)
16	X51 18WT/DG	LEFT REAR SPEAKER (+)
17	X54 18VT	RIGHT FRONT SPEAKER (+)
18	X53 18DG/OR	LEFT FRONT SPEAKER (+)

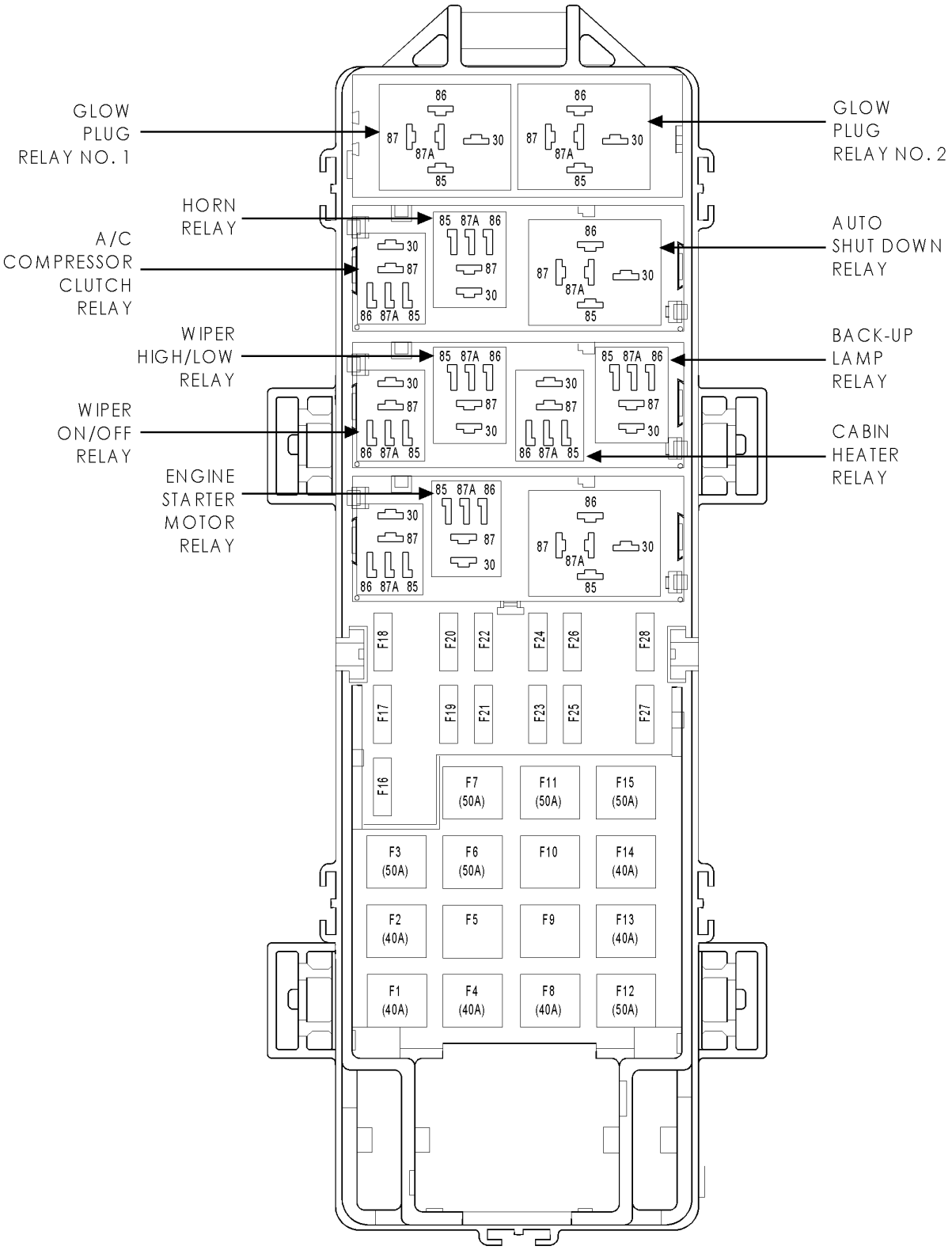


POWER
AMPLIFIER C2
(PREMIUM RADIO)

POWER AMPLIFIER C2 (PREMIUM RADIO)

CAV	CIRCUIT	FUNCTION
1	X90 18WT/VT	RIGHT REAR DOOR SPEAKER (+)
2	X92 18TN/DG	RIGHT REAR DOOR SPEAKER (-)
3	X85 18LG/DG	LEFT FRONT DOOR SPEAKER (-)
4	X83 18YL/RD	LEFT INSTRUMENT PANEL SPEAKER (+)
5	X84 18OR/GY	RIGHT INSTRUMENT PANEL SPEAKER (-)
6	X93 18DG/WT	LEFT REAR DOOR SPEAKER (+)
7	X91 18WT/DG	LEFT REAR DOOR SPEAKER (-)
8	X87 18LG/RD	LEFT FRONT DOOR SPEAKER (+)
9	X80 18LB/BK	RIGHT FRONT DOOR SPEAKER (-)
10	X82 18LB/RD	RIGHT FRONT DOOR SPEAKER (+)
11	X81 18YL/BK	LEFT INSTRUMENT PANEL SPEAKER (-)
12	X86 18OR/RD	RIGHT INSTRUMENT PANEL SPEAKER (+)

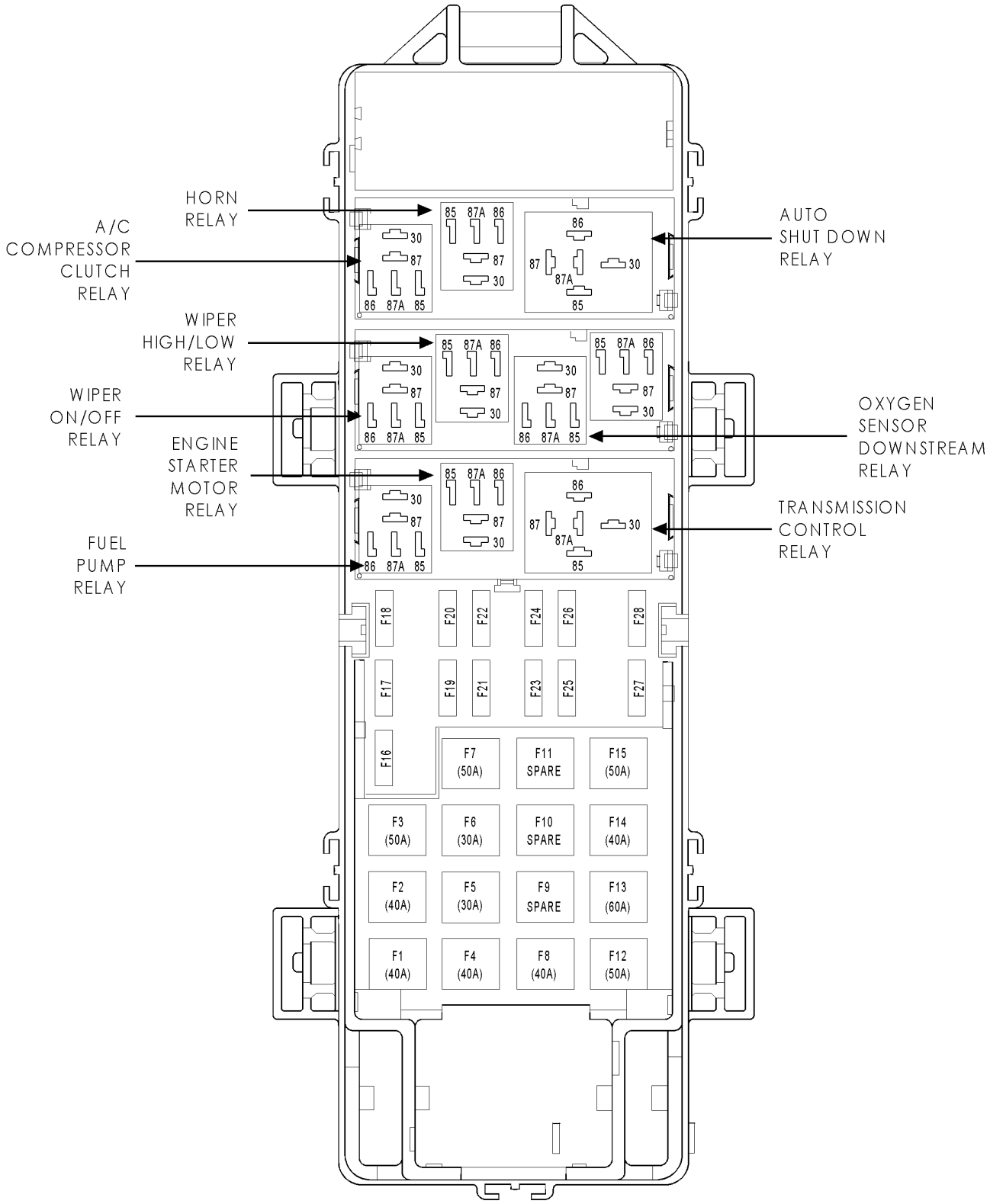
POWER DISTRIBUTION CENTER (DIESEL)



FUSES (DIESEL)

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	40A	C1 12DG	FUSED B(+)
2	40A	A149 12RD/TN	FUSED B(+)
3	50A	A145 10WT/RD	FUSED B(+)
4	40A	A10 12RD/DG	FUSED B(+)
5	-	-	-
6	50A	A105 10DB/RD	FUSED B(+)
7	50A	A147 10RD/GY	FUSED B(+)
8	40A	A1 12RD	FUSED B(+)
9	-	-	-
10	-	-	-
11	50A	A110 10VT/RD	FUSED B(+)
12	50A	A146 10OR/WT	FUSED B(+)
13	40A	A14 14RD/WT	FUSED B(+)
14	40A	A2 12PK/BK	FUSED B(+)
15	50A	A148 10PK/WT	FUSED B(+)
16	20A	F15 18 DB/WT	FUSED AUTO SHUT DOWN RELAY OUTPUT
16	20A	F15 18DB/WT	FUSED AUTO SHUT DOWN RELAY OUTPUT
17	-	-	-
18	15A	F62 18RD	FUSED B(+)
18	15A	F62 18RD	FUSED B(+)
19	-	-	-
20	-	-	-
21	15A	A17 14RD/BK	FUSED B(+)
22	10A	F300 18RD/BK	FUSED B(+)
23	15A	A80 18RD/LG	FUSED B(+)
24	-	-	-
25	20A	A20 12RD/DB	FUSED B(+)
26	20A	F142 14OR/DG	FUSED AUTO SHUT DOWN RELAY OUTPUT
27	20A	A148 16LG/RD	FUSED B(+)
28	-	-	-

POWER DISTRIBUTION CENTER (GAS)



FUSES (GAS)

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	40A	C1 12DG	FUSED B(+)
2	40A	A149 12RD/TN	FUSED B(+)
3	50A	A145 10WT/RD	FUSED B(+)
4	40A	A10 12RD/DG	FUSED B(+)
5	30A	A30 14RD/WT	FUSED B(+)
5	30A	A30 14RD/WT (4.7L)	FUSED B(+)
6	30A	A14 14RD/DG	FUSED B(+)
7	50A	A147 10RD/GY	FUSED B(+)
8	40A	A1 12RD	FUSED B(+)
9	-	-	-
10	40	A16 12GY (4.0L)	FUSED B(+)
11	-	-	-
12	50A	A146 10OR/WT	FUSED B(+)
13	-	-	-
14	40A	A2 12PK/BK	FUSED B(+)
15	50A	A148 10PK/WT	FUSED B(+)
16	15A	F142 18OR/DG	FUSED AUTO SHUT DOWN RELAY OUTPUT
16	15A	F142 18OR/DG	FUSED AUTO SHUT DOWN RELAY OUTPUT
17	-	-	-
18	15A	F62 18RD	FUSED B(+)
18	15A	F62 18RD	FUSED B(+)
19	10A	A7 14RD/BK	FUSED B(+)
20	-	-	-
21	15A	A17 18RD/BK	FUSED B(+)
22	-	-	-
23	-	-	-
24	20A	A62 16VT/LB (LHD)	FUSED B(+)
24	20A	A62 16VT/WT (RHD)	FUSEDB(+)
25	20A	A20 12RD/DB	FUSED B(+)
26	15A	F42 18DG/LG	FUSED AUTO SHUT DOWN RELAY OUTPUT
26	15A	F42 18DG/LG	FUSED AUTO SHUT DOWN RELAY OUTPUT
27	20A	A148 16LG/RD	FUSED B(+)
28	15A	T15 18YL/BR (4.0L)	FUSED TRANSMISSION CONTROL RELAY OUTPUT

HORN RELAY

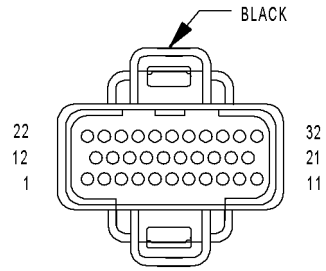
CAV	CIRCUIT	FUNCTION
30	F62 18RD	FUSED B(+)
85	X3 20BK/RD	HORN RELAY CONTROL
86	F62 18RD	FUSED B(+)
87	X2 18DG/RD (GAS)	HORN RELAY OUTPUT
87A	-	-
87	X2 18DG/RD	HORN RELAY OUTPUT

WIPER HIGH/LOW RELAY

CAV	CIRCUIT	FUNCTION
30	V60 16TN/RD (DIESEL)	WIPER ON/OFF RELAY OUTPUT
30	V60 16YL/DG (GAS)	WIPER ON/OFF RELAY OUTPUT
85	V16 20VT	WIPER HIGH/LOW RELAY CONTROL
86	V6 16DB (DIESEL)	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
86	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
87A	V3 16BR/WT	WIPER HIGH/LOW RELAY LOW SPEED OUTPUT
87	V4 16RD/YL	WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT

WIPER ON/OFF RELAY

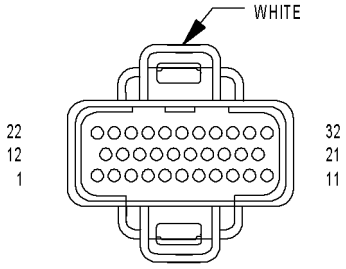
CAV	CIRCUIT	FUNCTION
30	V60 16TN/RD (DIESEL)	WIPER ON/OFF RELAY OUTPUT
30	V60 16YL/DG (GAS)	WIPER ON/OFF RELAY OUTPUT
85	V14 20RD/VT	WIPER ON/OFF RELAY CONTROL
86	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
86	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
87	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
87A	V55 16TN/RD	WIPER PARK SWITCH SENSE
87	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
87A	V55 16TN/RD (DIESEL)	WIPER PARK SWITCH SENSE



POWERTRAIN CONTROL MODULE C1 (GAS)

POWERTRAIN CONTROL MODULE C1 (GAS)

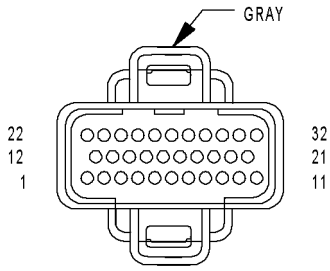
CAV	CIRCUIT	FUNCTION
1	K93 14TN/OR	COIL DRIVER NO. 3
2	F991 18OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	K94 14TN/LG (4.7L)	COIL DRIVER NO. 4
4	K4 18BK/LB	SENSOR GROUND
5	K96 14TN/LB (4.7L)	COIL DRIVER NO. 6
6	T41 18BK/WT	PARK/NEUTRAL POSITION SWITCH SENSE (T41)
7	K91 14TN/RD	COIL DRIVER NO. 1
8	K24 18GY/BK	CRANKSHAFT POSITION SENSOR SIGNAL
9	K98 14LB/RD (4.7L)	COIL DRIVER NO. 8
10	K60 18YL/BK	IDLE AIR CONTROL NO. 2 DRIVER
11	K40 18BR/WT	IDLE AIR CONTROL NO. 3 DRIVER
12	-	-
13	-	-
14	K77 18LG/BK (EXCEPT JAPAN)	TRANSFER CASE POSITION SENSOR INPUT
15	K21 18BK/RD	INTAKE AIR TEMPERATURE SENSOR SIGNAL
16	K2 18TN/BK	ENGINE COOLANT TEMPERATURE SENSOR SIGNAL
17	K7 18OR	5 VOLT SUPPLY
18	K44 18TN/YL	CAMSHAFT POSITION SENSOR SIGNAL
19	K39 18GY/BK	IDLE AIR CONTROL NO. 1 DRIVER
20	K59 18VT/BK	IDLE AIR CONTROL NO. 4 DRIVER
21	K95 14TN/DG (4.7L)	COIL DRIVER NO. 5
22	A7 14RD/BK	FUSED B(+)
23	K22 18OR/RD	THROTTLE POSITION SENSOR SIGNAL
24	K41 18BK/DG	OXYGEN SENSOR 1/1 SIGNAL
25	K141 18TN/WT	OXYGEN SENSOR 1/2 SIGNAL
26	K241 18LG/RD (EXCEPT 4.0L EXPORT)	OXYGEN SENSOR 2/1 SIGNAL
27	K1 18DG/RD	MAP SENSOR SIGNAL
28	-	-
29	K341 18PK/WT (4.7L/4.0L JAPAN)	OXYGEN SENSOR 2/2 SIGNAL
29	K341 18TN/WT (4.0L EXCEPT JAPAN)	OXYGEN SENSOR 2/2 SIGNAL
30	-	-
31	Z82 14BK/WT	GROUND
32	Z81 14BK/TN	GROUND



POWERTRAIN CONTROL MODULE C2 (GAS)

POWERTRAIN CONTROL MODULE C2 (GAS)

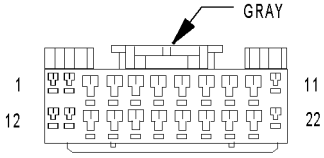
CAV	CIRCUIT	FUNCTION
1	T54 18VT (4.0L)	TRANSMISSION TEMPERATURE SENSOR SIGNAL
2	K26 18VT (4.7L)	FUEL INJECTOR NO. 7 DRIVER
3	-	-
4	K11 18WT/DB	FUEL INJECTOR NO. 1 DRIVER
5	K13 18YL/WT	FUEL INJECTOR NO. 3 DRIVER
6	K38 18GY	FUEL INJECTOR NO. 5 DRIVER
7	K97 14BR (4.7L)	COIL DRIVER NO. 7
8	K88 18PK (4.0L)	GOVERNOR PRESSURE SOLENOID CONTROL
9	K92 14TN/PK	COIL DRIVER NO. 2
10	K20 18DG	GENERATOR FIELD DRIVER
11	T20 18LB (4.0L)	TORQUE CONVERTER CLUTCH SOLENOID CONTROL
12	K58 18BR/DB	FUEL INJECTOR NO. 6 DRIVER
13	K28 18GY/LB (4.7L)	FUEL INJECTOR NO. 8 DRIVER
14	-	-
15	K12 18TN	FUEL INJECTOR NO. 2 DRIVER
16	K14 18LB/BR	FUEL INJECTOR NO. 4 DRIVER
17	K173 18LG	RADIATOR FAN RELAY CONTROL
18	-	-
19	C18 18DB	A/C PRESSURE SIGNAL
20	-	-
21	T60 18BR (4.0L)	3-4 SHIFT SOLENOID CONTROL
22	-	-
23	G60 18GY/YL	ENGINE OIL PRESSURE SWITCH SIGNAL
24	-	-
25	T13 18DB/BK (4.0L)	SPEED SENSOR GROUND
26	-	-
27	B22 18DG/YL	VEHICLE SPEED SIGNAL
28	T14 18LG/WT (4.0L)	OUTPUT SPEED SENSOR SIGNAL
29	T25 18LG/RD (4.0L)	GOVERNOR PRESSURE SENSOR SIGNAL
30	K30 18PK/YL (4.0L)	TRANSMISSION CONTROL RELAY CONTROL
31	K6 18VT/BK	5 VOLT SUPPLY
32	-	-



POWERTRAIN CONTROL MODULE C3 (GAS)

POWERTRAIN CONTROL MODULE C3 (GAS)

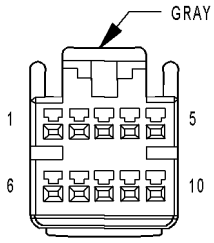
CAV	CIRCUIT	FUNCTION
1	C13 18DB/OR	A/C CLUTCH RELAY CONTROL
2	-	-
3	K51 18DB/YL	AUTO SHUT DOWN RELAY CONTROL
4	V36 18TN/RD	SPEED CONTROL VACUUM SOLENOID CONTROL
5	V35 18LG/RD	SPEED CONTROL VENT SOLENOID CONTROL
6	-	-
7	K42 18DB/LG (4.7L HIGH OUTPUT)	KNOCK SENSOR NO. 1 SIGNAL
8	K99 18BR/OR	OXYGEN SENSOR 1/1 HEATER CONTROL
9	K512 18RD/YL	OXYGEN SENSOR DOWNSTREAM RELAY CONTROL
10	K106 18WT/DG (EXCEPT EXPORT)	LEAK DETECTION PUMP SOLENOID CONTROL
11	V32 18OR/DG	SPEED CONTROL POWER SUPPLY
12	F42 18DG/LG	FUSED AUTO SHUT DOWN RELAY OUTPUT
13	T6 18OR/BK (4.0L RHD)	OVERDRIVE OFF SWITCH SENSE
13	T10 18YL/DG (4.7L RHD)	TORQUE MANAGEMENT REQUEST SENSE
13	T6 18OR/WT (4.0L LHD)	OVERDRIVE OFF SWITCH SENSE
13	T10 18DG/LG (4.7L LHD)	TORQUE MANAGEMENT REQUEST SENSE
14	K107 18OR/PK (EXCEPT EXPORT)	LEAK DETECTION PUMP SWITCH SENSE
15	K25 18VT/LG	BATTERY TEMPERATURE SENSOR SIGNAL
16	K299 18BR/WT	OXYGEN SENSOR 1/2 HEATER CONTROL
17	-	-
18	K142 18GY/BK (4.7L HIGH OUTPUT)	KNOCK SENSOR NO. 2 SIGNAL
19	K31 18BR	FUEL PUMP RELAY CONTROL
20	K52 18PK/BK	DUTY CYCLE EVAP/PURGE SOLENOID CONTROL
21	-	-
22	-	-
23	-	-
24	K29 18WT/PK	BRAKE SWITCH SENSE
25	K125 18WT/DB	GENERATOR SOURCE
26	K226 18LB/YL	FUEL LEVEL SENSOR SIGNAL
27	D21 18PK	SCI TRANSMIT
28	-	-
29	D32 18LG/DG (RHD)	SCI RECEIVE
29	D32 18LG (LHD)	SCI RECEIVE
30	D25 18VT/YL	PCI BUS
31	-	-
32	V37 18RD/LG	SPEED CONTROL SWITCH SIGNAL



RADIO C1

RADIO C1

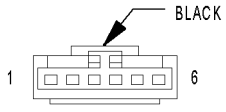
CAV	CIRCUIT	FUNCTION
1	F60 16RD/WT	FUSED B(+)
2	X12 20WT/RD	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
3	E2 20OR	PANEL LAMPS DRIVER
4	-	-
5	-	-
6	-	-
7	X54 18VT	RIGHT FRONT SPEAKER (+)
8	X56 18DB/PK	RIGHT FRONT SPEAKER (-)
9	X55 18BR/RD	LEFT FRONT SPEAKER (-)
10	X53 18DG/OR	LEFT FRONT SPEAKER (+)
11	Z9 16BK	GROUND
12	F60 16RD/WT	FUSED B(+)
13	X64 18BR/WT	ENABLE SIGNAL TO AMPLIFIER
14	D25 20YL/VT/DB	PCI BUS
15	-	-
16	-	-
17	-	-
18	X51 18WT/DG	LEFT REAR SPEAKER (+)
19	X57 18DG/WT	LEFT REAR SPEAKER (-)
20	X58 18DB/OR	RIGHT REAR SPEAKER (-)
21	X52 18DB/WT	RIGHT REAR SPEAKER (+)
22	Z9 16BK	GROUND



RADIO C2

RADIO C2

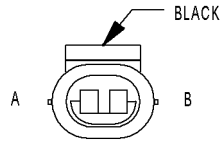
CAV	CIRCUIT	FUNCTION
1	X40 20WT/RD	AUDIO OUT RIGHT
2	Z4 20WT/BK	GROUND
3	Z5 20BK/LB	SHIELD
4	-	-
5	X112 20RD	IGNITION SWITCH OUTPUT (RUN-ACC)
6	X41 20WT/DG	AUDIO OUT LEFT
7	Z17 20BK	GROUND
8	-	-
9	-	-
10	X160 20YL	FUSED B(+)



RAIN SENSOR (AUTOWIPE)

RAIN SENSOR (AUTOWIPE)

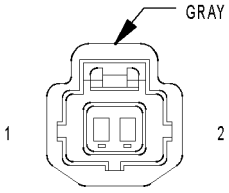
CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20BK/PK	PCI BUS
3	-	-
4	Z155 20BK/OR	GROUND
5	Q30 20BK/LB	ACCESSORY DELAY RELAY OUTPUT
6	-	-



RECIRCULATION DOOR MOTOR/ ACTUATOR (AZC)

RECIRCULATION DOOR MOTOR/ACTUATOR (AZC)

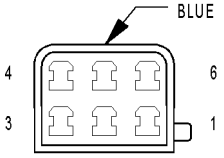
CAV	CIRCUIT	FUNCTION
A	C32 20GY/DB (LHD)	RECIRCULATION DOOR DRIVER (A)
B	C100 20YL/DB (LHD)	RECIRCULATION DOOR DRIVER (B)
A	C100 20YL/DB (RHD)	RECIRCULATION DOOR DRIVER (B)
B	C32 20GY/DB (RHD)	RECIRCULATION DOOR DRIVER (A)



RED BRAKE WARNING INDICATOR SWITCH

RED BRAKE WARNING INDICATOR SWITCH

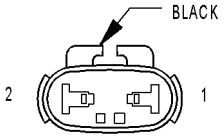
CAV	CIRCUIT	FUNCTION
1	Z231 18BK	GROUND
2	G9 18GY/BK	RED BRAKE WARNING INDICATOR SWITCH SENSE



REMOTE KEYLESS MODULE (JAPAN)

REMOTE KEYLESS MODULE (JAPAN)

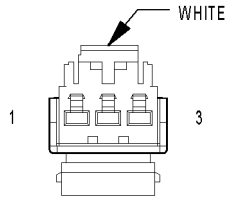
CAV	CIRCUIT	FUNCTION
1	K25 20RD/GY	ANTENNA SIGNAL
2	K25 20RD/GY	ANTENNA SIGNAL
3	M1 18PK	FUSED B(+)
4	Z1 18BK	GROUND
5	D30 20VT/YL	DIAGNOSTIC OUT
6	D30 20VT/YL	DIAGNOSTIC OUT



RIGHT FOG LAMP

RIGHT FOG LAMP

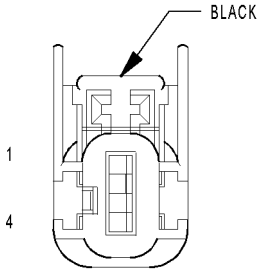
CAV	CIRCUIT	FUNCTION
1	L39 20LB	FOG LAMP RELAY OUTPUT
2	Z142 18BK	GROUND



RIGHT FRONT DOOR SPEAKER

RIGHT FRONT DOOR SPEAKER

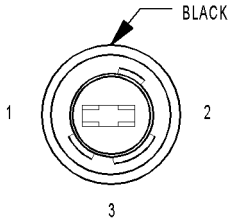
CAV	CIRCUIT	FUNCTION
1	X80 18LB/BK (LHD PREMIUM)	RIGHT FRONT DOOR SPEAKER (-)
1	X80 18LG/DG (RHD PREMIUM)	RIGHT FRONT DOOR SPEAKER (-)
1	X56 18LB/BK (BASE)	RIGHT FRONT DOOR SPEAKER (-)
2	-	-
3	X82 18LB/RD (LHD PREMIUM)	RIGHT FRONT DOOR SPEAKER (+)
3	X82 18LG/RD (RHD PREMIUM)	RIGHT FRONT DOOR SPEAKER (+)
3	X54 18LB/RD (BASE)	RIGHT FRONT DOOR SPEAKER (+)



RIGHT FRONT IMPACT SENSOR

RIGHT FRONT IMPACT SENSOR

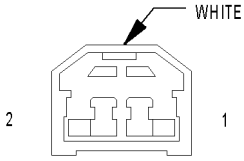
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	R46 18BR/LB	RIGHT FRONT IMPACT SENSOR GROUND
4	R48 18TN	RIGHT FRONT IMPACT SENSOR SIGNAL



RIGHT FRONT PARK/TURN SIGNAL LAMP (EXCEPT EXPORT)

RIGHT FRONT PARK/TURN SIGNAL LAMP (EXCEPT EXPORT)

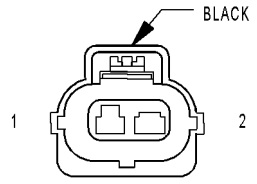
CAV	CIRCUIT	FUNCTION
1	L7 20BK/PK	PARK LAMP RELAY OUTPUT
2	Z142 18BK	GROUND
3	L60 20TN	RIGHT TURN SIGNAL



RIGHT INSTRUMENT PANEL SPEAKER

RIGHT INSTRUMENT PANEL SPEAKER

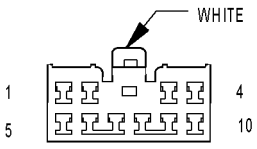
CAV	CIRCUIT	FUNCTION
1	X86 18OR/RD	RIGHT INSTRUMENT PANEL SPEAKER (+)
2	X84 18OR/BK	RIGHT INSTRUMENT PANEL SPEAKER (-)



RIGHT LIFTGATE AJAR SWITCH

RIGHT LIFTGATE AJAR SWITCH

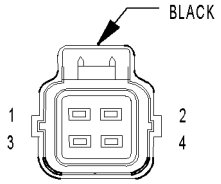
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	G78 20TN/BK	LIFTGATE AJAR SWITCH SENSE



RIGHT MULTI-FUNCTION SWITCH

RIGHT MULTI-FUNCTION SWITCH

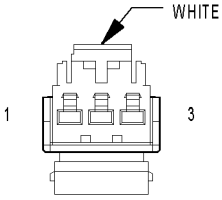
CAV	CIRCUIT	FUNCTION
1	V23 20BR/PK	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
2	V20 18BK/WT	REAR WASHER PUMP MOTOR CONTROL
3	V10 20BR	WASHER PUMP SWITCH SENSE
4	-	-
5	V13 18BR/LG	REAR WIPER MOTOR CONTROL
6	V22 18BR/YL	REAR WIPER MOTOR DELAY CONTROL
7	V9 20WT/BK	WINDSHIELD WIPER SWITCH RETURN
8	V52 20DG/RD	WINDSHIELD WIPER SWITCH MUX
9	V48 20RD/GY	WIPER HIGH CONTROL
10	-	-



RIGHT REAR DOOR LOCK MOTOR/AJAR SWITCH

RIGHT REAR DOOR LOCK MOTOR/AJAR SWITCH

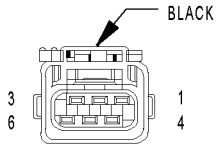
CAV	CIRCUIT	FUNCTION
1	G76 18TN/YL	RIGHT REAR DOOR AJAR SWITCH SENSE
2	Z28 18BK (LHD)	GROUND
2	Z151 18BK (RHD)	GROUND
3	P36 18PK/VT	DOOR UNLOCK DRIVER
4	P35 18OR/VT	DOOR LOCK DRIVER



RIGHT REAR DOOR SPEAKER

RIGHT REAR DOOR SPEAKER

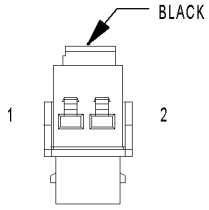
CAV	CIRCUIT	FUNCTION
1	X90 18WT/VT (PREMIUM)	RIGHT REAR DOOR SPEAKER (+)
1	X52 18WT/VT (BASE)	RIGHT REAR DOOR SPEAKER (+)
2	-	-
3	X92 18TN/DG (PREMIUM)	RIGHT REAR DOOR SPEAKER (-)
3	X58 18TN/DG (BASE)	RIGHT REAR DOOR SPEAKER (-)



RIGHT REAR
LAMP ASSEMBLY

RIGHT REAR LAMP ASSEMBLY

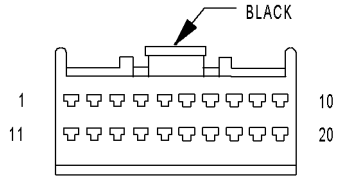
CAV	CIRCUIT	FUNCTION
1	L1 18VT/BK	BACK-UP LAMP FEED
2	L95 18DG/YL (EXPORT)	REAR FOG LAMP RELAY OUTPUT
3	L7 18BK/YL	PARK LAMP RELAY OUTPUT
4	L62 18BR/RD	RIGHT TURN SIGNAL
5	Z151 18BK	GROUND
6	L50 18WT/TN	PRIMARY BRAKE SWITCH SIGNAL



RIGHT REMOTE
RADIO SWITCH

RIGHT REMOTE RADIO SWITCH

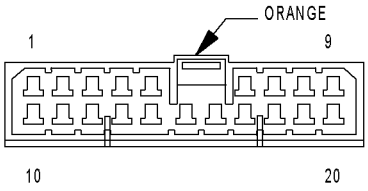
CAV	CIRCUIT	FUNCTION
1	X10 20RD/BK	RADIO CONTROL MUX RETURN
2	X20 20RD/YL	RADIO CONTROL MUX



SEAT
MODULE C1
(PREMIUM/
HEATED SEATS)

SEAT MODULE C1 (PREMIUM/HEATED SEATS)

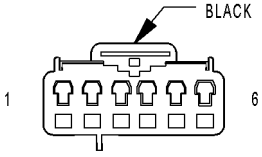
CAV	CIRCUIT	FUNCTION
1	P15 20YL/LB (PREMIUM II/III)	SEAT HORIZONTAL FORWARD SWITCH SENSE
2	-	-
3	P11 20YL/WT (PREMIUM II/III)	SEAT REAR UP SWITCH SENSE
4	P43 20GY/LB (PREMIUM II/III)	RECLINER UP SWITCH SENSE
5	P19 20YL/LG (PREMIUM II/III)	SEAT FRONT UP SWITCH SENSE
6	P86 20DG/YL (HEATED SEATS)	PASSENGER SEAT TEMPERATURE SENSOR INPUT
7	P27 20LB/RD (PREMIUM II/III)	REAR RISER POSITION SIGNAL
8	P25 20VT/RD (PREMIUM II/III)	SEAT HORIZONTAL POSITION SIGNAL
9	P135 20LB/BK (HEATED SEATS)	DRIVER SEAT TEMPERATURE SENSOR INPUT
10	P28 20BR/RD (PREMIUM II/III)	SEAT POSITION SENSOR GROUND
11	P41 20GY/WT (PREMIUM II/III)	RECLINER DOWN SWITCH SENSE
12	P17 20RD/YL (PREMIUM II/III)	SEAT HORIZONTAL REARWARD SWITCH SENSE
13	-	-
14	P21 20RD/LG (PREMIUM II/III)	SEAT FRONT DOWN SWITCH SENSE
15	P13 20RD/WT (PREMIUM II/III)	SEAT REAR DOWN SWITCH SENSE
16	P47 20LB (PREMIUM II/III)	RECLINER POSITION SIGNAL
17	P26 20BR (PREMIUM II/ III)	FRONT RISER POSITION SIGNAL
18	P29 20BR/WT	SEAT SENSOR 5 VOLT SUPPLY
19	Z151 20BK/OR (RHD)	GROUND
19	Z155 20BK/OR (LHD)	GROUND
20	D25 20VT/YL	PCI BUS



SEAT MODULE C2 (PREMIUM/ HEATED SEATS)

SEAT MODULE C2 (PREMIUM/HEATED SEATS)

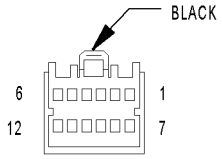
CAV	CIRCUIT	FUNCTION
1	F35 16RD	FUSED B(+)
2	P131 16BK/OR (PREMIUM I/III)	DRIVER SEAT HEATER B(+) DRIVER
3	Z1 16BK	GROUND
4	P119 16YL/RD (PREMIUM II/III)	SEAT FRONT UP DRIVER
5	P121 16RD/GY (PREMIUM II/III)	SEAT FRONT DOWN DRIVER
6	P111 16YL/DB (PREMIUM II/III)	SEAT REAR UP DRIVER
7	P113 16RD/BK (PREMIUM II/III)	SEAT REAR DOWN DRIVER
8	-	-
9	P115 16GY/LG (PREMIUM II/III)	SEAT HORIZONTAL FORWARD DRIVER
10	F35 16RD	FUSED B(+)
11	P130 16DG/WT (HEATED SEATS/PREMIUM I/III)	PASSENGER SEAT HEATER B(+) DRIVER
12	Z1 16BK	GROUND
13	-	-
14	P9 20RD/LB (PREMIUM II/III)	SEAT SWITCH B(+) SUPPLY
15	Z6 16BK/YL (HEATED SEATS/PREMIUM I/III)	GROUND
16	Z5 16BK/VT (HEATED SEATS/PREMIUM I/III)	GROUND
17	-	-
18	P141 16GY/WT (PREMIUM II/III)	SEAT RECLINER DOWN DRIVER
19	P143 16GY/LB (PREMIUM II/III)	SEAT RECLINER UP DRIVER
20	P117 16RD/BR (PREMIUM II/III)	SEAT HORIZONTAL REARWARD DRIVER



SENTRY KEY IMMOBILIZER MODULE

SENTRY KEY IMMOBILIZER MODULE

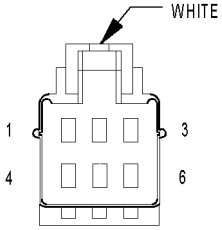
CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B(+)
2	Z132 20BK/OR	GROUND
3	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
4	-	-
5	D25 20YL/VT/BK	PCI BUS
6	-	-



SHIFTER ASSEMBLY C1 (DIESEL)

SHIFTER ASSEMBLY C1 (DIESEL)

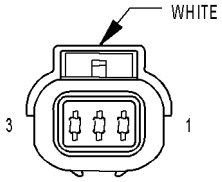
CAV	CIRCUIT	FUNCTION
1	F991 20OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
2	F991 20OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	F991 20OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
4	T2 20TN/BK	BACK-UP LAMP RELAY CONTROL
5	D25 20RD	PCI BUS
6	W0 20DB/WT	SHIFTER C1 SENSE
7	W1 20VT/WT	SHIFTER C2 SENSE
8	W2 20VT	SHIFTER C3 SENSE
9	W3 20BK	SHIFTER C4 SENSE
10	W4 20PK/OR	SHIFTER C5 SENSE
11	Z234 20WT	GROUND
12	Z234 20WT	GROUND



SHIFTER ASSEMBLY C2 (DIESEL)

SHIFTER ASSEMBLY C2 (DIESEL)

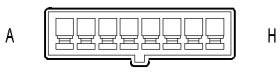
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	F12 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
4	K2 20WT/PK	SECONDARY BRAKE SWITCH SIGNAL
5	F991 20OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
6	Y1 20DB/PK	PARK LOCKOUT SOLENOID CONTROL



SIREN (EXPORT)

SIREN (EXPORT)

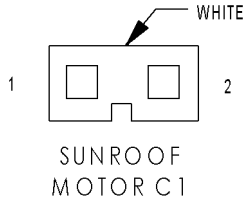
CAV	CIRCUIT	FUNCTION
1	Z141 18BK	GROUND
2	X75 18GY/LG (GAS)	SIREN SIGNAL CONTROL
2	X75 18GY/LB (DIESEL)	SIREN SIGNAL CONTROL
3	M1 18PK	FUSED B(+)



SUNROOF CONTROL MODULE

SUNROOF CONTROL MODULE

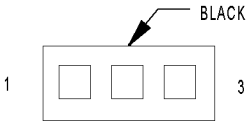
CAV	CIRCUIT	FUNCTION
A	Q46 20OR/WT	SUNROOF MOTOR POSITION SENSOR SIGNAL
B	Q41 20WT	SUNROOF OPEN
C	Q43 20VT	SUNROOF VENT
D	Z1 16BK	GROUND
E	-	-
F	Q30 16DB	ACCESSORY DELAY RELAY OUTPUT
G	Q5 16RD	SUNROOF MOTOR B(+)
H	Q6 16OR	SUNROOF MOTOR B(-)



SUNROOF
MOTOR C1

SUNROOF MOTOR C1

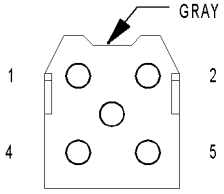
CAV	CIRCUIT	FUNCTION
1	Q5 16RD	SUNROOF MOTOR B(+)
2	Q6 16OR	SUNROOF MOTOR B(-)



SUNROOF
MOTOR C2

SUNROOF MOTOR C2

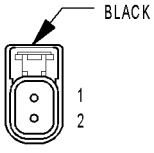
CAV	CIRCUIT	FUNCTION
1	Z150 20BK	GROUND
2	Q46 20OR/WT	SUNROOF MOTOR POSITION SENSOR SIGNAL
3	-	-



SUNROOF
SWITCH

SUNROOF SWITCH

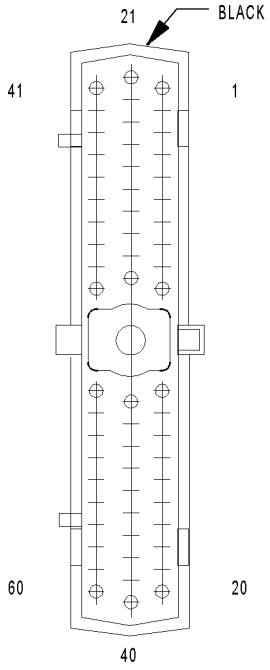
CAV	CIRCUIT	FUNCTION
1	Q43 20VT	SUNROOF VENT
2	-	-
3	Z150 20BK	GROUND
4	-	-
5	Q41 20WT	SUNROOF OPEN



TRANSFER CASE
POSITION
SENSOR

TRANSFER CASE POSITION SENSOR

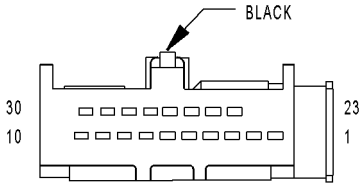
CAV	CIRCUIT	FUNCTION
1	K77 18LG/BK (GAS)	TRANSFER CASE POSITION SENSOR INPUT
1	K77 20BR/WT (DIESEL)	TRANSFER CASE POSITION SENSOR SIGNAL
2	K4 20BK/LB (DIESEL)	SENSOR GROUND
2	K4 18BK/LB (GAS)	SENSOR GROUND



TRANSMISSION CONTROL MODULE (4.7L)

TRANSMISSION CONTROL MODULE (4.7L)

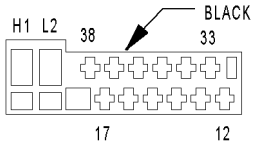
CAV	CIRCUIT	FUNCTION
1	T1 18LG/BK	TRS T1 SENSE
2	T2 18TN/BK	BACK-UP LAMP RELAY CONTROL
3	T3 18VT	TRS T3 SENSE
4	-	-
5	-	-
6	K24 18GY/BK	CRANKSHAFT POSITION SENSOR SIGNAL
7	D21 18PK	SCI TRANSMIT
8	F45 18YL/RD	FUSED IGNITION SWITCH OUTPUT (START)
9	T9 18OR/BK	OVERDRIVE PRESSURE SWITCH SENSE
10	T10 18YL/DG	TORQUE MANAGEMENT REQUEST SENSE
11	F991 18OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
12	K22 18OR/RD	THROTTLE POSITION SENSOR SIGNAL
13	T13 18DB/BK	SPEED SENSOR GROUND
14	T14 18LG/WT	OUTPUT SPEED SENSOR SIGNAL
15	K30 18PK/YL	TRANSMISSION CONTROL RELAY CONTROL
16	T16 14RD	TRANSMISSION CONTROL RELAY OUTPUT
17	T16 14RD	TRANSMISSION CONTROL RELAY OUTPUT
18	T118 18YL/DB	PRESSURE CONTROL SOLENOID CONTROL
19	T119 18WT/DB	2C SOLENOID CONTROL
20	T120 18LG	LR SOLENOID CONTROL
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	T29 18GY	UNDERDRIVE PRESSURE SWITCH SENSE
30	T130 14VT/TN	LINE PRESSURE SENSOR SIGNAL
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	T16 14RD	TRANSMISSION CONTROL RELAY OUTPUT
37	Z113 14BK/WT	GROUND
38	T138 14GY/LB	5 VOLT SUPPLY
39	Z112 14BK/YL	GROUND
40	T140 18VT/LG	MS SOLENOID CONTROL
41	T42 18WT	TRS T41 SENSE
42	T42 18VT/WT	TRS T42 SENSE
43	D25 18YL/VT	PCI BUS
44	-	-
45	-	-
46	D20 18LG	SCI RECEIVE
47	T147 18LB	2C PRESSURE SWITCH SENSE
48	T48 18DB	4C PRESSURE SWITCH SENSE
49	T6 18VT/WT	OVERDRIVE OFF SWITCH SENSE
50	T150 18BR/LB	LR PRESSURE SWITCH SENSE
51	K4 18BK/LB	SENSOR GROUND
52	T52 18RD/BK	INPUT SPEED SENSOR SIGNAL
53	Z114 14BK/LG	GROUND
54	T54 18VT	TRANSMISSION TEMPERATURE SENSOR SIGNAL
55	T59 18PK	UNDERDRIVE SOLENOID CONTROL
56	A30 14RD/WT	FUSED B(+)
57	Z12 14BK/TN	GROUND
58	-	-
59	T159 18DG/WT	4C SOLENOID CONTROL
60	T60 18BR	OVERDRIVE SOLENOID CONTROL



TRANSMISSION CONTROL MODULE C1 (DIESEL)

TRANSMISSION CONTROL MODULE C1 (DIESEL)

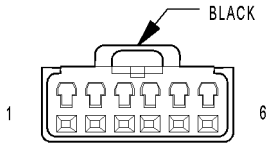
CAV	CIRCUIT	FUNCTION
1	D21 20PK	SCI TRANSMIT
2	-	-
3	W4 20PK/OR	SHIFTER C5 SENSE
4	Y1 20DB/PK	PARK LOCKOUT SOLENOID CONTROL
5	-	-
6	-	-
7	T41 20BK/WT	PARK/NEUTRAL POSITION SWITCH SENSE (T41)
8	-	-
9	-	-
10	-	-
23	-	-
24	-	-
25	W0 20DB/WT	SHIFTER C1 SENSE
26	W1 20VT/WT	SHIFTER C2 SENSE
27	W2 20VT	SHIFTER C3 SENSE
28	W3 20BK	SHIFTER C4 SENSE
29	F991 20OR/DB	FUSED IGNITION SWITCH OUTPUT (RUN-START)
30	Z234 20WT	GROUND



TRANSMISSION CONTROL MODULE C2 (DIESEL)

TRANSMISSION CONTROL MODULE C2 (DIESEL)

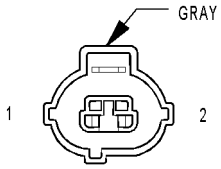
CAV	CIRCUIT	FUNCTION
12	T52 18RD/BK	N2 INPUT SPEED SENSOR
13	T39 18GY/LB	SENSOR SUPPLY VOLTAGE
14	T60 18BR	1-2/4-5 SOLENOID CONTROL
15	T159 18DG/WT	3-4 SOLENOID CONTROL
16	T119 18WT/DB	2-3 SOLENOID CONTROL
17	T120 18LG	TCC SOLENOID CONTROL
33	T13 18DB/BK	SENSOR GROUND
34	T54 18VT	TEMP SENSOR - P/N SWITCH
35	T14 18LG/WT	N3 INPUT SPEED SENSOR
36	T591 18YL/DB	MODULATION PRESSURE SOLENOID CONTROL
37	T118 18YL/DB	SHIFT PRESSURE SOLENOID CONTROL
38	T16 18RD	SOLENOID SUPPLY VOLTAGE
H1	D52 18LG/WT	CAN C BUS(+)
L2	D51 18DG/WT	CAN C BUS(-)



VEHICLE INFORMATION CENTER

VEHICLE INFORMATION CENTER

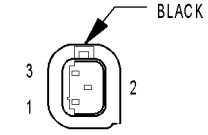
CAV	CIRCUIT	FUNCTION
1	-	-
2	D25 20YL/VT	PCI BUS
3	F70 20PK	FUSED B(+)
4	Z155 20BK/OR	GROUND
5	G5 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
6	-	-



WASHER
FLUID
LEVEL
SWITCH

WASHER FLUID LEVEL SWITCH

CAV	CIRCUIT	FUNCTION
1	V11 20BK/TN	WASHER FLUID SWITCH SENSE
2	Z141 20BK	GROUND



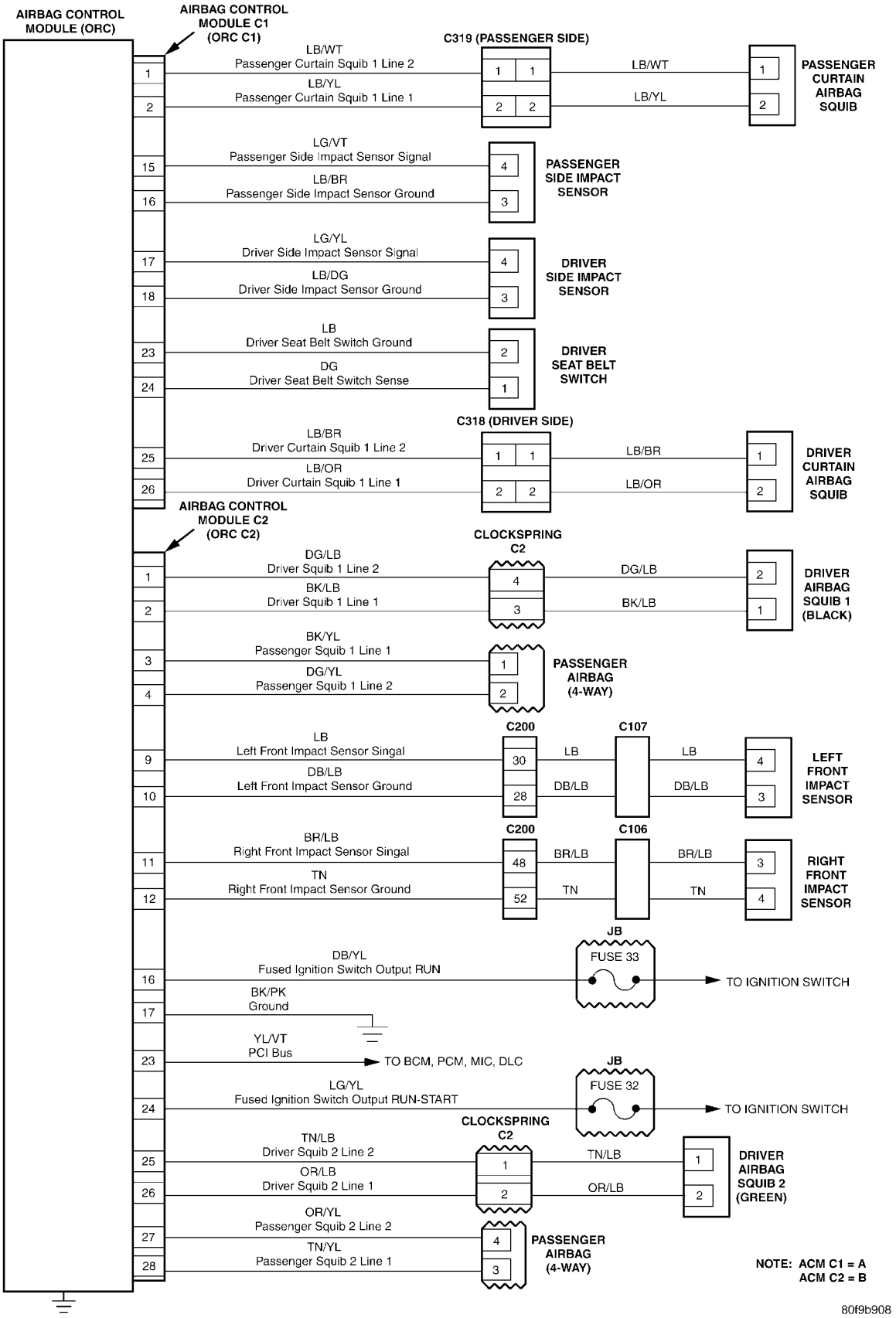
WATER IN
FUEL SENSOR
(DIESEL)

WATER IN FUEL SENSOR (DIESEL)

CAV	CIRCUIT	FUNCTION
1	K4 20BK/LB	SENSOR GROUND
2	G123 20DG/WT	WATER IN FUEL SENSOR SIGNAL
3	F15 20RD/DG	FUSED AUTO SHUT DOWN RELAY OUTPUT

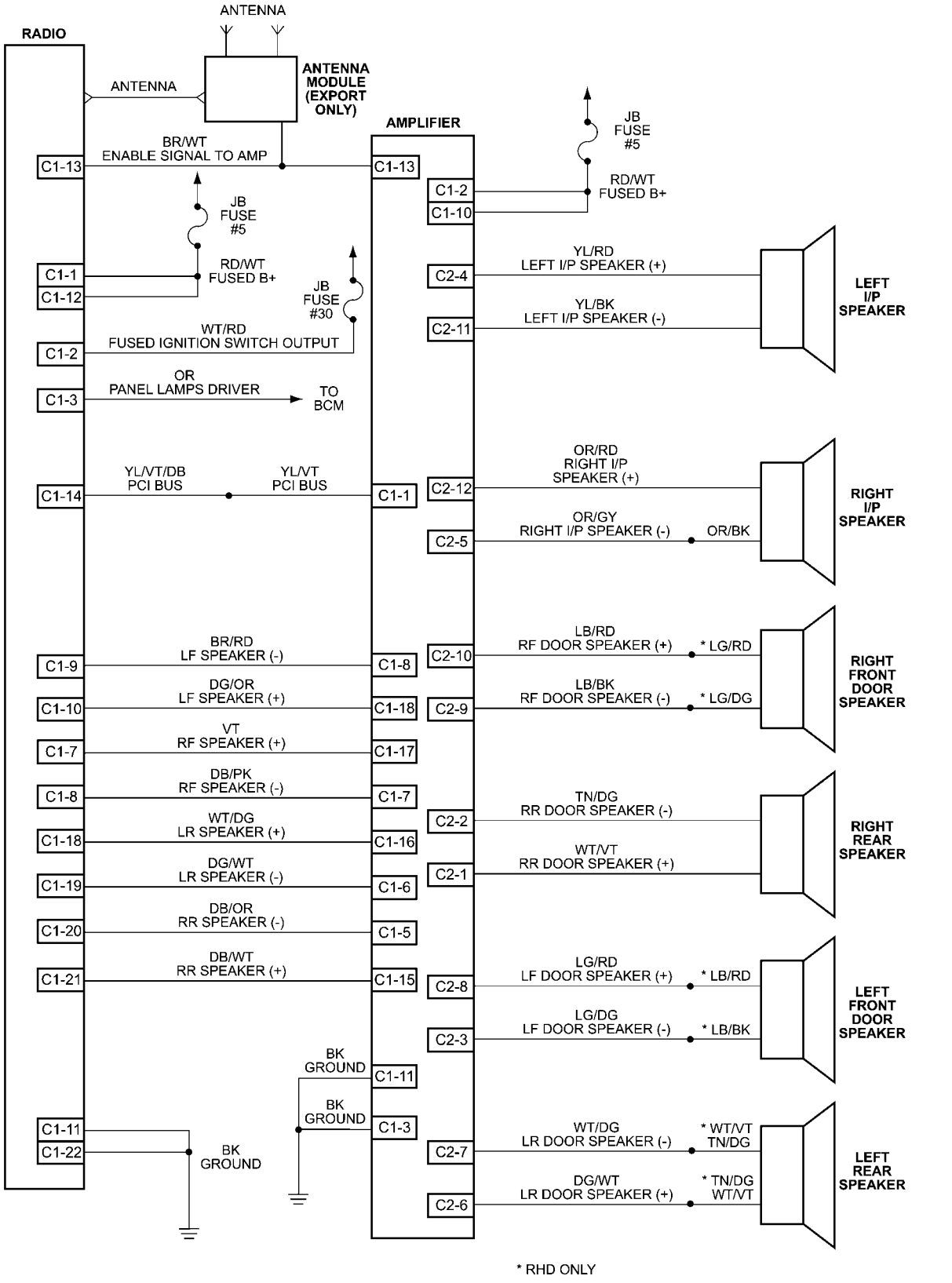
10.0 SCHEMATIC DIAGRAMS

10.1 AIRBAG SYSTEM

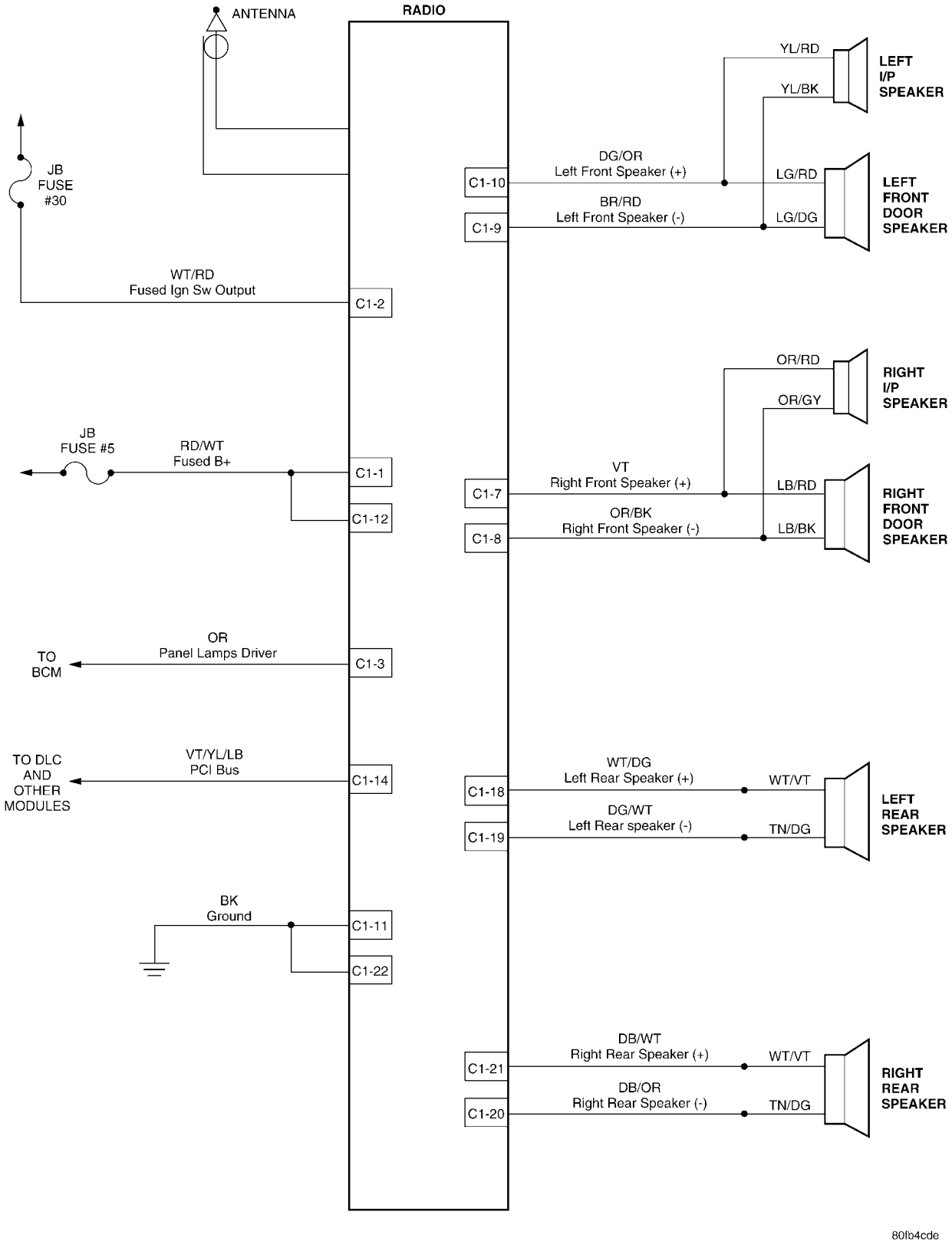


10.2 AUDIO SYSTEM

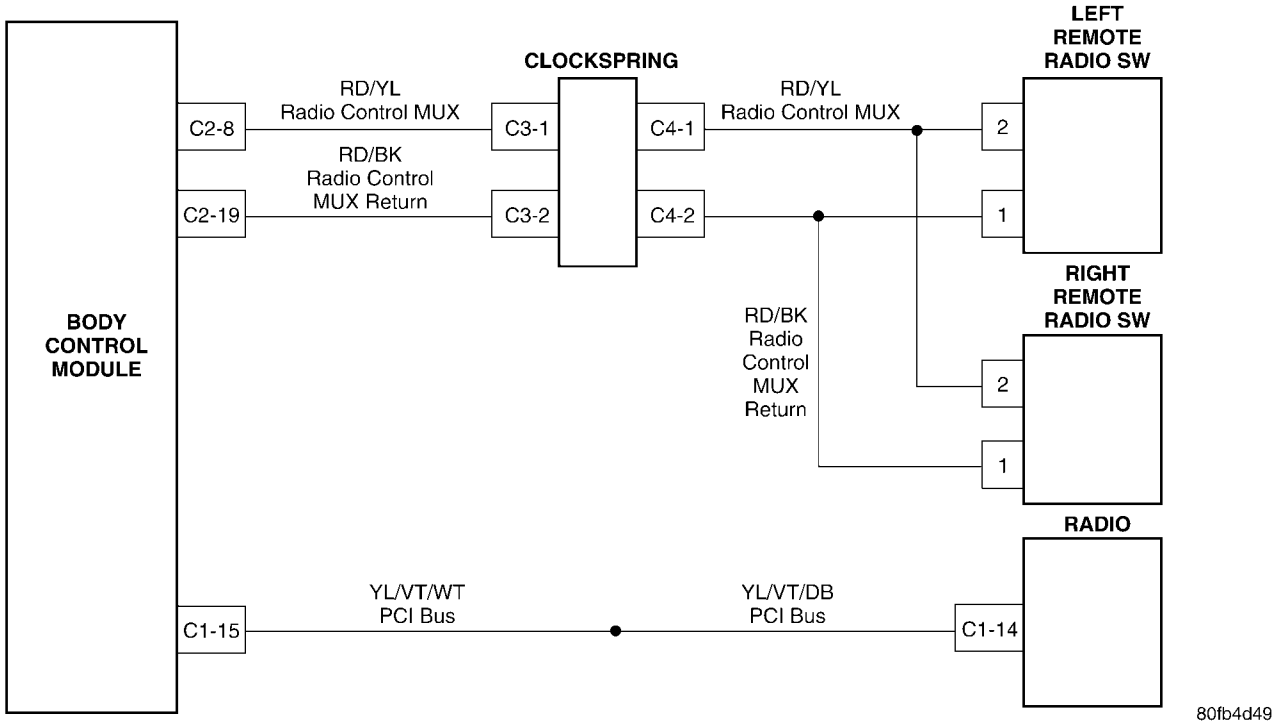
10.2.1 PREMIUM AUDIO SYSTEM



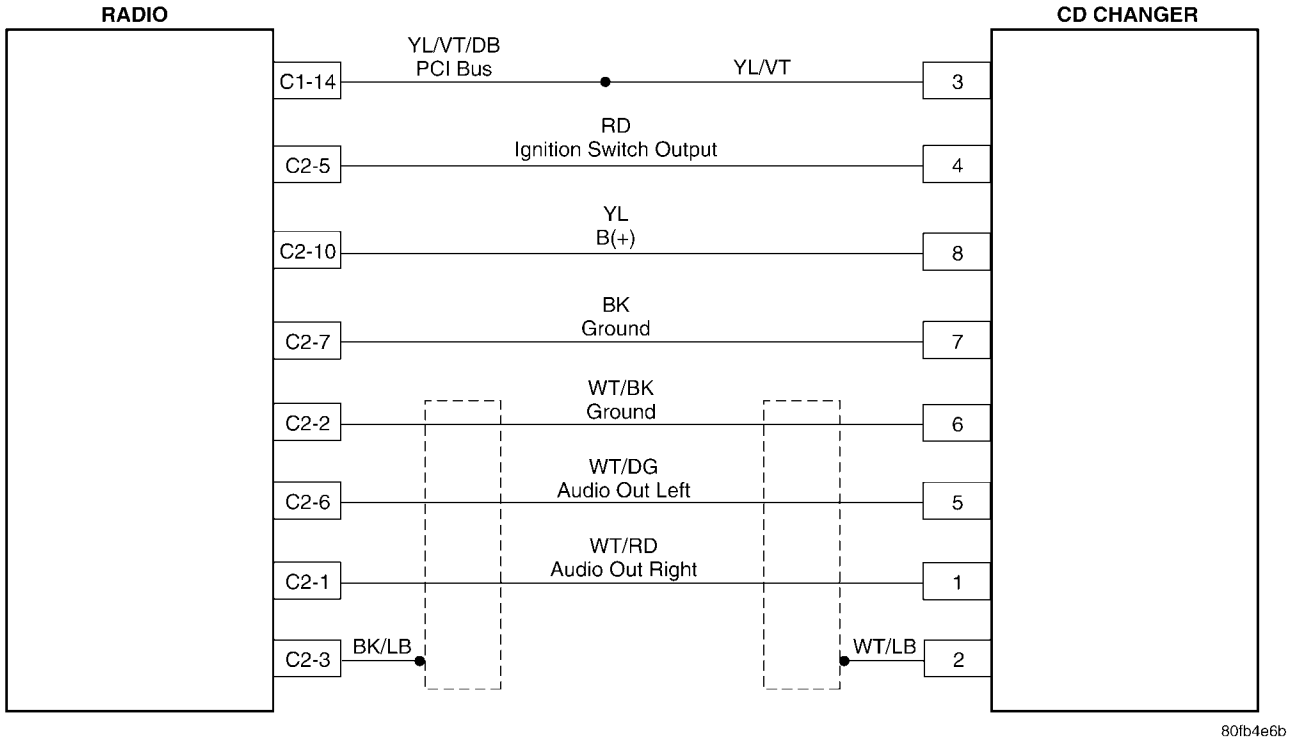
10.2.2 BASE AUDIO SYSTEM



10.2 AUDIO SYSTEM (Continued)
10.2.3 REMOTE RADIO CONTROLS

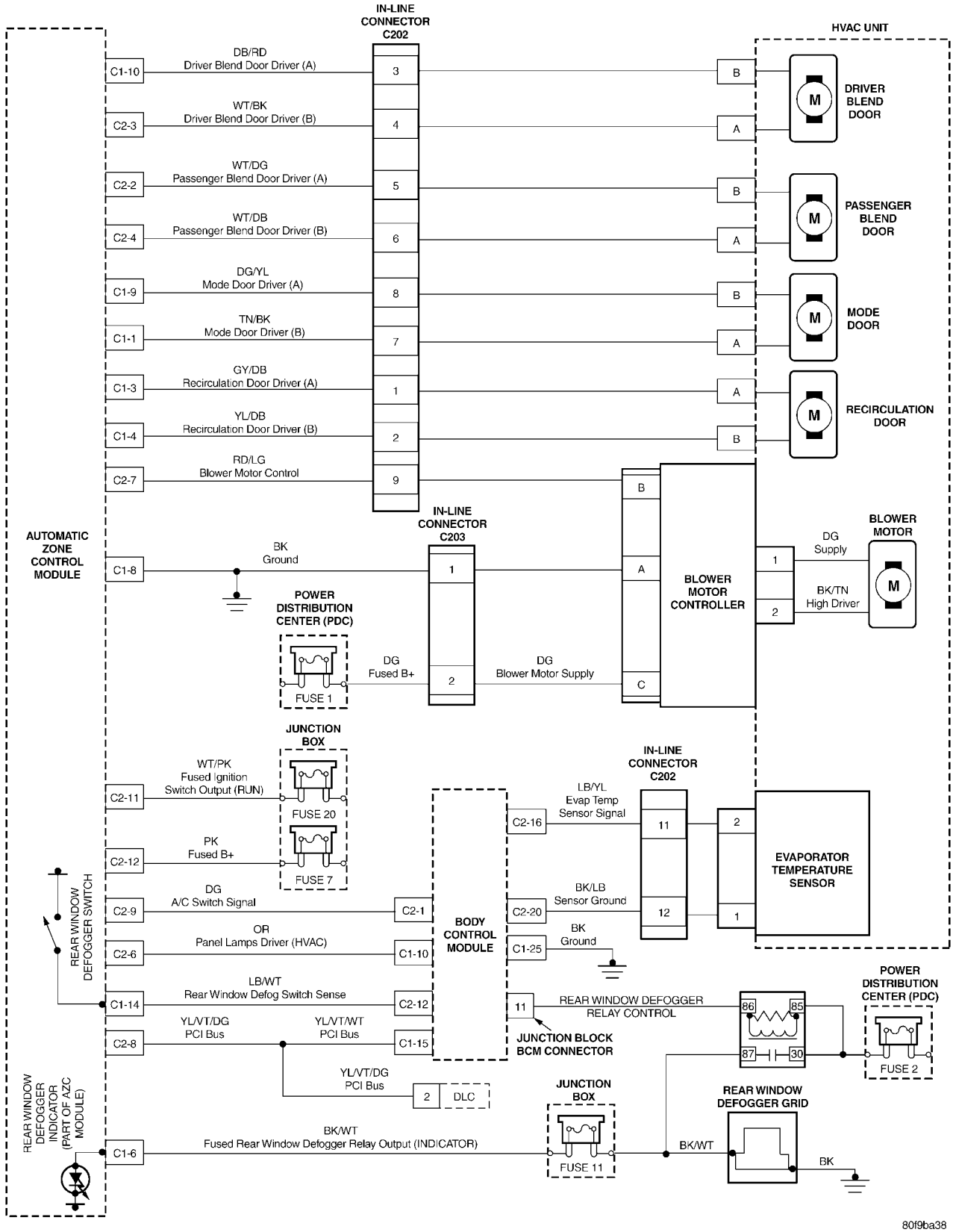


10.2.4 CD CHANGER

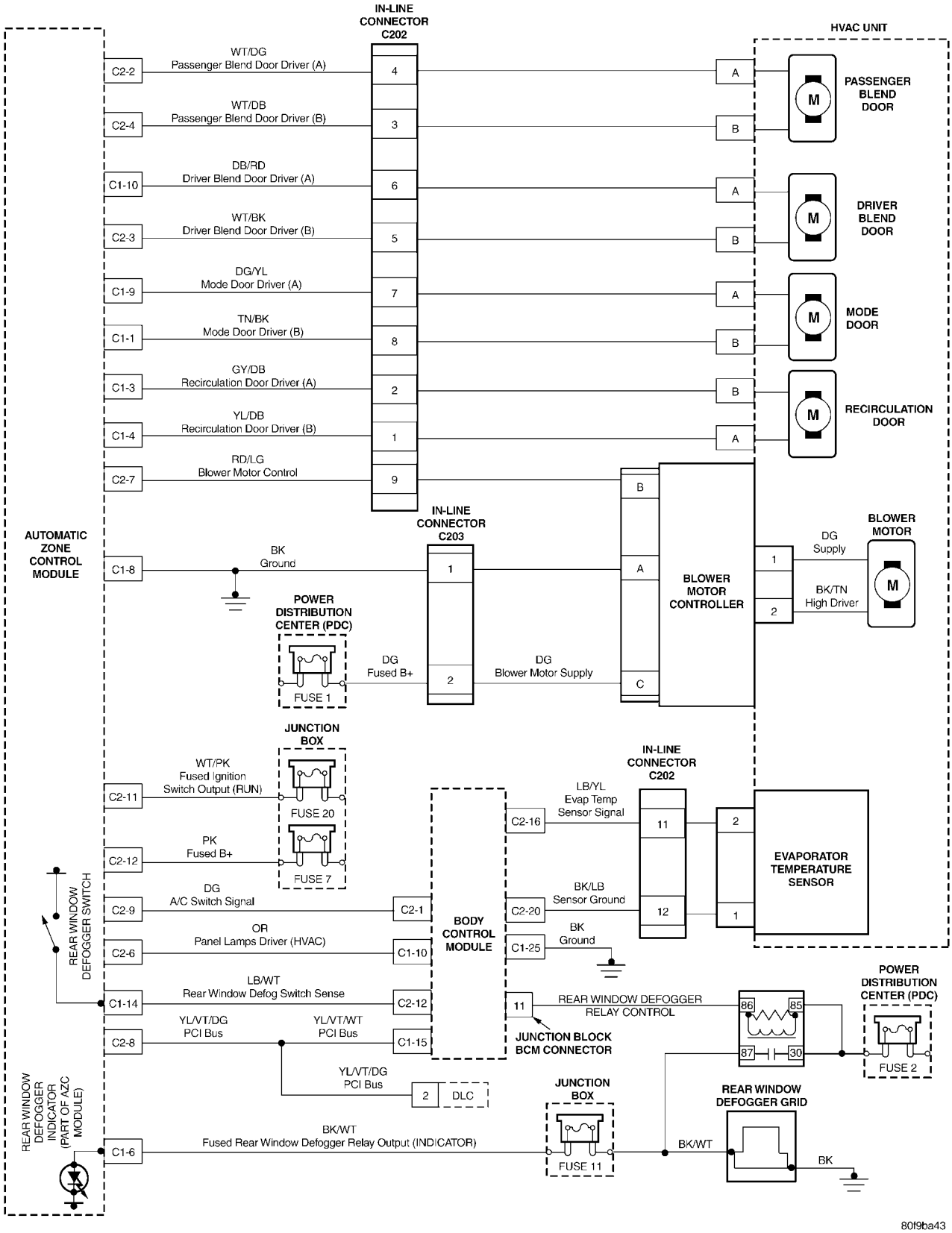


10.3 HEATING & A/C

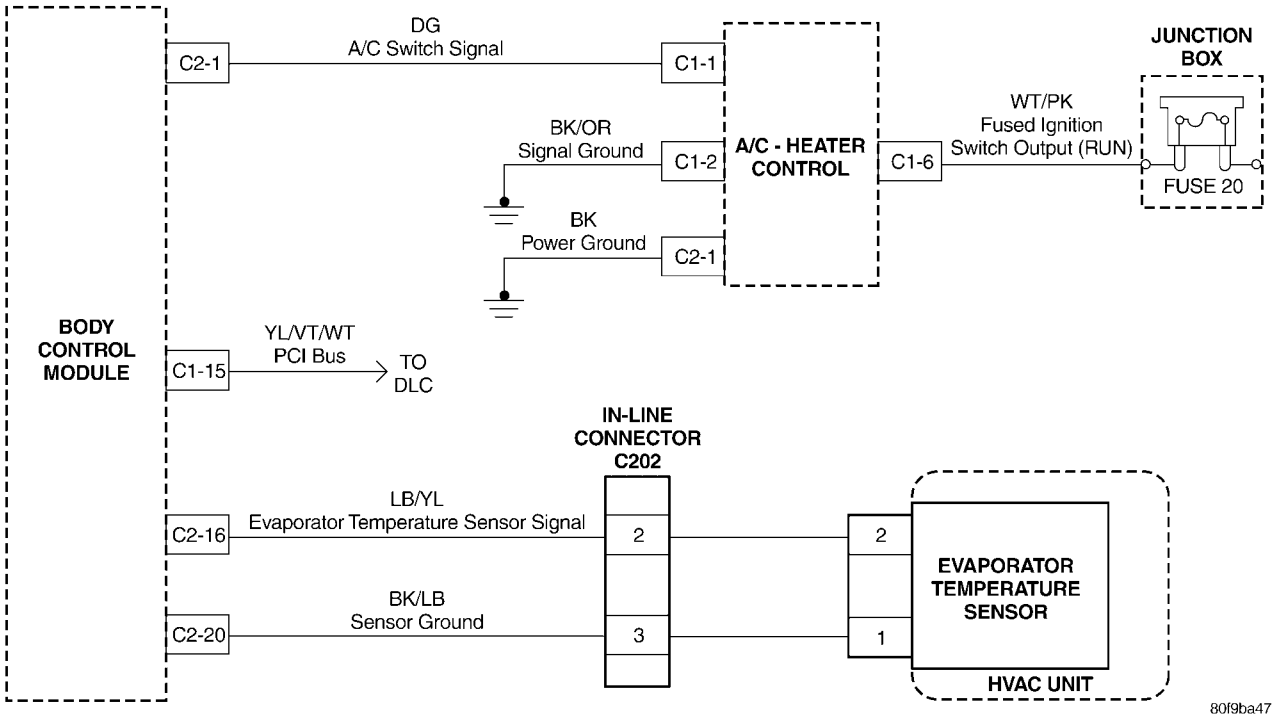
10.3.1 AUTOMATIC ZONE CONTROL – LHD



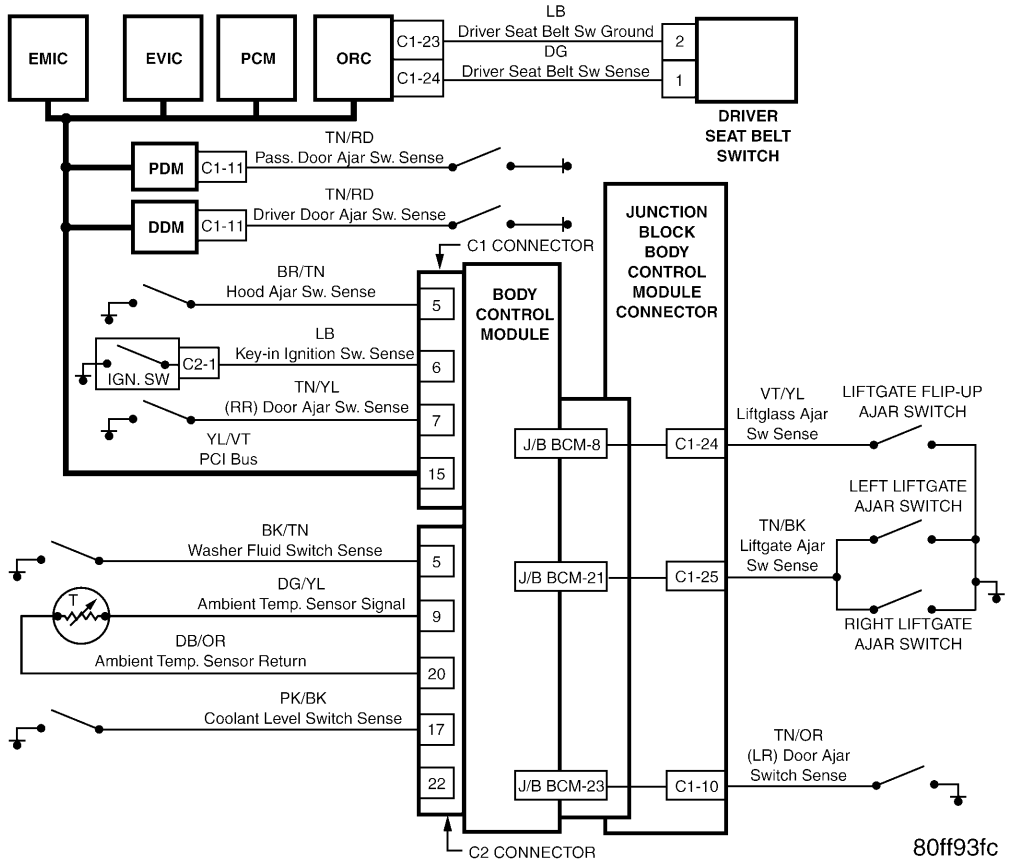
10.3 HEATING & A/C (Continued)
10.3.2 AUTOMATIC ZONE CONTROL – RHD



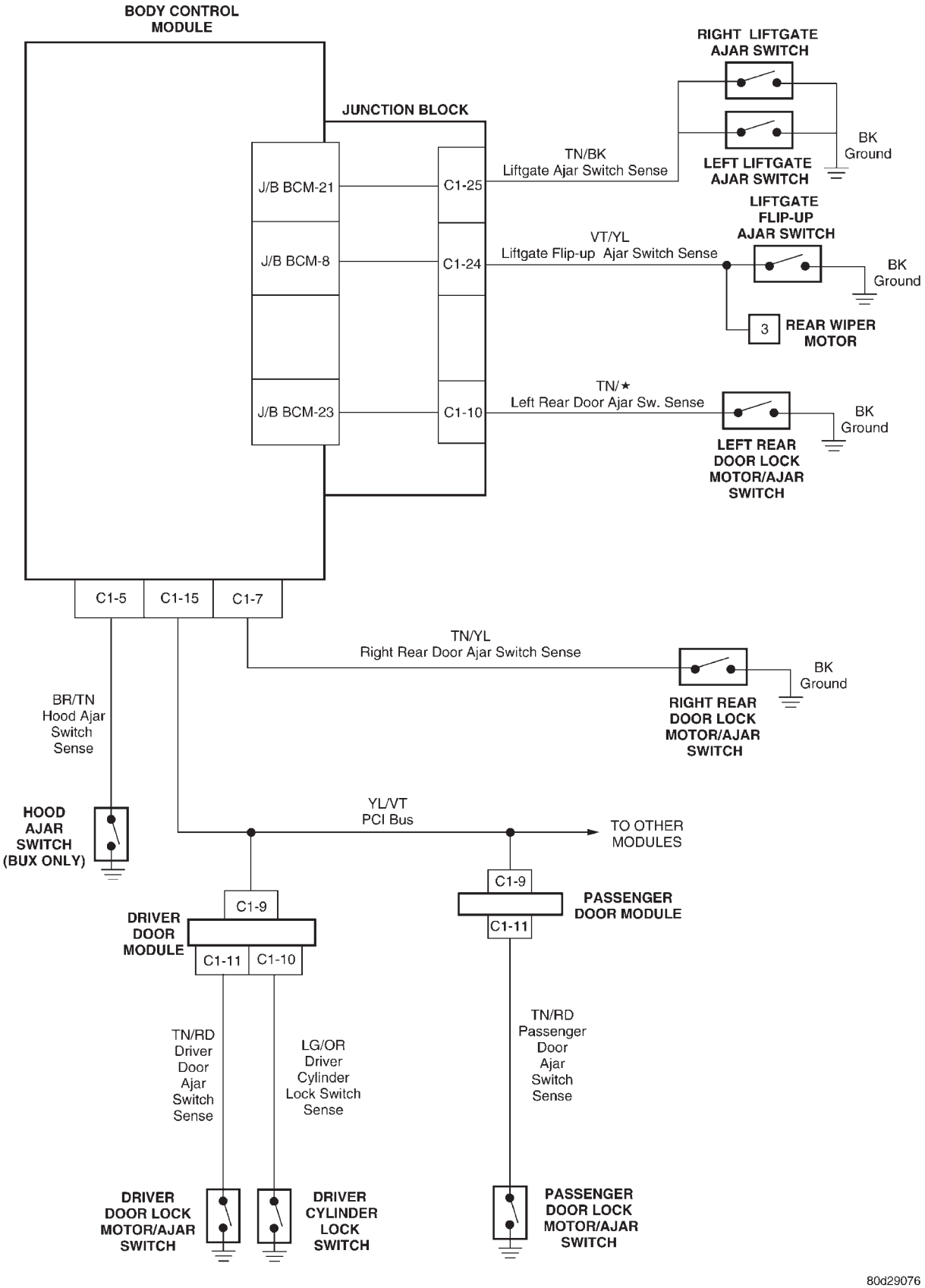
10.3.3 MANUAL TEMPERATURE CONTROL



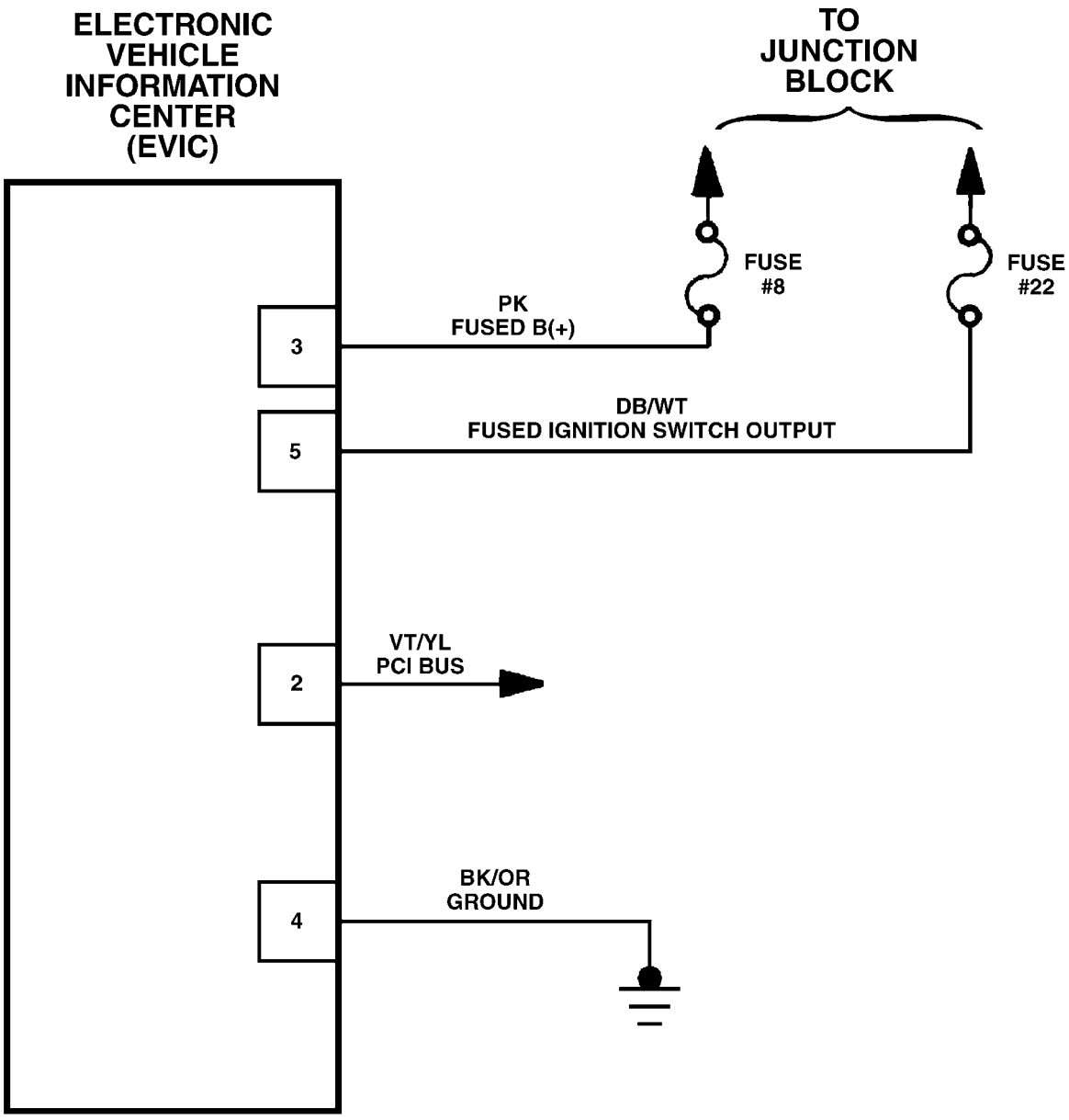
10.4 CHIME



10.5 DOOR AJAR SYSTEM

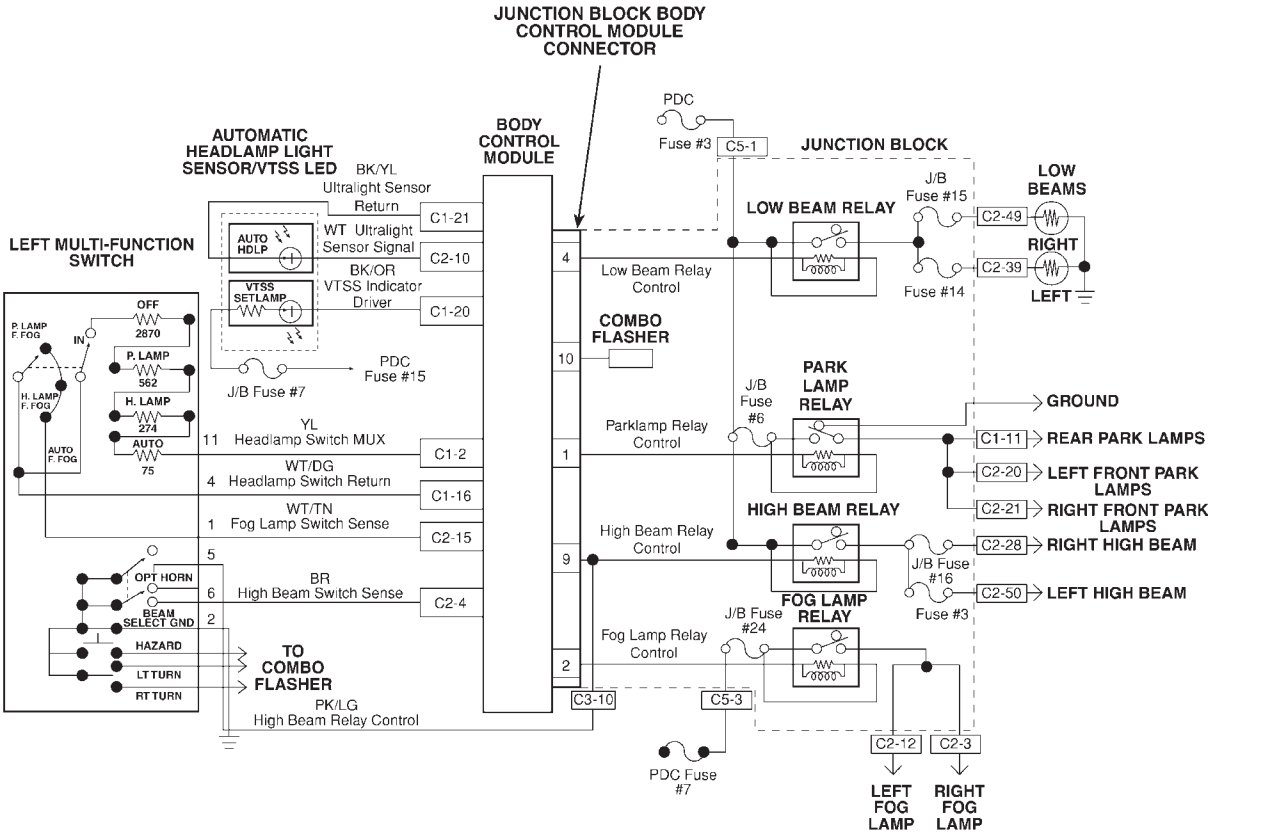


10.6 EVIC



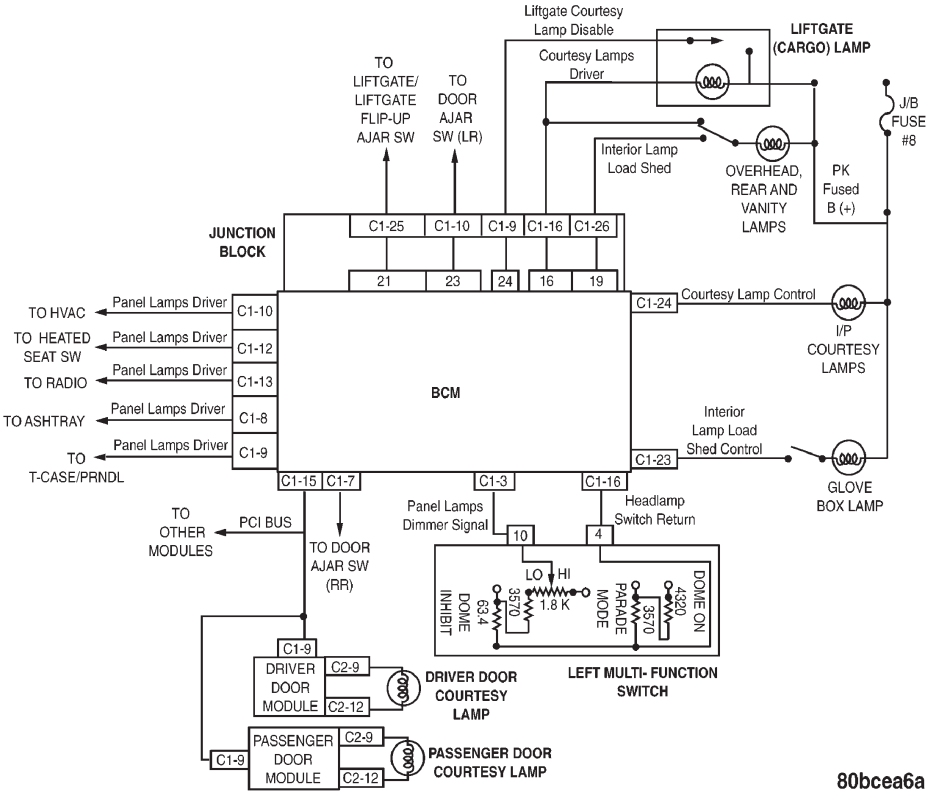
809e1353

10.7 EXTERIOR LIGHTING

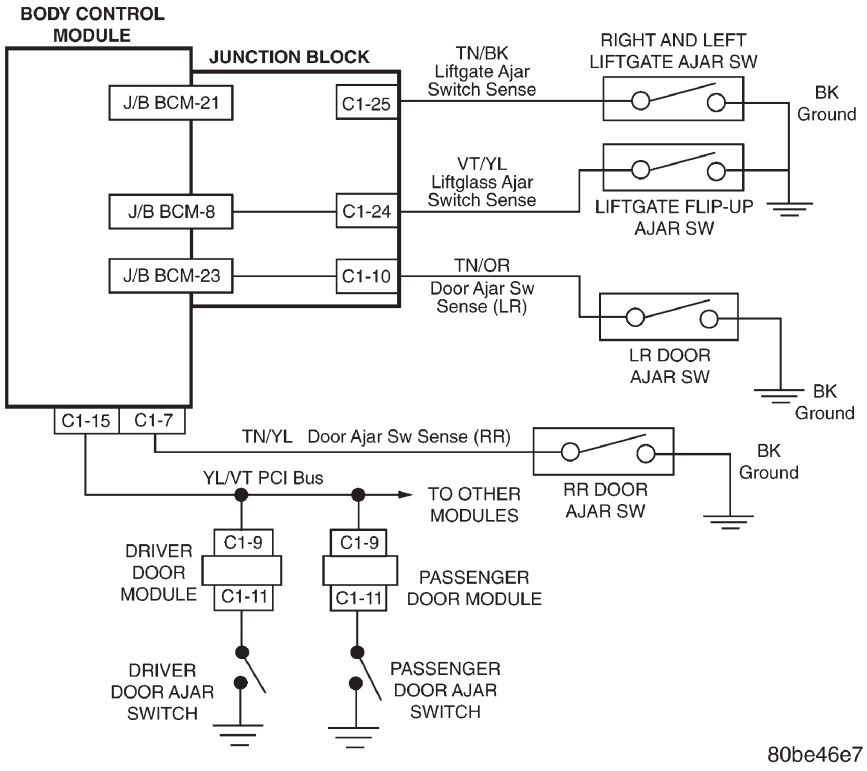


8096cb00

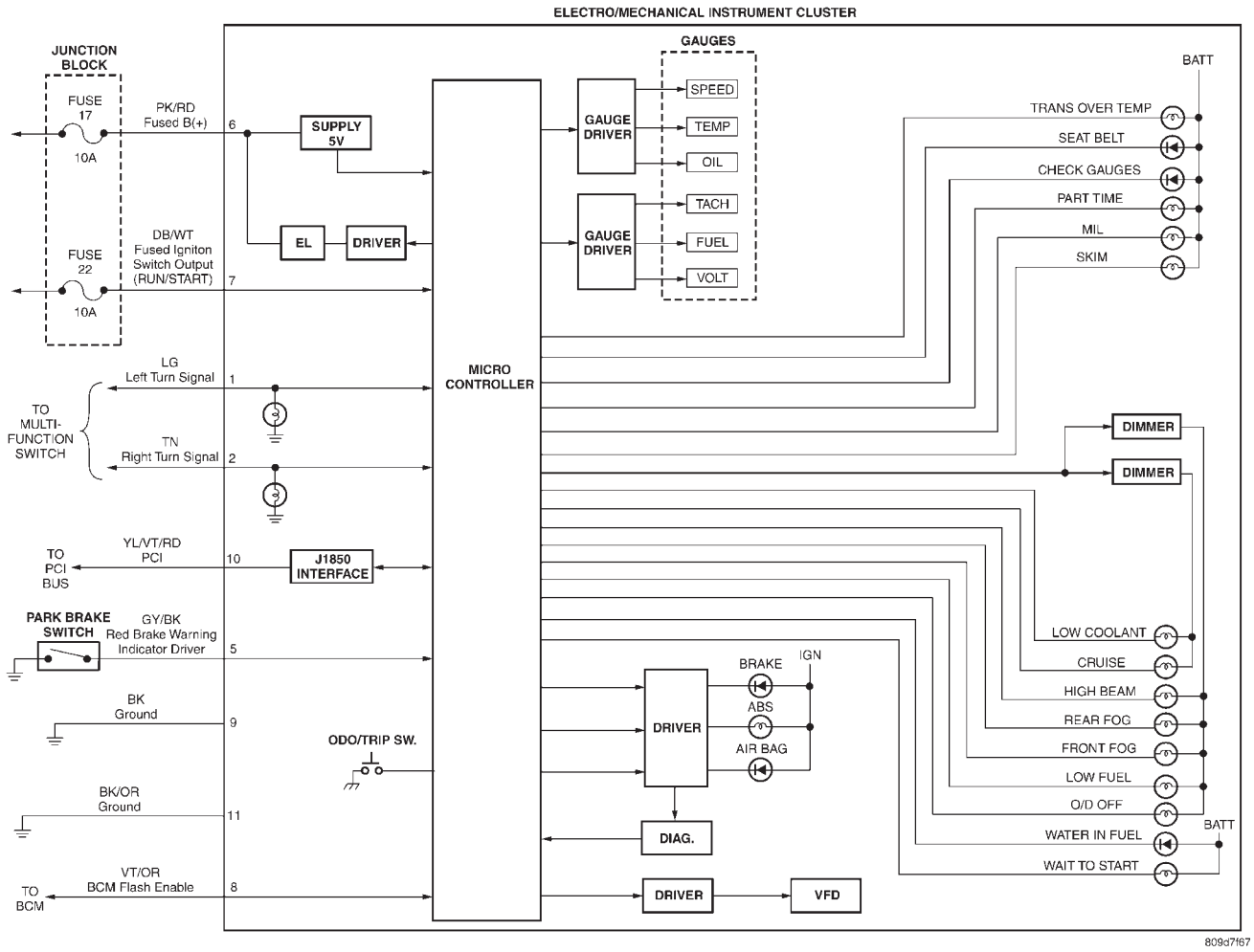
10.8 INTERIOR LIGHTING



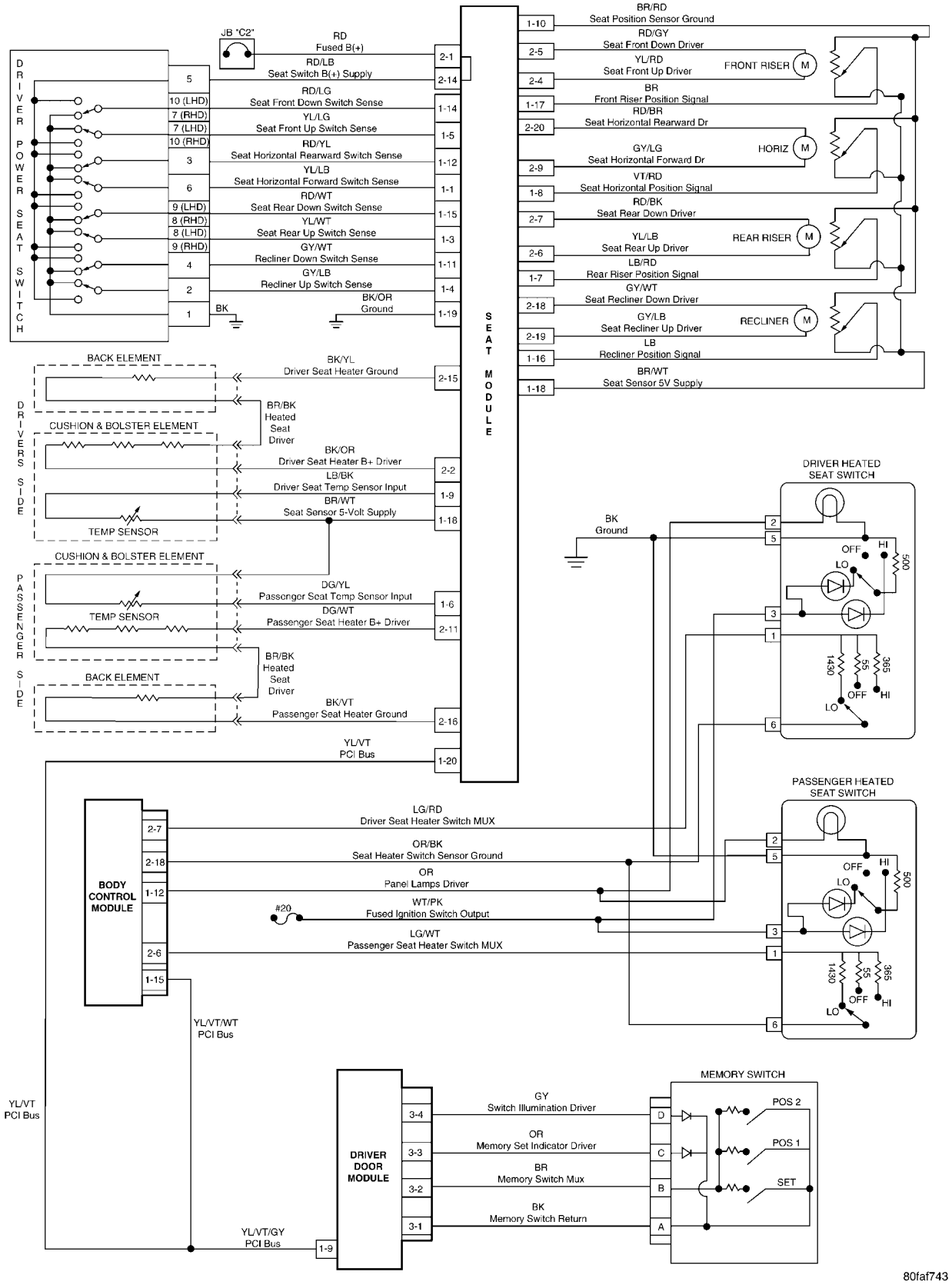
80bcea6a


BODY CONTROL MODULE
JUNCTION BLOCK
J/B BCM-21
C1-25
TN/BK Liftgate Ajar Switch Sense
RIGHT AND LEFT LIFTGATE AJAR SW
BK Ground
VT/YL Liftglass Ajar Switch Sense
J/B BCM-8
C1-24
LIFTGATE FLIP-UP AJAR SW
J/B BCM-23
C1-10
TN/OR Door Ajar Sw Sense (LR)
LR DOOR AJAR SW
BK Ground
C1-15
C1-7
TN/YL Door Ajar Sw Sense (RR)
RR DOOR AJAR SW
BK Ground
YL/VT PCI Bus
TO OTHER MODULES
DRIVER DOOR MODULE
C1-9
C1-11
C1-9
C1-11
PASSENGER DOOR MODULE
DRIVER DOOR AJAR SWITCH
PASSENGER DOOR AJAR SWITCH
80be46e7

10.9 MECHANICAL INSTRUMENT CLUSTER

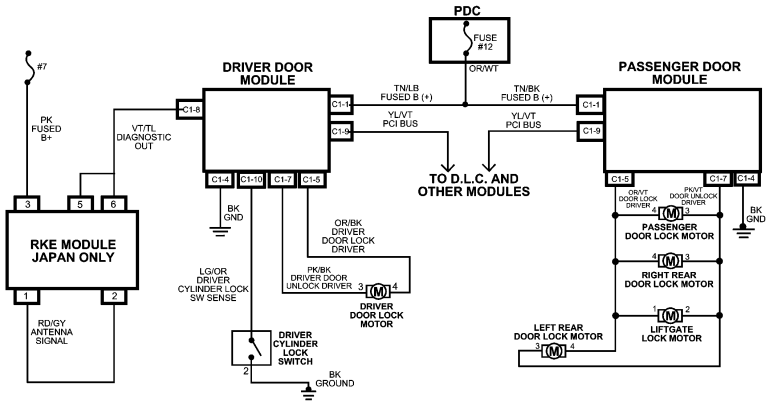


10.10 MEMORY HEATED SEATS



80faf743

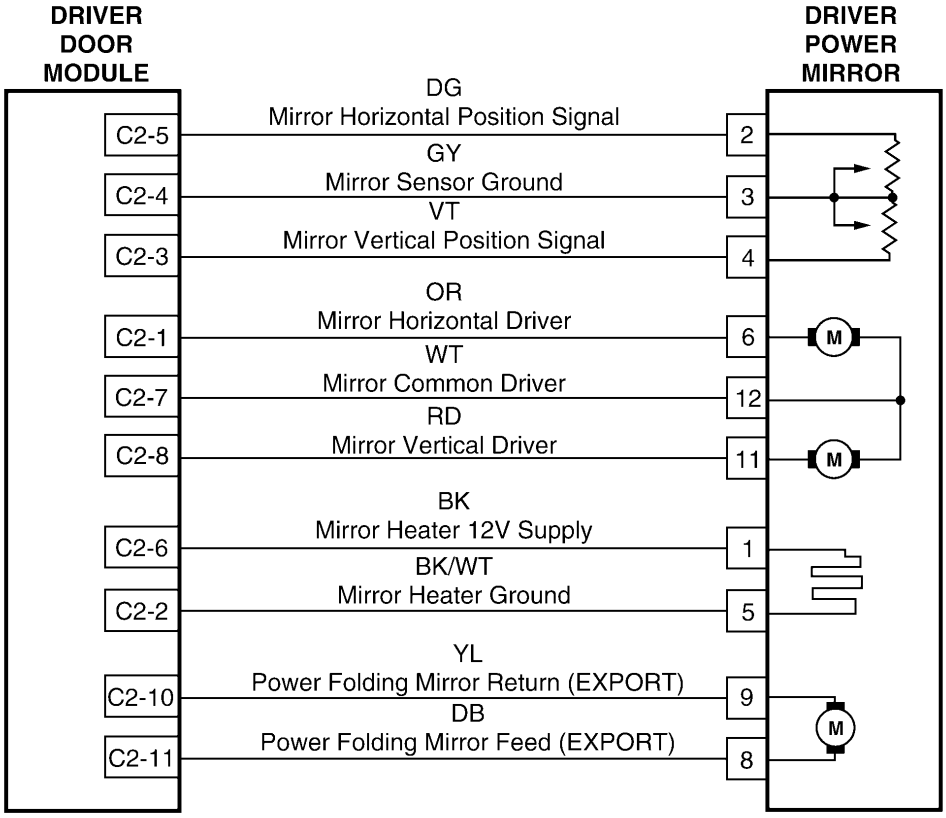
10.11 POWER DOOR LOCKS



80fbda5a

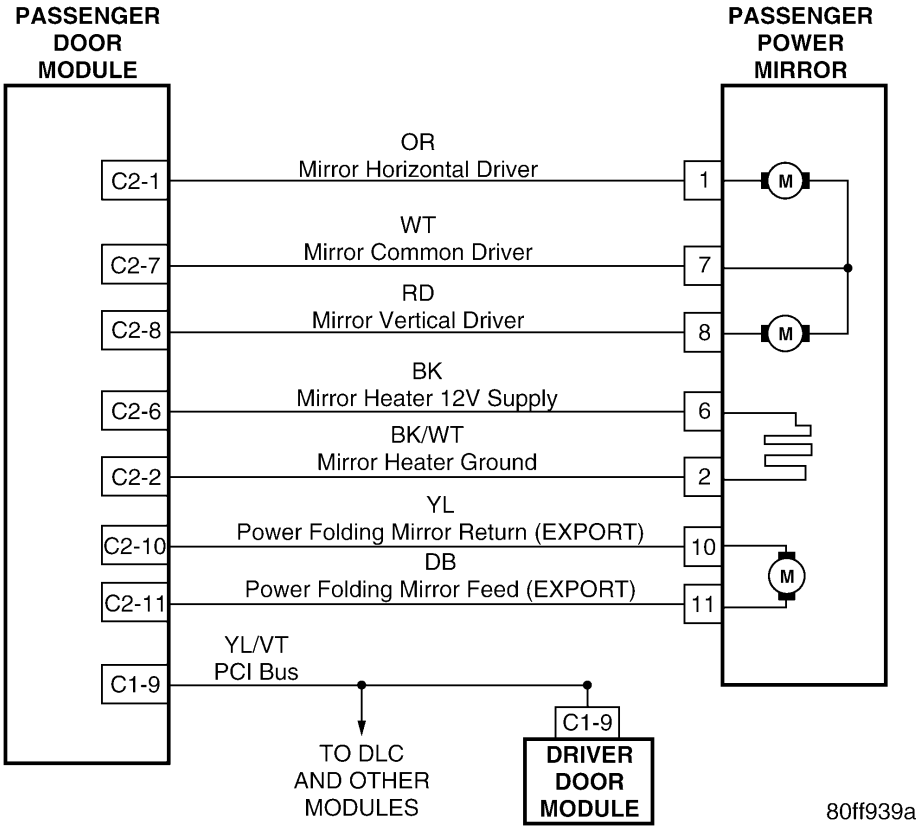
10.12 POWER MIRROR SYSTEM

10.12.1 DRIVER MIRROR

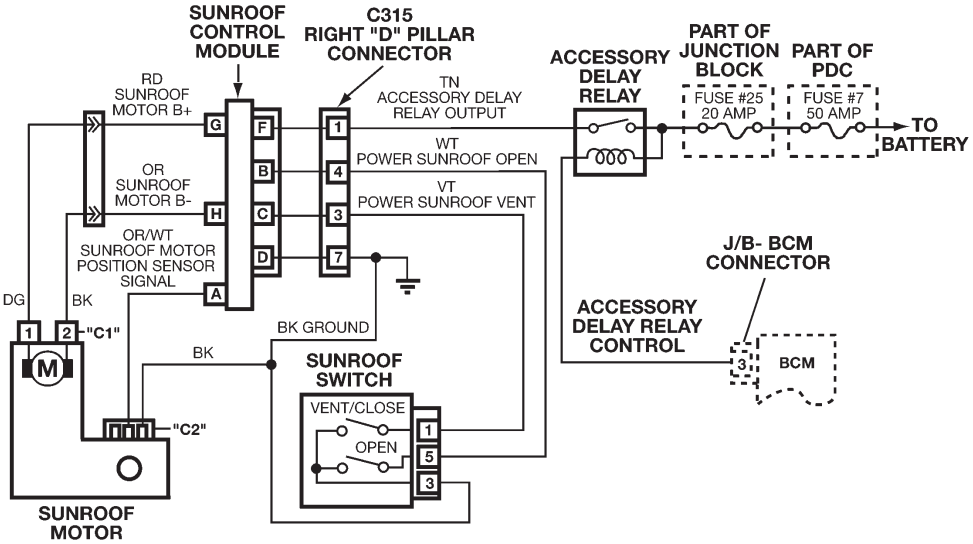


80faf766

10.12.2 PASSENGER MIRROR

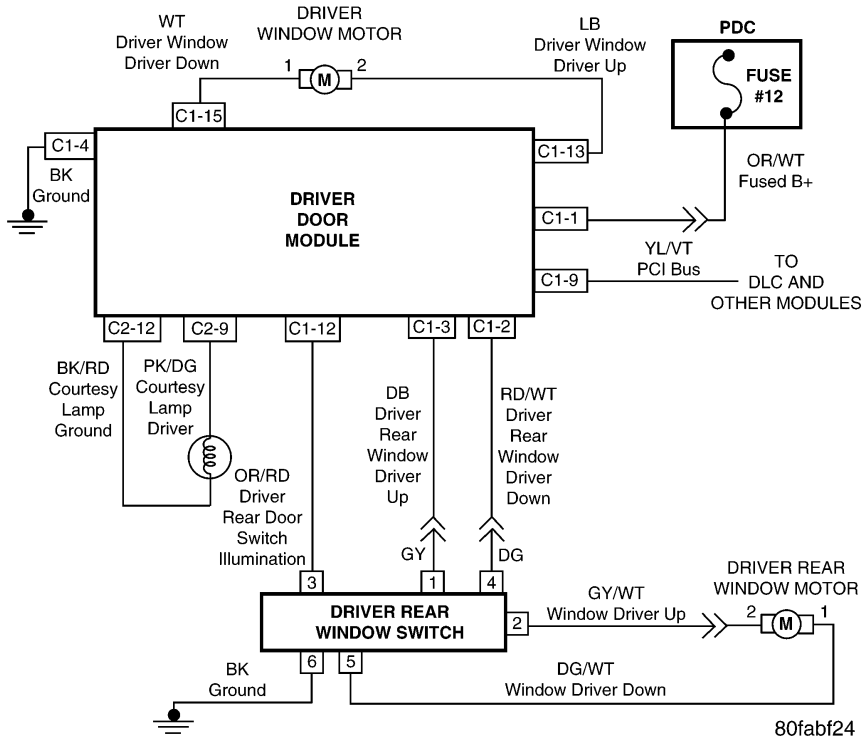


10.13 POWER SUNROOF

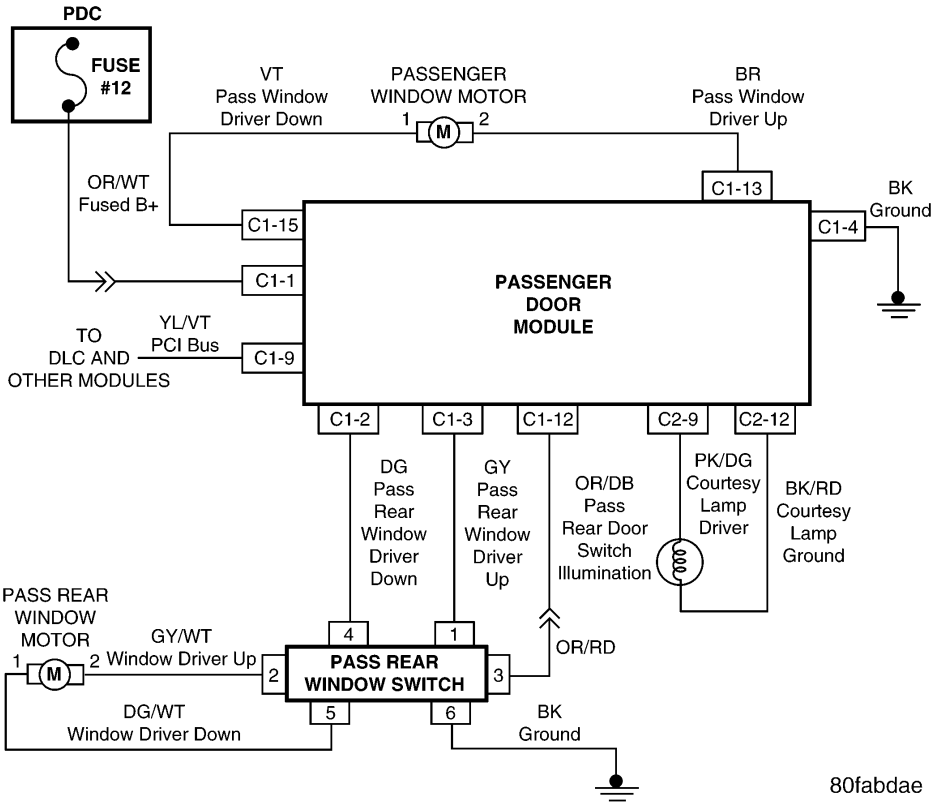


10.14 POWER WINDOWS

10.14.1 DRIVER SIDE

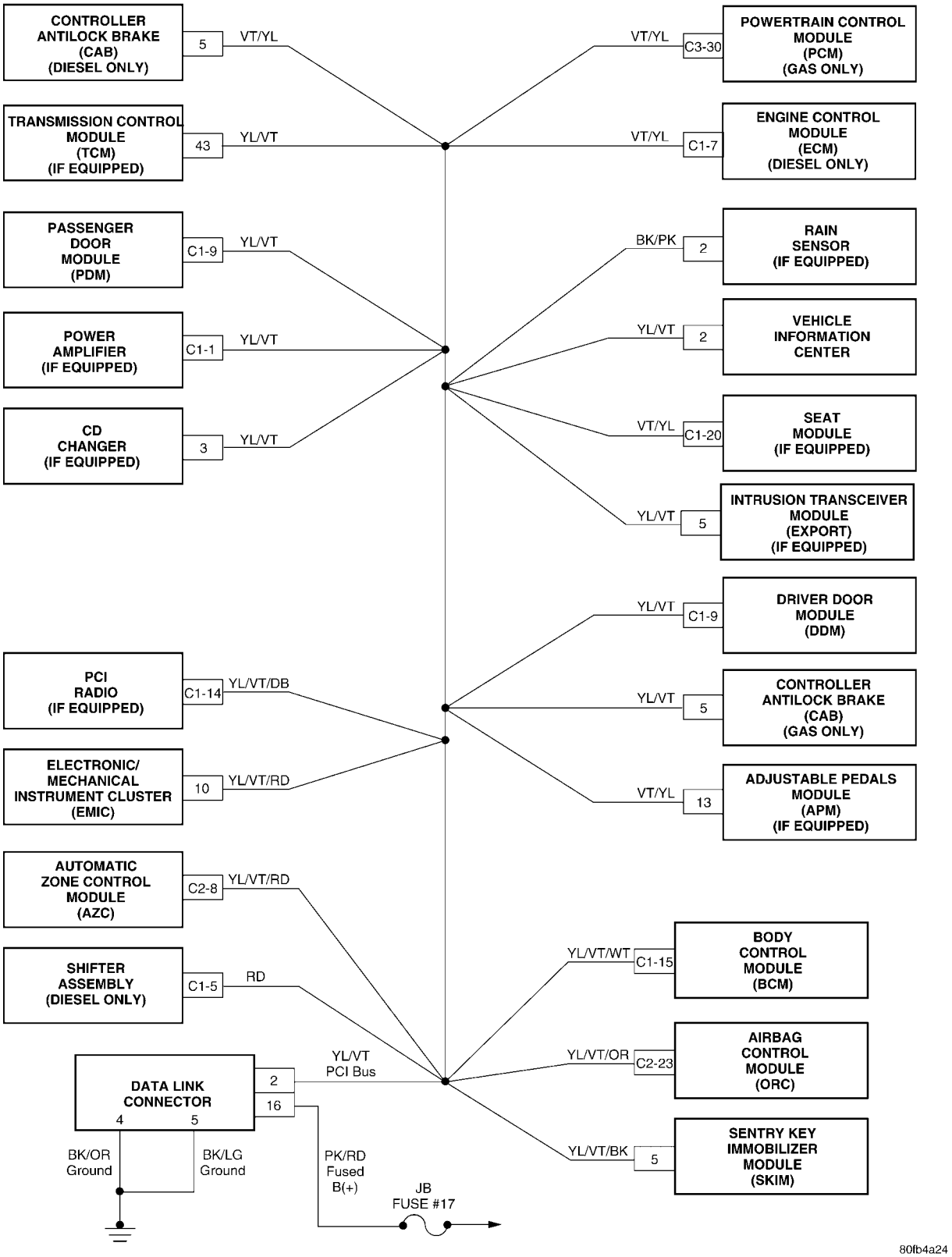


10.14.2 PASSENGER SIDE

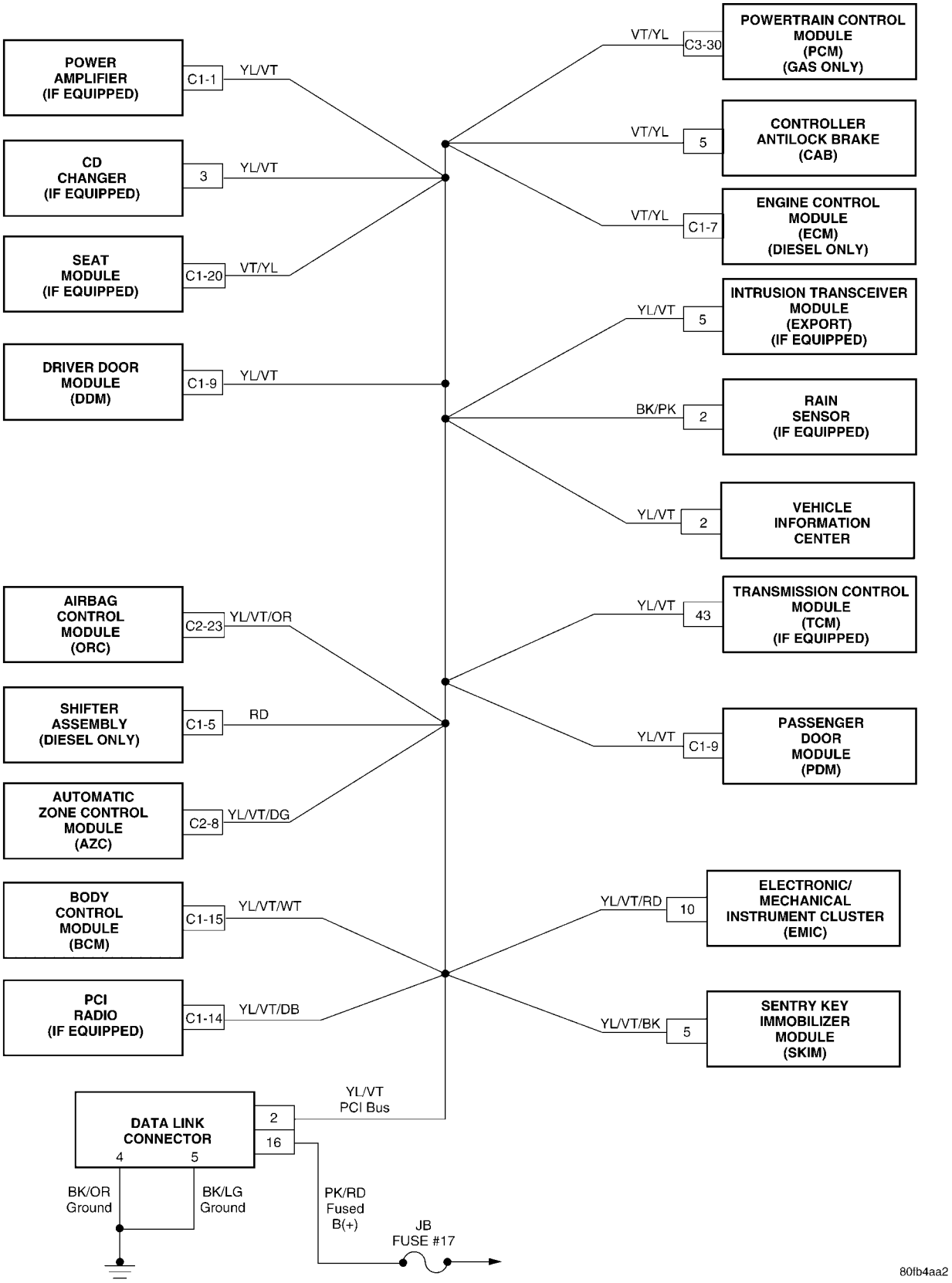


10.15 VEHICLE COMMUNICATION

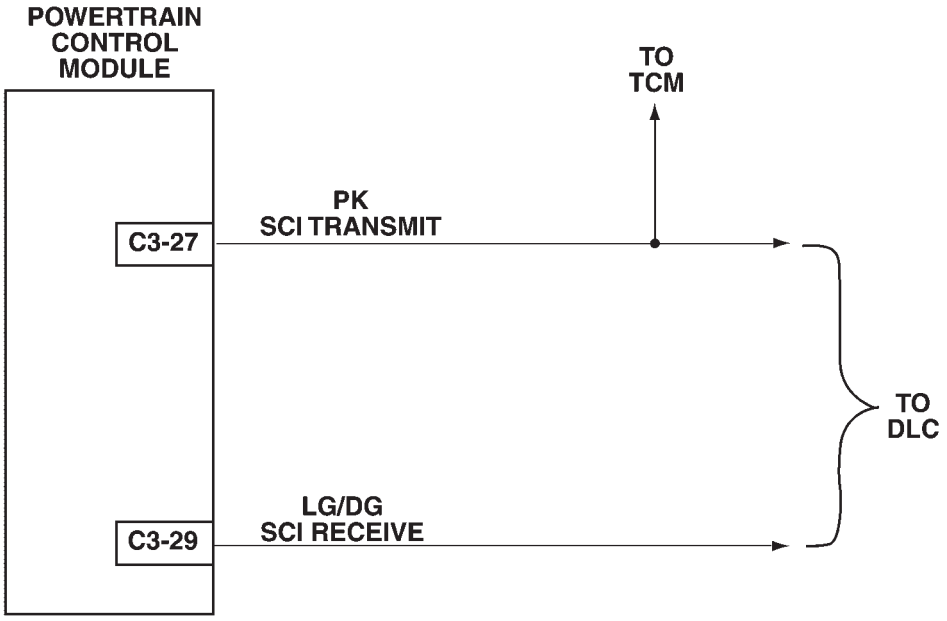
10.15.1 VEHICLE COMMUNICATION – LHD



10.15 VEHICLE COMMUNICATION (Continued)
10.15.2 VEHICLE COMMUNICATION – RHD

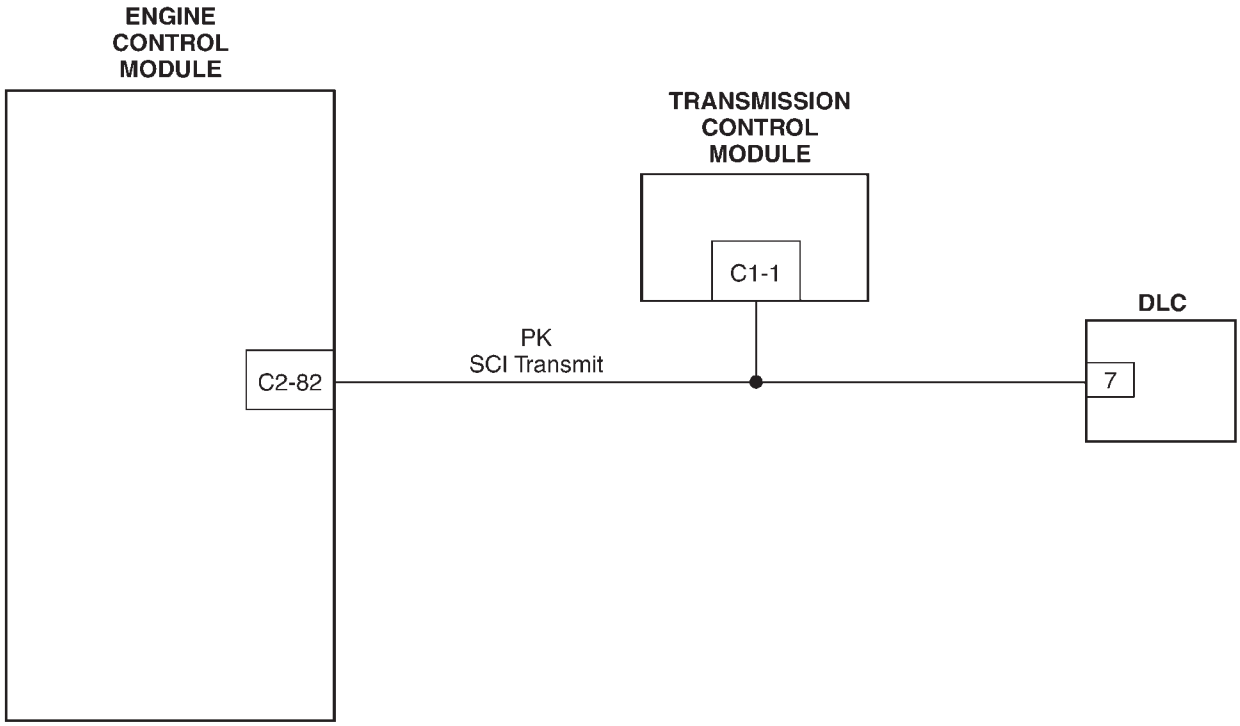


10.15.3 PCM COMMUNICATION



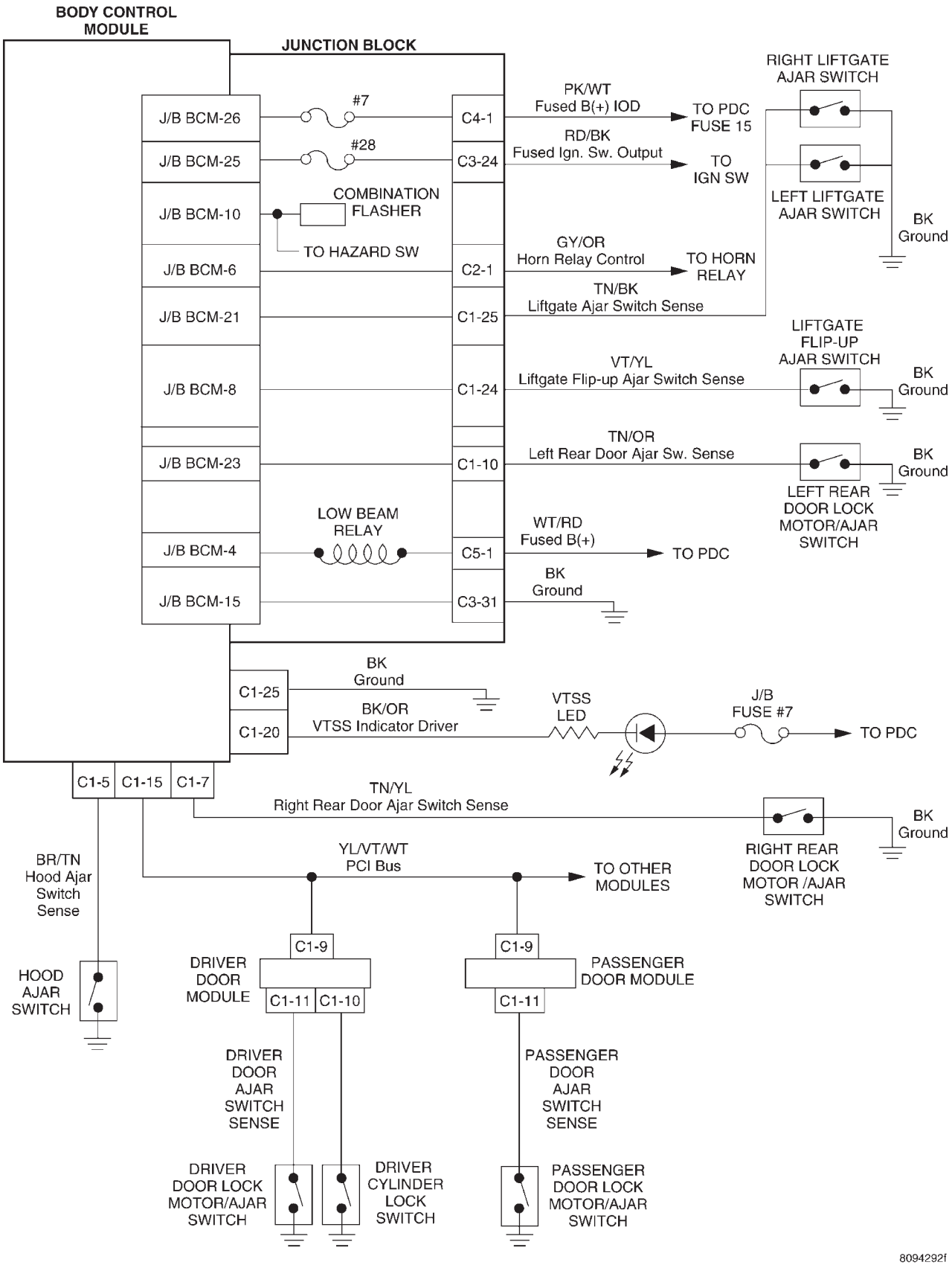
80d835ac

10.15.4 ECM COMMUNICATION – DIESEL

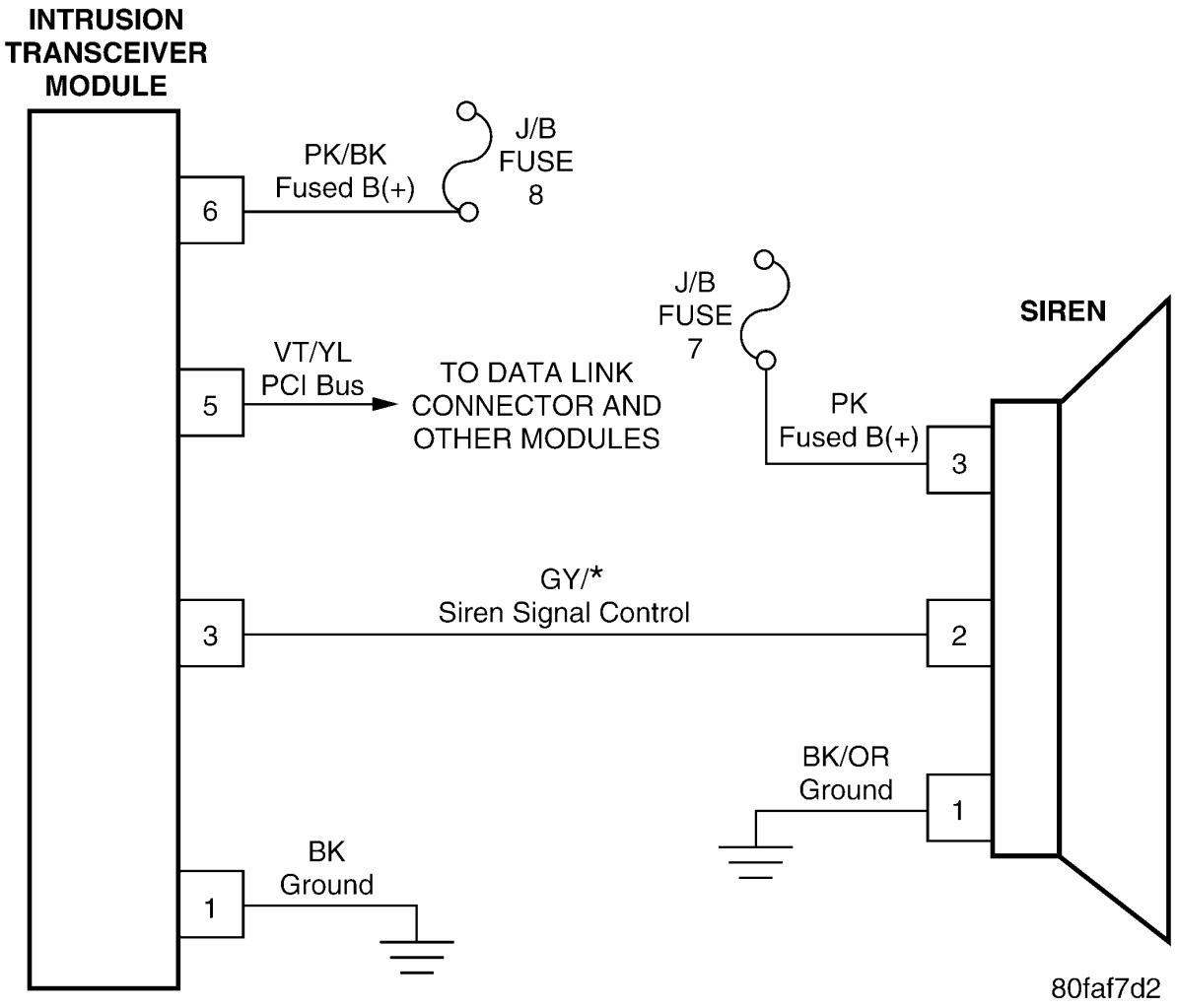


80d9e330

10.16 VEHICLE THEFT SECURITY SYSTEM (VTSS)

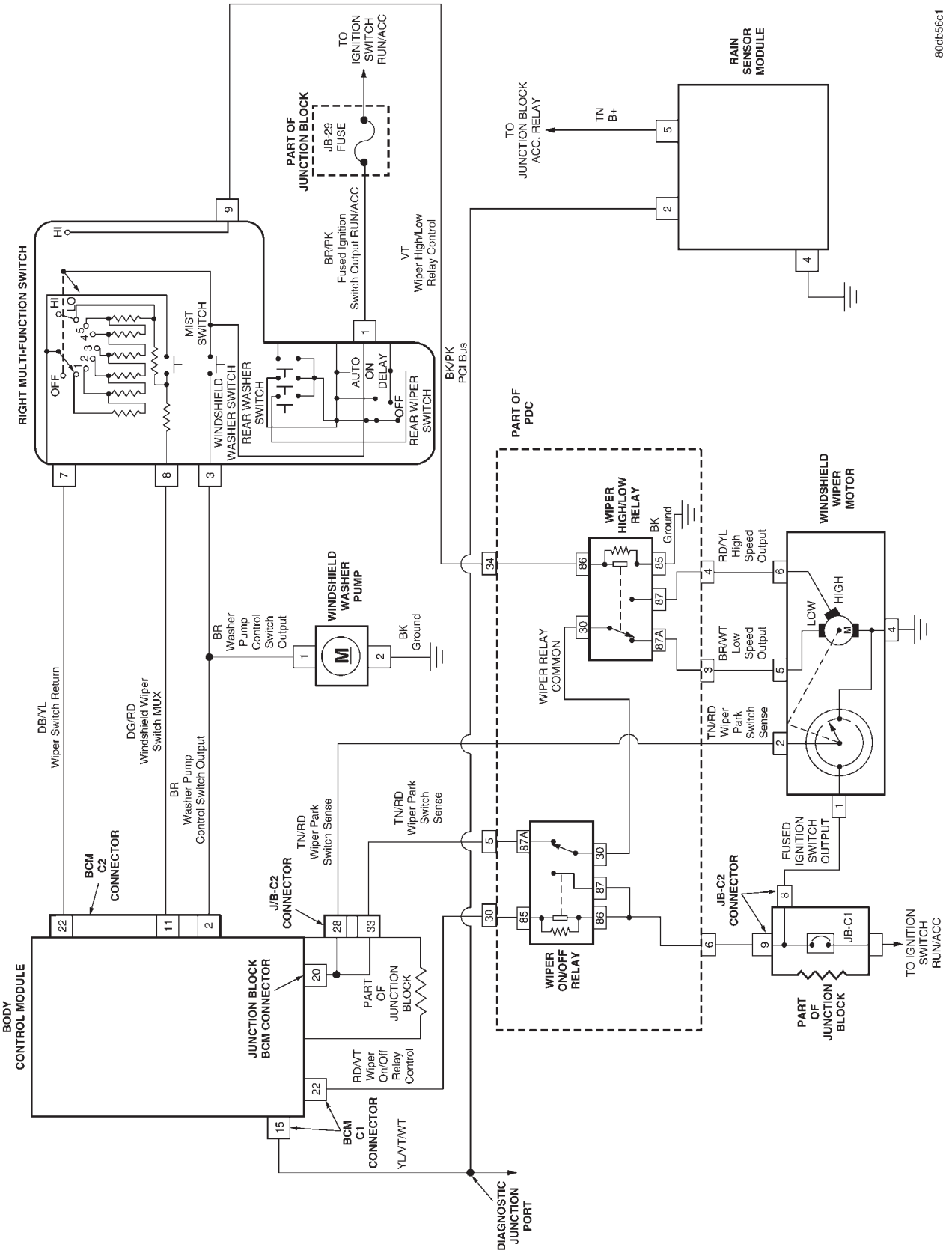


10.16.1 INTRUSION TRANSCEIVER MODULE (EXPORT ONLY)

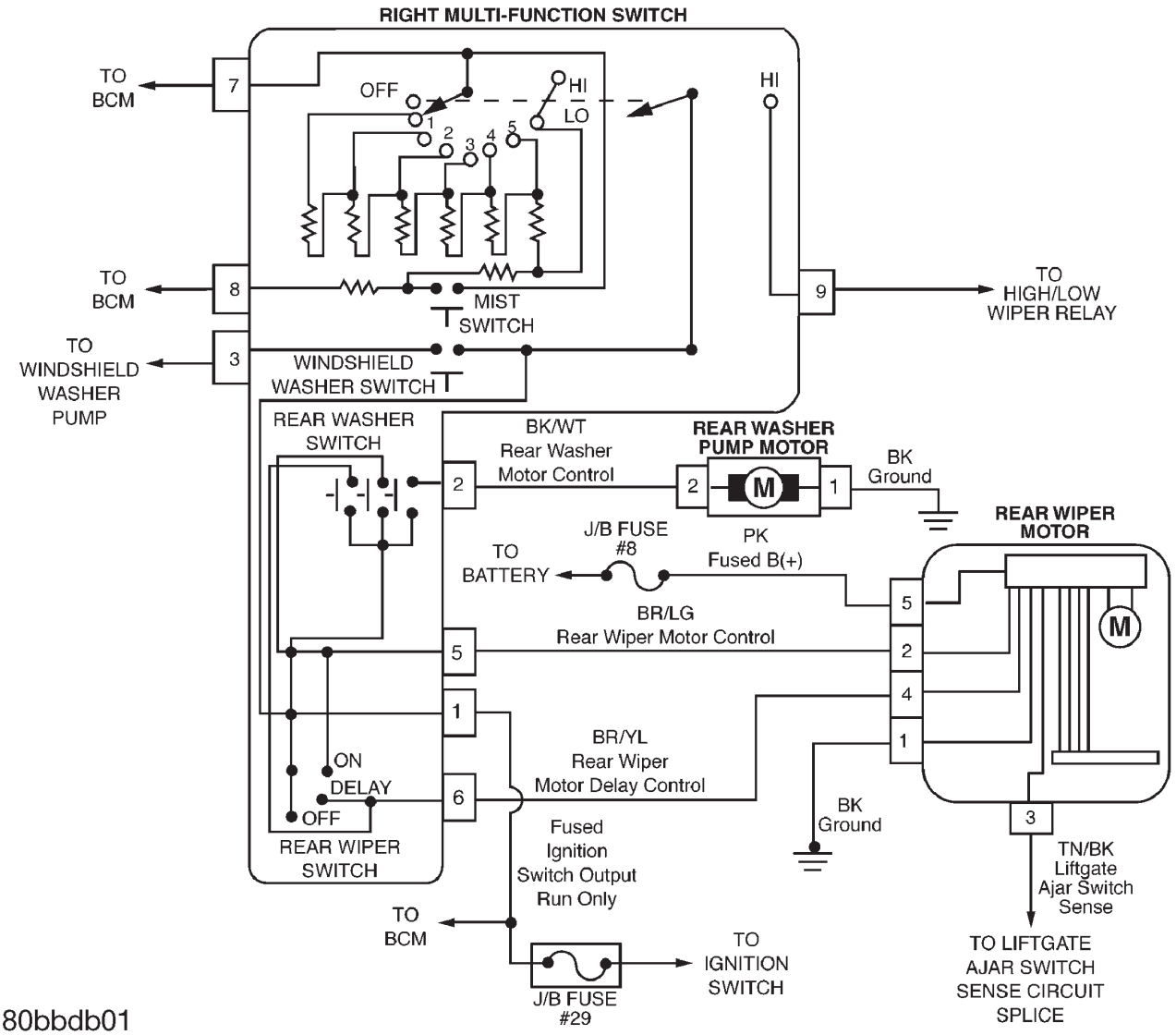


10.17 WINDSHIELD WIPER SYSTEM

10.17.1 FRONT WIPERS



10.17.2 REAR WIPER SYSTEM



80bbdb01

NOTES